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FOREWORD

Virginia E. Scholtes[†] and Sorin G. Zaharia^{††}

The Annual Review is a yearly publication of the *Berkeley Technology Law Journal* that provides a summary of many of the year's major developments at the intersection of law and technology. Our aim is to provide a valuable resource for judges, policymakers, practitioners, students, and scholars. Each Note provides a primer on a particular area of law, a development in that area of law, and commentary on that development.

The twenty-six Notes in this issue continue a tradition of covering a wide range of topics. The Notes address developments in traditional intellectual property areas—patent, copyright, and trademark law—along with developments in cyberlaw, venture law, and privacy. Following the Notes in each area of law, we have included a Survey of Additional IP Developments, which contains brief descriptions of important cases that were not addressed in the Notes.

I. PATENT LAW

Our first Note¹ in this Section examines the Supreme Court's decision in *Kimble v. Marvel Entertainment, LLC*,² which affirmed the 1964 *Brulotte* rule prohibiting post-expiration patent royalties. By reviewing the history of the patent misuse doctrine and recent attempts to incorporate antitrust principles and the rule of reason, the Note explores the Court's use of patent policy and stare decisis in justifying its decision.

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1. Cassandra E. Havens, Note, *Saving Patent Law from Competition Policy and Economic Theories*: *Kimble v. Marvel Entertainment*, 31 *BERKELEY TECH. L.J.* 371 (2016).

2. 135 S. Ct. 2401, 2410 (2015).

The second Note³ examines the Supreme Court's decision in *Teva v. Sandoz*,⁴ which established a new hybrid standard of review for claim construction decisions. To explore the effects of *Teva* in the year since it came out, this Note explores trends in district court *Markman* decisions, addresses an unanswered question from *Teva*, and reviews three options going forward.

The third Note⁵ analyzes the international landscape of FRAND licensing practices in major jurisdictions with substantial technological markets. This Note argues that as courts and regulatory authorities have matured on the subject, they have generally converged in how they address hold-up, hold-out, and royalty pricing issues.

The fourth Note⁶ evaluates the Federal Circuit's second en banc decision in *Akamai Technologies, Inc. v. Limelight Networks, Inc.*, which expanded the scope of direct infringement under § 271(a) to include situations "when an alleged infringer conditions participation in an activity or receipt of a benefit upon performance of a step or steps of a patented method and establishes the manner or timing of that performance."⁷ While this new standard goes a long way in closing the liability loophole in divided infringement, a gap may still persist with respect to medical diagnostics, and it remains to be seen how courts will apply this new standard.

The fifth Note⁸ critiques how recent Supreme Court and Federal Circuit opinions have eviscerated patent eligibility for molecular diagnostic technologies, exemplified by *Ariosa Diagnostics, Inc. v. Sequenom, Inc.*⁹ This Note explores the origins of the judicially created "law of nature/natural phenomena" exceptions to statutory patent-eligible subject matter and examines how the courts have expanded them to limit, jeopardize or foreclose patent eligibility for molecular diagnostics specifically and practical applications of new scientific discoveries broadly.

3. Cassandra E. Havens, Note, *Teva v. Sandoz: The Supreme Court Rejects Millennial Federal Circuit's "Clearly Erroneous" Review Standard*, 31 BERKELEY TECH. L.J. 399 (2016).

4. 135 S. Ct. 831, 835 (2015).

5. Benjamin C. Li, Note, *The Global Convergence of FRAND Licensing Practices: Towards "Interoperable" Legal Standards*, 31 BERKELEY TECH. L.J. 429 (2016).

6. Jingyuan Luo, Note, *Concluding the Akamai Chapter of Divided Infringement: Is the Liability Loophole Closed?*, 31 BERKELEY TECH. L.J. 467 (2016).

7. 797 F.3d 1020, 1023 (Fed. Cir. 2015) (en banc).

8. Philip Merksamer, Note, *Ariosa Diagnostics v. Sequenom: Metastasis of Mayo and Myriad and the Evisceration of Patent Eligibility for Molecular Diagnostics*, 31 BERKELEY TECH. L.J. 495 (2016).

9. 788 F.3d 1371 (Fed. Cir.), *reh'g denied*, 809 F.3d 1282 (Fed. Cir. 2015).

The sixth Note¹⁰ examines the impact of the Supreme Court's decision in *Commil USA, LLC v. Cisco Systems, Inc.*¹¹ on the standard for willful patent infringement. Concluding that the holding mandates a reexamination of the current standard for willfulness, the Note explores the evolution of inducement liability—the focus of *Commil*—and its interplay with the scienter standard for willful infringement.

The seventh Note¹² examines recent Federal Circuit cases dealing with the issue of when a district court judgment is final enough to have preclusive effect. The Note asserts that the Federal Circuit's narrow interpretation of finality is problematic, increasing gamesmanship in patent cases as it incentivizes alleged infringers to keep cases alive until they obtain a favorable PTO decision that might trump the non-final district court judgment of infringement.

The eighth Note¹³ argues that the Federal Circuit in *Bristol-Myers Squibb Co. v. Teva Pharmaceuticals USA, Inc.*¹⁴ overlooked an issue that is especially relevant to chemical and pharmaceutical inventions: the realistic assessment of “reasonable expectation of success,” or RES. In view of the complexity and unpredictability of the chemical arts, courts should narrowly define RES to incentivize innovation while rewarding only inventions that would not have arisen in the normal course of research.

The ninth Note¹⁵ examines the evolution of the *Noerr-Pennington* doctrine and petitioning immunity, focusing on how these protections can preempt state-law liability for misleading statements in demand letters. The Note argues that reform to current Federal Circuit precedent would negate the perceived need for state anti-patent troll statutes because patent owners making such statements would be liable under state unfair competition or consumer protection laws.

10. Nate Ngerebara, Note, *Commil v. Cisco: Implications of the Intent Standard for Inducement Liability on Willfulness*, 31 BERKELEY TECH. L.J. 535 (2016).

11. 135 S. Ct. 1920, 1926 (2015).

12. Peggy P. Ni, Note, *Rethinking Finality in the PTAB Age*, 31 BERKELEY TECH. L.J. 557 (2016).

13. Christelle K. Pride, Note, *Misguided Panic and Missed Opportunity for Pharmaceutical Inventions: How Unexpected Results Eclipsed Reasonable Expectation of Success in BMS v. Teva*, 31 BERKELEY TECH. L.J. 587 (2016).

14. 769 F.3d 1339, 1341 (Fed. Cir. 2014) (per curiam).

15. Eric J. Riedel, Note, *Patent Infringement Demand Letters: Does Noerr-Pennington or the First Amendment Preempt State-Law Liability for Misleading Statements?*, 31 BERKELEY TECH. L.J. 623 (2016).

The tenth Note¹⁶ examines the Federal Circuit's decision in *Amgen Inc. v. Sandoz Inc.*¹⁷ where the court ruled that the "patent dance" described in the Biologics Price Competition and Innovation Act (BPCIA) for biosimilar drug approval was not mandatory. After reviewing the BPCIA's language, structure, and legislative history, the Note concludes that Congress intended the patent dance to be mandatory to maintain an efficient and effective patent dispute resolution process for biosimilar and original biologic drug makers.

The eleventh Note¹⁸ examines the development of case law in functional claiming, starting from the establishment—in *Lighting World v. Birchwood Lighting*¹⁹—of the strong presumption against invocation of § 112(f) on claim limitations lacking the term "means" and moving through *Williamson v. Citrix Online, LLC (Williamson II)*,²⁰ where the Federal Circuit overruled the strong presumption. This Note also explores issues in the case law left unresolved by *Williamson II*, and proposes a framework for determining whether a claim limitation invokes § 112(f) in view of common law developed during the tenure of the strong presumption.

II. COPYRIGHT LAW

The first Note²¹ in this Section provides a comprehensive overview of the evolution of music licensing since the early twentieth century, with an emphasis on U.S. copyright law's fragmented development in this area. There are many common criticisms of the contemporary legal structure, as well as corresponding proposals to resolve identified flaws. However, this Note argues that the proposed solutions offer insufficient change, and broader statutory reforms would better serve copyright's goal of bringing music owners and music users together in the marketplace.

The second Note²² surveys the landscape of state law protection for pre-1972 sound recordings (which are not covered by the federal

16. Jon Tanaka, Note, "Shall" We Dance? Interpreting the BPCIA's Patent Provisions, 31 BERKELEY TECH. L.J. 659 (2016).

17. 794 F.3d 1347, 1348 (Fed. Cir. 2015).

18. Shong Yin, Note, *Williamson v. Citrix Online: A Fundamental Shift and Return to Form in Means-Plus-Function Interpretation*, 31 BERKELEY TECH. L.J. 687 (2016).

19. 382 F.3d 1354 (Fed. Cir. 2004).

20. 792 F.3d 1339 (Fed. Cir. 2015) (en banc).

21. Stasha Loeza, Note, *Out of Tune: How Public Performance Rights Are Failing to Hit the Right Notes*, 31 BERKELEY TECH. L.J. 725 (2016).

22. Christopher J. Norton, Note, *Turtle Power: The Case for Common Law Protection for Pre-1972 Sound Recordings*, 31 BERKELEY TECH. L.J. 759 (2016).

Copyright Act) in the context of the varying approaches courts have taken to lawsuits that ex-members of the 1960s pop group the Turtles have filed in recent years against satellite and Internet broadcasters seeking compensation for the broadcasters' public performances of pre-1972 Turtles recordings without permission or payment. In the absence of congressional action granting pre-1972 recordings some measure of protection under federal copyright law, this Note argues that the most sensible judicial solution for the three circuit courts currently considering the issue would be to rely on common law unfair competition and misappropriation doctrine, rather than state statutory or common law formulations of copyright, to afford pre-1972 recording owners limited remedies to compensate for unauthorized commercial uses of their recordings.

The third Note²³ focuses on the implications of the Ninth Circuit's recent en banc decision in *Garcia v. Google, Inc.*,²⁴ finding that an actress who appeared for only five seconds in a film had no copyright interest in her performance within the film. While this holding expands copyright ownership jurisprudence to new factual situations involving creative contributions to integrated works, it does not substantially change copyright ownership doctrine and actually aligns with the current practices in the entertainment industry.

III. TRADEMARK LAW

The Note²⁵ in this Section discusses the Ninth Circuit's conflicting decisions in *Multi Time Machine v. Amazon*,²⁶ where a three-judge panel ultimately held the circuit's multifactor, *Sleekcraft* test for likelihood of confusion inapt for use on the Internet. The Note examines the origins of multifactor tests for likelihood of confusion and trademark infringement and argues that, despite their brick-and-mortar origins, multifactor infringement tests remain effective for analyzing confusion and competition on the Internet.

23. Diana C. Obradovich, Note, *Garcia v. Google: Authorship in Copyright*, 31 BERKELEY TECH. L.J. 785 (2016).

24. 786 F.3d 733 (9th Cir. 2015) (en banc).

25. Andrea M. Hall, Note, *Standing the Test of Time: Likelihood of Confusion in Multi Time Machine v. Amazon*, 31 BERKELEY TECH. L.J. 815 (2016).

26. 804 F.3d 930 (9th Cir. 2015); 792 F.3d 1070 (9th Cir. 2015).

IV. CYBERLAW AND VENTURE LAW

The first Note²⁷ in this Section discusses autonomous vehicles, which may see commercial release in as few as two years. The transition to self-driving cars will likely be hampered by regulatory and other legal impediments, and this Note explores a variety of administrative and legislative solutions before suggesting that a uniform set of autonomous vehicle laws is the most practical first step to solving some of these problems.

The second Note²⁸ examines the recent Second Circuit decision in *United States v. Apple*²⁹ holding Apple per se liable for price-fixing related to deals it negotiated with book publishers leading up to the launch of its iBooks platform. The Note concludes that the decision to apply the per se rule—rather than the more forgiving rule of reason normally applied to vertical agreements—properly furthered the rationale underlying the per se rule where the court had already determined that Apple had used the vertical contracts to further a horizontal conspiracy.

The third Note³⁰ reviews the development of net neutrality law in the United States between the 2005 *NCTA v. Brand X*³¹ Supreme Court decision and the FCC's 2015 Open Internet Order. After an examination of the Open Internet Order through the lens of historic net neutrality and administrative law jurisprudence, this Note predicts that the Open Internet Order can and will survive legal challenges on such grounds.

The fourth Note³² examines regulatory issues raised by the prospect of personalized medicine. Specifically, this Note analyzes the legal and policy concerns over the U.S. Food and Drug Administration's recent efforts to regulate laboratory-developed tests, which are key tools necessary for the success of personalized medicine.

The fifth Note³³ discusses the central tension in K-12 education technology (“edtech”) between the need to protect student data privacy on

27. Jessica S. Brodsky, Note, *Autonomous Vehicle Regulation: How an Uncertain Legal Landscape May Hit the Brakes on Self-Driving Cars*, 31 BERKELEY TECH. L.J. 851 (2016).

28. Zachary C. Flood, Note, *Antitrust Enforcement in the Developing E-Book Market: Apple, Amazon, and the Future of the Publishing Industry*, 31 BERKELEY TECH. L.J. 879 (2016).

29. 791 F.3d 290, 340 (2d Cir. 2015).

30. Simone A. Friedlander, Note, *Net Neutrality and the FCC's 2015 Open Internet Order*, 31 BERKELEY TECH. L.J. 905 (2016).

31. 545 U.S. 967, 974 (2005).

32. Sarah Y. Kwon, Note, *Regulating Personalized Medicine*, 31 BERKELEY TECH. L.J. 931 (2016).

33. Dylan Peterson, Note, *Edtech and Student Privacy: California Law as a Model*, 31 BERKELEY TECH. L.J. 961 (2016).

the one hand, and edtech companies' ability to innovate and schools' ability to enhance education on the other. Further, it analyzes whether California's Student Online Personal Information Protection Act would be an effective solution to the current inadequate federal student privacy laws. The Note concludes that while this California law effectively responds to many of the gaps in federal law and successfully updates this outdated body of law, it largely functions as a Band-Aid measure with some shortcomings, and federal reform is needed.

The sixth Note³⁴ describes the technologies underlying the emerging Internet of Things and examines two related issues—interoperability and threat to privacy and security. This Note recommends that regulators observe market dynamics, promote broad principles, and adopt a “wait and see” approach with regards to both of these issues.

The seventh Note³⁵ examines employment classification in the sharing economy by analyzing the misclassification suit launched against Uber Technologies, Inc., by its drivers. This Note concludes that a jury is likely to find, based on the current legal classification test, that all Uber drivers in the class action suit are Uber's employees. However, this Note argues that such a blanket result would be inappropriate and advocates that courts or legislatures need to construct a new employment classification test that is tailored to the complex working relationships in the sharing economy.

V. PRIVACY LAW

The first Note³⁶ in this Section identifies “exposure” data breaches—those focused on causing victims reputational harm—as the next generation of data security breach. The Note discusses the novel concerns posed by exposure breaches, and proposes adherence to ex ante protocols that may prevent reputational harm before it occurs. More specifically, the Note suggests that state legislatures and the Federal Trade Commission mandate heightened security standards for entities that store personal information as defined according to a modified version of the “public disclosure of private information” privacy law remedy.

34. Swaroop Poudel, Note, *Internet of Things: Underlying Technologies, Interoperability, and Threats to Privacy and Security*, 31 BERKELEY TECH. L.J. 997 (2016).

35. Robert L. Redfearn III, Note, *Sharing Economy Misclassification: Employees and Independent Contractors in Transportation Network Companies*, 31 BERKELEY TECH. L.J. 1023 (2016).

36. Yasmine Agelidis, Note, *Protecting the Good, the Bad, and the Ugly: “Exposure” Data Breaches and Suggestions for Coping with Them*, 31 BERKELEY TECH. L.J. 1057 (2016).

The second Note³⁷ examines the Third Circuit's decision in *FTC v. Wyndham Worldwide Corp.*,³⁸ which is the first case to explicitly uphold the FTC's authority to challenge corporate data security practices as unfair or deceptive. The Note considers whether, in light of constitutional due process requirements and the history of FTC data security enforcement efforts, the agency has provided companies with fair notice of the security standards they must meet. It concludes that the FTC's past complaints and other guidance, but not consent orders, define particular unfair practices in a way that satisfies the fair notice requirement.

The third Note³⁹ explores the Supreme Court's decision in *Elonis v. United States*,⁴⁰ where the Court reversed a conviction for making online threats over the social media platform Facebook. In examining the first true threat case in more than a decade, the Court resolved the issue on narrow statutory grounds. This Note argues that ambiguity in the intent requirement for 18 U.S.C. § 875(c), coupled with the ease with which true threats can be made in the Internet age, suggest that the Court will revisit this issue sooner rather than later.

The final Note⁴¹ examines the Court's decision in *City of Los Angeles v. Patel*,⁴² focusing on what the case means for Fourth Amendment searches in the Information Age. The Note argues that despite producing some bright-line rules that limit government overreach, *Patel* unfortunately failed to address key questions regarding the administrative search and special needs doctrines.

37. J. William Binkley, Note, *Fair Notice of Unfair Practices: Due Process in FTC Data Security Enforcement After Wyndham*, 31 BERKELEY TECH. L.J. 1079 (2016).

38. 799 F.3d 236 (3d Cir. 2015).

39. Jing Xun Quek, Note, *Elonis v. United States: The Next Twelve Years*, 31 BERKELEY TECH. L.J. 1109 (2016).

40. 135 S. Ct. 2001 (2015).

41. Maximilian Sladek de la Cal, Note, *City of Los Angeles v. Patel: The Fourth Amendment's "Special Needs" in the Information Age*, 31 BERKELEY TECH. L.J. 1137 (2016).

42. 135 S. Ct. 2443 (2015).

SAVING PATENT LAW FROM COMPETITION POLICY AND ECONOMIC THEORIES: *KIMBLE V. MARVEL ENTERTAINMENT*

Cassandra E. Havens[†]

In *Kimble v. Marvel Entertainment, LLC*,¹ the Supreme Court considered whether it should overrule *Brulotte v. Thys Co.*, which held that royalties accruing after a patent has expired are unlawful per se.² Writing for the majority, Justice Kagan discussed the intersection of patent law and antitrust, and emphasized the importance of stare decisis.³ Rejecting patentee Kimble’s argument for an antitrust-based rule of reason analysis instead of the bright-line *Brulotte* rule,⁴ the Supreme Court held that patent policy should govern patent law, and the “superpowered”⁵ stare decisis of the *Brulotte* rule was not overcome by a similarly strong justification.⁶

Deciding to keep the *Brulotte* rule was not a foregone conclusion. Critics felt *Brulotte* reflected an outdated view of competition policy, and pointed to changes in economic theories about market power. The certiorari petition argued the *Brulotte* rule should follow the shift in antitrust jurisprudence away from per se rules, towards a case-by-case rule of reason analysis.⁷ *Kimble* gave the *Brulotte* critics a chance to show how terrible the rule is, but they failed.

This Note examines the legal underpinnings of *Kimble* in Part I, reviewing patent policy and using patent misuse to transition to a discussion of the relationship between antitrust and patent law. Part II covers the background and procedural history of *Kimble*, culminating in

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1. *Kimble v. Marvel Entm’t (Kimble III)*, LLC, 135 S. Ct. 2401, 2410 (2015).

2. 379 U.S. 29, 32 (1964).

3. *See Kimble III*, 135 S. Ct. at 2409–14.

4. *Id.* at 2408, 2412–14.

5. *See id.* at 2410 (using “superpowered” to describe the strength of stare decisis at issue).

6. *See id.* at 2406, 2410, 2415.

7. *See* Petition for a Writ of Certiorari at 2, *Kimble III*, 135 S. Ct. 2401 (Dec. 13, 2013) (No. 13-720) [hereinafter Cert Petition].

the Supreme Court decision. Part III argues that the Court correctly decided *Kimble*, and that the decision reinforces the importance of stare decisis and will result in greater clarity for patent licenses.

I. LEGAL BACKGROUND

Kimble is a patent story with an antitrust twist. To understand why the Court declined to overrule *Brulotte*, a background into how patent and antitrust intertwine is required. Patent misuse exists at the intersection of these two bodies of law, and provides a helpful transition from discussing the goals of patent law to documenting the changes in antitrust law over the last fifty years.

A. PATENT POLICY

Patent law in the United States balances “fostering innovation and ensuring public access to discoveries.”⁸ On one side, inventors may recoup their investment in discovering something new and useful. More importantly, the other side contains the promise to give the invention to the public when the patent expires,⁹ and to allow the invention to become a building block for further discovery.¹⁰ Patent policy swings between these two purposes, at times favoring strong protection rights for patentees, and at others supporting strict patent limits.¹¹

Patent principles adapt over time in response to controversies within the patent sphere. Courts developed the doctrine of patent misuse to curb attempts by patentees to tip the balance away from the public and into their own pockets.

B. PATENT MISUSE

Patent misuse is an “impermissible attempt to extend the time or scope of the patent grant,”¹² an equitable doctrine which denies enforcement of a

8. *Kimble III*, 135 S. Ct. at 2406–07.

9. Patents last “20 years from the date on which the application for the patent was filed in the United States.” 35 U.S.C. § 154(a)(2) (2012). The term may be extended in certain circumstances, such as a patent application processing delay. 35 U.S.C. § 156 (2012).

10. *See* *Sears, Roebuck & Co. v. Stiffel Co.*, 376 U.S. 225, 230 (1964) (noting the patentee’s rights pass to the public, free from restriction, upon expiration).

11. The patent owner may “exclude others from making, using, offering for sale, or selling the invention throughout the United States.” 35 U.S.C. § 154(a)(1) (2012).

12. Robin C. Feldman, *The Insufficiency of Antitrust Analysis for Patent Misuse*, 55 HASTINGS L.J. 399, 402 (2003).

patent if the patentee abuses the privileges granted by patent law.¹³ These abuses include tying, package licensing, horizontal price-fixing, territorial allocations, and term extension, which is especially pertinent in *Kimble*.¹⁴

1. *Misuse: The Origin Story*

In 1917, the Supreme Court created the affirmative defense of patent misuse in *Motion Picture Patents Co. v. Universal Film Manufacturing Co.*¹⁵ The patentee had placed a notice on its film projectors, which had a small patent-protected mechanism, barring purchasers from showing moving pictures printed on competitors' film.¹⁶ The Court held "the primary purpose of our patent laws is not the creation of private fortunes for the owners of patents but is 'to promote the progress of science and useful arts.'"¹⁷ Due to this longstanding policy, the Court reasoned that the scope of the patent grant "must be limited to the invention described in the claims of his patent."¹⁸

Twenty-five years later, the Court invoked principles of equity and the holding from *Motion Picture Patents* to clearly articulate the misuse doctrine in *Morton Salt Co. v. G.S. Suppiger Co.*¹⁹ Suppiger required that licensees of its patented salt depositing machines use Suppiger's unpatented salt tablets.²⁰ The Court held that a patent is a "special privilege" designed to carry out the public policy established by the Constitution,²¹ and prohibited "the use of the patent to secure an exclusive right or limited monopoly not granted by the Patent Office and which it is contrary to public policy to grant."²² The Court then applied the long-established "clean hands" principle of equity,²³ finding that a patentee "may not claim protection of his grant by the courts where it is being used to subvert" the public policy of promoting innovation.²⁴ Finally, the Court

13. See Daryl Lim, *Patent Misuse and Antitrust: Rebirth or False Dawn?*, 20 MICH. TELECOMM. & TECH. L. REV. 299, 308–09 (2014).

14. *Id.* at 301 n.6, 309.

15. 243 U.S. 502 (1917).

16. Patentee's own film patents had expired. *Motion Picture Patents*, 243 U.S. at 505–07.

17. *Id.* at 511 (quoting U.S. CONST. art. I, § 8).

18. *Id.*

19. 314 U.S. 488 (1942).

20. *Id.* at 490.

21. *Id.* at 492.

22. *Id.*

23. *Id.* ("It is a principle of general application that courts, and especially courts of equity, may appropriately withhold their aid where the plaintiff is using the right asserted contrary to the public interest.")

24. *Id.* at 494.

decided that a patentee cannot obtain relief for an infringement claim until the patentee has ceased the improper practice, and the consequences of the misuse have dissipated.²⁵

In both *Motion Picture Patents* and *Morton Salt*, the Supreme Court considered, and rejected, antitrust-based arguments. In *Motion Picture Patents*, even though the appellate court had found the patentee's behavior a violation of the Clayton Act, the Court restricted the focus to patent law.²⁶ The *Morton Salt* Court also rejected consideration of Clayton Act violations for misuse, and emphasized that the primary purpose of patent law is to serve the public interest.²⁷ These decisions show that patent misuse only considers abuses of patent law privileges, not the complicated economic concerns of antitrust.

2. *Post-Expiration Patent Royalties*

Patent misuse prohibits patentees from extending their patent past the statutory duration. This includes requiring licensees to pay royalties for use after the patent has expired.

The leading case for post-expiration patent royalties is *Brulotte v. Thys Co.*, which Kimble sought to overrule. In *Brulotte*, the patentee sold its hop-picking machines for a minimum royalty based on yearly use that extended past the expiration of its last patent.²⁸ The Court relied on *Scott Paper Co. v. Marcalus Manufacturing Co.*,²⁹ which held any attempt by the patentee to continue "the patent monopoly, after the patent expires, whatever the legal device employed, runs counter to the policy and purpose of the patent laws."³⁰ The Court noted the payments were for use after the patent expired, and not deferred payments from use within the patent period.³¹ Another "significant" aspect of the license was the royalty

25. *Id.* at 493.

26. *See* *Motion Picture Patents Co. v. Universal Film Mfg. Co.*, 243 U.S. 502, 517–18 ("Our conclusion renders it unnecessary to make the application of [the Clayton Act] to the case at bar which the Circuit Court of Appeals made of it but it must be accepted by us as a most persuasive expression of the public policy of our country with respect to the question before us.").

27. *See* *Morton Salt*, 314 U.S. at 490 ("The question we must decide is not necessarily whether respondent has violated the Clayton Act, but whether a court of equity will lend its aid to protect the patent monopoly when respondent is using it as the effective means of restraining competition with its sale of an unpatented article.").

28. *Brulotte v. Thys Co.*, 379 U.S. 29, 29 (1964). A flat sum was also charged, but was not at issue. *Id.*

29. 326 U.S. 249 (1945).

30. *Brulotte*, 379 U.S. at 31.

31. *Id.* Deferred payments from the patent period would have been allowed. See *infra* Section III.C for more details about licensing options.

price, which stayed the same for the pre- and post-expiration period, with no step-down as patents expired.³² Relying on patent policy reasoning, the Court held “a patentee’s use of a royalty agreement that projects beyond the expiration date of the patent is unlawful *per se*.”³³

Refining the *Brulotte* rule, in *Aronson v. Quick Point Pencil Co.*, the Court found a royalty agreement valid because it contained a step-down provision if a patent did not issue.³⁴ Aronson contracted with Quick Point Pencil for her keyholder invention while her patent application was pending.³⁵ The agreement was not limited in duration, and provided for a 5% royalty, with an alternate 2.5% royalty if the patent did not issue within five years.³⁶ Because the parties contracted with the “full awareness” that a patent may not issue, and provided for royalties in the alternative at a lower rate, the agreement did not run afoul of *Brulotte*.³⁷

More recently, the Ninth Circuit described several significant limits to the *Brulotte* rule in *Zila, Inc. v. Tinnell*.³⁸ First, if the license demands post-expiration royalties, the entire contract is not rendered void, only the offending portion which extends beyond the life of the patent.³⁹ Second, if there are multiple patents, and the U.S. patent expires before a foreign patent, *Brulotte* does not “extend its royalty-canceling powers to contracts for foreign patents.”⁴⁰ Therefore, royalties may continue until the last patent expires without violating *Brulotte*, even if the last patent is foreign.

Even before *Brulotte*, there was a general understanding that patent royalties could not extend beyond expiration.⁴¹ *Brulotte* and its progeny refined this aspect of patent misuse over the years, operating relatively

32. *Brulotte*, 379 U.S. at 31–32.

33. *Id.* at 32.

34. 440 U.S. 257, 264–65 (1979).

35. *Id.* at 259.

36. *Id.*

37. *See id.* at 261, 264.

38. 502 F.3d 1014 (9th Cir. 2007).

39. *Id.* at 1023.

40. *Id.*

41. This belief was present in scholarly articles covering the period before *Brulotte* was decided in 1964. Generally, the “liability to pay royalties terminates upon the expiration of the patent,” with some courts acknowledging the ability to contract around this default. Armand P. Boisselle, *Patent Misuse—Attempts to Collect Royalties on Expired Patents*, 15 W. RES. L. REV. 562, 566–67 (1964). *But see* John H. Davies, *Patentee’s Use of a Royalty Agreement Which Projects Beyond the Expiration Date of the Patent Is Unlawful Per Se*, 1965 U. ILL. L.F. 325, 325 (1965) (stating it was acceptable licensing practice to allow post-expiration royalties). Others advised against licensing patents beyond expiration. *E.g.*, J. Thomas McCarthy, *A Patent Licensing Policy for Minimizing Antitrust and Misuse Risks*, 46 J. PAT. OFF. SOC’Y 547, 560 (1964).

under the radar. The grafting of antitrust into patent misuse, and the increasing prominence of the Chicago school, spurred criticism of patent misuse and *Brulotte* in the 1990s.⁴²

C. ANTITRUST AND PATENT MISUSE: ARCHENEMIES OR ALLIES?

Understanding the evolution in antitrust away from per se rules, and the application of antitrust principles to patent misuse, explains Kimble's hope for a similar shift in patent law. Patent and antitrust laws have an inherent tension, because one creates and protects a monopoly, while the other limits harms caused by monopolization. Both serve the public: patent laws facilitate invention by providing a chance to earn a return on investments, and antitrust laws protect market competition.⁴³

1. *The Purpose and Predominant Test of Antitrust Law*

The Sherman Antitrust Act and the Clayton Antitrust Act govern agreements that restrain⁴⁴ and monopolize⁴⁵ trade. Antitrust law protects competition on the merits and prevents anticompetitive effects on the marketplace,⁴⁶ using a balancing test called the rule of reason.⁴⁷ The rule of reason first requires a finding that the defendant has sufficient market power, and then inquires whether the anticompetitive effects of the restraint on trade outweigh the pro-competitive efficiencies.⁴⁸

2. *Evolution of Antitrust*

Antitrust is susceptible to political regime changes⁴⁹ and has tilted back and forth between trust-busting and hands-off policies over the last

42. See, e.g., Harold See & Frank M. Caprio, *The Trouble with Brulotte: The Patent Royalty Term and Patent Monopoly Extension*, 1990 UTAH L. REV. 813 (1990); Ian Ayres & Paul Klemperer, *Limiting Patentees' Market Power Without Reducing Innovation Incentives: The Perverse Benefits of Uncertainty and Non-Injunctive Remedies*, 97 MICH. L. REV. 985, 1027 (1999); Richard A. Posner, *Transaction Costs and Antitrust Concerns in the Licensing of Intellectual Property*, 4 J. MARSHALL REV. INTELL. PROP. L. 325 (2005); Mark A. Lemley, *The Economic Irrationality of the Patent Misuse Doctrine*, 78 CALIF. L. REV. 1599 (1990). See also *infra* Section I.C.3 for further discussion.

43. Lim, *supra* note 13, at 310.

44. Sherman Act § 1, 15 U.S.C. § 1 (2012).

45. Sherman Act § 1, 15 U.S.C. § 2 (2012).

46. Feldman, *supra* note 12, at 422.

47. As discussed *infra* Section I.C.2, most per se rules have been replaced with the rule of reason. Judge Posner has called the rule of reason a "euphemism for nonliability [sic]." Feldman, *supra* note 12, at 422–23.

48. *Id.* at 422. The rule of reason is considered burdensome and difficult to satisfy. *Id.*

49. See generally Louis Kaplow, *Antitrust, Law & Economics, and the Courts*, 50 LAW & CONTEMP. PROBS. 181 (1987) (arguing that shifts in antitrust doctrine and rationale are political, and not based on changes in economic theory).

century. By making the Sherman Act simple and open-ended, Congress delegated enormous power to judges to determine whether an agreement restrains trade, or whether a company engages in unlawful monopolization.⁵⁰

In the early twentieth century, courts established the rule of reason as the basic method of antitrust analysis, and the Supreme Court banned only “unreasonable” restraints, instead of all trade restraints.⁵¹ This attempt to narrow the scope of antitrust law prompted Congress to enact the Clayton Act and the Federal Trade Commission Act.⁵² The executive branch urged businesses to cooperate, to curb the competitive model that many attributed to causing the Great Depression.⁵³ Enforcement was discouraged to allow dominant firms to prosper.⁵⁴

From the 1930s to the 1960s, believing competition to be the key to restoring the economy, Franklin Roosevelt kicked off an era of trustbusting.⁵⁵ Antitrust enforcement was reinvigorated amid heightened suspicion of large corporations.⁵⁶ To reduce the government’s burden of proof, courts used per se rules to summarily condemn certain acts, like horizontal price fixing.⁵⁷ *Brulotte* was a product of this era, near the height of the enforcement pendulum swing.⁵⁸

The trustbusting era prompted a swing in favor of industrial concentration in the 1970s.⁵⁹ Chicago School scholars questioned per se illegality rules, advocated rule of reason analysis, and influenced new court appointees to apply narrow standards for antitrust enforcement.⁶⁰ Critics influenced by the Chicago School argued that U.S. firms were losing out in international markets due to antitrust laws, giving weight to arguments that larger companies create efficiencies that outweigh harmful anticompetitive effects from market concentration.⁶¹

50. William E. Kovacic & Carl Shapiro, *Antitrust Policy: A Century of Economic and Legal Thinking*, 14 J. ECON. PERSPECT. 43, 43 (2000).

51. *Id.* at 45–46.

52. *Id.* at 46.

53. *See id.* at 46–47.

54. *See id.* at 46–49.

55. *Id.* at 49.

56. *Id.*

57. *Id.* at 49–50.

58. *See id.* at 51 (citing mid-1960s as the height of the era; *Brulotte* was decided in 1964).

59. *Id.* at 52–53.

60. *See id.* at 53–55.

61. *See id.* at 53.

The changes in antitrust since the 1970s also influenced patent misuse. Per se rules against tying and other restrictions from the 1950s and 1960s have been replaced with the rule of reason, or otherwise narrowly revised. However, patent misuse differs from antitrust law in a number of important ways.⁶² The Federal Circuit ignored these distinctions when it injected antitrust principles into the patent misuse doctrine, creating a more permissive, rule of reason-based regime.

3. *Splicing Antitrust into Patent Misuse Doctrine*

By adding a new phrase, “with anticompetitive effect,” into a Supreme Court rule, the Federal Circuit grafted an antitrust interest in market control into the doctrine of patent misuse.⁶³ In *Windsurfing International, Inc. v. AMF, Inc.*, the misuse claim arose due to a licensing agreement that required the licensee to affirm the patentee’s trademarks were valid.⁶⁴ The Federal Circuit relied on *Blonder-Tongue Laboratories, Inc. v. University of Illinois Foundation*⁶⁵ for the applicable patent misuse test: “The doctrine of patent misuse is an affirmative defense to a suit for patent infringement, . . . and requires that the alleged infringer show that the patentee has impermissibly broadened the “physical or temporal scope” of the patent grant *with anticompetitive effect*.”⁶⁶

The Federal Circuit further explained that if the licensing arrangement is not per se anticompetitive, then the defense must show the license “tends to restrain competition unlawfully in an appropriately defined relevant market.”⁶⁷ By borrowing from antitrust law, *Windsurfing* limited patent misuse by further requiring anticompetitive effects.⁶⁸

Changes to antitrust policy, and coinciding patent misuse rebalancing, may have signaled to the parties in *Kimble* the Supreme Court was ready

62. Procedurally, misuse is an affirmative defense to infringement, while antitrust laws state their own federal cause of action. Lim, *supra* note 13, at 316. Remedies also differ: antitrust provides for triple damages, while patent misuse results in unenforceability of the patent. *Id.* at 317. Patent policy is not limited to firms with market power, and is concerned with extensions of patent rights that inhibit innovation. Feldman, *supra* note 12, at 401. Antitrust policy focuses on relevant market effects, which could overlook the nuanced behavior that threatens the efficiency of the patent system. *Id.*

63. See *Windsurfing Int’l, Inc. v. AMF, Inc.*, 782 F.2d 995, 1001 (Fed. Cir. 1986).

64. *Id.*

65. 402 U.S. 313 (1971).

66. *Windsurfing*, 782 F.2d at 1001 (emphasis added). The original *Blonder-Tongue* decision did not require anticompetitive effects. See 402 U.S. at 313–14 (discussing impermissible broadening of the patent’s scope without reference to anticompetitive effects).

67. *Windsurfing*, 782 F.2d at 1001–02.

68. Feldman, *supra* note 12, at 418–19.

to move away from per se illegality for post-expiration patent royalties. Disdain from scholars and judges forced to apply *Brulotte* added momentum for a change.⁶⁹

II. KIMBLE CASE SUMMARY

From the beginning, *Kimble* had the burden of distancing itself from the *Brulotte* rule. The Supreme Court has an opportunity to review a much-criticized rule and determine if there was a better approach to post-expiration patent royalties. There was not.

A. BACKGROUND AND EARLIER LITIGATION

In 1990, Stephen Kimble invented a web-shooting toy, for which he obtained U.S. Patent No. 5,072,856; that patent expired on May 25, 2010.⁷⁰ Kimble met with Marvel's predecessor, who verbally agreed to compensate Kimble if they used any of his ideas.⁷¹

Marvel created the "Web Blaster" toy based on Kimble's idea, without paying Kimble, so in 1997 Kimble sued for patent infringement and breach of contract.⁷² The parties settled, with Marvel buying the patent for an upfront payment and three percent of future "net product sales," with no expiration date for the payments.⁷³ The parties were unaware of *Brulotte*, which prohibits royalties for sales made after a patent has expired.⁷⁴ The parties complied with the terms of the settlement until disagreements between Kimble and Marvel arose in 2006 concerning the calculation of royalties for subsequent toys based on or including the Web Blaster.⁷⁵

69. Judge Posner criticized *Brulotte* in both *Scheiber v. Dolby Laboratories*, 293 F.3d 1014, 1017 (7th Cir. 2002) and *SmithKline Beecham Corp. v. Pentech Pharmaceuticals, Inc.*, 261 F. Supp. 2d 1002, 1005 (N.D. Ill. 2003). For scholarly criticism, see, for example, Kelly Hershey, Note, *Scheiber v. Dolby Laboratories, Inc.*, 18 BERKELEY TECH. L.J. 159 (2003); Elisabetta Ottoz & Franco Cugno, *Hybrid Licensing of Product Innovations*, 5 REV. L. & ECON. 579 (2009) (arguing *Brulotte* is unjustified using economic analysis); Sean Gates & Jeny Maier, *Brulotte's Continuing Shadow over Patent Licensing*, J. INTELL. PROP. L. & PRACT., Jan. 18, 2009 (advocating vigilance to get around *Brulotte*).

70. *Kimble v. Marvel Enters., Inc. (Kimble I)*, 692 F. Supp. 2d 1156, 1157 (D. Ariz. 2010).

71. *Id.* at 1157–58; *Kimble v. Marvel Enters. Inc. (Kimble II)*, 727 F.3d 856, 858 (9th Cir. 2013).

72. *Kimble I*, 692 F. Supp. 2d at 1157–58.

73. *Id.* at 1158.

74. *Kimble III*, 135 S. Ct. 2401, 2406 (2015).

75. *Kimble II*, 727 F.3d at 859.

B. THE DISTRICT COURT RULES FOR MARVEL

In 2008, Kimble sued Marvel for breach of the settlement agreement and royalty payment issues, and Marvel moved for a declaratory judgment that any obligation to make payments would terminate when the patent expired.⁷⁶

Kimble argued the agreement “transferred both patented and non-patented rights and while the royalties for the patented rights end with the patent, they do not end for non-patented rights which cover the Web Blaster.”⁷⁷ The district court was not persuaded, because the agreement provided no distinction between the patented and non-patented royalties.⁷⁸ Further, the court ruled that Kimble’s argument failed under *Brulotte*.⁷⁹

C. THE NINTH CIRCUIT AFFIRMS

Kimble appealed the decision to the Ninth Circuit,⁸⁰ which reluctantly affirmed the district court’s decision.⁸¹ The court discussed how other circuits have interpreted the holdings from *Brulotte* and *Aronson* to create a general rule.⁸² Patent owners cannot leverage their patent beyond expiration because then “the free market visualized for the post-expiration period would be subject to monopoly influences that have no proper place there.”⁸³

The Ninth Circuit distilled the rule that “a license for inseparable patent and non-patent rights involving royalty payments that extends beyond a patent term is unenforceable for the post-expiration period unless the agreement provides a discount for the non-patent rights from the patent-protected rate.”⁸⁴ Because the agreement between Marvel and Kimble did not contain separate royalty rates for the patented rights and the non-patented Web Blaster rights, the court found the absence of

76. *Kimble I*, 692 F. Supp. 2d at 1158–59.

77. *Id.* at 1159.

78. *Id.* at 1160.

79. *Id.*

80. Because Kimble’s action was based on a breach of contract, and not specifically patent law, the appeal went to the Ninth Circuit instead of the Federal Circuit.

81. *Kimble II*, 727 F.3d at 857.

82. *Id.* at 860–63.

83. *Id.* at 861.

84. *Id.* at 863.

separate rates dispositive.⁸⁵ The Ninth Circuit spent considerable time criticizing *Brulotte*⁸⁶ and expressing its displeasure at being bound by it.⁸⁷ The court's disapproval, and Kimble's further loss, set the stage for a last-ditch appeal to the Supreme Court.

D. THE SUPREME COURT RETAINS *BRULOTTE*

The sole question before the Court was whether it should overrule *Brulotte*, and by a 6–3 majority, it declined to do so.⁸⁸ Justice Kagan delivered the opinion of the Court, while Justice Alito filed a dissenting opinion.⁸⁹

Justice Kagan explained the doctrine of stare decisis and how a “special justification” is required to overrule a decision, something more than an argument that the Court wrongly decided the issue before.⁹⁰ In addition, when a decision interprets a statute, as in *Brulotte*, stare decisis carries “enhanced force” because critics are free to petition Congress to correct the mistake.⁹¹ Further, *Brulotte* has enhanced precedential force because it is more than fifty years old, and has survived several revisions to patent law.⁹² Finally, the subject matter of *Brulotte*, intersecting property (patents) and contract (licensing agreements) rights, found stare decisis at its acme, because parties are especially likely to rely on precedents in these areas.⁹³ These considerations created a “superpowered form of stare decisis,” requiring a “superspecial justification to warrant reversing *Brulotte*.”⁹⁴

Two traditional reasons to overrule a decision are (1) if the statutory and doctrinal underpinnings have eroded over time, or (2) if the decision

85. *Id.* at 864. In addition, the Settlement Agreement did not include a discounted rate for the non-patent rights, which would have indicated that this royalty was not subject to patent leverage. *Id.*

86. *Id.* at 857 (“frequently criticized decision in *Brulotte*”); *id.* (“*Brulotte* rule is counterintuitive and its rationale is arguably unconvincing”); *id.* at 863 (“[*Brulotte* is] economically unconvincing”).

87. *Id.* at 857 (“reluctantly applied the rule . . . compelled to do so again”); *id.* at 863 (“reluctantly followed the other circuits”); *id.* at 867 (“*Brulotte* and its progeny are controlling. We are bound to follow *Brulotte* and cannot deny that it applies here.”).

88. *Kimble III*, 135 S. Ct. 2401, 2405 (2015).

89. Justice Alito's dissent relied on Kimble's economic theory error justification in explaining why he would overrule *Brulotte*, which he considered “a clear case of judicial overreach.” See *Kimble III*, 135 S. Ct. at 2415 (Alito, J., dissenting).

90. *Id.* at 2409 (majority opinion).

91. *Id.*

92. *Id.* at 2410.

93. *Id.*

94. *Id.*

has proved unworkable.⁹⁵ First, the Court found “the core feature of the patent laws on which *Brulotte* relied remains just the same,” and *Scott Paper*, which *Brulotte* relied on, remains good law.⁹⁶ Second, the *Brulotte* decision “is simplicity itself to apply,” so it is the opposite of unworkable.⁹⁷ Its ease of use is much clearer than Kimble’s proposal to use antitrust law’s rule of reason, an “elaborate inquiry” which results in “notoriously high litigation costs and unpredictable results.”⁹⁸

The Court also addressed two justifications offered by Kimble to overrule *Brulotte*: (1) that *Brulotte* rests on a mistaken view of competitive effects, and (2) that *Brulotte* suppresses technological innovation and harms the economy.⁹⁹ Although the Court did not disagree with Kimble’s economic argument, the *Brulotte* Court did not rely on economic theories that post-patent royalties harm competition.¹⁰⁰ *Brulotte* applied a categorical principle that “all patents, and all benefits from them, must end when their terms expire,” and “post-expiration restraints on even a single licensee’s access to the invention clash with that principle.”¹⁰¹ Regarding Kimble’s second argument, the Court noted that there was no empirical evidence showing that *Brulotte* has decreased innovation, and Kimble and his amici were merely asking the Court “to take their word for the problem.”¹⁰²

III. DISCUSSION: PATENT POLICY LIMITS AND STARE DECISIS LEAD TO LICENSING CLARITY

On the surface, *Kimble* appears uninteresting. It was affirmed all the way up through the Supreme Court, based on old, recently maligned precedent. When the Supreme Court granted certiorari, reactions were

95. *Id.* at 2410–11.

96. *Id.*

97. *Id.* at 2411.

98. *Id.*

99. *Id.* at 2412–15.

100. *See id.* at 2412–13. Kimble’s economic argument claimed that *Brulotte* relied on an economic error, by assuming post-patent royalty “arrangements are invariably anticompetitive.” *Id.* at 2412. Kimble argued such agreements foster competition because a longer payment period means a lower rate can be charged, which enables more companies to afford a license. *Id.*

101. *Id.* at 2413.

102. *Id.* at 2414. Kimble’s argument that *Brulotte* harms innovation was based on the hypothetical situation where the parties’ ideal agreement is prohibited by the *Brulotte* rule, which may prevent any agreement from being reached, and thus discourage innovation. *Id.*

mixed.¹⁰³ Some commentators noted that if *Brulotte* fell there could be perpetual royalties for expired patents, while acknowledging the ubiquity of *Brulotte*.¹⁰⁴ Other observers, including research universities, argued that overturning *Brulotte* could help fuel creation of life-saving drugs.¹⁰⁵ After finally hearing the best arguments against *Brulotte*, the Court was not persuaded.

Delving into the decision's rationale, however, reveals more subtle principles of patent policy. The importance of stare decisis provides further justification and guidelines for how, and why, courts should stand by precedent. Finally, *Kimble* provides judicially sanctioned patent licensing options for parties to adequately share risks and rewards.

A. *KIMBLE* WAS CORRECTLY DECIDED

The Court correctly decided *Kimble* for several reasons. First, there was no valid justification to overrule *Brulotte*. Second, from the “better the devil you know” perspective, the alternative of overruling *Brulotte* could lead to far worse outcomes. Finally, strict patent term limits best serve the goals of patent policy, to encourage progress and innovation.

103. See, e.g., Dennis Crouch, *Supreme Court to Test Its Spidey-Sense in Patent-Antitrust Case*, PATENTLYO (Dec. 12, 2014), <http://patentlyo.com/patent/2014/12/supreme-patent-antitrust.html> [<http://perma.cc/7ASL-A3R7>] (noting the move away from per se rules); D. Jane Cooper, *Kimble v. Marvel: The End of the Brulotte Rule Restricting Royalties on Expired Patents?*, LEXOLOGY (Jan. 6, 2015), <http://www.lexology.com/library/detail.aspx?g=a963257b-a8b2-4c52-9841-dd4df87f1e4c> [<http://perma.cc/Q22D-EQTA>] (predicting *Kimble* would “mark the death knell of the *Brulotte* rule”); Rich Samp, *The Supreme Court Should Not Abandon 'Stare Decisis' in 'Kimble' Case Given Reliance Interest*, FORBES (Mar. 25, 2015), <http://www.forbes.com/sites/wlf/2015/03/25/the-supreme-court-should-not-abandon-stare-decisis-in-kimble-case-given-reliance-interest> [<http://perma.cc/NW26-HPX4>].

104. See Ryan Davis, *Patent Cases to Watch in 2015*, LAW360 (Jan. 2, 2015), <http://www.law360.com/articles/601426/patent-cases-to-watch-in-2015> [<http://perma.cc/R64L-HYA8>] (“Patent attorneys have always been trained that you can't exact royalty payments beyond the life of a patent. All attorneys know that.”).

105. Research institutions like universities rely on income from licensing their inventions and discoveries, and agreements often delay royalties until after clinical trials are over or when the product reaches the market, which may be after the patent has expired. By allowing post-expiration royalties based on use of the patent, these organizations could generate more income than use based on the limited patent period. See Jana Kasperkevic, *Could a Spider-Man Toy Help Invent More Life-Saving Drugs?*, THE GUARDIAN (Mar. 31, 2015), <http://www.theguardian.com/law/2015/mar/31/could-a-spider-man-toy-help-invent-more-life-saving-drugs> [<http://perma.cc/EZT5-59JR>].

1. *No Justification to Overrule*

It takes more than “we got it wrong” to overrule statutory interpretation: it requires a special justification that the law has eroded, or that the rule has proved unworkable.¹⁰⁶ Neither of these applies to *Brulotte* and its ban on post-expiration patent royalties.

After half a century, *Brulotte*’s key holding from *Scott Paper Co.*, restricting the patentee to the term of the patent, is still good law.¹⁰⁷ Congress has revised the statute at issue¹⁰⁸ numerous times over the years but has never nullified *Brulotte*’s holding.¹⁰⁹ Much of patent misuse has been altered, aspects wiped out, and others grafted with onerous antitrust requirements of market power, but *Brulotte*’s ban on post-expiration patent royalties has remained unscathed.¹¹⁰ While some scholars thought *Brulotte* was dead,¹¹¹ and many more argued it should be,¹¹² they were wrong.

The other traditional reason to overrule precedent is when the rule proves to be unworkable. According to Justice Kagan, the *Brulotte* rule is “simplicity itself,” so “no dice” on the unworkability justification.¹¹³ Courts only have to look at whether the agreement provides for royalties for the use of an expired patent.¹¹⁴ Despite all the amicus curiae briefs in support of Kimble’s position, the harshest argument they could muster was the *Brulotte* rule had to be worked around.¹¹⁵

106. *Kimble III*, 135 S. Ct. 2401, 2410–11 (2015).

107. See *Brulotte v. Thys Co.*, 379 U.S. 29, 31 (citing *Scott Paper Co. v. Marcalus Co.*, 326 U.S. 249, 256) (“[A]ny attempted reservation or continuation in the patentee or those claiming under him of the patent monopoly, after the patent expires, whatever the legal device employed, runs counter to the policy and purpose of the patent laws.”).

108. 35 U.S.C. § 154 (2012).

109. *Kimble III*, 135 S. Ct. at 2410.

110. See Lim, *supra* note 13, at 323–24.

111. See Rochelle Cooper Dreyfuss & Lawrence S. Pope, *Dethroning Lear? Incentives to Innovate After MedImmune*, 24 BERKELEY TECH. L.J. 971, 987, 995, 1003 (2009).

112. See, e.g., See & Caprio, *supra* note 42 (arguing *Brulotte* does not extend the patent monopoly); Michael Koenig, *Patent Royalties Extending Beyond Expiration: An Illogical Ban from Brulotte to Scheiber*, 2 DUKE L. & TECH. REV. 1–11 (2003) (calling *Brulotte* a “bad rule”); Ayres & Klemperer, *supra* note 42 (arguing *Brulotte* should be overruled to allow a lower, longer royalty); Posner, *supra* note 42 (arguing *Brulotte* was incorrect).

113. *Kimble III*, 135 S. Ct. at 2411.

114. The hardest part of the rule is calculating when the patent expires, but any first grader can add twenty to a number.

115. See, e.g., Brief of BioTime, Inc. as Amicus Curiae in Support of Petitioners at 3, *Kimble III*, 135 S. Ct. 2401 (2015) (No. 13-720) [hereinafter BioTime Brief] (“[S]ophisticated parties like BioTime have been forced to draft around *Brulotte* for the past 50 years.”); Brief for Memorial Sloan Kettering Cancer Center, et al. as Amici Curiae in Support of Petitioners at 25, *Kimble III*, 135 S. Ct. 2401 (2015) (No. 13-720)

Kimble's two non-traditional arguments were better suited for Congress, not for the Court.¹¹⁶ Even accepting the economic argument, *Brulotte* concerns patent law, and holds that after the patent expires, the patent belongs to the public.¹¹⁷ Economic considerations are already baked into the twenty-year term of protection: instead of ten or thirty years, Congress decided twenty years was the right length to provide patentees a chance to recoup their expenses, but not slow down innovation by tying up technology for too long.¹¹⁸

Arguing that *Brulotte* hinders innovation and harms the economy also failed. Since World War II, and continuing under the *Brulotte* rule, there has been an incredible boom of innovation.¹¹⁹ As cited by Kimble's own amici, running royalties increased 30% from 2011 to 2012, and there are over 40,000 active license agreements reported,¹²⁰ if *Brulotte* truly harmed innovation, as Kimble argued, fewer agreements would be made, and there would be noticeable declines in license agreements and royalties. There were no empirical studies cited to show the *Brulotte* rule harms innovation, prevents agreements or harms the economy.¹²¹ Economic arguments based on hypothetical licensing situations are not enough, especially when the alternative to *Brulotte* poses scarier consequences.

[hereinafter Memorial Sloan Kettering Brief] (“If the logic of *Brulotte* compels such a rule, the constraint it places on socially beneficial transactions between sophisticated entities is another reason to overrule the case.”); Brief of the University of Massachusetts Biologic Laboratories as Amicus Curiae in Support of Petitioners at 29, *Kimble III*, 135 S. Ct. 2401 (2015) (No. 13-720) [hereinafter UMass Biologic Labs Brief] (“In common practice, the parties simply insert an arbitrary stepped down royalty rate, in effect creating a *Brulotte* safe harbor.”).

116. *Kimble III*, 135 S. Ct. at 2412.

117. The licensee is also part of this “public” which should be free to use the patent. Transcript of Oral Argument at 34, *Kimble III*, 135 S. Ct. 2401 (2015) (No. 13-720) [hereinafter Kimble Oral Argument]. Justice Kagan further held “post-expiration restraints on even a single licensee’s access to the invention” clash with this principle of a free-market after expiration. *Kimble III*, 135 S. Ct. at 2413.

118. Additionally, a patent is not a guarantee of recouping all research and development expenses. See Feldman, *supra* note 12, at 437, 445.

119. See ARTI RAI, STUART GRAHAM & MARK DOMS, PATENT REFORM: UNLEASHING INNOVATION, PROMOTING ECONOMIC GROWTH & PRODUCING HIGH-PAYING JOBS (2010) (“Technological innovation is linked to three-quarters of the Nation’s post-WW II growth rate. Two innovation-linked factors—capital investment and increased efficiency—represent 2.5 percentage points of the 3.4% average annual growth rate achieved since the 1940’s.”).

120. Memorial Sloan Kettering Brief, *supra* note 115, at 13.

121. See *Kimble III*, 135 S. Ct. at 2413.

2. *Alternate Universe—What if Kimble Won?*

Imagine a different outcome: *Kimble* overruled *Brulotte*. What would *this* universe look like? Economists would rejoice.¹²² Patentee-licensors, like the amici in support of *Kimble*, would rejoice (at first). Patent trolls would almost certainly rejoice.¹²³

License agreements could now require perpetual royalties for patented technology. This is the key to most *Brulotte* objections: the patent period is not long enough, so patent holders need “accrual deferral.”¹²⁴ Certain technologies, notably pharmaceuticals, take a considerable amount of time to become profitable, and thus do not generate significant royalties until after the patent has expired.¹²⁵ But, if the patent period is not long enough, patentees can seek relief from Congress. There are creative and effective solutions for inventions that need more time to become profitable.¹²⁶

In this post-*Brulotte* world, parties could stretch the accrual period further, allocate risk between the parties, and use the rule of reason to knock out any truly illegal agreements, as economists advocate. However, as noted by Justice Breyer, economists often overlook the administrative cost of judges forced to implement a complex rule.¹²⁷ The expense of a rule of reason analysis,¹²⁸ beyond the expense of applying the bright-line *Brulotte* rule,¹²⁹ even factoring in extra accrual time for royalties, would likely make the whole enterprise profitable only for patent litigators.

122. See, e.g., See & Caprio, *supra* note 42 (arguing royalties calculated based on post-patent term are risk-shifting credit arrangement); Ayres & Klemperer, *supra* note 42 (arguing a “lower per-unit royalty in return for a longer royalty time period is likely to reduce the deadweight loss of supra-competitive pricing”); Posner, *supra* note 42 (arguing *Brulotte* was reasoned incorrectly).

123. See, e.g., Samp, *supra* note 103 (“Overturning *Brulotte* would be a patent troll’s dream. It could expose licensees to unforeseen royalty demands based on long-forgotten license agreements that they reasonably assumed—in reliance on the *Brulotte* rule—imposed no additional payment obligations after the expiration of the licensed patent.”).

124. *Kimble* Oral Argument, *supra* note 117, at 5, 6, 8.

125. See *BioTime* Brief, *supra* note 115, at 3–6.

126. See *infra* Section III.C.

127. *Kimble* Oral Argument, *supra* note 117, at 20. While *Kimble*’s counsel guessed only the licensor would bear the risk, both parties would incur substantial legal fees to litigate this complex rule of reason analysis. See *UMass Biologic Labs* Brief, *supra* note 115, at 4–15 (complaining about the cost to defend a lawsuit where *Brulotte* did not even apply).

128. *Kimble* Oral Argument, *supra* note 117, at 14 (“[E]verybody complains about the expense related to the rule of reason.”).

129. *Id.* at 21 (“[T]he virtues of a simple rule are obvious.”).

Faced with the prospect of being on the hook for eternal payments to a patentee, potential licensees may opt for alternatives. One option is to wait until the patent expires and then use the technology for free. This would delay innovation and new products and would be a lose-lose situation for businesses and consumers alike. Another option is to invent around the technology. This would likely be wasteful and expensive, with costs passed on to consumers. Neither alternative benefits patent holders.

Scrapping the *Brulotte* rule may also provide a new weapon to the patent troll's arsenal: perpetual royalties.¹³⁰ Injunctions for patent infringement are harder to come by after *eBay, Inc. v. MercExchange, LLC*,¹³¹ especially for non-practicing entities.¹³² Courts are more likely to order a reasonable royalty for damages for the breach of contract claim.¹³³ In addition, long-forgotten license agreements, negotiated with *Brulotte* in mind, could be resurrected in new rounds of "zombie" litigation.¹³⁴ Without the *Brulotte* default, royalties could continue forever if orders did not specify a termination date. Eliminating this safety valve could set back legislative and judicial efforts to curb the patent troll problem.¹³⁵

One final consequence of *Kimble* overruling *Brulotte* is that doing so might call into question¹³⁶ the holding in *Lear, Inc. v. Adkins*,¹³⁷ which eliminated licensee estoppel.¹³⁸ *Brulotte*, like *Lear*, is an example of the Court weighing the importance of patent policy against other considerations, including the freedom to contract. If *Kimble* abrogated *Lear*, it and all cases that relied on *Lear*'s reasoning could fall like dominoes, eliminating important patent policy limits. However, at least

130. See Samp, *supra* note 103.

131. 547 U.S. 388 (2006).

132. See Christopher B. Seaman, *Ongoing Royalties in Patent Cases After eBay: An Empirical Assessment and Proposed Framework*, 23 TEX. INTELL. PROP. L.J. 203, 204–05 (2015).

133. *Id.* at 205.

134. See Samp, *supra* note 103.

135. See 2015 Patent Trolling Legislation, NAT'L CONFERENCE OF STATE LEGISLATURES (Oct. 13, 2015), <http://www.ncsl.org/research/financial-services-and-commerce/2015-patent-trolling-legislation.aspx> [<http://perma.cc/U8ZT-26Q5>] (listing state legislation introduced to curb bad faith patent assertions). *But see* Jess Davis, *Patent Troll Abuses Overblown in Congress, Judges Say*, LAW360 (Oct. 22, 2015) (arguing the patent troll problem is not as significant as the media claims it is), <http://www.law360.com/articles/715363/patent-troll-abuses-overblown-in-congress-judges-say> [<http://perma.cc/FSB6-DC5E>].

136. See Crouch, *supra* note 103.

137. 395 U.S. 653 (1969).

138. See discussion of *Lear*, *infra* Section III.A.3.

one scholar¹³⁹ has noted that *Lear* does not rely on *Brulotte*, so overruling *Brulotte* would not put *Lear* in jeopardy.

Faced with these consequences, the Court had yet another reason to keep *Brulotte*. Even if there had been no foreseeable complications, or stare decisis requirements, patent policy considerations weighed against overruling *Brulotte*.

3. Patent Policy and Limits on Freedom to Contract

Patent policy is well served by a bright-line rule prohibiting post-expiration royalties, because this enables the free use of inventions in the public domain. Minor limits on the freedom to contract may require creative solutions to licensing scenarios, but these limits are not unheard of, and benefit more people than they harm.

The Constitution established patent law as a policy bargain: to “promote the Progress of Science and useful Arts,” creators are entitled to an exclusive right to their discovery for “limited [t]imes.”¹⁴⁰ As Justice Kagan noted, “Congress struck a balance between fostering innovation and ensuring public access to discoveries.”¹⁴¹ “Disclosure is one of the primary purposes of the patent system,”¹⁴² to broadly disseminate and share innovations with the public. After twenty years, the discovery belongs to everyone to use freely. We build on top of discoveries that came before us, drawing inspiration from a rich, well-developed commons.¹⁴³

To safeguard this public domain, patents have strict limits.¹⁴⁴ *Brulotte* is one such limit, as it applies a categorical rule that “all patents, and all benefits from them, must end when their terms expire.”¹⁴⁵ Restraining even a single licensee’s access to the discovery clashes with patent policy.¹⁴⁶

139. See & Caprio, *supra* note 42, at 851–53.

140. U.S. CONST. art. I, § 8, cl. 8.

141. *Kimble III*, 135 S. Ct. 2401, 2406–07 (2015).

142. See & Caprio, *supra* note 42, at 817. *But see* Frank H. Easterbrook, *Intellectual Property is Still Property*, 13 HARV. J.L. & PUB. POLY 108, 109, 117 (1990) (“The idea that a patent represents an exchange of protection for disclosure makes no sense.”).

143. See STEPHEN HAWKING, *ON THE SHOULDERS OF GIANTS: THE GREAT WORKS OF PHYSICS AND ASTRONOMY* 725 (2002) (featuring the famous Isaac Newton quote: “If I have seen farther, it is by standing on the shoulders of giants.”).

144. Recently, the Supreme Court has worked to reduce the strength of patents and make it harder to obtain a patent in the first place. See Dreyfuss, *supra* note 111, at 972–73. In addition, enforcing boundaries for intellectual property and minimizing restrictive licensing can help prevent harms caused by anticommons, especially in biomedical research. See Michael A. Heller & Rebecca S. Eisenberg, *Can Patents Deter Innovation? The Anticommons in Biomedical Research*, 280 SCIENCE 698, 701 (1998).

145. *Kimble III*, 135 S. Ct. at 2413.

146. *Id.*

Allowing contracts to circumvent patent laws and restrict the use of an expired or invalid patent would “impermissibly undermine the patent laws.”¹⁴⁷ Misuse doctrine can be seen as a public policy check on abusive licensing practices.¹⁴⁸ Allowing unlimited freedom of contract would lead to overprotecting intellectual property and reduced competition, which would cause a feedback loop to disincentivize investment in innovation.¹⁴⁹

Lear, Inc. v. Adkins imposed another restriction on patent license agreements, by prohibiting licensee estoppel. Adkins and Lear agreed that if Adkins’s improvements were not patented, or if his patent was subsequently invalidated, then Lear could terminate the agreement.¹⁵⁰ Adkins sued Lear, and Lear raised patent invalidity as a defense. The lower court ruled Lear was “estopped by its licensing agreement from questioning the inventor’s patent.”¹⁵¹ On appeal, the Supreme Court noted judicial efforts over the years to “accommodate the competing demands of the common law of contracts and the federal law of patents.”¹⁵² Weighing the freedom to contract and the licensor’s interest in royalties against the public concerns of patent law, the Court held “requirements of contract doctrine must give way before the demands of the public interest.”¹⁵³

Freedom of contract has never been totally free. Courts should not blindly allow all contract terms because two parties voluntarily bargained for them. The Sherman Antitrust Act of 1890 is one limit on this freedom.¹⁵⁴ The public interest in companies competing fairly on the merits is more important than certain contractual preferences. Laws against usurious or unconscionable contracts deter risky and socially costly behavior.¹⁵⁵ Minimum wage laws further limit contracts.¹⁵⁶ When these

147. *Id.* at 2407.

148. Pamela Samuelson & Kurt Opsahl, *Licensing Information in the Global Information Market: Freedom of Contract Meets Public Policy*, 21 EUR. INTELL. PROP. REV. 386, 388 (1999).

149. *See id.* at 393.

150. *Lear, Inc. v. Adkins*, 395 U.S. 653, 657 (1969).

151. *Id.* at 660.

152. *Id.* at 668.

153. *Id.* at 670–71.

154. Price-fixing and other agreements in restraint of trade are illegal, regardless of whether the parties agreed to them. *See* McCarthy, *supra* note 41, at 547.

155. Eric A. Posner, *Contract Law in the Welfare State: A Defense of the Unconscionability Doctrine, Usury Laws, and Related Limitations on the Freedom to Contract*, 24 J. LEGAL STUD. 283, 283 (1995). Usury laws limit the interest rate parties may agree to. *Id.* at 285, 301. Price and contractual terms are limited by unconscionability. *Id.* at 285.

156. *W. Coast Hotel Co. v. Parrish*, 300 U.S. 379 (1937) (holding minimum wage legislation constitutional).

limits are eliminated, as economists argue should happen, there is an increase in predatory loan-sharking and the number of people living in poverty.¹⁵⁷ Patent law is no different,¹⁵⁸ and removing policy-oriented limits would likely lead to similar outcomes.

In *Kimble*, the Court had many reasons to keep *Brulotte* in place. The rule was not as unworkable or harmful to innovation as critics claimed; there was no valid justification to overrule precedent; the alternative offered was less desirable; and patent policy considerations weighed in favor of a robust public domain. However, *Kimble's* thorough discussion of stare decisis will give this decision importance in the years to come.

B. IMPORTANCE OF STARE DECISIS

Kimble is a poster child for stare decisis, “a foundation stone of the rule of law,” which is the concept that today’s Court should stand by yesterday’s decisions.¹⁵⁹ Stare decisis serves significant purposes, including judicial efficiency and reliance. Normatively, it should be hard to overrule precedent, and require more than just a change in the Supreme Court bench, or a belief that times have changed.

1. *Stare Decisis Background*

The doctrine of *stare decisis et non quieta movere* developed as a rule of necessity in common law to follow precedent.¹⁶⁰ An oft-quoted maxim by Justice Brandeis states it is “more important that the applicable rule of law be settled than that it be settled right.”¹⁶¹ An argument, even a strong argument, that the precedent was wrongly decided is not enough to overrule it.¹⁶² Even if the judicial reasoning underlying the decision is faulty or ambiguous, as may be argued about *Brulotte*, the “decision may commend itself as sensible and just.”¹⁶³

There are two different flavors of stare decisis: constitutional and statutory. Constitutional stare decisis can only be corrected by later Supreme Court decisions, so the Court has a stronger duty to overrule

157. See E. Posner, *supra* note 155, at 313.

158. McCarthy, *supra* note 41, at 549 (“[T]here must always come a point when the patent holder must sacrifice pecuniary reward from its patent to avoid trampling on the feet of public policy as expressed in the patent system and the antitrust laws.”).

159. *Kimble III*, 135 S. Ct. 2401, 2409 (2015).

160. James W. Moore & Robert S. Oglebay, *The Supreme Court, Stare Decisis and Law of the Case*, 21 TEX. L. REV. 514, 516 (1943).

161. *Burnet v. Coronado Oil & Gas Co.*, 285 U.S. 393, 406 (1932) (Brandeis, J., dissenting).

162. *Kimble III*, 135 S. Ct. at 2409.

163. See Moore & Oglebay, *supra* note 160, at 528.

precedent.¹⁶⁴ On the other hand, the Court has a “general reticence to overrule precedents construing statutes.”¹⁶⁵ One explanation for this difference is that Congress has the power to enact legislation to rollback an improper judicial decision. Conversely, the failure to do so indicates Congressional approval of the Court’s statutory interpretation.¹⁶⁶ Another theory relies on a normative view that the power to overrule statutory precedents should be a legislative function and an element of the Constitution’s separation of powers.¹⁶⁷

2. Patent Law and *Stare Decisis*

Congress has repeatedly revised patent laws over the half-century since *Brulotte*. The specific provision at issue in *Brulotte* has also been revised, leaving the *Brulotte* rule alive and kicking.¹⁶⁸ There have been efforts to replace the *Brulotte* rule with a rule of reason analysis, which Congress has declined.¹⁶⁹ Long congressional acquiescence further enhances the precedential power given to statutory interpretations.¹⁷⁰

In *Mercoïd Corp. v. Mid-Continent Co.*, the Court extended patent misuse to also cover a patentee trying to secure a monopoly in the unpatented material or device that is integral to practicing the patent.¹⁷¹ Congress responded by immunizing arrangements that covered non-staple items in the context of contributory infringement.¹⁷² Congress later added additional restrictions to immunize both refusals to license and tying

164. *Id.* at 537; *Burnet*, 285 U.S. at 406–08 (Brandeis, J., dissenting) (footnotes omitted) (“[I]n cases involving the Federal Constitution, where correction through legislative action is practically impossible, th[e] Court has often overruled its earlier decisions.”).

165. Lawrence C. Marshall, “Let Congress Do It”: *The Case for an Absolute Rule of Statutory Stare Decisis*, 88 MICH. L. REV. 177, 181 (1989).

166. *Id.* at 184. Critics condemned silent acquiescence on multiple grounds. See *id.* at 186–96 for a detailed discussion of these criticisms.

167. *Id.* at 200.

168. *Kimble III*, 135 S. Ct. 2401, 2410 (2015); see, e.g., Uruguay Round Agreements Act, Pub. L. No. 103-465, § 532(a), 108 Stat. 4809, 4983–84 (1994) (increasing the length of the patent term); Act of Nov. 19, 1988, Pub. L. No. 100-703, § 201, 102 Stat. 4674, 4676 (1988) (limiting patent-misuse claims).

169. *Kimble III*, 135 S. Ct. at 2410 (citing S. 1200, 100th Cong. (1st Sess. 1987) (holding no patent owner guilty of “illegal extension of the patent right by reason of his or her licensing practices . . . unless such practices . . . violate the antitrust laws”); S. 438, 100th Cong. § 201(3) (2d Sess. 1988) (same)).

170. *Kimble III*, 135 S. Ct. at 2409–10.

171. *Mercoïd Corp. v. Mid-Continent Inv. Co.*, 320 U.S. 661, 665–66 (1944).

172. See 35 U.S.C. §§ 271(d)(1)–(3) (2012); *Dawson Chem. Co. v. Rohm & Haas Co.*, 448 U.S. 176, 200 (1980) (explaining that it took patent bar advocates three successive Congresses to enact corrective legislation in 1952 as 35 U.S.C. § 271).

arrangements where the patent owner lacked market power from patent misuse.¹⁷³ In all of these revisions, *Brulotte* remained unscathed.

Patent law represents a unique crossroads within stare decisis. Because the decisions are based on statutes and concern property, there is a particularly high barrier when overruling precedent. Within this niche area of the law, *Kimble* is distinguishable from past cases where the Court decided to overrule precedent, and is on point with cases where the Court was constrained by stare decisis.

In *Blonder-Tongue*, the Court overruled *Triplett v. Lowell*,¹⁷⁴ which held a determination of patent invalidity is not res judicata against the patentee in subsequent litigation against a different defendant. *Triplett* was based on mutuality of estoppel, which became significantly limited and eroded over time¹⁷⁵ as it came under fire from scholars and courts.¹⁷⁶ The Court also considered the “public interest in efficient judicial administration” and judicial inefficiencies involved in relitigating issues multiple times, as justification to overrule *Triplett*.¹⁷⁷ In contrast, while some judges and scholars criticized the *Brulotte* rule, the law underlying that decision remained intact, and policy arguments for efficiency and simplicity weighed in favor of keeping the *Brulotte* rule.

In *Deepsouth Packing Co. v. Laitram Corp.*,¹⁷⁸ the Court declined to overrule *Radio Corp. of America v. Andrea*,¹⁷⁹ which held that “unassembled export of the elements of an invention did not infringe the patent.”¹⁸⁰ The statute in *Deepsouth Packing* was a codification of *Andrea*, which provided no protection for infringement to process patents as long as one of the steps took place abroad.¹⁸¹ In 1984, Congress stepped in to close the “loophole” acknowledged by *Deepsouth Packing*.¹⁸² Similarly, in *Kimble* the Court was constrained by stare decisis to keep *Brulotte* due to a lack of special justification to overrule, but Congress is free to step in to amend the law and eliminate the *Brulotte* rule.

173. 35 U.S.C. §§ 271(d)(4)–(5).

174. 297 U.S. 638 (1936).

175. *Blonder-Tongue Labs., Inc. v. Univ. of Ill. Found.*, 402 U.S. 313, 319 (1971).

176. *Id.* at 323–25.

177. *See id.* at 328.

178. 406 U.S. 518 (1972).

179. 79 F.2d 626 (2d Cir. 1935).

180. *Deepsouth Packing*, 406 U.S. at 529.

181. *Id.* at 530, 530 n.10.

182. *See* S. Rep. No. 98-663, at 6 (1984) (requiring a “legislative solution to close a loophole in patent law,” and the effect of Section 271(e) on closing that loophole).

3. *Judicial Efficiency and Reliance*

Courts have limited resources, so methods of streamlining disputes when there is controlling precedent benefit everyone. In patent litigation, efficiency is especially important. Patent trials require an additional procedure of claim construction, known as a *Markman* hearing.¹⁸³ The median time for a patent case to reach trial is 2.4 years,¹⁸⁴ and the cost of patent litigation is also very high.¹⁸⁵ Using *stare decisis* to resolve aspects of the case can shift attention to the remaining contentious issues.

Both *Kimble* and *Marvel* were unaware of *Brulotte* when drafting their settlement agreement,¹⁸⁶ so while these parties had no strong reliance, other parties over the years have relied on *Brulotte*.¹⁸⁷ Decisions that affect property and contracts have an increased likelihood of reliance.¹⁸⁸ When people can trust the continuity of the law, they are more encouraged to make deals and “arrange their affairs with confidence.”¹⁸⁹

It may have been easy when *Brulotte* came out for patentees and licensees to be unaware of the Court’s rule against post-expiration royalties. It was the 1960s, and decisions were not as widely available as they are today over the Internet. Even in the early 1990s, when *Kimble* and *Marvel* were settling their dispute, the Internet was not as ubiquitous as it is today. As time passes, the public reliance on a doctrine increases as awareness of the doctrine grows. Recent technological advances in news coverage, commentary, and discussion of Supreme Court decisions provide more notice to parties and practitioners, thereby creating more reliance on these rules.

183. See *Markman v. Westview Instruments, Inc.*, 517 U.S. 370 (1996).

184. PRICEWATERHOUSECOOPERS LLP, 2015 PATENT LITIGATION STUDY 14 (2015), <https://www.pwc.com/us/en/forensic-services/publications/assets/2015-pwc-patent-litigation-study.pdf> [<http://perma.cc/RX5Y-S4BB>].

185. Costs average \$5.9 million for more than \$25 million in controversy for all varieties of patent infringement. AIPLA, 2013 REPORT OF THE ECONOMIC SURVEY (2013), <http://www.patentinsurance.com/custdocs/2013aipla%20survey.pdf> [<http://perma.cc/D2UG-MVFX>]. Settlement or damages costs added a median of \$2 million in 2014. PRICEWATERHOUSECOOPERS LLP, *supra* note 184, at 4. By comparison, other types of litigation incur median costs from \$43,000 to \$122,000. COURT STATISTICS PROJECT, CASELOAD HIGHLIGHTS 7 (2013) http://www.courtstatistics.org/~media/microsites/files/csp/data%20pdf/csph_online2.ashx [<http://perma.cc/TEF9-7QMX>].

186. *Kimble III*, 135 S. Ct. 2401, 2406 (2015).

187. See *Davis*, *supra* note 104 (noting that attorneys have been trained that royalties cannot extend beyond the life of a patent).

188. *Kimble III*, 135 S. Ct. at 2410.

189. James C. Rehnquist, *The Power That Shall Be Vested in a Precedent: Stare Decisis, the Constitution and the Supreme Court*, 66 B.U. L. REV. 345, 348 (1986).

4. *It Should Be Hard to Overrule Precedent*

From a normative view, it *should* be hard to overrule statutory interpretations like *Brulotte*. Stare decisis promotes important values of fairness, stability, predictability, and efficiency.¹⁹⁰ If all it took to overrule a decision was the low, subjective bar that a new court thought the old decision was wrong, most decisions would be up in the air. Stare decisis prevents “abrupt doctrinal upheavals” and maintains public confidence in the law.¹⁹¹

It is a terrible policy to overrule a decision because the lineup of the court has changed, and worse still when there is no solid reason for throwing out precedent. One rare example is *Citizens United v. Federal Election Commission*,¹⁹² which overruled two recent Supreme Court decisions¹⁹³ holding “unequivocally that government can constitutionally limit corporate political expenditures.”¹⁹⁴ The Court relied heavily on the dissents from the prior decisions to overrule them.¹⁹⁵ The only major change justifying the Court’s decision had been in the Court’s lineup: Justice Alito had replaced Justice O’Connor.¹⁹⁶

Fast and loose stare decisis would also make other controversial Court decisions, like *Roe v. Wade*,¹⁹⁷ vulnerable. More recently, the Court’s decision in *Obergefell v. Hodges*¹⁹⁸ will likely face challenges given the furor from certain groups.¹⁹⁹ Justice Kagan’s clear explanation and guidelines in *Kimble* for assessing the strength and applicability of stare decisis should influence the Court when these challenges occur.

190. *Id.* at 347.

191. *Id.*

192. 558 U.S. 310 (2010).

193. *Austin v. Mich. State Chamber of Commerce*, 494 U.S. 652 (1990); *McConnell v. Fed. Election Comm’n*, 540 U.S. 93 (2003).

194. Geoffrey R. Stone, *Citizens United and Conservative Judicial Activism*, 2012 U. ILL. L. REV. 485, 488 (2012).

195. *Id.*

196. *Id.* at 487–88.

197. 410 U.S. 113 (1973). *Roe* has been challenged over the years, with subsequent decisions carving out exceptions. See Rehnquist, *supra* note 189, at 359–61 (reviewing arguments both for and against overruling *Roe*).

198. 135 S. Ct. 2584 (2015).

199. See, e.g., Peter Montgomery, *Right Sees 2016 as Chance to Take over Supreme Court, Reverse Marriage Equality*, HUFFINGTON POST (July 30, 2015), http://www.huffingtonpost.com/peter-montgomery/right-sees-2016-as-chance_b_7906834.html [<http://perma.cc/FN43-LXTG>]; Emma Margolin, *What’s Next for Marriage Equality’s Fiercest Opponents?*, MSNBC.COM (July 2, 2015), <http://www.msnbc.com/msnbc/whats-next-marriage-equalitys-fiercest-opponents> [<http://perma.cc/4A76-9BJC>].

C. LICENSING OPTIONS AFTER *KIMBLE*

Licensing options after *Kimble* are more informed now, due to judicial clarification. Future negotiations with patent holders should incentivize licensees to ask for clear, concise agreements that explicitly divide up the royalty payment for each item of intellectual property being licensed.²⁰⁰ Stakeholders can take comfort from the following practices and strategies that Justice Kagan cited as *Brulotte* compliant.²⁰¹

1. Lump Sum

The simplest option is a flat sum²⁰² not based on patent use. Courts have previously authorized paid-in-full lump sum licenses, covering all past and future uses of the patented article for the entire duration of the patent term.²⁰³ An alternative arrangement could apportion this lump sum into installments, payable even after the patent expires.²⁰⁴

Lump sum licenses could be beneficial for a patent holder looking to recoup her costs, and provide money for further research or to finance other business needs.²⁰⁵ However, lump sum licenses have substantial downsides, because the value of an emerging technology can be difficult to predict. A lump sum license requires pricing based on rudimentary guesswork, which may result in royalty fees that are either too high (for a technology that quickly becomes obsolete) or too low (for a technology that becomes unexpectedly popular).

2. Joint Ventures

Another *Kimble*-compliant option is a joint venture.²⁰⁶ Considering Justice Kagan's language, describing joint ventures as the "most broad[]" option for royalty arrangements that comply with *Brulotte*, there is likely

200. For other licensing concerns, see Dreyfuss, *supra* note 111, at 991–1006 (exploring five different licensing approaches to redistribute risk in light of another recent decision).

201. One licensing option that was not directly addressed, and may fall afoul of *Brulotte* and *Kimble* is reach-through royalties. See Feldman, *supra* note 12, at 401, 439–49; Herbert J. Hovenkamp, *Brulotte's Web*, 11 J. COMPETITION L. & ECON. 537–38 (2015).

202. See *Kimble III*, 135 S. Ct. 2401, 2408 (2015) (distinguishing lump sum payments which are not prohibited by *Brulotte* from other royalty plans).

203. Seaman, *supra* note 132, at 223–24.

204. See *Brulotte v. Thys Co.*, 379 U.S. 29, 31 (1964) (distinguishing the flat sum purchase price from annual royalty payments for the use of the machine during the year).

205. Seaman, *supra* note 132, at 224.

206. *Kimble III*, 135 S. Ct. at 2408.

more flexibility within joint ventures for parties to fairly and equitably share risks and rewards.²⁰⁷

Joint ventures have the advantages of (1) reducing high barriers to entry, (2) sharing risk for high-leverage but uncertain ventures, and (3) breaking into new, untapped markets.²⁰⁸ The downsides of joint ventures include the difficulty of merging two different companies and their varying cultures, management styles, and working relationships.²⁰⁹ Poorly drafted agreements may not provide clear objectives and may lead to misunderstandings about each company's required role.²¹⁰

3. *Hybrid Licenses*

Hybrid licenses contain other forms of intellectual property such as copyright, trademark, and trade secrets. If structured properly, they can provide for royalties that extend beyond the expiration of any patents involved. Both *Brulotte* and *Kimble* discuss hybrid licenses, and the importance of including a step-down provision reducing the royalty upon patent expiration.²¹¹ One drafting approach is to place most of the royalty on the rights that last the longest, such as a trade secret.²¹²

Trade secret licenses without expiration have a long judicial history of being upheld.²¹³ In *Aronson*, the step-down provision in case the patent did not issue protected the trade secrets disclosed while the patent application was pending.²¹⁴ More famously, in *Warner-Lambert Pharmaceutical Co. v. Reynolds*, the licensee for the secret formula of Listerine was obliged to continue making royalty payments even after the secret was well known to the public.²¹⁵ Although trade secrets are subject to the risk of disclosure, even if the public knows the secret, the agreement between the parties remains intact.

207. *See id.*

208. Richard Bloch, *Creating a Joint Venture*, THE HARTFORD, <http://www.thehartford.com/business-playbook/in-depth/joint-ventures-pros-cons> [<http://perma.cc/T5ML-Z77V>] (last visited Feb. 8, 2016).

209. *Id.*

210. *Id.*

211. *Kimble III*, 135 S. Ct. at 2408 (“That means, for example, that a license involving both a patent and a trade secret can set a 5% royalty during the patent period (as compensation for the two combined) and a 4% royalty afterward (as payment for the trade secret alone).”); *see also* *Brulotte v. Thys Co.*, 379 U.S. 29, 31 (1964) (“The royalty payments due for the post-expiration period are by their terms for use during that period, and are not deferred payments for use during the pre-expiration period.”).

212. *See* Hovenkamp, *supra* note 201, at 9.

213. *See* discussion of *Aronson*, *supra* Section I.B.2.

214. *See* 440 U.S. 257, 264–66 (1979).

215. 178 F. Supp. 655, 659, 664–67 (S.D.N.Y. 1959).

An advantage of hybrid licenses is they conform to normal licensing practice, as companies often license more than one type of intellectual property.²¹⁶ The key is to clearly designate the rates and terms for each technology being licensed. While some of Kimble's amicus briefs bemoaned this requirement,²¹⁷ it is good policy to have clear agreements: license agreements without ambiguities are easy to follow, and easy to interpret. There is a disadvantage in having to carefully draft terms, because it may cause problems if done poorly. Valuing certain forms of property, like trade secrets, may be tricky as their value could change over time, but this is an inherent risk in most licensing contracts.

4. *Traditional Licenses*

Of course, traditional licensing options, which charge royalties for use of the patented article based on a fixed dollar amount or a percentage of the sales price,²¹⁸ are also available. However, they cannot charge royalties for use of the patent after it expires. *Kimble* allows some flexibility, allowing royalties to run until "the latest-running patent covered in the parties' agreement expires."²¹⁹

Patent holders are allowed to keep the royalty base within the patent period, and stretch the payments over time. This complies with *Kimble* because the accrual is only based on the patent period, and the payments are amortized past expiration to allow the licensee to pay a smaller royalty for a longer period of time.²²⁰ The disadvantage is that licensors cannot charge for use after the patent expires, known as accrual deferral. This is what Kimble and his amici were after: the ability to generate income even after the patent expires through licensing agreements.²²¹ Sometimes inventions need a considerable amount of time to become profitable, but there is no promise within patent law that every patent generates a profit, let alone a considerable windfall, to the patentee. At its heart, this is a patent duration argument, and one that should be addressed with Congress directly.

216. See BioTime Brief, *supra* note 115, at 3–6; Memorial Sloan Kettering Brief, *supra* note 115, at 11.

217. See BioTime Brief, *supra* note 115, at 6.

218. See Seaman, *supra* note 132, at 225–27.

219. *Kimble III*, 135 S. Ct. 2401, 2408 (2015).

220. See *id.* ("A licensee could agree, for example, to pay the licensor a sum equal to 10% of sales during the 20-year patent term, but to amortize that amount over 40 years.").

221. See Kimble Oral Argument, *supra* note 117, at 5, 6, 8.

IV. CONCLUSION

In the end, *Kimble* was a false start. The Court took the case to assess criticisms lobbed at *Brulotte* by judges and scholars. The assumption of Kimble and his amici was that *Brulotte* stands for an economically unsound principle, namely that extending royalties beyond the expiration of the patent extends the power of the patent. *Kimble* affirms that *Brulotte* is about patent law setting limits on the grant of power contained within a patent. The reasons to keep *Brulotte*, including stare decisis and patent policy considerations, far outweighed the antitrust-based alternative proposed by Kimble, or any freedom to contract arguments. Licensing stakeholders have more clarity now, with judicially sanctioned options that comply with *Brulotte*.

TEVA V. SANDOZ: THE SUPREME COURT REJECTS MILLENNIAL FEDERAL CIRCUIT'S "CLEARLY ERRONEOUS" REVIEW STANDARD

Cassandra E. Havens[†]

In *Teva Pharmaceuticals USA, Inc. v. Sandoz, Inc.*, the Supreme Court considered what standard the Federal Circuit should apply when reviewing patent claim construction decisions on appeal.¹ Specifically, the Court contemplated whether a district court's entire claim construction decision should continue to receive de novo review, or instead, if factual findings made during claim construction should be reviewed for clear error pursuant to Federal Rule of Civil Procedure 52.² Unsurprisingly, the Supreme Court decided to follow the "clear command" of the Rules for subsidiary factual matters,³ and held that reviewing claim construction decisions calls for a hybrid standard of review. The ultimate construction is a question of law reviewed de novo,⁴ while factual findings of extrinsic evidence must be reviewed for clear error.⁵

Teva is part of a long line of cases in which the Supreme Court has rejected the Federal Circuit's "idiosyncratic" patent jurisprudence.⁶ More and more lately, the Supreme Court has taken a heavy hand in reviewing patent decisions, indicating fundamental disapproval with how the Federal Circuit treated patent cases differently from other types of cases.⁷ Born in 1982, in an effort to provide uniformity and stability to a complicated area

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1. *Teva Pharms. USA, Inc. v. Sandoz, Inc. (Teva IV)*, 135 S. Ct. 831, 835 (2015).

2. *Id.*

3. *Id.* at 836–37.

4. *Id.* at 837.

5. *Id.* at 837–38.

6. See Sorin G. Zaharia, Note, *Burden of Proof in Medtronic: The Federal Circuit's Idiosyncratic Patent Jurisprudence Vetoed, Again*, 30 BERKELEY TECH. L.J. 777, 790, 792 (2015) ("[T]he Court gives a strong message that it does not want the Federal Circuit to construct idiosyncratic rules for patent cases divorced from general jurisprudence.").

7. See Jason Rantanen, *Teva, Nautilus and Change Without Change*, 18 STAN. TECH. L. REV. 538, 539 (2015); Zaharia, *supra* note 6, at 792.

of law,⁸ the millennial⁹ Federal Circuit is arriving at that point in life when it should really have its “judicial house in order.”¹⁰

During the Federal Circuit’s formative “childhood” years through the early 1990s, the Supreme Court stood back and let the Federal Circuit figure out its way in the world.¹¹ During the Federal Circuit’s “high school” years of the mid to late 1990s, the Court stepped up its supervision, reviewing about one patent case a year.¹² The Court kept a similar light hand during the early 2000s while the Federal Circuit was in “college.”¹³ After “graduation,” the Court was likely expecting the millennial Circuit to be a self-sufficient young adult, with little need for parental intervention. Instead, the Court increased not only the number of cases it reviewed from the Federal Circuit, but started severely criticizing and rejecting the Federal Circuit’s jurisprudence.¹⁴ This increasing rate of

8. Robin Feldman, *Coming of Age for the Federal Circuit*, 18 GREEN BAG 2D 27, 28 (2014).

9. WILLIAM STRAUSS & NEIL HOWE, *MILLENNIALS RISING: THE NEXT GREAT GENERATION* 4 (2000) (stating the Millennial generation are those born on or after 1982).

10. See Feldman, *supra* note 8, at 35–36.

11. During its first fourteen years, the Supreme Court heard only five Federal Circuit cases. *Dennison Mfg. Co. v. Panduit Corp.*, 475 U.S. 809 (1986); *Christianson v. Colt Indus. Operating Corp.*, 486 U.S. 800 (1988); *Eli Lilly & Co. v. Medtronic, Inc.*, 496 U.S. 661 (1990); *Cardinal Chem. Co. v. Morton Int’l, Inc.*, 508 U.S. 83 (1993); *Asgrow Seed Co. v. Winterboer*, 513 U.S. 179 (1995).

12. Children typically attend high school from age fourteen to eighteen, corresponding to 1996 to 2000. *Markman v. Westview Instruments, Inc. (Markman II)*, 517 U.S. 370 (1996); *Warner-Jenkinson Co. v. Hilton Davis Chem. Co.*, 520 U.S. 17 (1997); *Pfaff v. Wells Elecs., Inc.*, 525 U.S. 55 (1998); *Dickinson v. Zurko*, 527 U.S. 150 (1999); *Fla. Prepaid Postsecondary Ed. Expense Bd. v. College Savings Bank*, 527 U.S. 627 (1999).

13. College typically lasts for four to five years, corresponding to 2001 to 2005. *JEM Ag Supply, Inc. v. Pioneer Hi-Bred Int’l, Inc.*, 534 U.S. 124 (2001); *Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co.*, 535 U.S. 722 (2002); *Holmes Grp., Inc. v. Vornado Air Circulation Sys., Inc.*, 535 U.S. 826 (2002); *Merck KGaA v. Integra Lifesciences I, Ltd.*, 545 U.S. 193 (2005).

14. See, e.g., *eBay Inc. v. MercExchange, LLC*, 547 U.S. 388, 390 (2006) (rejecting the Federal Circuit’s injunction rule for patent cases); *MedImmune, Inc. v. Genentech, Inc.*, 549 U.S. 118, 137 (2007) (rejecting the Federal Circuit’s rule about the meaning of “actual controversy” in a declaratory judgment action); *Bilski v. Kappos*, 561 U.S. 593, 604 (2010) (rejecting the Federal Circuit’s sole use of the “machine or transformation test” for patentable subject matter); *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 132 S. Ct. 1289 (2012) (rejecting the Federal Circuit’s application of *Bilski*); *Ass’n for Molecular Pathology v. Myriad Genetics, Inc.*, 133 S. Ct. 2107 (2013) (rejecting the Federal Circuit’s attempt to reconsider its decision regarding the patentability of genes); *Alice Corp. Pty. v. CLS Bank Int’l*, 134 S. Ct. 2347 (2014) (rejecting the use of drafting efforts to get around the patentable subject matter requirements); *Limelight Networks,*

strict oversight¹⁵ seems to reflect the Supreme Court's slight exasperation with the Federal Circuit's millennial antics. While the creation of the Federal Circuit may have elevated (and increased) patent litigation due to an increased likelihood of finding a patent valid, its "pro-patent" role¹⁶ has appeared to lead it astray. Though the Federal Circuit's intentions in protecting and promoting strong patent rights may be commendable, as the old saying goes, the road to hell is paved with good intentions.

After the Supreme Court's decision in *Teva*, the Federal Circuit on remand continued to disregard expert testimony and findings of fact and stuck to its original decision on the indefiniteness of "molecular weight"¹⁷ despite a contrary finding made by the Supreme Court on the exact same term.¹⁸ Does this signal a continuation of the Federal Circuit's prior supremacy over claim construction, where the entire decision is reviewed *de novo*?

Part I lays the legal groundwork for understanding *Teva* by reviewing the history of claim construction, including the recent changes in indefiniteness, and standards of review used by appellate courts. Part II reviews the case history, tracing the dispute from the district court claim construction, to the Federal Circuit's reversal, then the Supreme Court's

Inc. v. Akamai Techs., Inc. 134 S. Ct. 2111, 2117 (2014) ("The Federal Circuit's analysis fundamentally misunderstands what it means to infringe a method patent."); *Nautilus, Inc. v. Biosig Instruments, Inc.*, 134 S. Ct. 2120, 2124 (2014) (rejecting the Federal Circuit's "insolubly ambiguous" standard for indefiniteness); *Medtronic, Inc. v. Mirowski Family Ventures, LLC*, 134 S. Ct. 843, 846 (2014) (rejecting the Federal Circuit's ruling that the burden of proof shifts to the licensee in a declaratory judgment action); *Octane Fitness, LLC v. ICON Health & Fitness, Inc.*, 134 S. Ct. 1749 (2014) (rejecting the Federal Circuit's rigid framework for awarding attorney fees); *Highmark, Inc. v. Allcare Health Mgmt. Sys., Inc.*, 134 S. Ct. 1744 (2014) (rejecting the Federal Circuit's intrusive review of district court awards of attorney fees).

15. See Feldman, *supra* note 8, at 27–28.

16. See Matthew D. Henry & John L. Turner, *The Court of Appeals for the Federal Circuit's Impact on Patent Litigation*, 35 J. LEGAL STUDIES 85, 114–15 (2006) (finding increased chances of patent validity, and therefore more significance for infringement analysis, "enhanced the value of patents and have increased the incentives of patentees to sue for infringement.").

17. *Teva Pharms. USA v. Sandoz, Inc. (Teva V)*, 789 F.3d 1335, 1345 (Fed. Cir. 2015) ("A skilled artisan, knowing a shift might occur, would still not be reasonably certain in light of the entire record as to which type of average was intended.").

18. *Teva IV*, 135 S. Ct. at 843 ("But the Federal Circuit did not accept *Teva's* expert's explanation as to how a skilled artisan would expect the peaks of the curves to shift. And it failed to accept that explanation without finding that the District Court's contrary determination was 'clearly erroneous.' The Federal Circuit should have accepted the District Court's finding unless it was 'clearly erroneous.' Our holding today makes clear that, in failing to do so, the Federal Circuit was wrong.") (internal citations omitted).

decision establishing a hybrid standard of review for claim construction, and finally the Federal Circuit's decision on remand. Part III discusses the aftermath of *Teva* by reviewing *Markman* decisions issued in its wake for trends or changes. Part III then addresses the question of whether the Federal Circuit must consider extrinsic evidence on appeal. Finally, Part III concludes with a review of three possible paths going forward.

I. LEGAL BACKGROUND OF *TEVA V. SANDOZ*

To understand the conflict at issue in *Teva v. Sandoz*, an understanding of patent claim construction and indefiniteness is required, as these issues were central to the appeals and the ultimate decision on remand. The different standards of review for legal and factual matters are explained below, along with examples of hybrid standards incorporating both.

A. HISTORY OF PATENT CLAIM CONSTRUCTION

Patent claiming in the United States has evolved significantly over the last two hundred years.¹⁹ The shift away from central claiming and towards peripheral claiming of the invention's metes and bounds led to claim construction becoming an essential step in patent infringement analysis.²⁰ Questions about who should construe the meaning of claims (juries versus judges), and whether claim construction was a matter of law, fact, or both, led to the Supreme Court's landmark decision in *Markman v. Westview Instruments, Inc.*²¹

1. *Markman and the Beginning of Modern Claiming*

In *Markman*, a unanimous Court held that "the construction of a patent, including terms of art within its claim, is exclusively within the province of the court."²² The question presented to the Court was whether patent claim interpretation was a matter of law reserved for the court, or

19. J. Jonas Anderson & Peter S. Menell, *Informal Deference: A Historical, Empirical, and Normative Analysis of Patent Claim Construction*, 108 NW. U. L. REV. 1, 8–21 (2014) [hereinafter *Informal Deference*] (providing in-depth description of pre-modern claiming and patent trials).

20. *Id.* at 16. Central claiming focused on the invention's central features, with courts determining the "edges," while peripheral claiming allows the claims to establish the boundaries and scope of the patent. Joshua D. Furman, Comment, *Patent Claim Construction Under Teva v. Sandoz: Deference at Last, or More of the Same?*, 97 J. PAT. & TRADEMARK OFF. SOC'Y 579, 582 (2015).

21. 517 U.S. 370 (1996); *Informal Deference*, *supra* note 19, at 21–23.

22. *Markman*, 517 U.S. at 372.

was entitled to jury determination pursuant to the Seventh Amendment.²³ Justice Souter, writing for the majority, examined the origin of claim interpretation actions to determine whether this cause of action is at least analogous to a matter tried at law at the time of the founding of the United States. The opinion further considered whether this particular trial decision must belong to the jury “in order to preserve the substance of the common-law right as it existed in 1791.”²⁴

First, claim construction is a “mongrel practice,” as it involves both a matter-of-fact review of evidence and then a matter-of-law construction of the term.²⁵ In the absence of an “exact antecedent,” the best option is to find a comparable early cause of action “whose allocation to court or jury we do know.”²⁶ Second, the modern practice of using claims to define the scope of the patent grant was not recognized until well after the founding of the country, so another analogy was needed.²⁷ In patent litigation, the closest match was the construction of specifications, which showed no established jury practice in the eighteenth century.²⁸ Similarly, terms within a land patent were left to the judge to interpret, not a jury.²⁹

Next, the Court looked to whether judges or juries are better suited to interpret claims and the “statutory policies that ought to be furthered by the allocation.”³⁰ After reviewing patent treatises and precedent, the Court ultimately decided that judges are better suited to determine the meaning of patent terms.³¹ In assigning this role to the judge, the Court was careful to note that while it is normally the jury’s “forte” to weigh testimony and determine credibility, within claim construction the judge is better suited to assess these “evidentiary underpinnings.”³² In particular, the Court found that judges are better positioned to ensure that definitions proposed by experts fully comport with the patent’s specification and that a patent’s internal coherence is preserved.³³

23. *Id.*

24. *Id.* at 376.

25. *Id.* at 378.

26. *Id.*

27. *Id.* at 378–79.

28. *Id.* at 379–80. The specification of a patent, also called the disclosure, is a written description of the invention.

29. *Id.* at 382–83. A land patent is a grant of a particular tract of land, made by a sovereign entity or government.

30. *Id.* at 384.

31. *Id.* at 388.

32. *Id.* at 389–90.

33. *Id.*

2. Federal Circuit Interpretations After *Markman*

In *Markman*, the Court did not explicitly set forth the appellate standard of review for claim construction,³⁴ leading to years of debate and confusion over the Federal Circuit's treatment of construction as a matter of law to be reviewed fully de novo.³⁵ From 1996 until 2015 when the Supreme Court decided *Teva v. Sandoz*, the Federal Circuit reviewed the issue in four key decisions: *Vitronics*,³⁶ *Cybor*,³⁷ *Phillips*,³⁸ and *Lighting Ballast*.³⁹

In 1996, a few months after *Markman*, the Federal Circuit issued a decision in *Vitronics Corp. v. Conceptoronic, Inc.*, finding that the district court erred in using contradictory expert testimony instead of the patent specification to construe "solder reflow temperature."⁴⁰ The Federal Circuit established a hierarchical procedure for reviewing evidence in claim construction: first, "the words of the claims themselves;" second, it is "always necessary to review the specification;" and third, a court "may" consider the prosecution history.⁴¹ In most cases, the court directed, intrinsic evidence alone will resolve any claim ambiguity, and it would be improper to rely on extrinsic evidence.⁴² The trial court should only consider extrinsic evidence if there was a "genuine ambiguity" after reviewing all of the intrinsic evidence, or if the intrinsic evidence was insufficient to determine the term's meaning.⁴³

In 1998, an en banc Federal Circuit held in *Cybor Corp. v. FAS Technologies, Inc.* that claim construction was purely a matter of law to be reviewed de novo on appeal.⁴⁴ The court relied on the Supreme Court's unanimous affirmance of the decision below in *Markman*,⁴⁵ which held that claim construction was a purely legal matter.⁴⁶ Instead of relying on

34. *Cybor Corp. v. FAS Techs., Inc.*, 138 F.3d 1448, 1456 (Fed. Cir. 1998) (en banc).

35. See *Informal Deference*, *supra* note 19, at 25–30.

36. *Vitronics Corp. v. Conceptoronic, Inc.*, 90 F.3d 1576, 1584 (Fed. Cir. 1996).

37. *Cybor*, 138 F.3d 1448.

38. *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312 (Fed. Cir. 2005) (en banc).

39. *Lighting Ballast Control v. Philips Elecs. N. Am. Corp.*, 744 F.3d 1272, 1273 (Fed. Cir. 2014) (en banc).

40. 90 F.3d 1576, 1584 (Fed. Cir. 1996).

41. *Id.* at 1582.

42. *Id.* at 1583.

43. *Id.* at 1584.

44. 138 F.3d 1448, 1451 (Fed. Cir. 1998) (en banc).

45. *Id.*

46. *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 979 (Fed. Cir. 1995) (en banc).

the Supreme Court's decision in *Markman*, which stated that claim construction was a "mongrel practice," the Federal Circuit repeatedly reviewed its own affirmed decision for guidance.⁴⁷ The Federal Circuit interpreted "exclusively within the province of the court," to mean that "the totality of claim construction is a legal question to be decided by the judge,"⁴⁸ and thus subject to de novo review.⁴⁹

Clearly a contentious issue, a deeply divided Federal Circuit wrote an additional five separate opinions in *Cybor*.⁵⁰ Notably, Chief Judge Mayer argued that the majority misinterpreted *Markman*, and improperly relied on the Federal Circuit's earlier *Markman* opinion.⁵¹ Judge Rader pointed out the Supreme Court's repeated intimations that "claim construction was not a purely legal matter," and criticized the majority opinion for redefining claim construction as an inquiry of "how a lawyer or judge would interpret the term."⁵² Judge Newman voiced concerns that the Federal Circuit was discouraging extrinsic evidence in claim construction, and that "[s]uch evidence should be encouraged, not restrained, if summary disposition is at hand."⁵³

47. *Cybor*, 138 F.3d at 1453–56; see also *Vitronics*, 90 F.3d at 1582 (citing the Federal Circuit's *Markman* decision).

48. *Cybor*, 138 F.3d at 1455 (citations omitted).

49. *Id.* at 1456.

50. Judge Plager noted that although the review standard would be de novo, informal deference would be present due to common sense. See *id.* at 1462 (Plager, J., concurring). Judge Bryson also acknowledged that district court judges would be better suited to make credibility judgments about competing experts. See *id.* at 1463 (Bryson, J., concurring).

51. See *id.* at 1463–64 (Mayer, J., concurring in the judgment). Where the majority interpreted the Supreme Court's silence on the issue of the standard of review as agreement, Chief Judge Mayer pointed out the lengthy Seventh Amendment discussion and policy considerations. See *id.* at 1464 (Mayer, J., concurring in the judgment).

52. See *id.* at 1474–75, 1478 (Rader, J., concurring in the judgment, dissenting in part). Judge Rader also criticized the court's opinion that claim interpretation involves no factual assessment:

This court's categorical response that claim interpretation involves no factual assessments does not advance a functional analysis of trial and appellate roles in claim construction. As a matter of fact (so to speak), claim construction requires assessment of custom and usage in the relevant art, assessment of events during prosecution, assessment of the level of ordinary skill in the art, assessment of the understanding of skilled artisans at the time of invention—to name just a few factual components of the complex process of claim interpretation. A careful functional analysis counsels deference for district court claim interpretations.

Id. at 1478 (Rader, J., concurring in the judgment, dissenting in part).

53. See *id.* at 1480 (Newman, J., providing additional views).

Seven years later, in its en banc decision for *Phillips v. AWH Corporation*, the Federal Circuit offered a “clarification” of the appropriate roles for the patent claims, specification, and other evidence.⁵⁴ The court explained that claims should be read in view of the specification, as a fully integrated instrument,⁵⁵ and that it is “appropriate” for a court to rely on the written description to discern the meaning of claims.⁵⁶ The prosecution history may be helpful in providing evidence of how the inventor understood the patent, but is less useful than the specification.⁵⁷ Extrinsic evidence, such as dictionaries, treatises, and expert testimony, may be useful but is “unlikely to result in a reliable interpretation of patent claim scope unless considered in the context of the intrinsic evidence.”⁵⁸ Although the court emphasized there was no particular order in which judges should review various sources, by valuing certain evidence (claims and the written description) over others (expert testimony),⁵⁹ a de facto ordering was made.

Similar to *Cybor*, the en banc hearing in *Phillips* produced two further opinions. Judge Lourie opined that although claim construction was a question of law, the Federal Circuit should treat it as a factual finding, and affirm in “the absence of a strong conviction of error.”⁶⁰ In a strongly worded dissent, previewing many of the same arguments adopted by the Supreme Court in *Teva v. Sandoz*, Judge Mayer decried “the futility, indeed the absurdity, of this court’s persistence in adhering to the falsehood that claim construction is a matter of law devoid of any factual component.”⁶¹ Judge Mayer pointed to Federal Rule of Civil Procedure 52(a), which required that findings of fact be set aside only if clearly erroneous.⁶² Judge Mayer argued that claims must be “interpreted both from the perspective of one of ordinary skill in the art and in view of the art at the time of invention,” inherently factual questions.⁶³ Additionally, the concept of a hybrid form of review was not an unknown concept:

54. *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312 (Fed. Cir. 2005) (en banc).

55. *Id.* at 1315.

56. *Id.* at 1317.

57. *Id.*

58. *Id.* at 1319.

59. *Id.* at 1324.

60. *Id.* at 1330 (Lourie, J., concurring in part and dissenting in part).

61. *Id.* (Mayer, J., dissenting).

62. *Id.* at 1331 (Mayer, J., dissenting).

63. *Id.* at 1332 (Mayer, J., dissenting).

obviousness was already treated as an ultimate question of law that depends on underlying factual inquiries.⁶⁴

Nine years later, in the en banc decision for *Lighting Ballast Control LLC v. Philips Electronics Corp.*, the Federal Circuit raised the issue of whether to retain *Cybor*'s de novo standard of review, and decided to keep it under a stare decisis justification.⁶⁵ The Federal Circuit rejected the proposed hybrid approach, later endorsed by the Supreme Court, to review factual aspects of claim construction under the clearly erroneous standard, and the final construction as a matter of law.⁶⁶ Finally, the Federal Circuit repeated its disapproval of extrinsic evidence in claim construction, and emphasized the importance of the patent itself.⁶⁷

3. Indefiniteness

Besides the formal construction of terms, *Markman* hearings often assess the closely related issue of whether or not a claim meets the definiteness requirement.⁶⁸ The Patent Act requires claims to “particularly point[] out and distinctly claim[] the subject matter” of the invention.⁶⁹

The Federal Circuit interpreted this hurdle in *Exxon Research & Engineering Co. v. United States* to mean that if the claim meaning “is discernible, even though the task may be formidable and the conclusion may be one over which reasonable persons will disagree . . . the claim [is] sufficiently clear to avoid invalidity on indefiniteness grounds.”⁷⁰ This “insolubly ambiguous” standard benefited patent holders, as claims amenable to construction could not be indefinite.⁷¹ The district court in *Teva* relied on this standard when it found the contested claim term definite.⁷²

64. *Id.* at 1333 (Mayer, J., dissenting).

65. 744 F.3d 1272, 1276–77 (Fed. Cir. 2014) (en banc).

66. *Id.* at 1278, 1286.

67. *See id.* at 1284 (“Claim construction is a legal statement of the scope of the patent right; it does not turn on witness credibility, but on the content of the patent documents.”).

68. *See, e.g.,* *Teva Pharms. USA, Inc. v. Sandoz, Inc. (Teva I)*, 810 F. Supp. 2d 578, 590–93 (S.D.N.Y. 2011).

69. 35 U.S.C. § 112, ¶ 2 (2006 ed.). *See generally* Norris Boothe, Note, *Exercising a Duty of Clarity: Nautilus, Inc. v. Biosig Instruments, Inc.*, 30 BERKELEY TECH. L.J. 445, 447–51 (2015) (describing the origins of the definiteness requirement and its evolution).

70. 265 F.3d 1371, 1375 (Fed. Cir. 2001), *abrogated by* *Nautilus, Inc. v. Biosig Instruments, Inc.*, 134 S. Ct. 2120 (2014).

71. Boothe, *supra* note 69, at 452.

72. *Teva I*, 810 F. Supp. 2d at 596.

On June 2, 2014,⁷³ the Supreme Court decided *Nautilus, Inc. v. Biosig Instruments, Inc.*, rejecting the Federal Circuit's indefiniteness standard and setting its own, more stringent standard for claims.⁷⁴ The Court held that the "insolubly ambiguous" standard did not satisfy the statutory definiteness requirement, and instead, "a patent is invalid for indefiniteness if its claims, read in light of the specification delineating the patent, and the prosecution history, fail to inform, with reasonable certainty, those skilled in the art about the scope of the invention."⁷⁵

B. STANDARD OF REVIEW

Two standards of review were at issue in *Teva v. Sandoz*: the de novo standard for reviewing matters of law and the clear error standard for factual findings. Additionally, the hybrid standard for claim construction is not new to patent law, and is used in other appellate matters.

1. *Factual Versus Legal Matters*

Legal questions decided by trial judges are reviewed independently on appeal to better serve the goals of "doctrinal coherence and economy of judicial administration."⁷⁶ Appellate courts are better suited to the collaborative judicial process that "promotes decisional accuracy," and parties on appeal can provide more comprehensive analysis as the issues are narrowed.⁷⁷ Significantly, the multi-judge panels of appellate courts permit more "reflective dialogue and collective judgment" than a single trial judge.⁷⁸

Findings of fact, however, are reviewed under the clear error standard, and only set aside if they are "clearly erroneous," with "due regard" given to the trial court's judgment of witness credibility.⁷⁹ The Supreme Court and the Rules Advisory Council have interpreted this Rule as a "clear command," with no exceptions or exclusions for certain types of factual findings, and applicable to subsidiary and ultimate facts.⁸⁰

73. This occurred after the Federal Circuit issued its decision in *Teva v. Sandoz* (July 26, 2013), and before the Supreme Court heard oral arguments (Oct. 15, 2014).

74. 134 S. Ct. 2120, 2124 (2014).

75. *Id.*

76. *Salve Regina Coll. v. Russell*, 499 U.S. 225, 231 (1991).

77. *Id.* at 232.

78. *Id.*

79. FED. R. CIV. P. 52(a)(6).

80. *Teva Pharms. USA, Inc. v. Sandoz, Inc.*, 135 S. Ct. 831, 836–37 (2015).

2. Hybrid Standards

Hybrid standards, which must review findings of fact and law, are neither new nor unusual, even in patent law. Like claim construction, obviousness is ultimately a question of law that depends on underlying factual inquiries.⁸¹ Similarly, enablement is a question of law reviewed de novo, based on “underlying factual inquiries that [are] review[ed] for clear error.”⁸²

II. CASE SUMMARY

Teva Pharmaceuticals USA manufactures and markets the multiple sclerosis drug Copaxone, which contains the active ingredient glatiramer acetate, a composition of copolymer-1.⁸³ Sandoz, Inc. and Mylan Pharmaceuticals Inc. sought approval from the United States Food and Drug Administration to sell a generic version of Copaxone, prompting Teva to file patent infringement suits.⁸⁴

A. DISTRICT COURT LITIGATION

On August 29, 2011, the district court issued its decision construing terms from the nine patents-in-suit.⁸⁵ Key to Sandoz’s claim construction argument was that the “patent claims are indefinite because the patents fail to specify the type of molecular weight being claimed” for copolymer-1.⁸⁶ There are three different interpretations for this term, all resulting in different averages. Weight average molecular weight (“M_w”) calculates the average of all of the molecules while giving a weight-related bonus; number average molecular weight (“M_n”) calculates the average by dividing the weight of each molecule by the total number of molecules; and peak average molecular weight (“M_p”) calculates the average using the weight of the most prevalent molecule in the mix.⁸⁷ The district court found that the disputed term “average molecular weight” was not “insolubly ambiguous” but rather was amenable to construction, and thus not indefinite.⁸⁸

81. *Phillips*, 415 F.3d at 1333 (Mayer, J., dissenting); *Teva Pharms. USA v. Sandoz Inc. (Teva III)*, 723 F.3d 1363, 1372 (Fed. Cir. 2013).

82. *Teva III*, 723 F.3d at 1370.

83. *Teva Pharms. USA, Inc. v. Sandoz, Inc. (Teva I)*, 810 F. Supp. 2d 578, 581 (S.D.N.Y. 2011).

84. *Id.*

85. *Id.*

86. *Id.*

87. *Teva Pharms. USA, Inc. v. Sandoz, Inc.*, 135 S. Ct. 831, 836 (2015).

88. *Teva I*, 810 F. Supp. 2d at 596.

To come to this conclusion, the court followed the order of hierarchy for interpretation as instructed by *Phillips v. AWH Corp.*:⁸⁹ first looking to the claims, then the rest of the specification, next the prosecution history, and finally to extrinsic evidence. The court credited the testimony of Teva's expert, Dr. Grant, to understand that the patent's drawings would be understood by a person with skill in the art as M_p , and also consistent with the prosecution history.⁹⁰ Because the court was able to construe "average molecular weight," it denied Sandoz's indefiniteness motion for summary judgment.⁹¹

B. FEDERAL CIRCUIT DECISION

On appeal, the Federal Circuit reviewed all aspects of the claim construction de novo, and found "average molecular weight" indefinite.⁹² The Federal Circuit focused on contradictory statements made during prosecution for two of the patents, where Teva defined "average molecular weight" as M_p once and as M_w another time.⁹³ Additionally, the expert's testimony at the *Markman* hearing did "not save [the] claims from indefiniteness," and the Federal Circuit disagreed with the district court's holding and the expert's testimony about one of the figures, coming to its own contrary holding.⁹⁴

In the very same decision, the Federal Circuit used a hybrid review standard for the issue of enablement, as a question of law reviewed de novo, "based on underlying factual inquiries that [are] review[ed] for clear error."⁹⁵ The court did not find any clear error in the district court's factual

89. 415 F.3d 1303, 1314 (Fed. Cir. 2005) (en banc).

90. *Teva I*, 810 F. Supp. 2d at 588–89 ("Thus, Teva (and Dr. Grant) conclude, M_p can be read from the chromatogram generated by SEC without any 'further calculation' and would be understood by a person of ordinary skill in the art to be the presumed meaning of AMW in the context of the patents-in-suit. . . . The Court credits and accepts all of Dr. Grant's opinions regarding SEC.").

91. *Id.* at 596. The district court issued another decision for the entire case on January 20, 2015, ruling on all issues. *Teva Pharms. USA, Inc. v. Sandoz, Inc. (Teva II)*, 876 F. Supp. 2d 295 (S.D.N.Y. 2012). The claim construction was the focus of both the Federal Circuit appeal and the Supreme Court's decision, and the basis for this Note.

92. *Teva Pharms. USA, Inc. v. Sandoz, Inc.*, 723 F.3d 1363, 1369 (Fed. Cir. 2013).

93. *Id.*

94. *Id.* The Federal Circuit reviewed the same graph that Dr. Grant interpreted and offered testimony on, and came to its own contrary conclusion. *Id.* ("Furthermore, as illustrated in the figure below, the peaks of the curves in Figure 1 do not correspond to the values denoted as 'average molecular weight' in the figure's legend (Appellants' additions in color). In fact, the 7.7 kDa value is closer to the M_w than to the M_p of the corresponding batch, which makes it difficult to conclude that M_p is the intended measure. Thus, we hold that Group I claims are indefinite." (internal citation omitted)).

95. *Id.* at 1370.

findings regarding the expert testimony, and therefore affirmed the district court's ruling on enablement.⁹⁶

C. SUPREME COURT DECISION

The Supreme Court granted Teva's petition for certiorari to review the Federal Circuit's standard of review for the "factual underpinnings" of claim construction.⁹⁷ In a 7-2 decision written by Justice Breyer, the Court discarded the Federal Circuit's interpretation of *Markman* and emphasized that factual findings must be reviewed under the Rule 52 clear error standard.⁹⁸

1. *Majority Opinion*

The Court started its discussion by literally throwing the Rulebook at the Federal Circuit, citing FRCP 52(a)(6)'s "clear command"⁹⁹ to not set aside a district court's findings of fact unless they are "clearly erroneous."¹⁰⁰ There are no exceptions or carve outs to the rule, which applies to "both subsidiary and ultimate facts."¹⁰¹ The Court clarified that its decision in *Markman* did not create an exception to Rule 52(a)(6) for the underlying factual disputes. While the final claim construction was a question of law "within the province of the court,"¹⁰² any factual determinations made in coming to this conclusion "must be reviewed for clear error."¹⁰³

The Court analogized that construing a patent claim is similar to construing "other written instruments, such as deeds, contracts, or tariffs."¹⁰⁴ The Court found that all of these written instruments present questions of law when the terms within are employed in their ordinary meaning.¹⁰⁵ However, if technical words or phrases require interpretation, a factual dispute may require extrinsic evidence to "establish a usage of

96. *Id.* at 1371-72.

97. *Teva Pharms. USA, Inc. v. Sandoz, Inc. (Teva IV)*, 135 S. Ct. 831, 835 (2015).

98. *Id.*

99. *Id.* at 836 (quoting *Anderson v. Bessemer City*, 470 U.S. 564, 574 (1985)) (internal quotation marks omitted).

100. *Id.* at 836 (quoting FED. R. CIV. P. 52(a)(6)) (internal quotation marks omitted).

101. *Id.* at 837 (citing *Pullman-Standard v. Swint*, 456 U.S. 273, 287 (1982)).

102. *Id.* (quoting *Markman*, 517 U.S. at 372) (internal quotation marks omitted).

103. *Id.* at 838.

104. *Id.* at 837.

105. *Id.* (citing *Great N. R. Co. v. Merchants Elevator Co.*, 259 U.S. 285, 292 (1922)).

trade or locality.”¹⁰⁶ This factual determination, preceding the final construction, “must be reviewed for clear error.”¹⁰⁷

The argument for a solely de novo standard of review to avoid the “difficult” task of separating factual and legal questions was also not persuasive.¹⁰⁸ First, Rule 52 is not optional, and factual findings must be reviewed by the clear error standard.¹⁰⁹ Second, appellate courts regularly have to separate factual and legal matters and apply the appropriate standard or standards.¹¹⁰ Finally, the Court noted that “subsidiary factfinding is unlikely to loom large” in claim construction, so any difficulty associated with reviewing underlying facts differently would be minimal.¹¹¹

The Court next explained how the Federal Circuit needed to apply this hybrid rule. The ultimate interpretation made by the district court of how the claim should be construed is a legal conclusion, reviewed de novo.¹¹² If only intrinsic evidence is used (the patent’s claims, specifications, and prosecution history), the judge’s construction is solely a determination of law and should be reviewed by the appellate court de novo.¹¹³ If, however, the district court looks beyond the intrinsic evidence to consider extrinsic sources, the subsidiary factual findings made to resolve a factual dispute must be reviewed under the clear error standard.¹¹⁴

Finally, the Court reviewed one of the factual findings that the Federal Circuit had reviewed de novo to illustrate how their current holding should be applied.¹¹⁵ At trial, the district court heard testimony about the meaning of “molecular weight” from experts presented by both sides. Ultimately, the trial court credited Teva’s expert, and rejected the explanation proffered by Sandoz.¹¹⁶ This credibility finding, “about how a

106. *Id.* (quoting *Great N. R. Co. v. Merchants Elevator Co.*, 259 U.S. 285, 292 (1922)) (internal quotation marks omitted).

107. *Id.* at 838.

108. *Id.* at 839.

109. *See id.*

110. *Id.*

111. *See id.* at 840.

112. *Id.* at 841.

113. *Id.*

114. *Id.* It appears that determinations based on intrinsic evidence would continue to be reviewed de novo on appeal, while the new difference is that extrinsic evidence is now “subject to the ordinary fact-finding rules of court and will be reviewed *with deference* on appeal.” Dennis Crouch, *Teva v. Sandoz: Partial Deference in Claim Construction*, PATENTLY-O (Jan. 20, 2015), <http://patentlyo.com/patent/2015/01/partial-deference-construction.html> [<https://perma.cc/NQV9-55UC>].

115. *Teva IV*, 135 S. Ct. at 842.

116. *Id.* at 843.

skilled artisan would understand” that average molecular weight was being depicted in the graph, was factual.¹¹⁷ When the Federal Circuit came to its own contrary determination, without finding that the district court’s determination was “clearly erroneous,” the Federal Circuit clearly erred.¹¹⁸

2. *Dissent*

Justice Thomas, joined by Justice Alito, wrote the dissenting opinion. Believing claim construction did not involve findings of fact, Justice Thomas agreed with the Federal Circuit’s use of a de novo standard of review for all determinations of claim construction.¹¹⁹ Justice Thomas argued that the construction of a patent claim is more analogous to statutory construction, which does not involve subsidiary findings of fact, and less analogous to deeds or contracts as the majority held.¹²⁰ Because patents are “governmental dispositions” and bind the general public, Justice Thomas believed patent claims resemble statutes.¹²¹

D. FEDERAL CIRCUIT REMAND

On remand, the Federal Circuit used the new standard of indefiniteness from *Nautilus* to find (again) that the term “molecular weight” was indefinite.¹²² Carefully acknowledging the Supreme Court’s holding in *Teva*, requiring a “clear error” standard of review for factual findings, the Federal Circuit made a point of finding no clear error with the district court’s factfindings.¹²³ However, instead of granting these findings deference, the Federal Circuit ignored them and focused on the intrinsic record alone to determine that “molecular weight” was indefinite due to a lack of reasonable certainty.¹²⁴

Dissenting from the majority, Judge Mayer argued the factual findings made by the district court were not “clearly erroneous,” and thus the court should not feel “free to disregard or discount them” in reviewing the issue of definiteness.¹²⁵ Judge Mayer emphasized the Court’s decision in *Teva*,

117. *Id.*

118. *Id.*

119. *Id.* at 844 (Thomas, J., dissenting).

120. *Id.* at 845.

121. *Id.* at 847.

122. *Teva Pharms. USA, Inc. v. Sandoz, Inc.*, 789 F.3d 1335, 1338 (Fed. Cir. 2015).

123. *Id.* at 1341, 1342, 1345.

124. *Id.* at 1341–42, 1345.

125. *Id.* at 1345 (Mayer, J., dissenting).

noting that sometimes “a factual finding may be close to dispositive of the ultimate legal question of the proper meaning” of a patent claim term.¹²⁶

III. POST-*TEVA* DISCUSSION AND ANALYSIS

At first glance, with *Teva v. Sandoz* the Supreme Court settled a long-standing debate over the proper standard of review for claim construction decisions. The battle was fought in Federal Circuit decisions, dissents, amicus briefs, and scholarly articles since *Markman* started the modern era for claiming. But questions about the true effect of *Teva* remain. Will district courts be more willing to consider extrinsic evidence? How will the Federal Circuit operate under this new hybrid standard? Is the Federal Circuit required to consider the totality of the claim construction decision, and always factor in, absent clear error, factual findings based on extrinsic evidence? A year under the guidance of *Teva* has produced few upheavals, and appears to be business as usual at the Federal Circuit.¹²⁷

This Part first discusses trends in district court *Markman* decisions in the year since *Teva* was issued. Next, some light is shed on one of the unanswered questions from *Teva*: whether the Federal Circuit is required to factor in a district court’s factual findings when reviewing claim construction decisions. The last Section reviews three possible paths for district courts and stakeholders going forward.

A. DISTRICT COURT CLAIM CONSTRUCTION TRENDS

In the year since the Supreme Court decided *Teva v. Sandoz*, there have been over 350 *Markman* decisions issued by district courts.¹²⁸ In order to discern any noticeable changes or patterns in *Markman* decisions, this Note focused on the District of Delaware and the Eastern District of Texas, which had eighty-one and sixty-five decisions, respectively,

126. *Id.* at 1345 (quoting *Teva IV*, 135 S. Ct. at 841–42) (internal quotation marks omitted).

127. *See* Furman, *supra* note 20, at 581 (reviewing two Federal Circuit decisions after *Teva IV* where “[t]he court asserted that there were no underlying factual determinations made below, despite apparent fact finding at trial. As such, the Federal Circuit has maintained their preference for the de novo review of claim constructions where possible.”); Rantanen, *supra* note 7, at 544, 550.

128. To retrieve all *Markman* decisions from Westlaw after *Teva IV*: browse to Cases, then narrow to Federal District Courts, and advance search for all decisions containing “Markman” issued after January 20, 2015. Within those results, which would also contain all regular decisions that cited to *Markman* or had a party named Markman, select the Topic on the left pertaining to Intellectual Property, Patents, Markman.

representing forty-two percent of the total decisions.¹²⁹ Two judges in each district were tracked, in order to review differences within a district, and overall.¹³⁰ *Markman* decisions from January 2014 until *Teva* was issued in January 2015 provided a similar time period comparison.¹³¹

Within these decisions, several features were reviewed. The macrostructure, including headings and sub-headings within the court's analysis were noted, along with whether and how the court cited *Teva* (if the case was post-*Teva*), whether "extrinsic" and "intrinsic" were used to differentiate evidence discussed, and whether expert, dictionary, or other extrinsic evidence was mentioned.¹³² Finally, any conspicuous factfindings made regarding factual underpinnings were noted.

1. *How a Court Cites Teva Affects How Extrinsic Evidence Is Used*

Whether and how a judge cites to the Supreme Court's decision in *Teva* appears to be linked with how he or she uses extrinsic evidence to construe claims in *Markman* decisions.

The balanced and complete approach, citing the core holding of *Teva*,¹³³ correlates with more willingness to examine and make factfindings regarding extrinsic evidence. One example, used by Judge Leonard P. Stark in the District of Delaware in the "Legal Standards" section of his *Markman* decisions is representative:

The ultimate question of the proper construction of a patent is a question of law. . . . In some cases, "the district court will need to

129. These numbers were obtained after completing the search to retrieve all *Markman* decisions after *Teva IV*, by expanding the Jurisdiction menu and identifying the relevant districts. This produced a fairly reliable set of decisions to review, although a few were removed from consideration due to being summary judgment and final district court decisions, rather than solely intermediate *Markman* decisions.

130. Patents cover a wide range of technologies, and are written across a spectrum of clarity and specificity. Inventors and corporations introduce additional variability, along with which claims and patents are litigated, and litigation strategies employed. Comparing a large number of decisions helps minimize selection bias, outlier distortions, and other data analysis issues that would arise when simply comparing one decision before and one decision after. Both decisions might be exceptional or unusual, and attributing a general trend to one or two outlier decisions would be a flawed approach.

131. These cases were identified similar to the post-*Teva IV* set of cases, with the only difference here being the dates were between January 1, 2014 and January 20, 2015.

132. Because this Note compares how district courts differentiate between intrinsic and extrinsic evidence and analysis since *Teva IV*, decisions that did not consider extrinsic evidence at all were removed from review.

133. See *Teva IV*, 135 S. Ct. at 835 (holding that when reviewing a district court's resolution of subsidiary factual matters during patent construction, the Federal Circuit must apply the clear error standard).

look beyond the patent's intrinsic evidence and to consult extrinsic evidence in order to understand, for example, the background science or the meaning of a term in the relevant art during the relevant time period."¹³⁴

Judge Stark used this standard in twenty-one decisions,¹³⁵ and only four¹³⁶ (nineteen percent) did not mention or consider any extrinsic evidence. Within these decisions, Judge Stark issues factual findings resolving expert

134. *Eisai Co., Ltd. v. Glenmark Pharms., Ltd.*, No. 13-1279-LPS, 2015 WL 1228958, at *3–4 (D. Del. Mar. 17, 2015) (quoting *Teva IV*, 135 S. Ct. at 841).

135. *Eisai Co., Ltd. v. Glenmark Pharms., Ltd.*, No. 13-1279-LPS, 2015 WL 1228958 (D. Del. Mar. 17, 2015); *Greatbatch Ltd. v. AVX Corp.*, No. 13-723-LPS, 2015 WL 1383656 (D. Del. Mar. 20, 2015); *Intellectual Ventures I LLC v. AT & T Mobility LLC*, No. 12-193-LPS, No. 13-1631-LPS, No. 13-1632-LPS, No. 13-1633-LPS, No. 13-1634-LPS, No. 13-1635-LPS, No. 13-1636-LPS, No. 13-1637-LPS, 2015 WL 1393386 (D. Del. Mar. 24, 2015); *Andover Healthcare, Inc. v. 3M Co.*, No. 13-843-LPS, 2015 WL 2227786 (D. Del. May 11, 2015); *UCB, Inc. v. Accord Healthcare, Inc.*, No. 13-1206-LPS, 2015 WL 2345492 (D. Del. May 14, 2015); *Cronos Techs., LLC v. Expedia, Inc.*, No. 13-1538-LPS, No. 13-1541-LPS, No. 13-1544-LPS, 2015 WL 3548744 (D. Del. June 8, 2015); *CIMA Labs, Inc. v. Mylan Pharms., Inc.*, No. 10-625-LPS, 2015 WL 3826028 (D. Del. June 15, 2015); *MAZ Encryption Techs., LLC v. Lenovo (United States), Inc.*, No. 13-303-LPS, No. 13-304-LPS, No. 13-305-LPS, 2015 WL 4035049 (D. Del. June 30, 2015); *Copy Protection LLC v. Netflix, Inc.*, No. 14-365-LPS, 2015 WL 4639954 (D. Del. Aug. 5, 2015); *Selene Comm'n Techs., LLC v. Fluke Elecs. Corp.*, No. 14-432-LPS, 2015 WL 4659211 (D. Del. Aug. 6, 2015); *Cloud Farm Assocs., L.P. v. Volkswagen Grp. of Am., Inc.*, No. 10-502-LPS, 2015 WL 4730898 (D. Del. Aug. 10, 2015), *appeal filed*, Jan. 7, 2016; *Custom Media Techs. LLC v. Comcast Cable Commc'ns, LLC*, No. 13-1421-LPS, No. 13-1424-LPS, 2015 WL 4743671 (D. Del. Aug. 11, 2015); *Globus Med., Inc. v. Depuy Synthes Prods., LLC*, No. 13-854-LPS, 2015 WL 4886050 (D. Del. Aug. 14, 2015); *Sarif Biomedical LLC v. Brainlab, Inc.*, No. 13-846-LPS, 2015 WL 5072085 (D. Del. Aug. 26, 2015); *Pragmatus Mobile, LLC v. Amazon.com, Inc.*, No. 14-436-LPS, No. 14-440-LPS, 2015 WL 6348221 (D. Del. Oct. 16, 2015); *Trusted Knight Corp. v. Int'l Bus. Machs. Corp.*, No. 14-1063-LPS-CJB, 2015 WL 7307134 (D. Del. Nov. 19, 2015), *appeal filed*, Jan. 21, 2016; *Masimo Corp. v. Philips Elecs. N. Am. Corp.*, No. 09-80-LPS, No. 11-742-LPS, 2015 WL 7737308 (D. Del. Dec. 1, 2015); *Idenix Pharms., Inc. v. Gilead Scis., Inc.*, No. 13-1987-LPS, No. 14-109-LPS, No. 14-846-LPS, 2015 WL 9048010 (D. Del. Dec. 16, 2015); *Forest Labs., Inc. v. Teva Pharms. USA, Inc.*, No. 14-121-LPS, No. 14-200-LPS, No. 14-508-LPS, No. 14-686-LPS, No. 14-1058-LPS, No. 14-1271-LPS, 2016 WL 54910 (D. Del. Jan. 5, 2016); *Yodlee, Inc. v. Plaid Techs., Inc.*, No. 14-1445-LPS, 2016 WL 204372 (D. Del. Jan. 15, 2016); *TQ Beta LLC v. Dish Network Corp.*, 14-CV-848-LPS-CJB, 2016 WL 356024 (D. Del. Jan. 28, 2016).

136. *CIMA Labs, Inc. v. Mylan Pharms., Inc.*, No. 10-625-LPS, 2015 WL 3826028 (D. Del. June 15, 2015); *Cloud Farm Assocs., L.P. v. Volkswagen Grp. of Am., Inc.*, No. 10-502-LPS, 2015 WL 4730898 (D. Del. Aug. 10, 2015), *appeal filed*, Jan. 7, 2016; *Globus Med., Inc. v. Depuy Synthes Prods., LLC*, No. 13-854-LPS, 2015 WL 4886050 (D. Del. Aug. 14, 2015); *TQ Beta LLC v. Dish Network Corp.*, 14-CV-848-LPS-CJB, 2016 WL 356024 (D. Del. Jan. 28, 2016).

disputes,¹³⁷ dismisses conclusory expert statements,¹³⁸ reviews other cases construing similar terms,¹³⁹ and generally provides detailed analysis and discussion of all the evidence presented for the hearing. Judge Stark's six *Markman* decisions in the year before *Teva* offer a compelling comparison: two (thirty-three percent) did not consider extrinsic evidence,¹⁴⁰ two (thirty-three percent) briefly mentioned extrinsic evidence but did not analyze it,¹⁴¹ and two (thirty-three percent) discussed, evaluated and analyzed the extrinsic evidence.¹⁴² Notably, the standard language from *Teva* was absent from Judge Stark's latest decision, and no extrinsic evidence was considered in construing the terms.¹⁴³ While this may be a one-time exception to Judge Stark's acceptance and consideration of extrinsic evidence, it may also indicate the start of a new approach. The format of the decision and the authority cited for claim construction in the beginning closely resemble the format used by Judge Stark's colleague Judge Sue L. Robinson in many of her decisions.¹⁴⁴

Similarly, Magistrate Judge Roy S. Payne in the Eastern District of Texas used a comparable interpretation of *Teva* in some of his "Legal Principles" sections:

137. See, e.g., *Eisai Co., Ltd. v. Glenmark Pharms., Ltd.*, No. 13-1279-LPS, 2015 WL 1228958, at *8, *10 (D. Del. Mar. 17, 2015); *Custom Media Techs. LLC v. Comcast Cable Commc'ns, LLC*, No. 13-1421-LPS, No. 13-1424-LPS, 2015 WL 4743671, at *5 (D. Del. Aug. 11, 2015) ("Based largely on the expert testimony submitted, the Court finds . . ."); *Sarif Biomedical LLC v. Brainlab, Inc.*, No. 13-846-LPS, 2015 WL 5072085, at *3 (D. Del. Aug. 26, 2015).

138. See, e.g., *Intellectual Ventures I LLC v. AT & T Mobility LLC*, No. 12-193-LPS, No. 13-1631-LPS, No. 13-1632-LPS, No. 13-1633-LPS, No. 13-1634-LPS, No. 13-1635-LPS, No. 13-1636-LPS, No. 13-1637-LPS, 2015 WL 1393386, at *9-10 (D. Del. Mar. 24, 2015); *Trusted Knight Corp. v. Int'l Bus. Machs. Corp.*, No. 14-1063-LPS-CJB, 2015 WL 7307134, at *5 (D. Del. Nov. 19, 2015), *appeal filed*, Jan. 21, 2016.

139. See, e.g., *Copy Protection LLC v. Netflix, Inc.*, No. 14-365-LPS, 2015 WL 4639954, at *7 (D. Del. Aug. 5, 2015).

140. *Pregis Innovative Packaging, Inc. v. Sealed Air Corp.*, No. 13-1084-LPS, 2014 WL 10293767 (D. Del. May 28, 2014); *Tech. Innovations Assocs. v. Google, Inc.*, No. 13-0355-LPS, 2014 WL 3896121 (D. Del. Aug. 7, 2014).

141. *Sunovion Pharms., Inc. v. Actavis, Inc.*, No. 12-993-LPS, 2014 WL 1678013 (D. Del. Mar. 21, 2014); *SecureBuy, LLC v. CardinalCommerce Corp.*, No. 13-1792-LPS, 2014 WL 2726933 (D. Del. June 16, 2014).

142. *Graphics Props. Holdings, Inc. v. ASUS Computer Int'l, Inc.*, No. 12-cv-210-LPS, No. 12-cv-213-LPS, No. 12-cv-214-LPS, No. 12-cv-1394-LPS, No. 12-cv-1395-LPS, No. 12-cv-1397-LPS, No. 13-cv-864-LPS, 2014 WL 4929340 (D. Del. Sep. 29, 2014); *FlatWorld Interactives LLC v. Samsung Elecs. Co., Ltd.*, No. 12-804-LPS, No. 12-964-LPS, 2014 WL 7464143 (D. Del. Dec. 31, 2014).

143. *Orthophoenix LLC v. Dfine Inc.*, No. 13-1003-LPS, No. 13-1007-LPS, No. 13-1628-LPS, 2016 WL 402491 (D. Del. Feb. 2, 2016).

144. See discussion of Judge Robinson's decisions, *infra*.

In some cases, however, the district court will need to look beyond the patent's intrinsic evidence and to consult extrinsic evidence in order to understand, for example, the background science or the meaning of a term in the relevant art during the relevant time period. . . . In cases where those subsidiary facts are in dispute, courts will need to make subsidiary factual findings about that extrinsic evidence. These are the "evidentiary underpinnings" of claim construction that we discussed in *Markman*, and this subsidiary factfinding must be reviewed for clear error on appeal.¹⁴⁵

Although not consistently cited over the last year, this instruction from *Teva* was used in six *Markman* decisions,¹⁴⁶ and reflects a general receptiveness to considering extrinsic evidence. All six of these decisions reviewed and analyzed extrinsic evidence, and twenty-six of the remaining twenty-eight post-*Teva* decisions (ninety-three percent) did as well.¹⁴⁷

If a judge takes a narrower view of *Teva*, or quotes something that does not represent the core holding, the court is less likely to analyze extrinsic evidence. For example, Judge Sue L. Robinson in the District of Delaware issued very sparse *Markman* decisions and used a general statement that she construed claims "consistent with the tenets of claim construction set forth by the United States Court of Appeals for the Federal Circuit in *Phillips v. AWH Corp.*"¹⁴⁸ Judge Robinson included the

145. *Promethean Insulation Tech. LLC v. Sealed Air Corp.*, No. 2:13-CV-1113-JRG-RSP, 2015 WL 1738028, at *4 (E.D. Tex. Apr. 6, 2015) (quoting *Teva IV*, 135 S. Ct. at 841).

146. *Promethean Insulation Tech. LLC v. Sealed Air Corp.*, No. 2:13-CV-1113-JRG-RSP, 2015 WL 1738028 (E.D. Tex. Apr. 6, 2015); *Effective Exploration, LLC v. Classic Operating Co., LLC*, No. 2:14-cv-00869-JRG-RSP, 2015 WL 5012139 (E.D. Tex. Aug. 21, 2015); *Gonzalez v. Infostream Grp., Inc.*, No. 2:14-cv-906-JRG-RSP, 2015 WL 5604448 (E.D. Tex. Sep. 21, 2015); *Hitachi Maxell, Ltd. v. Top Victory Elecs. (Taiwan) Co. Ltd.*, No. 2:14-cv-01121-JRG-RSP, 2015 WL 7007745 (E.D. Tex. Nov. 10, 2015); *Promethean Insulation Tech. LLC v. Reflectix, Inc.*, No. 2:15-cv-00028-JRG-RSP, 2015 WL 9093824 (E.D. Tex. Dec. 16, 2015); *Syncpoint Imaging, LLC v. Nintendo of Am. Inc.*, No. 2:15-cv-00247-JRG-RSP, 2016 WL 55118 (E.D. Tex. Jan. 5, 2016).

147. *See, e.g.*, *Solocron Media, LLC v. Verizon Commc'ns Inc.*, No. 2:13-CV-1059-JRG-RSP, 2015 WL 1011310 (E.D. Tex. Mar. 5, 2015); *E-Watch Inc. v. Apple, Inc.*, No. 2:13-CV-1061-JRG-RSP, 2015 WL 1387947 (E.D. Tex. Mar. 25, 2015); *Parthenon Unified Memory Architecture LLC v. Samsung Elecs. Co.*, No. 2:14-cv-0902-JRG-RSP, No. 2:14-cv-0687-JRG-RSP, No. 2:14-cv-0689-JRG-RSP, 2016 WL 324981 (E.D. Tex. Jan. 25, 2016). One explanation for the interspersed decisions is that different clerks wrote up these decisions and used their own individual "Legal Principles" sections.

148. *Intellectual Ventures I, LLC v. Canon, Inc.*, No. 13-473-SLR, 2015 WL 1458035, at *1 (D. Del. Mar. 27, 2015).

following reference to *Teva* in a footnote in four decisions: “Unless otherwise specified, the court relies solely on intrinsic evidence in reaching its claim construction.”¹⁴⁹

This narrow interpretation of *Teva* is reflected throughout most of Judge Robinson’s thirteen *Markman* decisions, as she does not consider extrinsic evidence in five decisions (thirty-eight percent),¹⁵⁰ or only briefly mentions that some extrinsic evidence was offered, without weighing it or issuing findings of fact.¹⁵¹ These results are similar to Judge Robinson’s eight pre-*Teva* *Markman* decisions, where two decisions (twenty-five percent) considered no extrinsic evidence¹⁵² and five decisions (sixty-three percent) briefly mention but do not analyze the extrinsic evidence presented.¹⁵³ These results indicate that a narrow interpretation of *Teva* leads to no significant change in a judge’s approach to *Markman* hearings and decisions.

149. Intellectual Ventures I, LLC v. Canon Inc., No. 13-473-SLR, 2015 WL 1458035, at *14 n.2 (D. Del. Mar. 27, 2015); SRI Int’l, Inc. v. Dell Inc., No. 13-737-SLR, No. 13-1534-SLR, 2015 WL 2265756 (D. Del. May 14, 2015); Takeda Pharms. USA, Inc. v. Par Pharm. Cos., Inc., No. 13-1524-SLR, No. 13-1729-SLR, No. 14-268-SLR, 2015 WL 3464071 (D. Del. June 1, 2015); Poly-Am., L.P. v. API Indus., Inc., No. 14-599-SLR, 2015 WL 4608135 (D. Del. July 31, 2015), *appeal filed*, Nov. 10, 2015.

150. Intellectual Ventures I, LLC v. Canon, Inc., No. 13-473-SLR, 2015 WL 307868 (D. Del. Jan. 23, 2015); Takeda Pharms. USA, Inc. v. Par Pharm. Cos., Inc., No. 13-1524-SLR, No. 13-1729-SLR, No. 14-268-SLR, 2015 WL 3464071 (D. Del. June 1, 2015); Merck Sharp & Dohme Corp. v. Teva Pharms. USA, Inc., No. 14-874-SLR, 2015 WL 5163036 (D. Del. Sep. 3, 2015); Duchesnay, Inc. v. Actavis Labs. FL, Inc., No. 14-912-SLR, 2015 WL 7295438 (D. Del. Nov. 18, 2015); Courtesy Prods., L.L.C. v. Hamilton Beach Brands, Inc., No. 13-2012-SLR, 2015 WL 7295436 (D. Del. Nov. 18, 2015).

151. *See, e.g.*, Intellectual Ventures I, LLC v. Nikon Corp., No. 11-1025-SLR, 2015 WL 1062185 (D. Del. Mar. 10, 2015); Sri Int’l, Inc. v. Dell, Inc., No. 13-737-SLR, No. 13-1534-SLR, 2015 WL 2265756 (D. Del. May 14, 2015); Orexo AB v. Actavis Elizabeth LLC, No. 14-829-SLR, 2015 WL 5842513 (D. Del. Oct. 6, 2015).

152. Carrier Corp. v. Goodman Global, Inc., No. 12-930-SLR, 2014 WL 3976461 (D. Del. Aug. 14, 2014); Cot’n Wash, Inc. v. Henkel Corp., No. 12-650-SLR, No. 12-651-SLR, 2014 WL 4246425 (D. Del. Aug. 26, 2014).

153. CyberFone Sys., LLC v. ZTE (USA), Inc., No. 11-827-SLR, No. 11-830-SLR, No. 11-833-SLR, No. 11-834-SLR, 2014 WL 490586 (D. Del. Feb. 4, 2014); Pi-Net Int’l, Inc. v. JPMorgan Chase & Co., No. 12-282-SLR, 2014 WL 1997039 (D. Del. May 14, 2014); Joao Bock Transaction Sys., LLC v. Jack Henry & Assocs., Inc., No. 12-1138-SLR, 2014 WL 2960363 (D. Del. June 30, 2014); Motivation Innovations LLC v. Ulta Salon Cosmetics & Fragrance, Inc., No. 11-615-SLR, 2014 WL 3704001 (D. Del. July 22, 2014); YYZ, LLC v. Hewlett-Packard Co., No. 13-136-SLR, No. 13-579-SLR, No. 13-581-SLR, 2014 WL 7147160 (D. Del. Dec. 12, 2014).

2. *Courts Provide More Details on What Kind of Evidence (Intrinsic Versus Extrinsic) Is Being Considered in Each Claim Construction*

Another trend post-*Teva* is that the judges reviewed for this Note generally spent more time distinguishing between intrinsic and extrinsic evidence, and clarifying what the judge considered in construing a term. However, while providing more clarity about what is influencing claim construction is admirable, simply concluding that extrinsic evidence was considered, but not issuing factfindings or fully engaging in analysis of the evidence, would not result in a holding entitled to deference on appeal.¹⁵⁴

One common practice is to include the language “in light of the intrinsic and extrinsic evidence,” before concluding with the court’s construction of a term.¹⁵⁵ While this language was used before *Teva*, it was infrequent and sporadic.¹⁵⁶ Another practice is to identify which form of evidence is consistent with the construction, such as that the court is “adopt[ing] Plaintiff’s proposal, which is based on the specification.”¹⁵⁷

Separate headers and sections to divide intrinsic and extrinsic evidence were utilized in some isolated examples,¹⁵⁸ however no decision made

154. See FED. R. CIV. P. 52(a)(6) (“*Findings of fact*, whether based on oral or other evidence, must not be set aside unless clearly erroneous, and the reviewing court must give due regard to the trial court’s opportunity to judge the witnesses’ credibility.”) (emphasis added).

155. Syneron Med. Ltd. v. Viora Ltd., No. 2:14-CV-639, 2015 WL 1952360, at *22 (E.D. Tex. Apr. 10, 2015); see also Smith v. Honeywell Int’l, Inc., No. 2:14-CV-665, 2015 WL 3826652 (E.D. Tex. June 19, 2015); E-Watch, Inc. v. Apple, Inc., No. 2:13-CV-1061-JRG-RSP, 2015 WL 1387947 (E.D. Tex. Mar. 25, 2015).

156. Two of Judge Rodney Gilstrap’s six pre-*Teva IV Markman* decisions used this language. Thomas Swan & Co. Ltd. v. Finisar Corp., No. 2:13-cv-00178-JRG, 2014 WL 28852962 (E.D. Tex. June 25, 2014); Nichia Corp. v. Everlight Elecs. Co., Ltd., No. 2:13-CV-702-JRG, 2014 WL 7149169 (E.D. Tex. Dec. 12, 2014), *appeal filed*, Feb. 24, 2016.

157. Cronos Techs., LLC v. Expedia, Inc., No. 13-1538-LPS, No. 13-1541-LPS, No. 13-1544-LPS, 2015 WL 3548744, at *10 (D. Del. June 8, 2015); see, e.g., Yodlee, Inc. v. Plaid Techs., Inc., No. 14-1445-LPS, 2016 WL 204372, at *13 (D. Del. Jan. 15, 2016) (“Thus, the combination of the claims and specification indicates that ‘including,’ as used in the claims, means ‘including at least.’”); Contentguard Holdings, Inc. v. Amazon.com, Inc., No. 2:13-CV-1112-JRG, No. 2:14-CV-61-JRG, 2015 WL 8073722, at *18 (E.D. Tex. Dec. 04, 2015) (“Defendants’ proposal of *permanent* attachment, however, lacks sufficient support in the intrinsic evidence. Instead, for example, the specification contemplates”); Intellectual Ventures I, LLC v. Nikon Corp., No. 11-1025-SLR, 2015 WL 1062185, at *5 (D. Del. Mar. 10, 2015) (construing “kernel” as “module,” noting that Plaintiff’s expert explained that “a person having ordinary skill in the art would understand that ‘kernel’ is akin to ‘module.’”).

158. Oddly, Judges Gilstrap and Payne in the Eastern District of Texas each have one example of using separate headers for extrinsic evidence pre-*Teva IV*, but none after. Thomas Swan & Co. Ltd. v. Finisar Corp., No. 2:13-cv-00178-JRG, 2014 WL

explicit “findings of fact” sections as might have been expected after *Teva*. Judge Robinson in Delaware used separate headers for intrinsic and extrinsic evidence for some of the constructions for two post-*Teva* decisions.¹⁵⁹ One notable example, from Judge John A. Kronstadt in the Central District of California, used explicit headings for each evidence type considered for each construction (e.g., The Language of the Claim, The Specification, The Prosecution History, The Extrinsic Evidence), and discussions of extrinsic evidence—when such evidence was considered—ended with conclusions and findings of fact.¹⁶⁰

B. MUST THE FEDERAL CIRCUIT CONSIDER FACTUAL FINDINGS?

The Supreme Court provided two different options for reviewing claim construction decisions: if only intrinsic evidence is reviewed, the “judge’s determination will amount solely to a determination of law, and the Court of Appeals will review that construction *de novo*,” but in cases where subsidiary facts are disputed, the court’s “subsidiary factfinding must be reviewed for clear error on appeal.”¹⁶¹

Whether the Federal Circuit *must* consider a district court’s subsidiary factfinding, and accord it with deference in the absence of clear error, or whether the Federal Circuit may make an ultimate construction without the use of those subsidiary facts, was left unanswered. Early Federal Circuit and District Court cases have interpreted the Supreme Court’s decision to allow the Federal Circuit to ignore factfinding based on extrinsic evidence completely, and continue reviewing claim construction decisions *de novo*, based solely on the intrinsic record.

28852962 (E.D. Tex. June 25, 2014); *Kroy IP Holdings, LLC v. Safeway, Inc.*, No. 2:12-cv-00800-JRG-RSP, No. 2:13-cv-00141-JRG-RSP, 2014 WL 2528645 (E.D. Tex. June 4, 2014), *appeal filed*, July 1, 2015.

159. *Intellectual Ventures I, LLC v. Canon, Inc.*, No. 13-473-SLR, 2015 WL 1458035 (D. Del. Mar. 27, 2015); *Intellectual Ventures I LLC v. Toshiba Corp.*, No. 13-453-SLR, 2015 WL 9239745 (D. Del. Dec. 17, 2015).

160. *Signal IP v. Am. Honda Motor Co., Inc.*, No. LA CV14-02454 JAK (JEMx), No. LA CV14-02457 JAK (JEMx), No. LA CV14-02962 JAK (JEMx), No. LA CV14-02963 JAK (JEMx), No. LA CV14-03108 JAK (JEMx), No. LA CV14-03109 JAK (JEMx), No. LA CV14-03111 JAK (JEMx), No. LA CV14-03113 JAK (JEMx), No. LA CV14-03114 JAK (JEMx), No. SA CV14-00491 JAK (JEMx), No. SA CV14-00497 JAK (JEMx), 2015 WL 5768344 (C.D. Cal. Apr. 17, 2015). There were no pre-*Teva IV* decisions to compare this *Markman* decision to.

161. *Teva IV*, 135 S. Ct. at 841.

1. *Federal Circuit Decisions Find Extrinsic Record Unnecessary*

In March 2015, the Federal Circuit decided *Eidos Display, LLC v. AU Optronics Corp.*, reversing and remanding the district court's grant of summary judgment of invalidity due to indefiniteness.¹⁶² The Federal Circuit emphasized that the claim, "when read in light of the specification and prosecution history" satisfied the "reasonable certainty" definiteness requirement.¹⁶³ Although the district court had considered extrinsic evidence, the Federal Circuit sidestepped the requirement that such evidence be reviewed for clear error by claiming the extrinsic evidence was "ultimately immaterial to the outcome because the intrinsic record is clear," and relied on the Federal Circuit's own decision in *Phillips v. AWH Corp.* as authority.¹⁶⁴

The same sidestep occurred later in June 2015, when the Federal Circuit decided *Microsoft Corp. v. Proxyconn, Inc.*, which reviewed an *inter partes* review order from the Patent and Trademark Office.¹⁶⁵ Although this matter did not involve a district court's claim construction order, the Federal Circuit applied the holding from *Teva*, reviewing the "Board's ultimate claim constructions de novo and its underlying factual determinations involving extrinsic evidence for substantial evidence."¹⁶⁶ Next, the Federal Circuit echoed its reasoning from *Eidos Display*, finding the intrinsic record sufficient to determine the proper construction, and no need to review any extrinsic evidence considered by the Board in construing the claims.¹⁶⁷

Finally, in the remand of *Teva v. Sandoz* from the Supreme Court, the Federal Circuit continued the trend by deciding the intrinsic record was sufficient on its own to find "molecular weight" as indefinite, again.¹⁶⁸ Significantly, this was contrary to the Supreme Court's explicit reversal and language stating that the district court's findings of fact based on the expert testimony must be given deference absent clear error.¹⁶⁹ In a

162. 779 F.3d 1360, 1361 (Fed. Cir. 2015).

163. *Id.*

164. *See id.* at 1365.

165. 789 F.3d 1292, 1292 (Fed. Cir. 2015).

166. *Id.* at 1297.

167. *Id.*

168. *See supra* Section II.D.

169. *See Teva IV*, 135 S. Ct. at 843 ("When the Federal Circuit reviewed the District Court's decision, it recognized that the peak of the curve did not match the 7.7 kilodaltons listed in the legend of figure 1. But the Federal Circuit did not accept Teva's expert's explanation as to how a skilled artisan would expect the peaks of the curves to shift. And it failed to accept that explanation without finding that the District Court's

strongly worded dissent, Judge Mayer disagreed with the majority's decision and argued that the Federal Circuit was being "once again led astray by its failure to afford sufficient deference to the trial court's findings of fact."¹⁷⁰

2. *District Court Echoes the Interpretation that Teva Does Not Mandate Inclusion of "Immaterial or Improper" Findings of Fact*

Following the Federal Circuit's lead in *Eidos Display*, in *Smith & Nephew, Inc. v. Arthrex, Inc.*, the District of Oregon denied a motion to reopen a judgment in light of the Supreme Court's holding in *Teva*.¹⁷¹ Relying on the rule from *Vitronics*, the court reasoned that "[w]here a claim term is capable of being construed based on the intrinsic evidence alone, it is actually improper for a court to rely on extrinsic evidence."¹⁷² And because the Federal Circuit had decided the present case back in 2013 based solely on the intrinsic evidence, without considering the factfinding done by the district court, pursuant to *Eidos Display*, there were no grounds for reopening the decision.¹⁷³ Further, the judge found that "[n]othing in *Teva* suggests that the Federal Circuit must review immaterial or improper fact-finding under a clear error standard. Rather it appears rather clearly that such fact-finding is to be disregarded and a *de novo* standard applied."¹⁷⁴

C. GOING FORWARD

There appear to be three options for district courts and parties in light of the Federal Circuit's interpretation of *Teva v. Sandoz*. Because there have been only a few Federal Circuit decisions after *Teva*, *Markman* hearings and decisions appear to be in a state of flux. The first option is to steer into the skid, embrace the Federal Circuit's dominant position in claim construction, and streamline district court *Markman* hearings to focus only on the intrinsic record, where decisions are little more than conclusory findings. The second option would be to keep calm and carry on as before *Teva*, with judges disparately continuing to review extrinsic evidence, with no uniformity and no emphasis on factual findings. The

contrary determination was 'clearly erroneous.' The Federal Circuit should have accepted the District Court's finding unless it was 'clearly erroneous.' Our holding today makes clear that, in failing to do so, the Federal Circuit was wrong.") (internal citations omitted).

170. See *Teva V*, 789 F.3d at 1345–46 (Mayer, J., dissenting).

171. No. 3:04-cv-00029-MO, 2015 WL 3423024, at *1–2 (D. Or. May 19, 2015).

172. *Id.* at *1 (citing *Vitronics*, 90 F.3d at 1583).

173. *Id.* at *2.

174. *Id.* at *2.

last, and more difficult, option is to lean in, make serious changes to how claim construction decisions are written, and have judges “show their work” with clear reasoning and factual findings.

1. *Steer into the Skid and Embrace the Federal Circuit’s Dominance Over Claim Construction*

Even after having its interpretations and jurisprudence for claim construction dismissed, the Federal Circuit has held the line on “exert[ing] control over the entire claim construction process.”¹⁷⁵ A year of the Federal Circuit ignoring extrinsic evidence as unnecessary and reviewing only the intrinsic evidence de novo indicates that nothing has changed.¹⁷⁶ Judges and parties may decide to acquiesce and follow this surrender to its inevitable conclusion, where extrinsic evidence is virtually eliminated and *Markman* decisions become little more than a list of terms and their constructions.¹⁷⁷ Some post-*Teva* decisions exemplify this option, consisting of a list of claim terms, their adopted construction, and a brief paragraph providing some context.¹⁷⁸

Markman hearings would likely be more efficient and streamlined, without the need to present expert testimony or anything outside of the patent. However, uncertainty about the finality of decisions would increase, as the District Court’s decision would just be a preliminary proposal, forcing parties to wait until the Federal Circuit issued the final decision on construction.¹⁷⁹ This would also thwart the Supreme Court’s

175. See Katherine E. White, *Post-Teva: When Will the Federal Circuit Embrace the Deferential Standard of Review for Patent Claim Construction?*, 25 FED. CIR. B.J. 191, 192, 199 (2015).

176. However, it may take more time for district court *Markman* decisions made under the authority of *Teva IV* to make it to the Federal Circuit on appeal to definitively know whether things have changed.

177. See J. Jonas Anderson & Peter S. Menell, *Restoring the Fact/Law Distinction in Patent Claim Construction*, 109 NW. U. L. REV. 187, 188 (2015) (explaining that the Federal Circuit’s adherence to a de novo review of claim construction after *Markman* dissuaded judges from “holding evidentiary hearings or explaining the reasoning behind their claim constructions”); White, *supra* note 175, at 209–10 (explaining that after *Markman I*, claim construction hearings were “devoid of the kind of findings of fact Rule 52(a) envisioned being reviewed for clear error” because “judges had little motivation to provide rationale for how the claims were construed”).

178. See, e.g., *Orthophoenix LLC v. Dfine, Inc.*, No. 13-1003-LPS, No. 13-1007-LPS, No. 13-1628-LPS, 2016 WL 402491 (D. Del. Feb. 2, 2016); *Forest Labs. LLC v. Sigmapharm Labs. LLC*, No. 14-1119-SLR-SRF, 2016 WL 369236 (D. Del. Jan. 29, 2016).

179. See Christopher A. Cotropia, *Patent Claim Interpretation Review: Deference or Correction Driven?*, 2014 BYU L. REV. 1095, 1097 (2015) (“Litigants cannot predict the

reasoning that for “practical considerations” the trial judge has the best opportunity to become familiar with the “specific scientific problems and principles not usually contained in the general storehouse of knowledge and experience.”¹⁸⁰

2. *Keep Calm and Carry On, as Before Teva*

Another option is to keep things as they are, and hope that in another twenty years or so the Supreme Court steps in to straighten out the new mess unfolding.¹⁸¹ Courts may keep reviewing extrinsic evidence for full *Markman* hearings, sometimes making factual findings, but often not. Most of the post-*Teva Markman* decisions reviewed in this Note appear to be following this path, still engaging and considering both intrinsic and extrinsic evidence, but not making explicit findings of fact, and not explaining fully what the construed term is based on.¹⁸² The Federal Circuit may continue deciding that the intrinsic record is sufficiently clear and ignore any extrinsic evidence presented.¹⁸³

From an efficiency standpoint, this would be worse than the first option. Parties would spend time and resources presenting experts and providing complete information for judges to construe terms, and the uncertainty about the term’s final construction would remain until the Federal Circuit makes its own decision. However, inertia is a powerful force, and patterns of behavior, once established, are difficult to change. Absent a strong effort to make substantial changes, as described in the next Section, this inertia-driven option will be the default choice.

controlling claim construction in a case until the Federal Circuit makes its independent determination on appeal.”).

180. See *Teva IV*, 135 S. Ct. at 838; Anderson & Menell, *supra* note 177, at 197 (“[D]istrict judges can use their distinctive vantage point and evidentiary tools to ferret out factual underpinnings while the Federal Circuit can operate as a check on fidelity to the patent instrument.”).

181. The prospect of the Court fixing the decision immediately after *Teva V* is also likely moot. The Federal Circuit’s decision on remand was issued in June 2015, and it appears no petition for certiorari was filed within ninety days as required by the Supreme Court.

182. See, e.g., *BMC Software, Inc. v. ServiceNow, Inc.*, No. 2:14-CV-903-JRG, 2015 WL 4776970 (E.D. Tex. Aug. 13, 2015); *Masimo Corp. v. Philips Elecs. N. Am. Corp.*, No. 09-80-LPS, No. 11-742-LPS, 2015 WL 7737308 (D. Del. Dec. 1, 2015).

183. See White, *supra* note 175, at 210–13 (reviewing several decisions made by the Federal Circuit post-*Teva IV*).

3. *Lean In: Start Making More Rigorous Findings of Fact for Extrinsic Evidence*

The last option would require more effort, and more uniformity amongst judges in writing *Markman* decisions. Judges would need to make explicit distinctions between implicit and explicit evidence, and make factual findings regarding extrinsic evidence when it factors into the construction of a term. Clear headers and formatting throughout the districts, possibly through local Patent Rules, would go a long way to standardizing this practice.¹⁸⁴ One example of this option was Judge Kronstadt's *Markman* decision, breaking down the reasoning for each construction into separate sections, including a section just for extrinsic evidence.¹⁸⁵ Conclusory decisions would only assist the Federal Circuit in entrenching its position, because they provide no reasoning or factual findings to give deference to. However, by making substantial changes to *Markman* decisions and including explicit findings of facts, courts and scholars documenting and arguing against the Federal Circuit's current practice would make it hard to disregard factual findings.¹⁸⁶

Considering the Supreme Court's language emphasizing the factual underpinnings of claim construction and the necessity of extrinsic evidence in certain circumstances,¹⁸⁷ review of a term's construction should proceed as follows: (1) if there are any, review and factor in *all* of the factual findings regarding extrinsic evidence, unless clearly erroneous,¹⁸⁸ and then

184. See Anderson & Menell, *supra* note 177, at 197–98 (noting that ultimately “district judges have the ability to achieve the goal of effective, transparent, and well-reasoned patent claim constructions”); White, *supra* note 175, at 214–15.

185. Signal IP v. Am. Honda Motor Co., Inc., No. LA CV14-02454 JAK (JEMx), No. LA CV14-02457 JAK (JEMx), No. LA CV14-02962 JAK (JEMx), No. LA CV14-02963 JAK (JEMx), No. LA CV14-03108 JAK (JEMx), No. LA CV14-03109 JAK (JEMx), No. LA CV14-03111 JAK (JEMx), No. LA CV14-03113 JAK (JEMx), No. LA CV14-03114 JAK (JEMx), No. SA CV14-00491 JAK (JEMx), No. SA CV14-00497 JAK (JEMx), 2015 WL 5768344 (C.D. Cal. Apr. 17, 2015).

186. See Anderson & Menell, *supra* note 177, at 200–01 (noting that *Teva IV*'s “efficacy . . . depends critically upon district judges earning deference for the right reasons”).

187. See, e.g., *Teva IV*, 135 S. Ct. at 837 (“[E]xtrinsic evidence may help to ‘establish a usage of trade or locality.’”); *id.* at 838 (“[I]n patent construction, subsidiary factfinding is sometimes necessary.”); *id.* at 841 (“In cases where those subsidiary facts are in dispute, courts will need to make subsidiary factual findings about that extrinsic evidence.”); *id.* at 841–42 (“[I]n some instances, a factual finding may be close to dispositive of the ultimate legal question of the proper meaning of the term in the context of the patent.”).

188. See *id.* at 838 (“This factual determination, like all other factual determinations, must be reviewed for clear error.”); *id.* (invoking early Second Circuit precedent that requires “[I]n claim construction, the subsidiary question . . . of how the art understood

(2) review the ultimate construction de novo in light of these findings,¹⁸⁹ as well as the intrinsic evidence considered by the district court judge de novo.¹⁹⁰ As the Supreme Court noted, extrinsic evidence may be unnecessary in many cases,¹⁹¹ but when it is necessary to the trial judge and factual findings are made to support the claim's construction, those findings should be given deference absent clear error.

Significantly, this procedure was used in *Teva* to show how to review factual findings underlying an ultimate question of law. One of the examples the Court gave related to an appellate court reviewing a trial judge's decision of whether a defendant confessed voluntarily: "An appellate court will review the trial judge's factual determination about the alleged intimidation deferentially (though, *after reviewing the factual findings, it will review a judge's ultimate determination of voluntariness de novo*)."¹⁹² Applying this procedure to the present matter, the Court went on to hold that "[a]n appellate court similarly should review for clear error those factual findings that underlie a district court's claim construction."¹⁹³

Even after leaning in and making significant changes, like the other two options, the Supreme Court may need to step in again to explain step by step how the Federal Circuit must do its job. The Court may need to close a significant loophole in *Teva* that the Federal Circuit has been exploiting by requiring the Federal Circuit to consider and include factual findings made below when it makes its de novo ultimate construction. Currently, when a trial judge is construing a term, if she decides the intrinsic record is insufficient, she can consider extrinsic evidence and make appropriate factual findings explaining her ultimate conclusion. On appeal, the Federal Circuit today can review the same term, decide that the intrinsic evidence *is* sufficient to construe the term, and thus disregard the trial judge's factual findings. Extrinsic evidence should play a greater role in determining the meaning of claim terms, even if only to determine

the term . . . was plainly a question of fact; and unless the [district court's] finding was clearly erroneous, we are to take it as controlling." (internal quotations omitted)).

189. *See id.* at 837 ("[T]he ultimate question of the proper construction of the patent as a question of law in the way that we treat document construction as a question of law."); *id.* at 841 ("This ultimate interpretation is a legal conclusion.").

190. *See id.* at 841 ("[W]hen the district court reviews only evidence intrinsic to the patent (the patent claims and specifications, along with the patent's prosecution history), the judge's determination will amount solely to a determination of law, and the Court of Appeals will review that construction *de novo*.").

191. *See id.* at 840.

192. *Id.* at 841 (emphasis added); *see also* Rantanen, *supra* note 7, at 555 (emphasizing the significance of the same part of *Teva IV*).

193. *Teva IV*, 135 S. Ct. at 841.

the appropriate lens with which to view the patent: from the perspective of a person of skill in the art, and not from the judge's own perspective.¹⁹⁴

IV. CONCLUSION

With no petition for certiorari filed after the Federal Circuit's remand decision in *Teva*, it could be many years before the Supreme Court uses a space in its limited docket to readdress claim construction review standards. In the meantime, unless concerted changes are made at the district court level to force the Federal Circuit's hand, the path of least resistance will prevail and maintain the new status quo of de novo review and disregard of the extrinsic record and any subsidiary factual findings from the district court. Trends in the *Markman* decisions for the past year show slight improvements and distinctions made between extrinsic and intrinsic evidence, but more work must be done, and clear factual findings are necessary in order to expect deference. Reviewing the entire district court's construction record, instead of cherry picking only the intrinsic evidence, will also send much-needed encouragement to trial judges to spend time developing a complete record in *Markman* hearings.

However, like the millennial it is, the Federal Circuit may just acquiesce and start giving clear error deference to factual findings if faced with criticism from scholars and commentators and conspicuous factual findings in well-reasoned district court decisions. The Federal Circuit may reconsider its prior course of conduct and become the responsible young adult the Supreme Court, and all interested stakeholders, hope for.

194. See Rantanen, *supra* note 7, at 553.

THE GLOBAL CONVERGENCE OF FRAND LICENSING PRACTICES: TOWARDS “INTEROPERABLE” LEGAL STANDARDS

Benjamin C. Li[†]

Interoperable technologies that derive value from global network effects necessitate consistent guidelines to regulate Fair, Reasonable, and Non-Discriminatory (FRAND) licensing practices for standard essential patents (SEPs) across international borders. A uniform, international standard for FRAND licensing would aid the development of interoperable platforms because it would: (1) provide predictability to patent licensees regarding the cost of acquiring essential intellectual property rights; and (2) decrease the risk and expense of patent litigation.¹ In recent years, courts and regulatory authorities in major jurisdictions have made progress towards such a uniform, international standard, converging in how they address FRAND-related cases.

A FRAND policy must solve three primary issues: hold-up, hold-out, and royalty pricing. Hold-up occurs when SEP holders prevent prospective licensees from using a patented technology by asserting their patents against these licensees, or by exercising their post-adoption leverage to demand excessive licensing fees. Hold-out occurs when SEP implementers do not obtain a license to use patented technology because they face no effective repercussions. Royalty pricing should be based on the SEP’s incremental value to the end product, and is best resolved by taking into account royalty stacking considerations.

This Note summarizes recent FRAND developments in the most important patent jurisdictions and explains how these developments address the three major issues discussed above. Part I provides a brief

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1. See Chris Neumeyer, *Managing Costs of Patent Litigation*, IPWATCHDOG (Feb. 5, 2013), <http://www.ipwatchdog.com/2013/02/05/managing-costs-of-patent-litigation/id=34808> [<https://perma.cc/7XST-JDST>] (citing an American Intellectual Property Law Association study, which calculated that “the cost of an average patent lawsuit, where \$1 million to \$25 million is at risk, is \$1.6 million through the end of discovery and \$2.8 million through final disposition”).

background on standard setting organizations (SSOs), SEPs, and FRAND licensing. Section II.A addresses the legal and policy bases for regulating FRAND licenses, using the *Rambus* case to highlight the importance of a functional FRAND licensing system. Section II.B explains the three key issues of patent hold-up, license hold-out, and royalty pricing in greater detail. Sections III.A and III.B provide analysis of international cases implicating FRAND using the hold-up/hold-out and royalty pricing frameworks. Section III.C discusses the nationalistic issue of governments favoring domestic companies in FRAND disputes. Section III.D discusses the Institute of Electrical and Electronic Engineers' (IEEE's) new FRAND policy. Part IV concludes with a summary of recent FRAND trends across international jurisdictions and predicts convergence in international FRAND licensing practices.

I. BACKGROUND

This Part provides a short introduction to the standards setting process and a brief analysis of the components of a FRAND license.

A. SSOs AND SEPs

Interoperability standards are essential for any technology to benefit from network effects that scale with the size of its user base.² These standards provide specific features that allow “two or more networks, systems, devices, applications or components to exchange information between them and to use the information so exchanged.”³ In fact, standard setting has evolved in parallel with the development of technology itself—from basic metric and time systems, to now-mundane drill bit and electric plug standards, to modern wireless networking and cellular communications features.⁴

Over the past two decades, most interoperability standards were collaboratively developed by private firms within voluntary associations

2. See generally Michael L. Katz & Carl Shapiro, *Network Externalities, Competition, and Compatibility*, 75 AM. ECON. REV. 424 (1985); CARL SHAPIRO & HAL R. VARIAN, *INFORMATION RULES* (1999).

3. EUROPEAN INFORMATION AND COMMUNICATIONS TECHNOLOGY INDUSTRY ASSOCIATION, *EICTA Interoperability White Paper*, at 2 (June 21, 2004).

4. See, e.g., Jorge L. Contreras, *Patents, Technical Standards and Standard-Setting Organizations: A Survey of the Empirical, Legal and Economics Literature*, in RESEARCH HANDBOOKS ON THE ECONOMICS OF INTELLECTUAL PROPERTY LAW—VOLUME 2: ANALYTICAL METHODS (forthcoming) (manuscript at 3).

known as SSOs.⁵ When an SSO adopts a standard that includes certain patented technology, the owner of that technology now owns an SEP, a patent that must be used if a market participant wants to implement the standard.⁶ Thus, in the absence of any regulation or guidance, individual SEP holders may theoretically assert substantial market power over other market participants in determining licensing rates.⁷ This power imbalance may deter the practical implementation of a standard, thus undermining industry efforts to achieve the network interoperability necessary for further product development.

B. FRAND LICENSING

Prior to setting any standards, SSOs often require their members to agree to license their SEPs under Fair, Reasonable, and Non-Discriminatory (FRAND) terms.⁸ In view of the recent boom and substantial value of the smartphone market, the value of a FRAND-encumbered SEP has been the subject of much debate.⁹ This Note first defines FRAND by addressing what “fair and reasonable” terms generally entail, then discusses the implications of “non-discriminatory” licensing.

1. *Fair and Reasonable*

In general, courts agree that a FRAND license should reward patent holders for their contributions to an end product by apportioning royalties based on the SEP’s incremental value to the patented technology.¹⁰

5. See Brad Biddle et al., *The Expanding Role and Importance of Standards in the Information and Communications Technology Industry*, 52 JURIMETRICS J. 177, 178 (2012).

6. See, e.g., Carl Shapiro, *Navigating the Patent Thicket: Cross Licenses, Patent Pools, and Standard Setting*, in INNOVATION POLICY AND THE ECONOMY 119, 136 (Adam B. Jaffe et al. eds., 2001).

7. See Mark A. Lemley, *Intellectual Property Rights and Standard-Setting Organizations*, 90 CALIF. L. REV. 1889, 1931 (2002) (noting that an SEP holder may gain “market power it would not otherwise have obtained” by misrepresenting its IP and thereby evading an SSO’s patent regulation policy).

8. See, e.g., Shapiro, *Navigating the Patent Thicket*, *supra* note 6, at 128. U.S. courts generally leave out the “fairness” factor, such that only Reasonable and Non-Discriminatory (“RAND”) conditions are required. See, e.g., *Apple v. Motorola*, 869 F. Supp. 2d 901, 912 (N.D. Ill. 2012) (noting that “the word ‘fair’ adds nothing to ‘reasonable’ and ‘nondiscriminatory’”).

9. See Thomas H. Chia, Note, *Fighting the Smartphone War with RAND-Encumbered Patents*, 27 BERKELEY TECH. L.J. 209, 215–19 (2012).

10. See, e.g., *Ericsson, Inc. v. D-Link Sys., Inc.*, 773 F.3d 1201, 1226 (Fed. Cir. 2014) (“The essential requirement is that the ultimate reasonable royalty award must be based on the incremental value that the patented invention adds to the end product.”).

However, it is unclear what constitutes a “fair and reasonable” license.¹¹ To further complicate the matter, many interoperable technologies are covered by thousands of patents, which can lead to an accumulation of licensing fees known as “royalty stacking.”¹² A royalty rate that may have seemed reasonable on its own is not reasonable when a company developing a particular technology must pay several thousand separate royalties to account for all of the patents implicated by its technology. Stacking all of these royalties on top of each other can make a product too expensive to bring to market.¹³

The challenge of setting a “fair and reasonable” license term is therefore two-fold. First, one must appropriately apportion the particular patent, or the value of that patent relative to the value of the technology as a whole. Second, one must determine the proper royalty base in relation to the value of the entire portfolio. In recent years, this second factor has been the subject of much debate among scholars and practitioners. Some scholars and courts argue that royalty rates should be calculated based on the price of the end product implementing a particular patented feature to properly account for the SEP’s contribution to the synergistic development of the interoperable technology,¹⁴ while other courts have argued that the

11. Lemley, *supra* note 7, at 1906 (noting that “while IP owners at many SSOs were required to license their rights on reasonable and nondiscriminatory terms, it isn’t clear what those obligations mean in practice”).

12. See, e.g., Mark A. Lemley & Carl Shapiro, *A Simple Approach to Setting Reasonable Royalties for Standard-Essential Patents*, 28 BERKELEY TECH. L.J. 1135, 1149–50 (2013).

13. See, e.g., Erik Stasik, *Royalty Rates and Licensing Strategies for Essential Patents on LTE (4G) Telecommunication Standards*, 2010 LES NOUVELLES 114, 114–15, 117 (estimating the aggregate royalty burden for the 3G GSM standard at 10% to 40% of the end product price, and that of the 4G LTE standard to be 14.8% of the end product price); Ann Armstrong, Joseph J. Mueller & Timothy D. Syrett, *The Smartphone Royalty Stack: Surveying Royalty Demands for the Components Within Modern Smartphones 2* (May 29, 2014) (working paper), http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2443848 [<https://perma.cc/87CG-U7K9>] (estimating the aggregate patent royalty, in the absence of cross-licensing and royalty-reducing measures, for a hypothetical \$400 smart phone to be 30% of the end product price).

14. See J. Gregory Sidak, *The Proper Royalty Base for Patent Damages*, 10 J. COMPETITION L. & ECON. 989, 990 (2014); Commonwealth Sci. & Indus. Research Org. v. Cisco Sys., Inc., No. 6:11-CV-343, 2014 WL 3805817, at *14 (E.D. Tex. July 23, 2014) [hereinafter *CSIRO*], *vacated*, 809 F.3d 1295 (Fed. Cir. 2015) (holding that “a reasonable royalty based on hypothetical negotiations between CSIRO and Cisco would have resulted in a flat rate assessed per infringing end product unit sold with an increasing discount based on total volume of products sold”).

licensing fee should be calculated based on the smallest saleable patent practicing unit (SSPPU) to account for royalty stacking considerations.¹⁵

2. *Non-Discriminatory*

Most courts, regulatory authorities, and scholars agree that an SEP holder should be obligated to license its patent to all willing parties when it makes a FRAND commitment.¹⁶ The “non-discriminatory” requirement is important because—due to the patent exhaustion doctrine—once an SEP holder licenses its patents to a licensee upstream in the supply chain, it may no longer seek royalty fees from a downstream manufacturer.¹⁷ Although the SEP holder may be inclined to seek higher licensing fees by selectively licensing to downstream manufacturers of more expensive products, a “non-discriminatory” license prohibits it from refusing to license to upstream licensees that produce cheaper components.

II. KEY ISSUES IN FRAND LICENSING

FRAND licensing practices involve a variety of legal, policy, and practical considerations. This Part first addresses the legal and policy considerations, using the *Rambus* case to illustrate the significance of FRAND licensing for SEPs. It then introduces the practical implications of hold-up, hold-out, and royalty pricing, which creates the framework for further analysis in Part III.

15. See Contreras, *Survey*, *supra* note 4, at 23 (noting that “courts have increasingly sought to apportion end product revenue into smaller units”); see also *Ericsson, Inc. v. D-Link Sys., Inc.*, 773 F.3d at 1127. The concept of the “smallest salable practicing unit was first introduced in *Cornell Univ. v. Hewlett-Packard Co.*, where the district court rejected Cornell’s royalty calculations based on the server, because it “encompass[ed] a product with significant non-infringing components,” and instead determined that “[t]he logical and readily available [royalty base] was the smallest salable infringing unit with close relation to the claimed invention—namely the processor itself.” 609 F. Supp. 2d 279, 287–88 (N.D.N.Y. 2009). The processor was part of the “CPU bricks,” which were “incorporated into a cell board, and that cell board [wa]s finally inserted into [Hewlett-Packard’s] server.” *Id.* at 283.

16. See, e.g., *Microsoft Corp. v. Motorola, Inc.*, 795 F.3d 1024, 1031 (9th Cir. 2015) (“Under [FRAND] agreements, an SEP holder cannot refuse a license to a manufacturer who commits to paying the RAND rate.”).

17. See Contreras, *Survey*, *supra* note 4, at 23–24.

A. LEGAL AND POLICY CONSIDERATIONS

Entities must consider a variety of legal and policy considerations when dealing with SEPs. The *Rambus* cases illustrate potential effects of these considerations.

1. *The Importance of FRAND Licensing in the SEP Context*

On a fundamental level, the policy goals that inform SEP licensing are no different than for other patents.¹⁸ Patent law aims to encourage technological development by rewarding inventors, while also protecting the public domain by ensuring access to patented technologies.¹⁹ Therefore, the scope of the patents granted to patent holders must be sufficient to reward them for their innovative contributions, but not so great as to allow the patent holders to preempt an entire technological field, deterring follow-up inventions that use the patented features.

However, SEPs differ from other patents in that a significant part of their value is derived from an industry-wide agreement to adopt the patented technology as part of the interoperable standard.²⁰ These standards are often developed as a collective effort by various industry members and adopted only after SEP holders commit to a FRAND license.²¹ Once the industry adopts the standard, non-SEP holders will often operate under the assumption that the SEP is available for license and invest significant resources to incorporate the patented technology into their own products.²² It would therefore be unreasonable to give an SEP holder the right to exclude its competitors from entering the relevant technological area altogether, as typically provided by a patent.

Further, even if an SEP holder honors its commitment to license its SEP patents, it may still exercise an unjustifiable amount of leverage in post-adoption negotiations.²³ An SEP holder could essentially monopolize

18. See generally Jorge L. Contreras & Richard L. Gilbert, *A Unified Framework for RAND and Other Reasonable Royalties*, 30 BERKELEY TECH. L.J. 1451 (2015).

19. See U.S. DEP'T OF JUSTICE & U.S. PATENT & TRADEMARK OFFICE, POLICY STATEMENT ON REMEDIES FOR STANDARD-ESSENTIAL PATENTS SUBJECT TO VOLUNTARY F/RAND COMMITMENTS 1 (2013) [hereinafter USDOJ & USPTO].

20. See Contreras, *Survey*, *supra* note 4, at 9 (citing a 2008 study "suggesting that the fact that a technology becomes standardized itself increases the value of the underlying patents").

21. See Jorge L. Contreras, *A Brief History of FRAND: Analyzing Current Debates in Standard Setting and Antitrust Through a Historical Lens*, 80 ANTITRUST L.J. 39, 42 (2015).

22. See *id.*

23. See, e.g., Joseph Farrell, John Hayes, Carl Shapiro & Theresa Sullivan, *Standard Setting, Patents, and Hold-Up*, 74 ANTITRUST L.J. 603, 648 (2007) (discussing the issue

an entire area of technological development by demanding unreasonably high royalties. In such a scenario, a non-SEP holder will be faced with the choice of either accepting excessive licensing fees or withdrawing from the technological area altogether, perhaps after spending millions of dollars developing products that implement the agreed-upon SEP feature.²⁴ Many SSOs have therefore adopted FRAND policies to prevent SEP holders from exercising this type of unjustified post-adoption leverage.²⁵

2. *The Rambus Cases*

The *Rambus* cases offer a good example of how an SEP holder, in the absence of a FRAND commitment, can take advantage of industry implementation and exercise its post-adoption leverage. Rambus was initially committed to join the Joint Electron Device Engineering Council (JEDEC), an SSO developing dynamic random access memory (DRAM) standards.²⁶ Before JEDEC approved one of its standards covered by Rambus's SEPs, however, Rambus withdrew from JEDEC and thus evaded its obligation to commit to the SSO's patent policy.²⁷ Rambus offered to license its SEPs to several memory chip manufacturers, but while some agreed to its royalty demands, others did not and instead elected to sue.²⁸ Although Rambus's failure to disclose its pending patent

of ex-post market power, where "the patent can command high royalties based on hold-up even though the technology is not inherently superior"); Richard J. Gilbert, *Deal or No Deal? Licensing Negotiations in Standard-Setting Organizations*, 77 ANTITRUST L.J. 855, 855 (2011) (discussing patent owners' ex-post market power in negotiations following standard adoption).

24. See Daniel G. Swanson & William J. Baumol, *Reasonable and Nondiscriminatory (RAND) Royalties, Standards Selection, and Control of Market Power*, 73 ANTITRUST L.J. 1, 18–21 (2005); Colleen V. Chien, *Holding Up and Holding Out*, 21 MICH. TELECOMM. & TECH. L.J. 1, 14–15 (2014).

25. NAT'L RESEARCH COUNCIL, PATENT CHALLENGES FOR STANDARD-SETTING IN THE GLOBAL ECONOMY 4 (Keith Maskus & Stephen A. Merrill eds., 2013) (noting that most SSOs set their patent policies "to ensure that all essential patent claims are reasonably known to the participants and are available for licensing under a FRAND or a similar framework minimizing the potential for *ex post* hold-up and royalty stacking").

26. *Rambus Inc. v. FTC*, 522 F.3d 456, 460 (D.C. Cir. 2008); see also Michael A. Carrier, *The Rambus Certiorari Petition: Causation, Competition, and Standard-Setting Organizations*, PATENTLYO (Jan. 15, 2009), <http://patentlyo.com/patent/2009/01/the-rambus-cert.html> [https://perma.cc/8KY2-B32N]; Esther H. Lim & Lei Mei, *Standards and Patents: Lessons from the Rambus Cases*, FINNEGAN: MANAGING INTELLECTUAL PROPERTY, CHINESE EDITION (June 13, 2008), <http://www.finnegan.com/resources/articles/articlesdetail.aspx?news=d8d0a1b3-dbc7-440d-af05-0378b4ce81fa> [https://perma.cc/BA8Q-2ZVM].

27. *Rambus v. FTC*, 522 F.3d at 460.

28. *Id.* at 460–61.

applications led to fraud and antitrust claims, the Federal Circuit reversed a district court's finding that Rambus had committed fraud²⁹ and the D.C. Circuit reversed the FTC's holding that Rambus had violated antitrust laws.³⁰

The *Rambus* cases illustrate the importance of establishing clear and predictable guidelines for FRAND licensing, and potential repercussions in the absence thereof. JEDEC's failure to adopt a FRAND policy that required Rambus to (1) commit to license its SEPs under FRAND terms and (2) disclose all of its patents and applications related to DRAM technology allowed Rambus to bring suit against implementers of its SEP technology and use its SEPs as significant leverage in subsequent settlements. Samsung, for example, settled with Rambus in a deal worth up to \$900 million.³¹ Micron Technology entered into a licensing agreement to pay Rambus a total of \$280 million.³² All of this litigation was also costly for Rambus, which has subsequently lost several antitrust suits and spent an estimated \$300 million in legal fees since its formation in 1990.³³

B. PRACTICAL IMPLICATIONS

FRAND licensing also has practical implications for businesses that develop SEP-encumbered products. This Section introduces these implications, specifically the issues of "hold-up," "hold-out," and "royalty pricing." Part III then explains how courts have addressed these issues.

29. *Rambus Inc. v. Infineon Techs. AG*, 318 F.3d 1081, 1102–05 (Fed. Cir. 2003) (reversing the district court's finding of fraud because: (1) JEDEC's patent policy had "a staggering lack of defining details;" (2) substantial evidence did not support that Rambus breached its duty under JEDEC's policy; and (3) "Rambus withdrew from JEDEC before formal consideration of the DDR-SDRAM standard").

30. *Rambus v. FTC*, 522 F.3d at 466 (reversing the FTC's decision because the FTC had failed to establish that JEDEC would not have "standardized Rambus's technologies even if Rambus had disclosed its intellectual property") (emphasis in original).

31. Don Clark & Jung-Ah Lee, *Samsung Agrees to Pay Rambus \$900 Million in Chip Settlement*, WALL ST. J. (Jan. 18, 2010) (noting that Samsung paid Rambus \$200 million upfront, followed by \$25 million quarterly payments for five years, with an agreement to buy \$200 million worth of newly issued Rambus stock), <http://www.wsj.com/articles/SB10001424052748703837004575013554246385886> [<https://perma.cc/6ZLS-YCGG>].

32. Don Clark, *Micron, Rambus End Long-Running Legal Battles*, WALL ST. J. (Dec. 10, 2013), <http://www.wsj.com/articles/SB10001424052702304744304579249030450777094> [<https://perma.cc/V9KL-H8VR>]; Jim Handy, *Rambus vs. Micron: Who Really Won?*, FORBES (Dec. 13, 2013), <http://www.forbes.com/sites/jimhandy/2013/12/13/rambus-vs-micron-who-really-won/> [<https://perma.cc/MC7K-Z6HZ>].

33. See, e.g., Dan Levine & Noel Randewich, *Rambus Loses Antitrust Lawsuit, Shares Plunge*, REUTERS (Nov. 16, 2011), <http://www.reuters.com/article/2011/11/17/us-rambus-micron-verdict-idUSTRE7AF1XL20111117> [<https://perma.cc/NRR5-PMM3>].

1. *Hold-Up*

SSOs often require their members to offer to license and disclose their patents under FRAND terms to prevent an SEP holder from “holding up” the patented technology in ex-post licensing negotiations.³⁴ In post-*Rambus* cases, courts have almost universally enforced a FRAND commitment between an SSO and an SEP owner as a legally binding agreement.³⁵ This trend implies that SEP owners who enter into a FRAND commitment cannot exercise the level of control over their SEPs that a patent holder may normally expect.³⁶

However, in the absence of clear guidelines on what is a “fair and reasonable” license, individual SEP owners may still retain substantial leverage to negotiate excessive royalty rates once the standard incorporating the SEP is widely adopted.³⁷ SEP implementers may then face the difficult choice of either agreeing to the SEP holder’s unreasonable requests or leaving a particular technological area altogether. SEP owners can thereby create an effective “hold-up,” impeding technological and business development because it is too expensive for others to secure the licenses necessary to operate in that technological space.³⁸

2. *Hold-Out*

FRAND licenses should sufficiently curtail an SEP holder’s right to exclude and limit its post-adoption negotiation leverage, but they should also protect the SEP owner from patent infringers who are unwilling to

34. See NAT’L RESEARCH COUNCIL, *supra* note 25, at 4; see also Thomas F. Cotter, *The Comparative Law and Economics of Standard-Essential Patents and FRAND Royalties*, 22 TEX. INTELL. PROP. L.J. 311, 311–12 (2014).

35. See, e.g., *Ericsson, Inc. v. D-Link Sys., Inc.*, 773 F.3d 1201, 1231 (Fed. Cir. 2014); *Microsoft Corp. v. Motorola, Inc.*, 795 F.3d 1024, 1033 (9th Cir. 2015) (citing *Microsoft Corp. v. Motorola, Inc.*, No. 11 C 9308, 2013 WL 2111217, at *2 (W.D. Wash. Oct. 3, 2013)).

36. *But see* Contreras & Gilbert, *supra* note 18, at 1451 (suggesting that “reasonable royalty analysis should be conducted in essentially the same manner for all patents, whether or not they are encumbered by RAND commitments”).

37. See Mark A. Lemley & Carl Shapiro, *Patent Holdup and Royalty Stacking*, 85 TEX. L. REV. 1991, 2010 (2007) (noting that “[t]he leverage comes from the ability of a patent owner to capture value that has nothing to do with its invention. It results from the inability of the accused infringer to separate the infringing component from the noninfringing ones after the fact.”).

38. *Id.* at 1993 (“[T]he threat of an injunction can enable a patent holder to negotiate royalties far in excess of the patent holder’s true economic contribution. Such royalty overcharges act as a tax on new products incorporating the patented technology, thereby impeding rather than promoting innovation.”).

negotiate a FRAND license.³⁹ If an SEP holder is presumptively denied injunctive relief due to its FRAND commitment, it lacks a remedy sufficient to enforce its rights because damage awards are often capped at the FRAND royalty determined at the time of infringement.⁴⁰ Opportunistic implementers may therefore decide to “hold-out” from licensing negotiations, knowing that the maximum penalty is merely what it should have paid for the license in the first place.⁴¹ Regulatory authorities have recognized the problems created by these “hold-out” or “reverse hold-up” situations,⁴² and courts have generally upheld an SEP holder’s ability to seek injunctive relief.⁴³

3. Royalty Pricing

Courts have generally provided that a FRAND rate should be based on the incremental value of the patented feature, but uncertainty remains in how to properly apportion an SEP’s value in relation to the value of the entire SEP-enabled technology.⁴⁴

Further, a particular technology may implicate hundreds of patents, which may lead to “royalty stacking” issues.⁴⁵ For example, a 2011 study conducted by patent aggregator RPX estimated that there are more than

39. See Chien, *supra* note 24, at 21–24.

40. *Id.*; see also Contreras, *Survey, supra* note 4, at 13.

41. Chien, *supra* note 24, at 21–24; see also Contreras, *Survey, supra* note 4, at 13.

42. See, e.g., USDOJ & USPTO, *supra* note 19, at 4; FTC, THE EVOLVING IP MARKETPLACE 229 (2011) (recognizing that “[t]he availability of an injunction is important to such patentees, who rely on the threat to deter infringement, encourage ex ante licensing, and prevent infringer hold-out”).

43. See, e.g., *Apple Inc. v. Motorola, Inc.*, 757 F.3d 1286, 1331–32 (Fed. Cir. 2014) (holding that the district court erred in applying a per se rule to deny injunctions for SEPs and, instead, providing that the *eBay* framework is appropriate for FRAND committed patents); *Microsoft Corp. v. Motorola, Inc.*, 795 F.3d 1024, 1045 (9th Cir. 2015) (reaffirming the district court’s jury instructions that “seeking injunctive relief was not a per se violation of the RAND commitment”).

44. See *Ericsson, Inc. v. D-Link Sys., Inc.*, 773 F.3d 1201, 1226 (Fed. Cir. 2014) (providing various methods for apportioning the value of patented and unpatented features in a product: (1) “by careful selection of a royalty base to reflect the value added by the patent feature,” (2) “by adjustment of the royalty rate so as to discount the value of a product’s non-patented features,” and (3) “by a combination thereof”); see also Lemley & Shapiro, *A Simple Approach, supra* note 12, at 1149 (noting that “the hypothetical negotiation needs to reflect and account for reasonable royalties for standard-essential patents held by others” that read on the same product).

45. See *In re Innovatio IP Ventures, LLC*, No. 11 C 9308, 2013 WL 5593609, at *10 (N.D. Ill. Oct. 3, 2013); *Ericsson v. D-Link Sys.*, 773 F.3d at 1209.

250,000 patents relating to the average smartphone.⁴⁶ So even if a royalty rate for a single SEP may appear reasonable on its own, licensees may end up paying for hundreds if not thousands of licenses to operate the standard. Further, SEP holders may shift this royalty burden to consumers, which may drive up the end product price to an untenable level.⁴⁷ The issue of royalty stacking has led to a debate on how to calculate the royalty base to properly address the contributions of individual patents to a particular end product.⁴⁸

This debate is informed by two competing considerations.⁴⁹ On one hand is the issue of “over taxation:” a large royalty fee based on the price of the end product may over-burden the licensee and, ultimately, the end consumer. On the other hand is the issue of “under reward:” a small royalty fee based on the SSPPU may not properly reflect the technological contribution of an SEP and thereby under reward the SEP holder for its contribution to the value of the end product. As such, FRAND licensing requirements have created new considerations that directly affect high-level business decision-making in technology development.

III. INTERNATIONAL TRENDS IN FRAND LICENSING

Courts and regulatory authorities in countries that have substantial high technology industries have all had to address legal issues relating to FRAND licenses because of the global market for interoperable technologies. This Part first summarizes the landmark cases that highlight how these jurisdictions have dealt with (1) hold-up and hold-out and (2) royalty pricing issues. It then explains secondary considerations impacting international approaches to FRAND, such as economic protectionism and SSO policies, and how these concerns may affect present and future FRAND regulation.

46. RPX CORPORATION, FORM S-1 REGISTRATION STATEMENT 59, http://www.sec.gov/Archives/edgar/data/1509432/000119312511240287/ds1.htm#toc226103_11 [<https://perma.cc/24SS-TRAH>].

47. See Lemley & Shapiro, *Patent Holdup*, *supra* note 37, at 2013–15 (noting that “higher running royalties will raise the downstream firm’s marginal cost, which will raise its cost and thus reduce its level of output”).

48. See, e.g., J. Gregory Sidak, *supra* note 14; *CSIRO*, *supra* note 14; *Ericsson v. D-Link Sys.*, 773 F.3d at 1226.

49. See FTC, *THE EVOLVING IP MARKETPLACE*, *supra* note 42, at 144–48 (discussing the “detrimental effects on innovation and competition” from “[p]atent damages that either under or overcompensate patentees for infringement”).

A. INTERNATIONAL APPROACHES TO HOLD-UP AND HOLD-OUT ISSUES

Most jurisdictions are converging in how they strike the delicate balance between incentivizing potential SEP owners to innovate and preventing SEP holders from gaining excessive leverage in post-adoption negotiations. First, courts have generally upheld the validity of FRAND commitments as legal agreements, and some even impose monetary damages or sanctions against SEP holders who refuse to license under FRAND terms to willing implementers. Second, most courts have maintained the availability of injunctive relief as a limited remedy, specifically against unwilling licensees from holding out on obtaining licenses under FRAND terms.

1. *United States*

In the United States, courts have prevented hold-up by treating an SEP holder's commitment to an SSO to license its SEPs under FRAND terms as a legally binding contract.⁵⁰ Further, courts have held that a FRAND commitment follows an SEP and is not severable even upon a transfer of ownership.⁵¹

Since a FRAND commitment is a legally enforceable contract, an SEP holder's violation of its FRAND obligation is a breach of contract that may result in damages for the SEP implementer. *Microsoft Corp. v. Motorola, Inc.* ("*Microsoft*"), discussed below, is an example of this approach, where an SEP owner's violation of its FRAND obligation was treated as a breach of contract.⁵²

50. *See, e.g., Apple Inc. v. Motorola, Inc.*, 869 F. Supp. 2d 901, 911–12 (N.D. Ill. 2012) (“[T]he patentee (Motorola) has committed to licensing to anyone on [FRAND] . . . terms, as required by the standards-setting organizations as a condition of the patented technology’s being deemed essential to compliance with the standard.”); *Ericsson, Inc. v. D-Link Systems, Inc.*, No. 6:10-CV-473, 2013 WL 4046225, at *23 (E.D. Tex. Aug. 6, 2013), *aff’d in part, vacated in part, rev’d in part*, *Ericsson, Inc. v. D-Link Systems, Inc.*, 773 F.3d 1201 (Fed. Cir. 2014) (“As an IEEE member, Ericsson has an obligation to license its standard-essential patents on reasonable and non-discriminatory terms.”).

51. *See, e.g., In re Innovatio IP Ventures, LLC Patent Litigation*, No. 11 C 9308, 2013 WL 5593609, at *4 (N.D. Ill. Oct. 3, 2013) (holding that the IEEE’s FRAND “commitments are now binding on Innovatio, and that they can be enforced by the Defendants” because the undisputed “letters of Innovatio’s predecessors in interest to the IEEE constitute binding contractual commitments to the IEEE and its members”).

52. *Microsoft Corp. v. Motorola, Inc.*, 795 F.3d 1024 (9th Cir. 2015).

a) *Microsoft v. Motorola*

In October 2010, Microsoft brought suit against Motorola for breach of contract after Motorola refused to offer Microsoft licenses to its smartphone patents in accordance with its RAND obligations to the IEEE and the International Telecommunication Union (“ITU”).⁵³ Microsoft later amended its complaint, bringing a separate breach of contract claim against Motorola for filing a patent infringement suit seeking an injunction against Microsoft in Germany.⁵⁴ The district court held that Motorola’s RAND commitment created binding contracts enforceable by Microsoft, as a third-party beneficiary of the contract.⁵⁵ At trial, the jury found Motorola liable for breach of contract, awarding \$14.52 million to Microsoft.⁵⁶

On appeal, the Ninth Circuit upheld the jury’s award of damages under the substantial evidence standard of review because Motorola’s actions showed that it violated its duty of good faith and fair dealing.⁵⁷ In September 2015, the Ninth Circuit refused an en banc hearing to reconsider its decision, rendering its decision final.⁵⁸

The Ninth Circuit’s *Microsoft* decision has two significant implications, both of which work to reduce an SEP’s owner’s ability to engage in hold-up: (1) an SEP holder’s FRAND obligations are enforceable by affected third parties as a binding contract; and (2) an implementer-defendant may file a breach of contract counterclaim against an SEP holder who holds up its SEPs and be awarded substantial damages. An SEP owner may therefore be deterred from aggressively asserting its FRAND-committed patents by seeking either excessive royalties or injunctive relief. The Ninth Circuit, however, was careful to note that the jury in *Microsoft* was “instructed that seeking injunctive relief

53. *Microsoft Corp. v. Motorola, Inc.*, 854 F. Supp. 2d 993, 999–1001 (W.D. Wash. 2012).

54. *Microsoft Corp. v. Motorola, Inc.*, 795 F.3d at 1033.

55. *Microsoft Corp. v. Motorola, Inc.*, 854 F. Supp. 2d at 999 (“[T]hrough Motorola’s letters to both the IEEE and ITU, Motorola has entered into binding contractual commitments to license its essential patents on RAND terms . . . Microsoft, as a member of both the IEEE and the ITU, is a third-party beneficiary of Motorola’s commitments to the IEEE and ITU.”).

56. *Microsoft Corp. v. Motorola, Inc.*, No. C10-1823JLR, 2013 WL 6000017, at *2 (W.D. Wash. Nov. 12, 2013), *aff’d*, 795 F.3d 1024 (9th Cir. 2015).

57. *Microsoft Corp. v. Motorola, Inc.*, 795 F.3d at 1045–47.

58. Matthew Bultman, *Full 9th Circ. Won’t Review \$14M Microsoft FRAND Ruling*, LAW360 (Sept. 15, 2015), <http://www.law360.com/articles/703017/full-9th-circ-won-t-review-14m-microsoft-frand-ruling> [<https://perma.cc/P247-XUKR>].

was not a per se violation of the RAND commitment”⁵⁹ The court’s refusal to provide a default rule barring FRAND-committed SEP holders from seeking injunctive relief against patent infringers supports a policy to discourage opportunistic implementers from holding out of obtaining FRAND licenses.

b) *Apple v. Motorola*

Indeed, the Federal Circuit in *Apple Inc. v. Motorola, Inc.* (“*Apple*”) rejected a similar per se rule, instead finding that, even in the FRAND context, the availability of injunctive relief should be determined using the four-factor test provided by the Supreme Court in *eBay v. MercExchange*.⁶⁰ The Federal Circuit’s *Apple* decision is significant because it meaningfully deters uncooperative licensees from opportunistically holding out on obtaining FRAND licenses from SEP holders.

Further, the *Microsoft* and *Apple* decisions illustrate how U.S. courts handle the challenges of balancing SEP holders’ and implementers’ rights in addressing the hold-up and hold-out issues. On one hand, once a patent holder commits its SEP to FRAND licensing, it is prohibited from holding up the patented technology, risking liability for breach of contract claims if it demands unreasonable licensing fees or seeks injunctive relief.⁶¹ On the other hand, these decisions deter implementers from holding out from licensing negotiations because injunctions may still be available under the *eBay* test.⁶²

2. *Europe*

FRAND issues in Europe are largely governed by anti-competition law, unlike in the United States, where they are governed by contract law.⁶³ Although injunctions are commonly granted upon a finding of

59. *Microsoft Corp. v. Motorola, Inc.*, 795 F.3d at 1045.

60. *Apple Inc. v. Motorola, Inc.*, 757 F.3d 1286, 1331 (Fed. Cir. 2014) (“To the extent that the district court applied a *per se* rule that injunctions are unavailable for SEPs, it erred.”); *see also* *eBay, Inc. v. MercExchange, L.L.C.*, 547 U.S. 388, 389 (2006) (“The test [for a permanent injunction] requires a plaintiff to demonstrate: (1) that it has suffered an irreparable injury; (2) that remedies available at law are inadequate to compensate for that injury; (3) that considering the balance of hardships between the plaintiff and defendant, a remedy in equity is warranted; and (4) that the public interest would not be disserved by a permanent injunction.”).

61. *See, e.g.*, *Microsoft Corp. v. Motorola, Inc.*, No. C10-1823JLR, 2013 WL 6000017, at *2 (W.D. Wash. Nov. 12, 2013), *aff’d*, 795 F.3d 1024 (9th Cir. 2015).

62. *See* *Apple Inc. v. Motorola, Inc.*, 757 F.3d at 1331.

63. *See, e.g.*, Bénédicte Moulin & Arun Roy, *Standard Essential Patents, FRAND Commitments and Anti-competition Rules—Lessons from the Front Line in the Smartphones*

patent infringement in certain European countries, such as Germany,⁶⁴ European courts and the European Commission (EC) have asserted that an SEP holder may be abusing its dominant market position by seeking an injunction under certain conditions. Injunctive relief for SEP infringement is therefore only available in Europe in limited circumstances. However, SEP holders are free to contract with potential licensees upon mutual agreement, or bring an infringement suit to let the courts decide what constitutes a FRAND royalty rate. This Section begins by discussing the German *Orange-Book-Standard* case, followed by the EC's *Motorola* and *Apple* decisions, and then the Court of Justice of the European Union's (CJEU's) recent *Huawei* ruling. It also discusses how the holdings have shifted SEP holders' and SEP implementers' respective burdens in FRAND-related infringement actions.

a) The German *Orange-Book-Standard* Decision

Germany's Federal Court of Justice's (FCJ's) *Orange-Book-Standard* decision laid the groundwork for subsequent FRAND-related cases in Europe,⁶⁵ but was later partially overruled by the recent *Huawei* ruling.⁶⁶ In *Orange-Book-Standard*, Philips sued multiple recordable compact disc (CD-R) manufacturers for allegedly infringing its SEPs.⁶⁷ Philips sought an injunction—commonly granted by the German courts upon a finding of infringement—in addition to monetary damages.⁶⁸ One defendant

War, D. YOUNG & CO. (June 4, 2014), <http://www.dyoung.com/article-anticompetition-0614> [<https://perma.cc/MP6U-5C8R>].

64. MASSIMO STERPI & THIERRY CALAME, PATENT LITIGATION: JURISDICTION COMPARISONS 147 (2d. ed. 2011).

65. Bundesgerichtshof [BGH] [Federal Court of Justice] May 6, 2009 (Docket No. KZR 39/06) (hereinafter FCJ *Orange-Book* Decision), translated in IPEG BLOG, <http://www.ipeg.com/blog/wp-content/uploads/EN-Translation-BGH-Orange-Book-Standard-eng.pdf> [<https://perma.cc/LW9B-28KM>]; see also Kelley Dryer, *A RANDOM Glimpse Abroad: German Patent Courts and the "Orange Book" Defense*, ESSENTIAL PATENT BLOG (Jan. 28, 2013), <http://www.essentialpatentblog.com/2013/01/a-random-glimpse-abroad-german-patent-courts-and-the-orange-book-defense> [<https://perma.cc/V986-KTRR>].

66. See Axel Gutermuth, *EU High Court Sets Important SEP Precedent*, LAW360 (July 31, 2015) (noting that following the *Huawei* decision, "the approach set out by Germany's highest civil court . . . in the 2009 Orange Book judgment, which allows greater scope for the SEP holder to seek an injunction, can no longer be applied in FRAND cases"), <http://www.law360.com/articles/685548/eu-high-court-sets-important-sep-precedent> [<https://perma.cc/Y2FM-X4YJ>].

67. See FCJ *Orange-Book* Decision, *supra* note 65. The CD-R format specifications were provided in the Orange Book, hence the namesake for the case.

68. See Dryer, *supra* note 65.

argued that Philips had abused its dominant market position by seeking an injunction based on its SEPs.⁶⁹

In its decision, the FCJ found that if a company with a dominant market position (1) conducts discriminatory licensing practices or (2) inequitably refuses a license offer, the very act of seeking an injunction based on its SEP may constitute an abuse of its dominant market power.⁷⁰ However, a defendant seeking to invoke this defense must establish that (1) it made an unconditional offer for a FRAND license and (2) it actually paid reasonable royalties to the plaintiff, or to an escrow account, to establish consideration for the unconditional offer.⁷¹

The FCJ affirmed a lower court's decision that Philips did not abuse its dominant market position in seeking an injunction because the defendants who sought to invoke the abuse of dominant market position defense had not paid the royalties owed to Philips.⁷² The decision was initially viewed as a victory for potential defendants, but some have questioned the practicality of the defense because of its difficult requirements.⁷³

b) The European Commission's *Motorola* and *Apple* Decisions

In April 2014, the European Commission (EC) issued two important decisions.⁷⁴ One, *Motorola v. Apple* ("*Motorola*"), made it easier for an SEP implementer to raise an anti-competition defense against injunction actions.⁷⁵ In its accompanying press release, the EC further asserted that

69. See FCJ Orange-Book Decision, *supra* note 65, at 11.

70. *Id.* at 12.

71. *Id.* at 13–14.

72. *Id.* at 19.

73. See Dietrich Kamlah & Verena Bertram, *FRAND Defence Put on Trial Before European Court of Justice*, TAYLORWESSING (Oct. 2013), http://united-kingdom.taylorwessing.com/download/article_frand_defense.html [<https://perma.cc/KX2V-T25F>] (“[The *Orange-Book-Standard*] decision was initially seen as a breakthrough for defendants. However, since then hardly any FRAND defences raised in later cases have actually succeeded, due to the extraordinarily high practical requirements defined by the FCJ.”).

74. Commission Decision No. AT.39985, 2014 O.J. (C 344/06) [hereinafter EC *Motorola* Decision]; Commission Decision No. AT.39939, 2014 O.J. (C 350/08) [hereinafter EC *Samsung* Decision].

75. EC *Motorola* Decision, *supra* note 74, at 2 (“*Motorola's* [seeking and enforcing an injunction against Apple] constitutes an abuse as of Apple's second licensing offer as its conduct was capable of having . . . [anti-competitive effects]” by (1) temporarily banning online sales of Apple's SEP-encompassing products in Germany, (2) including licensing terms that are disadvantageous to Apple in a settlement agreement, and (3) negatively impacting standard-setting); see also European Commission Press Release IP/14/189, Antitrust: Commission Finds that *Motorola* Mobility Infringed EU Competition Rules by Misusing Standard Essential Patents (Apr. 29, 2014),

SEP implementers may challenge the validity of the asserted SEPs and ascertain non-infringement of SEPs.⁷⁶ The other, *Samsung v. Apple* (“*Samsung*”), enforced an SEP holder’s FRAND commitment⁷⁷ and provided a “safe harbor” to protect willing licensees from injunctions.⁷⁸

In a follow-up FAQ memo, the EC addressed the apparent conflict between its two decisions and the *Orange-Book-Standard* decision, stating that the FCJ’s ruling “did not specifically relate to SEPs and is therefore not directly applicable to the cases on which the Commission decided.”⁷⁹ Nonetheless, these EC decisions removed the implementers’ obligation to raise an affirmative defense in response to an injunctive action, shifting the burden to the SEP holder to fulfill its commitment to license its patents under FRAND terms.⁸⁰ Further, the rulings work in favor of the SEP implementer and help to prevent hold-up situations by allowing the implementer to raise invalidity challenges and non-infringement defenses,⁸¹ as well as providing a “safe harbor” for willing licensees.⁸²

http://europa.eu/rapid/press-release_IP-14-489_en.htm [<https://perma.cc/4NBL-ERHX>] [hereinafter EC Motorola Press Release] (“[Motorola’s] seeking and enforcement of an injunction against Apple constitute[d] an abuse of its dominant position prohibited by EU antitrust rules,” because “it had committed to license on FRAND terms and where Apple had agreed to take a licence and be bound by a determination of the FRAND royalties by the relevant German court.”).

76. EC Motorola Press Release, *supra* note 75 (noting that it is anticompetitive for Motorola to “insist[], under the threat of the enforcement of an injunction, that Apple give up its rights to challenge the validity or infringement by Apple’s mobile devices of Motorola SEPs”).

77. EC Samsung Decision, *supra* note 74, at 2.

78. EC Samsung Decision, *supra* note 74, at 3 (noting that Samsung’s “commitments therefore provide for a ‘safe-harbour’ available to all potential licensees of Samsung’s Mobile SEPs that submit to the Licensing Framework provided for by the commitments”); *see also* European Commission Press Release IP/14/490, Antitrust: Commission Accepts Legally Binding Commitments by Samsung Electronics on Standard Essential Patent Injunctions (Apr. 29, 2014), http://europa.eu/rapid/press-release_IP-14-490_en.htm [<https://perma.cc/GD63-M8N7>].

79. European Commission Press Release MEMO/14/322, Antitrust Decisions on Standard Essential Patents (SEPs)—Motorola Mobility and Samsung Electronics—Frequently Asked Questions 3 [hereinafter FAQ Memo] (Apr. 29, 2014), http://europa.eu/rapid/press-release_MEMO-14-322_en.pdf [<https://perma.cc/9CCE-DLRQ>].

80. *Id.* at 2 (clarifying that “in the specific circumstances where the holder of a SEP has given a commitment to license on FRAND terms and where the company against which an injunction is sought is willing to enter into a FRAND licence agreement, the seeking of an injunction on the basis of SEPs can constitute an abuse of a dominant position”).

81. *Id.* at 3 (confirming that “[p]otential licensees of SEPs should remain free to challenge the validity, essentiality or infringement of SEPs”).

c) *Huawei v. ZTE*

In its *Huawei* decision, the CJEU offered a middle ground between the pro-patentee *Orange-Book-Standard* holding and the pro-implementer EC decisions.⁸³ In 2009, Huawei agreed to grant licenses to third parties for its SEP related to the ETSI's "Long Term Evolution" (LTE) standard and entered licensing negotiations with ZTE, but the parties were unable to reach an agreement.⁸⁴ Huawei then brought suit against ZTE for infringing its SEPs, seeking injunctive relief, a rendering of accounts, product recalls, and monetary damages.⁸⁵

In its decision, the CJEU laid out the specific circumstances in which an SEP holder may bring an infringement action seeking injunctive relief without abusing its dominant position.⁸⁶ First, the SEP holder must give notice to the alleged infringer prior to initiating a legal action.⁸⁷ Second, the SEP holder must present a specific, written offer for a license on FRAND terms, specifying the royalty and its calculation methods, after the alleged infringer has expressed its willingness to enter into a licensing agreement on FRAND terms.⁸⁸ The SEP holder may then initiate an action to seek injunctive relief if the alleged infringer continues to practice the SEP without diligently responding to the SEP holder's offer.⁸⁹

3. *China*

A Chinese court and relevant regulatory authority recently issued two decisions regarding FRAND licensing practices under China's Anti-Monopoly Law (AML) and contract law doctrines.⁹⁰ Both decisions found

82. *Id.* at 2 (stating that "[the] decisions provide a 'safe harbour' for willing licensees who want to avoid the risk of being the subject of an injunction on the basis of SEPs [if the licensees] are willing to have FRAND terms determined by a court or arbitrators (if agreed between the parties) and to be bound by such a determination").

83. Opinion, Case C-170/13, *Huawei Techs. Co. Ltd. v ZTE Corp.*, 2014 E.C.R. 2391, <http://curia.europa.eu/juris/liste.jsf?num=C-170/13> [<https://perma.cc/9TAH-82G2>].

84. *See id.* ¶ 5; *see also EU Regulator Rules on Huawei v ZTE and the Abuse of a Dominant Position in SEP Rights*, OUT-LAW.COM, <http://www.out-law.com/en/articles/2015/july/eu-regulator-rules-on-huawei-v-zte-and-the-abuse-of-a-dominant-position-in-sep-rights> [<https://perma.cc/Z9HV-GWCF>] (last visited Mar. 9, 2016).

85. Case C-170/13, *Huawei Techs. Co. Ltd.*, *supra* note 83, at ¶ 27 (judgment).

86. *Id.* ¶ 71.

87. *Id.*

88. *Id.*

89. *Id.*

90. *See* Michael Han & Kexin Li, *Huawei v. InterDigital: China at the Crossroads of Antitrust and Intellectual Property, Competition and Innovation*, COMPETITION POLICY INTERNATIONAL (Nov. 28, 2013), <https://www.competitionpolicyinternational.com/assets/Uploads/AsiaNovember3.pdf> [<https://perma.cc/3WMT-SJFD>]; Lewis Ho,

that SEP holders abused their dominant market positions by holding up patented technologies and were therefore liable for substantial penalties.⁹¹

a) *Huawei v. InterDigital*

In July 2011, InterDigital sued Huawei in the U.S. International Trade Commission and in U.S. District Court for patent infringement.⁹² In response, Huawei filed two complaints before the Shenzhen Intermediate People's Court, alleging that InterDigital had abused its dominant market position under China's AML and had failed to negotiate a FRAND license for its SEPs related to 3G wireless communication devices.⁹³

The Shenzhen court held in favor of Huawei on both counts.⁹⁴ Specifically, the court found that InterDigital had abused its dominant market position and thus violated China's AML by bundling and seeking discriminatory and unreasonably high royalty rates for its Chinese SEPs and non-SEPs, and by seeking an injunction in the U.S.⁹⁵ The court further ruled that InterDigital failed to comply with its FRAND commitments because it sought an injunction against Huawei, it requested a significantly higher royalty rate from Huawei than those paid by Apple and Samsung for the same SEPs, and it insisted that Huawei cross-license all of its patents globally on a royalty-free basis.⁹⁶ The court ordered InterDigital to pay Huawei CNY 20 million (approximately USD 3.2 million) in damages.⁹⁷ InterDigital appealed both cases, but the Guangdong High Court of China affirmed most of the Shenzhen court's rulings and its damage award.⁹⁸

Qualcomm Transforms SEP-Licensing Landscape in China, LAW360 (Apr. 8, 2015), <http://www.law360.com/articles/638183/qualcomm-transforms-sep-licensing-landscape-in-china> [<https://perma.cc/FR2K-3794>].

91. See Han & Li, *supra* note 90; Ho, *supra* note 90.

92. David Goldstein et al., *Chinese Court Publishes Decisions Finding that InterDigital Violated AML Through Discriminatory Pricing, Sets FRAND Rate for Licensing InterDigital's SEPs Under Chinese Standards*, ORRICK ANTITRUSTWATCH BLOG (June 6, 2014), <http://blogs.orrick.com/antitrust/2014/06/06/chinese-court-publishes-decisions-finding-that-interdigital-violated-aml-through-discriminatory-pricing-sets-frand-rate-for-licensing-interdigitals-seps-under-chinese-standards> [<https://perma.cc/G689-T5DF>].

93. See Han & Li, *supra* note 90, at 2.

94. *Id.* at 2–3.

95. *Id.*

96. *Id.* at 3.

97. *Id.*

98. *Id.*

b) NDRC's Sanctions against Qualcomm

In February 2015, China's National Development and Reform Commission (NDRC) issued an administrative sanction against Qualcomm for violating China's AML by abusing its dominant market position in both its SEP licensing business and its supply of baseband chipsets.⁹⁹ The NDRC therefore imposed a penalty of \$975 million against Qualcomm, corresponding to 8% of its \$12.3 billion revenue in China in 2013.¹⁰⁰ Further, the NDRC ordered Qualcomm to: (1) clearly set out the SEPs to be licensed; (2) cease demanding that licensees cross-license their non-SEPs, or cross-license their SEPs without paying fair licensing fees; and (3) stop basing royalty rates on the full wholesale price of mobile devices.¹⁰¹ Qualcomm subsequently declined to pursue further legal proceedings to contest the NDRC's findings.¹⁰²

Considering together the *Huawei* decision and the NDRC's sanctioning of Qualcomm, SEP holders in China may not hold up patented technology by demanding excessive royalty rates or other unreasonable licensing conditions in exchange for a patent license. However, it is not yet clear whether SEP holders may seek injunctive relief in FRAND-related cases to prevent hold-out situations.¹⁰³

4. India

India is home to the world's second-largest telecommunications market,¹⁰⁴ but its courts and regulatory authorities have only recently started addressing FRAND licensing practices for SEPs.¹⁰⁵

99. See Kat Greene, *Qualcomm Pays \$975M Fine to End China Antitrust Probe*, LAW360 (Feb. 9, 2015), <http://www.law360.com/articles/619642/qualcomm-pays-975m-fine-to-end-china-antitrust-probe> [https://perma.cc/E4QP-WF94]; Ho, *supra* note 90.

100. Ho, *supra* note 90.

101. *Id.*

102. See David Long, *Qualcomm Reaches Agreement with Chinese Government on Standard Essential Patent Investigation*, ESSENTIAL PATENT BLOG (Feb. 10, 2015), <http://www.essentialpatentblog.com/2015/02/qualcomm-reaches-agreement-with-chinese-government-on-standard-essential-patent-investigation> [https://perma.cc/S8BS-G7RX].

103. Although the Guangdong Higher People's Court in *Huawei* held that "by seeking injunctive relief in the US against Huawei, a willing licensee, with respect to its F/RAND-encumbered SEPs InterDigital violated its F/RAND commitments and that this conduct thereby constituted an abuse," the court did not comment more generally on the availability of injunctions against uncooperative licensees. See Han & Li, *supra* note 90.

104. *Indian Telecommunication Industry Analysis*, INDIA BRAND EQUITY FOUNDATION (Oct. 2014), <http://www.ibef.org/industry/indian-telecommunications-industry-analysis-presentation> [https://perma.cc/Y6QF-V3HJ].

In 2013, Micromax and Intex brought separate antitrust complaints at the Competition Commission of India (CCI) against Ericsson for its licensing practices relating to 2G and 3G mobile communication technologies.¹⁰⁶ In both cases, the CCI held that Ericsson abused its dominant market position by demanding “excessive” and “discriminatory” royalty rates.¹⁰⁷ Similar to the U.S. courts, the CCI explicitly stated that “FRAND licences are primarily intended to prevent Patent Hold-Up and Royalty Stacking,” and noted that patent hold-up “can subvert the competitive process of choosing among technologies and undermine the integrity of standard-setting activities.”¹⁰⁸ Therefore, under India’s antitrust laws, SEP holders may not hold up patented technologies by demanding excessive and discriminatory royalty rates.

At the same time, Ericsson filed two patent infringement suits against Micromax and Intex in the Delhi High Court, seeking damages and a permanent injunction in both cases.¹⁰⁹ In the *Micromax* case, the court permitted Ericsson officials to inspect Micromax’s imported devices for infringement with the aid of customs officials.¹¹⁰ In the *Intex* case, the court issued an interim injunction against Intex that enjoined it from manufacturing, selling, or importing products that may infringe Ericsson’s SEPs during the pendency of the suit.¹¹¹ The court’s orders in *Micromax*

105. See J. Gregory Sidak, *FRAND in India: The Delhi High Court’s Emerging Jurisprudence on Royalties for Standard-Essential Patents*, 10 J. INTEL. PROP. L. & PRAC. 609, 609 (2015).

106. *Micromax Informatics Ltd. v. Telefonaktiebolaget LM Ericsson*, Case No. 50/2013, Competition Comm’n of India (Nov. 12, 2013), http://cci.gov.in/sites/default/files/502013_0.pdf [<https://perma.cc/6V4D-KDV4>] [hereinafter CCI *Micromax*]; *Intex Techs. (India) Ltd. V. Telefonaktiebolaget LM Ericsson*, Case No. 76/2013, Competition Comm’n of India (Jan. 16, 2014), http://cci.gov.in/sites/default/files/762013_0.pdf [<https://perma.cc/H2J9-RERW>] [hereinafter CCI *Intex*].

107. CCI *Micromax*, *supra* note 106, at 7–8; CCI *Intex*, *supra* note 106, at 7; see also Sidak, *supra* note 105, at 610–11.

108. CCI *Micromax*, *supra* note 106, at 6; see also Sidak, *supra* note 105, at 610.

109. *Telefonaktiebolaget LM Ericsson v. Mercury Elecs. & Another*, Interim Application 3825/2013 in Civil Suit (Original Side) No. 442/2013, High Ct. of Delhi (Nov. 12, 2014), <http://lobis.nic.in/dhcdhc/GSS/judgement/17-11-2014/GSS12112014S4422013.pdf> [<https://perma.cc/D3H5-C72L>] [hereinafter HCD *Micromax*]; *Telefonaktiebolaget LM Ericsson v. Intex Techs. (India) Ltd.*, Interim Application 6735/2014 in Civil Suit (Original Side) No. 1045/2014, High Ct. of Delhi (Mar. 13, 2015), <http://lobis.nic.in/dhcdhc/SID/judgement/28-03-2014/SID24032014LPA2552014.pdf> [<https://perma.cc/8A5R-4UBG>] [hereinafter HCD *Intex*].

110. HCD *Micromax*, *supra* note 109, at 4.

111. HCD *Intex*, *supra* note 109, at 256; see also Sidak, *supra* note 105, at 612; Kartik Chawla, *Ericsson v. Intex, Part 1—SEPs, Injunctions, and Gathering Clouds for Software Patenting?*, SPICYIP (Mar. 22, 2015), [http://spicyip.com/2015/03/ericsson-v-intex-part-](http://spicyip.com/2015/03/ericsson-v-intex-part-1)

may indicate that the Indian authorities are willing to grant permanent injunctions upon a finding of patent infringement, effectively deterring implementers from holding out of licensing negotiations.

5. *South Korea*

South Korea's Federal Trade Commission (KFTC) has also recently issued a FRAND decision that has the impact of preventing SEP holders from holding out their patented technologies. In 2015, the KFTC internally determined that Qualcomm abused its dominant position and violated its FRAND commitments by "charg[ing] handset makers royalties based on a percentage of the price of their handsets."¹¹² Qualcomm plans to challenge the KFTC's allegations.¹¹³ Significantly, the KFTC and the EC are now cooperating in their antitrust investigations of Qualcomm and in assessing the appropriate penalties.¹¹⁴

6. *Summary*

Several key lessons emerge from this analysis: (1) SEP holders must fulfill their FRAND commitments by offering licenses to any willing licensee (i.e., no hold-ups); and (2) SEP implementers must also be willing to negotiate in good faith (i.e., no hold-outs). Further, uncooperative implementers may face the risk of an injunction in the U.S. and Europe. As Judge Davis of the Eastern District of Texas noted in *Ericsson v. D-Link*, "[F]RAND licensing also includes an obligation to negotiate in good faith. This obligation is a two-way street."¹¹⁵ Table 1 provides a summary of the key takeaways on hold-out and hold-up issues.

1-seps-and-injunctions-and-a-new-era-of-software-patenting.html [https://perma.cc/FGM4-XUL6].

112. Don Clark, *Qualcomm Says South Korea Recommends Fine for Alleged Antitrust Violations*, WALL ST. J. (Nov. 18, 2015), <http://www.wsj.com/articles/qualcomm-says-south-korea-recommends-fine-for-alleged-antitrust-violations-1447820172> [https://perma.cc/LZX4-GZGM]; see also Cho Mu-Hyun, *Qualcomm Facing Penalty from South Korean Antitrust Regulator*, ZDNET (May 5, 2015), <http://www.zdnet.com/article/qualcomm-facing-penalty-from-south-korean-antitrust-regulator/> [https://perma.cc/8UP4-GF98].

113. See Clark, *supra* note 112.

114. See Cho Mu-Hyun, *South Korea, EU to Cooperate on Qualcomm Investigations*, ZDNET (May 6, 2015), <http://www.zdnet.com/article/south-korea-eu-to-cooperate-on-qualcomm-investigations/> [https://perma.cc/Y289-HFZH].

115. *Ericsson, Inc. v. D-Link Sys., Inc.*, No. 6:10-CV-473, 2013 WL 4046225, at *25 (E.D. Tex. Aug. 6, 2013).

Table 1: International Hold-up and Hold-out Cases

| Country | Governing Law | Damages/ Sanctions Available? | Injunctions Available? |
|---------------|------------------|---|--|
| United States | Contract Law | Yes (<i>Microsoft v. Motorola</i>) | Availability based on <i>eBay</i> test (<i>Apple v. Motorola</i>) |
| Europe | Anti-Competition | Yes (<i>Huawei v. ZTE</i>) | Available under specific conditions (<i>Huawei v. ZTE</i>) |
| China | Anti-Monopoly | Yes (<i>Huawei v. IDC</i> ; Qualcomm Sanction) | Unclear |
| India | Antitrust | Unclear | Interim injunctions available (<i>Ericsson v. Intex</i>) |
| Korea | Antitrust | To be determined (<i>See Qualcomm Sanction</i>) | Unclear |

B. INTERNATIONAL APPROACHES TO FRAND ROYALTY RATE

The FRAND royalty rate for an SEP depends on two factors: (1) the apportionment of the SEP's value; and (2) the royalty base.¹¹⁶ Although it is impossible to precisely measure an SEP's relative contribution to a patented technology, some courts have determined the appropriate apportionment by analyzing the total number of patents covering a particular technology and the relative significance of the SEP in that technology.¹¹⁷ Some dispute remains, however, as to whether a FRAND royalty should be calculated based on the end product incorporating the patented feature or the SSPPU.¹¹⁸

116. See Contreras, *supra* note 18, at 23 (explaining that royalty base, or “the amount to which the royalty rate is applied,” and apportionment are critical variables in calculating the FRAND royalty rate).

117. See, e.g., *In re Innovatio IP Ventures, LLC Patent Lit.*, No. 11 C 9308, 2013 WL 5593609, at *37–43 (N.D. Ill. Oct. 3, 2013).

118. See, e.g., Sidak, *supra* note 14, at 609, 616 (explaining that some courts in India have used SSPPU while others have not and discussing the economic implications of both methods); *CSIRO*, *supra* note 14, at *5; *Ericsson, Inc. v. D-Link Sys., Inc.*, 773 F.3d at 1227. For further explanation of a SSPPU-based royalty calculation, see *VirnetX, Inc. v. Cisco Sys., Inc.*, 767 F.3d 1308, 1327 (Fed. Cir. 2014) (noting that “the smallest salable unit approach was intended to produce a royalty base much more closely tied to the claimed invention than the entire market value of the accused products,” but “the fundamental concern about skewing the damages horizon—of using a base that

This Section provides an overview of how various important jurisdictions for patent owners have addressed the royalty pricing issue, followed by a general discussion containing guidance for practitioners calculating FRAND royalties.

1. *United States*

In the United States, FRAND rates are generally calculated based on the SSPPU, where a royalty based on the value of an end product is appropriate only if the patented feature substantially creates the product's overall value. U.S. courts have long held that patent damages should be calculated by apportioning the value of the patented feature.¹¹⁹ In *LaserDynamics, Inc. v. Quanta Computer, Inc.*, the Federal Circuit applied this standard to multi-component optical disc drives and held that “it is generally required that royalties be based not on the entire product, but instead on the [SSPPU].”¹²⁰ The court further provided that “[t]he entire market value rule is a narrow exception to this general rule” and a damages calculation based on the entire product is warranted only “[i]f it can be shown that the patented feature drives the demand for an entire multi-component product.”¹²¹ Following *LaserDynamics*, many courts have applied the SSPPU as the royalty base in calculating the royalty rate for multi-component technological products.¹²²

a) *In re Innovatio IP Ventures*

In 2013, Innovatio IP Ventures sued numerous commercial users of wireless internet technology for allegedly infringing its patents relating to

misleadingly suggests an inappropriate range—does not disappear simply because the smallest salable unit is used”); *see also* Cornell, *supra* note 16.

119. *See* Garretson v. Clark, 111 U.S. 120, 120–21 (1884) (holding that patent damages should be calculated by “separat[ing] or apportion[ing] the defendant’s profits and the patentee’s damages between the patented feature and the unpatented features,” and “profits and damages are to be calculated on the whole machine [only if] the entire value of the whole machine, as a marketable article, is properly and legally attributable to the patented feature”).

120. *LaserDynamics, Inc. v. Quanta Computer, Inc.*, 694 F.3d 51, 67 (Fed. Cir. 2012) (citing *Cornell Univ. v. Hewlett-Packard Co.*, 609 F. Supp. 2d 279, 283, 287–88 (N.D.N.Y. 2009)) (noting that “calculating a royalty on the entire product carries a considerable risk that the patentee will be improperly compensated for non-infringing components of that product”).

121. *Id.*

122. *See, e.g.*, *Wi-Lan Inc. v. Alcatel-Lucent USA Inc.*, No. 6:13-CV-252, 2013 WL 10404065, at *3–4 (E.D. Tex. June 28, 2013); *GPNE Corp. v. Apple, Inc.*, No. 12-CV-02885-LHK, 2014 WL 1494247, at *11 (N.D. Cal. Apr. 16, 2014).

the IEEE's 802.11 wireless standard.¹²³ The prior owners of Innovatio's patents had contractually agreed with IEEE to "license any patents that were essential to the operation of the 802.11 wireless standard on [RAND] terms," so the district court determined Innovatio's recovery based on a RAND licensing fee.¹²⁴ Citing *LaserDynamics*, the court rejected Innovatio's contention that the royalty fee should be calculated based on the end product and held that royalties must instead be calculated on the SSPPU, which were Wi-Fi chips.¹²⁵ The district court adopted a "top down" approach for calculating royalties using the average profits from the sales of each Wi-Fi chip and accounting for the relative significance of Innovatio's patents among the total number of 802.11 SEPs, arriving at a RAND rate of 9.56 cents per Wi-Fi chip.¹²⁶

b) Ericsson v. D-Link

Similarly, in *Ericsson*, the Federal Circuit reversed and remanded a district court's FRAND assessment based on the price of an end product.¹²⁷ In 2010, Ericsson sued D-Link Systems—and seven other major electronics and computer manufacturers—for infringing Ericsson's SEPs relating to the IEEE's 802.11(n) wireless standard.¹²⁸ The jury found the defendants liable for infringement and awarded Ericsson \$10 million in damages, based on a royalty rate of \$0.15 per end product.¹²⁹

On appeal, the Federal Circuit assessed the appropriate damages and noted that "the ultimate reasonable royalty award must be based on the incremental value that the patented invention adds to the end product."¹³⁰ In finding that the SEP only added value to a sub-component of the end product, the court held that "a more realistic starting point for the royalty calculations" is often "the smallest salable unit and, at times, even less,"

123. *In re Innovatio IP Ventures, LLC Patent Litig.*, No. 11 C 9308, 2013 WL 5593609, at *1 (N.D. Ill. Oct. 3, 2013).

124. *Id.* at *2–3.

125. *Id.* at *13.

126. *Id.* at *37–43.

127. *Ericsson, Inc. v. D-Link Sys., Inc.*, 773 F.3d 1201, 1225 (Fed. Cir. 2014).

128. *Ericsson, Inc. v. D-Link Systems, Inc.*, No. 610-CV-473, 2013 WL 4046225, at *3–8 (E.D. Tex. Aug. 6, 2013); *see also* Jason Rantanen, *Ericsson v D-Link: Standards, Patents, and Damages*, PATENTLY-O, (Dec. 4, 2014), <http://patentlyo.com/patent/2014/12/ericsson-standards-damages.html> [<https://perma.cc/CCE5-PCDL>].

129. *Ericsson, Inc.*, 2013 WL 4046225, at *1–2, *21–23.

130. *Ericsson, Inc.*, 773 F.3d at 1226.

and remanded the case to the district court for a FRAND determination.¹³¹

c) *Microsoft v. Motorola*

In its recent *Microsoft* opinion, however, the Ninth Circuit affirmed a district court's decision to calculate FRAND royalties based on the price of the end product.¹³² The district court addressed royalty stacking concerns by apportioning the SEPs for significantly less than Motorola's initial demand.¹³³

The district court determined the reasonable royalty rate using a modified version of the *Georgia-Pacific* factors.¹³⁴ Specifically, the court noted that parties negotiating proper FRAND terms must, "with respect to stacking concerns[,] . . . consider the overall licensing landscape in existence vis-à-vis the standard and the implementer's products."¹³⁵ In a subsequent bench trial, the court determined that the RAND royalty for Motorola's H.264 portfolio was .555 cents per end-product unit and the rate for Motorola's 802.11 portfolio was 3.71 cents per unit.¹³⁶ On appeal, the Ninth Circuit upheld the district court's RAND determination because the district court "properly applied the hypothetical agreement approach."¹³⁷

The Microsoft decision cuts to the crux of the royalty pricing issue because a FRAND royalty is ultimately the product of both the apportionment and the royalty base. The SSPPU approach may appear to be preferable because it directly addresses royalty stacking concerns. However, even if the royalty rate is calculated based on the end product, so long as the apportionment percentage is sufficiently low, the cumulative

131. *Id.* at 1227 (again noting that if the overall value of the end product is "properly and legally attributable to the patented feature," an appropriately apportioned royalty award "may be calculated by reference to [the entire market value of the multi-component product]").

132. *Microsoft Corp. v. Motorola, Inc.*, 795 F.3d at 1033, 1056–57.

133. *Id.* at 1032–33 (noting that the district court determined the proper RAND rate to be \$0.00555 per end product for Motorola's H.264 portfolio and \$0.0371 per end product for Motorola's 802.11 portfolio, which are both substantially lower than Motorola's initial demand of 2.25% of the price of the end product incorporating the patents).

134. *Microsoft Corp. v. Motorola, Inc.*, No. C10-1823JLR, 2013 WL 2111217 at *3 (W.D. Wash. Apr. 25, 2013) (citing *Georgia-Pacific Corp. v. United States Plywood Corp.*, 318 F. Supp. 1116 (S.D.N.Y. 1970)).

135. *Id.* at 20.

136. *Microsoft Corp. v. Motorola, Inc.*, 795 F.3d at 1033–34.

137. *Id.* at 1042.

licensing fees are unlikely to stack to a level at which it becomes a significant burden for product development.

For example, a cellular handset worth \$500 may contain a \$10 Wi-Fi chip. It makes no economic difference whether the court determines that the FRAND rate for an SEP is 0.001% of the handset or 0.05% of the chip because both are equal to \$0.005.

2. *Europe*

European courts and the EC have not provided specific guidance on what constitutes a “reasonable” royalty rate. They have, however, instituted certain mechanisms with the aim of encouraging potential licensees and licensors to enter into negotiations regarding FRAND licensing terms.

In *Orange-Book-Standard*, for example, the German court’s decision had the effect of incentivizing SEP implementers to initiate negotiations for FRAND licenses, in order to minimize the risk of an injunction and damages arising for parties “who [are] not ready to enter into a license agreement on [FRAND] terms.”¹³⁸

In contrast, the EC’s *Motorola* and *Samsung* decisions provided a “safe harbor” rule to alleviate the implementer’s burden by substituting the royalty payment requirement with a third-party determination agreement.¹³⁹ That said, implementers nonetheless must be willing to enter FRAND negotiations to qualify for “safe harbor” protection.¹⁴⁰ Although the EC explicitly refused to provide FRAND guideline rates because it found courts and arbitrators better suited to determine contract terms,¹⁴¹ the EC did offer to provide further guidance on its interpretation of EU competition law relating to FRAND practices.¹⁴²

In *Huawei*, the CJEU explicitly declined to provide the “specific terms of a FRAND licence,” but instead sought to determine “the framework within which the licensing of an SEP on FRAND terms is to be

138. FCJ Orange-Book Decision, *supra* note 65.

139. See *FAQ Memo*, *supra* note 79, at 2 (“The *Motorola* decision provides a ‘safe harbour’ for standard implementers who are willing to take a licence on FRAND terms.”).

140. *Id.* (“[I]f [SEP implementers] want to be safe from injunctions based on SEPs by the patent holder, they can demonstrate that they are a willing licensee by agreeing that a court or a mutually agreed arbitrator adjudicates the FRAND terms.”).

141. *Id.* at 3 (“The Commission believes that courts and arbitrators are well-placed to set FRAND rates in cases of disputes.”).

142. *Id.* (“To the extent [courts] deem necessary, national courts may seek guidance from the Commission on the interpretation of EU competition law.”).

negotiated.”¹⁴³ On top of providing a negotiation framework for licensing SEPs,¹⁴⁴ the CJEU further stated “where no agreement is reached on the details of the FRAND terms . . . the parties may, by common agreement, request that the amount of the royalty be determined by an independent third party.”¹⁴⁵

3. *China*

In *Huawei*, the Guangdong High Court affirmed the lower court’s FRAND determination: 0.019% of the end product.¹⁴⁶ The court did not provide any explicit reasoning for its holding,¹⁴⁷ but its relatively low apportionment is sufficient to address any royalty stacking concerns that may arise from its end-product-based calculations. In its subsequent Qualcomm decision, however, the NDRC sanctioned Qualcomm in part for basing its SEP licensing fees on the full price of the end product.¹⁴⁸ This may signify a shift towards a FRAND rate calculated based on the price of the SSPPU in China.

4. *India*

The CCI and the Delhi High Court are currently split on whether to apply the price of the end product or the SSPPU as the royalty base. In *Ericsson v. Micromax*, the CCI noted that Ericsson’s practice of calculating royalties as a percentage of the price of a downstream product was “excessive” and “discriminatory,” and instead favored a calculation based on the SSPPU.¹⁴⁹

143. Opinion, Case C-170/13, *Huawei Techs. Co. Ltd. v ZTE Corp.*, 2014 E.C.R. 2391, <http://curia.europa.eu/juris/liste.jsf?num=C-170/13> [<https://perma.cc/7XBG-22WH>], ¶ 40.

144. For a detailed discussion of the negotiation framework, see Section III.A.2.c.

145. Judgment, Case C-170/13, *Huawei Techs. Co. Ltd. v ZTE Corp.*, 2014 E.C.R. 2391, <http://curia.europa.eu/juris/liste.jsf?num=C-170/13> [<https://perma.cc/7XBG-22WH>], ¶ 68.

146. See Han & Li, *supra* note 90, at 3.

147. Shylah R. Alfonso & Kevin A. Zeck, *Chinese Court Issues Landmark Decision Determining a FRAND Royalty Rate*, A.B.A. INTELL. PROP., Apr. 1–5, 2013, at 1, http://www.americanbar.org/content/dam/aba/publications/antitrust_law/at315000_tidbits_20130405.authcheckdam.pdf [<https://perma.cc/Z7DA-5B65>] (noting that “[t]he court did not explain how it arrived at the figure”).

148. See Ho, *supra* note 90.

149. CCI *Micromax*, *supra* note 106, at 7 (noting that the “increase in the royalty [by basing it on the end product rather than the SSPPU] for patent holder is without any contribution to the product of the licensee. Higher cost of a smartphone is due to various other softwares/technical facilities and applications provided by the manufacturer/licensee for which he had to pay royalties/charges to other patent holders/patent developers”); CCI *Intex*, *supra* note 106, at 7; see also Sidak, *supra* note 105, at 610, 616.

In contrast, the Delhi High Court ordered Micromax to pay FRAND royalties based on the percentages of the net selling prices of the devices incorporating its SEP technologies,¹⁵⁰ and relied on comparable licenses to determine the appropriate FRAND royalty rate.¹⁵¹ Further, the court set the royalty rate as 0.8% to 1.3% of the net selling price of the mobile device.¹⁵² Unlike the FRAND rates reached in the *Microsoft* opinion in the U.S., and the *Huawei* decision in China, this licensing fee represents a substantial percentage of the price of the end product and may later create royalty stacking issues due to the vast number of SEPs implicated in mobile devices.

5. Korea

Like in China, the KFTC found that Qualcomm violated antitrust laws by reportedly collecting royalty payments of around 5% of the sales price of smartphones that use its chips.¹⁵³ Citing the IEEE's new patent policy, the KFTC determined that "[FRAND] royalties should be calculated based on the price of the chipset, not the entire handset," but it remains uncertain whether the KFTC can force Qualcomm to change its licensing practices.¹⁵⁴

6. Summary

While the jurisdictions discussed above have not yet reached a consensus on whether FRAND royalty rates should be calculated based on the price of an end product or the SSPPU, most courts agree that a royalty rate is unreasonable if it leads to royalty stacking issues. SEP holders should therefore temper their expectations for FRAND royalties and value their SEPs accordingly.¹⁵⁵ Table 2 summarizes the key takeaways relating to royalty pricing issues.

150. HCD Micromax, *supra* note 109, at 1–3.

151. Sidak, *supra* note 105, at 612.

152. HCD Micromax, *supra* note 109, at 1–3.

153. *See* Cho, *supra* note 114.

154. *Id.*

155. For example, Google acquired Motorola Mobility's 24,500 patents and applications for a net \$9.6 billion and sought a royalty of 0.9% to 1.125% of sales of Apple's infringing devices. Judge Posner, however, characterized Motorola's damages claim as "going for broke" and dismissed the case with prejudice. *Apple, Inc. v. Motorola, Inc.*, 869 F. Supp. 2d 901, 913 (N.D. Ill. 2012).

Table 2. International Royalty Pricing Cases

| Country | Jurisdiction | Decision/Case | Holding |
|---------------|-------------------------------------|--|--|
| United States | District Court (N.D. Ill.) | <i>In re Innovatio</i> | FRAND rate should be \$0.096 per SSPPU |
| | Federal Circuit | <i>Ericsson v. D-Link Sys.</i> | Rejected FRAND rate of \$0.15 per end product |
| | 9th Circuit | <i>Microsoft v. Motorola</i> | Affirmed FRAND rate of \$0.00555 per end product for H.264 portfolio and \$0.0371 per end product for 802.11 portfolio |
| Europe | Federal Court of Justice of Germany | <i>Orange-Book-Standard</i> | Antitrust defense available only if implementer makes unconditional FRAND offer and pays royalty as consideration |
| | European Commission | <i>Motorola v. Apple; Samsung v. Apple</i> | Safe harbor for implementers if willing to negotiate and subject to FRAND determination by court or arbitrator |
| | CJEU | <i>Huawei v. ZTE</i> | Provide parties with negotiation framework |
| China | Guangdong High Court | <i>Huawei v. InterDigital</i> | Affirmed FRAND rate of 0.019% of end product |
| | NDRC | Qualcomm Sanction | Sanctioned Qualcomm for basing royalty on full price of end product |
| India | CCI | <i>Ericsson Cases</i> | FRAND rate should be based on SSPPU |
| | Delhi High Court | <i>Ericsson Cases</i> | FRAND rate should be based on end product and rely on comparable licenses |
| South Korea | KFTC | Qualcomm Sanction | Sanctioned Qualcomm for basing royalties on end product rather than SSPPU |

C. NATIONALIST AND PROTECTIONIST CONCERNS

Patent policies can create barriers to entry into technological markets in particular countries.¹⁵⁶ International jurisdictions may therefore take into account the economic impact of particular FRAND policy choices on

156. Kirti Gupta, *The Patent Policy Debate in the High-Tech World*, 9 J. COMPETITION L. & ECON. 827, 829–30 (2013).

their domestic technology companies. These incentives lead to outcomes that appear to be motivated by nationalist or protectionist concerns.

1. *United States*

In litigation between technology titans Apple and Samsung, for example, the White House appeared to give preferential treatment to California-based Apple over the Korean firm Samsung. In June 2013, the ITC ruled that Apple's iPhone products infringed on Samsung's patents and issued a limited exclusion order banning Apple from importing and selling its devices in the U.S.¹⁵⁷ President Obama's administration then vetoed the ITC's ruling based on its "effect on competitive conditions in the U.S. economy and the effect on U.S. consumers."¹⁵⁸ This was the first time an administration had vetoed an ITC importation ban ruling since 1987.¹⁵⁹ But the ITC's exclusion order may have raised legitimate antitrust concerns by providing SEP holders with "undue leverage' through the threat of exclusion orders," so the White House's veto may not have been primarily motivated by protectionist impulses.¹⁶⁰

However, when Samsung made a similar request to veto the ITC's import ban on its smartphones based on infringement of Apple's patents,¹⁶¹ the White House refused.¹⁶² A key distinction between the two

157. See Linda Chiem, *ITC Bans US Sales of iPhones that Infringe Samsung Patent*, LAW360 (June 4, 2013), <http://www.law360.com/articles/444848/itc-bans-us-sales-of-iphones-that-infringe-samsung-patent> [<https://perma.cc/JPE5-5KUF>].

158. See U.S. TRADE REPRESENTATIVE, EXEC. OFFICE OF THE PRESIDENT, LETTER VETOING ITC-794 EXCLUSION ORDER (Aug. 3, 2013), https://ustr.gov/sites/default/files/08032013%20Letter_1.PDF [<https://perma.cc/XNR8-MF32>]; see also Connie Guglielmo, *President Obama Vetoes ITC Ban on iPhone, iPads; Apple Happy, Samsung Not*, FORBES (Aug. 3, 2013), <http://www.forbes.com/sites/connieguglielmo/2013/08/03/president-obama-vetoes-itc-ban-on-iphone-ipads-apple-happy-samsung-not> [<https://perma.cc/U3TY-HPSA>]; Ryan Davis, *White House Vetoes ITC Ban on Apple iPhones, iPads*, LAW360 (Aug. 4, 2013), <http://www.law360.com/articles/462443/white-house-vetoes-itc-ban-on-apple-iphones-ipads> [<https://perma.cc/RPL3-JLLU>].

159. See Guglielmo, *supra* note 158; Davis, *supra* note 158.

160. Davis, *supra* note 158; see also Florian Mueller, *Obama Administration Vetoes ITC Import Ban of Older iPhones and iPads over Samsung Patent*, FOSS PATENT (Aug. 3, 2013), <http://www.fosspatents.com/2013/08/obama-administration-vetoes-itc-import.html> [<https://perma.cc/L7TW-BTVB>] ("[ITC exclusion order's] effects would have been so very anticompetitive and anti-innovative that this veto was unfortunately necessary.").

161. Ryan Davis, *Samsung Seeks White House Veto of ITC Smartphone Ban*, LAW360 (Sept. 27, 2013) <http://www.law360.com/articles/476333/samsung-seeks-white-house-veto-of-itc-smartphone-ban> [<https://perma.cc/Z3F7-U7VB>].

162. See Ryan Davis, *USTR Won't Veto ITC Ban on Some Samsung Smartphones*, LAW360 (Oct. 8, 2013) <http://www.law360.com/articles/478548/ustr-won-t-veto-itc-ban-on-some-samsung-smartphones> [<https://perma.cc/9UDS-E9LB>].

exclusion orders is that Apple's patents were not SEPs, and Apple therefore did not have any FRAND commitments.¹⁶³ Given the circumstances leading up to the ITC's exclusion orders, however, protectionism may have been a factor in the White House's decision to intervene in favor of Apple.

2. *China*

Chinese authorities have also made decisions that appear to be informed by a desire to protect China's own national technological institutions. In *Huawei v. InterDigital*, for example, the Guangdong High Court held that American company InterDigital had abused its dominant market position because of its SEP licensing practices with Chinese technological giant Huawei.¹⁶⁴ Similarly, the NDRC imposed a sanction on Qualcomm, the American mobile chip industry leader, for demanding substantial licensing fees and free cross-licenses from Chinese firms such as Huawei and ZTE.¹⁶⁵

When viewed in isolation, these two cases may not strongly imply protectionism, but they are in fact representative of a greater trend where Chinese authorities "[have] increasingly targeted American companies."¹⁶⁶

3. *South Korea*

Similar to the U.S. and China, South Korea's courts and authorities have also issued rulings that appear to be motivated by favoritism towards its domestic technology industry. In 2012, for example, Apple sued Samsung in Seoul Central District Court for patent infringement.¹⁶⁷ The court found that Apple infringed two of Samsung's patents, but Samsung also infringed one of Apple's patents.¹⁶⁸ Thus, the court ordered both parties to pay a relatively small amount in damages and banned both from selling infringing products.¹⁶⁹ However, Apple's patent was not standard essential and Samsung could therefore design around it, whereas the relevant

163. See Davis, *supra* note 161.

164. See Han & Li, *supra* note 90, at 2–3.

165. See Ho, *supra* note 90.

166. Jason Mick, *China Smacks Qualcomm with Record \$975M USD Antitrust Fine*, DAILYTECH (Feb. 12, 2015), <http://www.dailytech.com/China+Smacks+Qualcomm+With+Record+975M+USD+Antitrust+Fine/article37153.htm#sthash.JbpTGoPZ.dpuf> [<https://perma.cc/CJ4C-8CX6>].

167. See Florian Mueller, *Apple-Samsung Ruling Suggests South Korea is a FRAND Rogue State*, FOSS PATENTS (Aug. 24, 2012), <http://www.fosspatents.com/2012/08/apple-samsung-ruling-suggests-south.html> [<https://perma.cc/H5X3-N7FF>].

168. *Id.*

169. *Id.*

Samsung patent was an SEP.¹⁷⁰ This decision effectively gave Samsung substantial leverage in marketing mobile devices in Korea, allowing it to demand high royalty fees for its SEPs. One commentator described the ruling as “a declaration of a trade war.”¹⁷¹

In response, Apple filed an antitrust suit against Samsung for its licensing practices, but the KFTC again held in Samsung’s favor and rejected Apple’s complaint.¹⁷² Specifically, the KFTC noted that Samsung did not have “essential facility” type monopoly power due to the vast number of 3G wireless communication SEPs.¹⁷³ But the KFTC did not account for the fact that Samsung still had the ability to preempt Apple from entering the Korean market based on its SEPs.¹⁷⁴ In contrast, the KFTC determined that Qualcomm’s SEP licensing practices to Korean manufacturers were anticompetitive, even though the American firm never brought an injunctive action.¹⁷⁵

The Korean court’s decision against Apple and the KFTC’s conflicting decisions against Samsung and Qualcomm suggest that Korea’s FRAND policy may be informed by a desire to protect important players in Korea’s economy. This hypothesis finds further support when one considers the significant role that local mobile communications manufacturers played in Korea’s rapid economic development over the past decade.

D. RECENT DEVELOPMENTS IN SSO FRAND POLICIES

SSO participation in the regulation of FRAND licensing practices has recently become a controversial issue. While SSOs tended to avoid setting explicit FRAND policies in the past, the IEEE recently issued guidelines on FRAND licensing issues, and the patent community has met these guidelines with mixed reviews.

1. SSO FRAND Policies

Until recently, SSOs have historically declined to provide explicit rules for determining FRAND rates due to antitrust considerations.¹⁷⁶ SSO

170. *Id.*

171. *Id.*

172. See Florian Mueller, *Korea Fair Trade Commission Clears Samsung’s Use of Standard-Essential Patents Against Apple*, FOSS PATENTS (Feb. 26, 2014), <http://www.fosspatents.com/2014/02/korea-fair-trade-commission-clears.html> [<https://perma.cc/D3WU-E335>].

173. *Id.*

174. *Id.*

175. See Cho Mu-Hyun, *supra* note 114.

176. See, e.g., *Antitrust Risks in Standard-Setting Organizations*, PRAC. L. COMPANY ANTITRUST 1 (2013), http://www.weil.com/~media/files/pdfs/Practical_Law_Company

policies are binding agreements among potential competitors, so strict guidelines on FRAND licensing practices will likely result in the sort of fixed prices emblematic of anticompetitive behavior.¹⁷⁷ As a result, SSOs have avoided issuing specific restrictions for licensing SEPs.¹⁷⁸ However, the absence of FRAND restrictions may also result in antitrust concerns due to monopolistic patent hold-up.¹⁷⁹ An SSO patent policy with clear FRAND licensing rules could benefit relevant industry participants by eliminating much of the uncertainty surrounding licensing negotiations and minimizing FRAND-related disputes.¹⁸⁰ A successful FRAND policy set forth by an SSO would therefore maximize these certainty benefits while addressing the antitrust issues discussed above.

2. *The IEEE's New FRAND Policy*

The IEEE recently issued a new patent policy after it requested and received clearance from the U.S. Department of Justice's (USDOJ's) Antitrust Division.¹⁸¹ The groundwork for this request was laid in 2013, when the USDOJ, the FTC, and the EC Directorate-General for

_02_2_13Antitrust_Risks_in_Standard_Setting_Organiz.pdf [https://perma.cc/ZU3Y-XDPX].

177. See Lisa Kimmel, *Standards, Patent Policies, and Antitrust: A Critique of IEEE-II*, 29 ANTITRUST 18, 18 (2015) <https://www.crowell.com/files/Standards-Patent-Policies-and-Antitrust-A-Critique-of-IEEE-II.pdf> [https://perma.cc/7TEL-3SZA] (noting that “[SSO] patent policies are also agreements among competitors” and potential antitrust liability for SSOs).

178. *Id.* (pointing out that “[SSOs] usually leave it to [SEP] owners and implementers to determine royalty rates . . . through bilateral negotiations” and that the IEEE adopted its new policy only after mitigating its “antitrust risk” by receiving approval from the U.S. DOJ).

179. See, e.g., *American Antitrust Institute Calls on FTC, DOJ to Force Standard-Setting Organizations to Adopt More Stringent Patent Policies*, ESSENTIAL PATENT BLOG (May 31, 2013), <http://www.essentialpatentblog.com/2013/05/american-antitrust-institute-calls-on-ftc-doj-to-force-standard-setting-organizations-to-adopt-more-stringent-patent-policies> [https://perma.cc/CDJ2-GGN8] (providing that the American Antitrust Institute petitioned to the U.S. DOJ and FTC to enforce antitrust laws with respect to SSOs by: “(1) issu[ing] specific guidelines [for] SSO patent policies; and (2) hold[ing] SSOs liable for not adopting procedural safeguards to prevent patent hold-up behavior”).

180. Dennis Couch, *IEEE Amends Its Patent (FRAND) Policy*, PATENTLY-O (Feb. 9, 2015), <http://patentlyo.com/patent/2015/02/amends-patent-policy.html> [https://perma.cc/VT5G-DP9V] (noting that SSOs’ clarification of their patent policies “would eliminate much of the uncertainty and debate that currently characterizes disputes over FRAND compliance”).

181. IEEE, *IEEE Statement Regarding Updating of Its Standards-Related Patent Policy* (Feb. 8, 2015), https://www.ieee.org/about/news/2015/8_february_2015.html [https://perma.cc/T793-XGTR]; see also Couch, *supra* note 180.

Competition jointly issued an article advising SSOs to provide clear guidelines on their patent policies relating to FRAND issues.¹⁸²

The IEEE's new patent policy provides its members with specific FRAND licensing guidelines.¹⁸³ The key components of the policy are: (1) its members must non-discriminatorily offer their SEP licenses to all applicants requesting licenses; (2) IEEE members are expressly prohibited from seeking injunctions against potential licensees that are willing to negotiate for a license; (3) IEEE members may charge a reasonable royalty for the use of their SEPs based on the SSPPU of the relevant product; and (4) the IEEE may demand reciprocal licenses from its members that hold SEPs relevant to the standard.¹⁸⁴ The new policy therefore addresses hold-up, hold-out, and royalty pricing issues, while also preventing opportunistic non-disclosure à la *Rambus*.

While the IEEE's new policy provides clarity and predictability for participating members, it has received mixed reviews.¹⁸⁵ Even prior to its inception, a legal scholar questioned the assertion "that technology is being 'held up' or that consumers are being 'harmed' as a result of [existing] patents on technological standards."¹⁸⁶ Industry participants also opposed the new policy because it would "slash revenues for standards developers" and "refusal [to pay for a license] will become more commonplace if there are limited means to enforce patents."¹⁸⁷ Further, a practicing attorney noted that "even if the update does clarify the terms of a RAND agreement, clarity does not legitimize an anticompetitive process

182. U.S. DEP'T OF JUST., *Business Review Letter* (Feb. 2, 2015), http://www.justice.gov/sites/default/files/opa/press-releases/attachments/2015/02/02/ieee_business_review_letter.pdf [<https://perma.cc/WVJ7-QUGQ>].

183. IEEE, *IEEE-SA Standards Board Bylaws* (Feb. 8, 2015), <http://standards.ieee.org/develop/policies/bylaws/approved-changes.pdf> [<https://perma.cc/HF76-XQYK>]; see also Deepa Sundararaman, *Inside the IEEE's Important Changes to Patent Policy*, LAW360 (Apr. 3, 2015), <http://www.law360.com/articles/637457/inside-the-ieee-s-important-changes-to-patent-policy> [<https://perma.cc/6LT3-AE78>].

184. *Id.*

185. See, e.g., Mark Chandler, *Why We Support IEEE's Patent Policy*, EE TIMES (Apr. 3, 2015), http://www.eetimes.com/author.asp?section_id=36&doc_id=1326225 [<https://perma.cc/Q2KR-K4LC>]; Bill Merritt, *Why We Disagree with the IEEE's Patent Policy*, EE TIMES (Mar. 27, 2015), http://www.eetimes.com/author.asp?doc_id=1326144 [<https://perma.cc/4H7Y-ZFZK>]; David Long, *IEEE's Controversial Proposed Intellectual Property Rights ("IPR") Policy Amendments*, ESSENTIAL PATENT BLOG (Feb. 3, 2015), <http://www.essentialpatentblog.com/2015/02/ieee/> [<https://perma.cc/7VVU-2HVG>].

186. Brian Pomper, *DOJ Should Not Approve IEEE Patent Policy Weakening WiFi Patents*, IPWATCHDOG (Feb. 2, 2015), <http://www.ipwatchdog.com/2015/02/02/doj-ieee-policy-wifi-patents/id=54419> [<https://perma.cc/95UG-ATKK>].

187. Merritt, *supra* note 185.

under antitrust laws.”¹⁸⁸ In fact, since its adoption in February 2015, SEP owners have already “questioned their future participation in the standards-making process” and may simply refuse to join IEEE to avoid the restriction inherent in its FRAND guidelines.¹⁸⁹

The proper scope of SSO participation in FRAND licensing practices remains a controversial issue. A predictable set of rules offers implementers peace of mind and increases judicial efficiency, but may also deter industry participants from joining SSOs to collaboratively develop standards in the first place, because these rules may restrict the revenue industry participants can generate from their SEPs. In view of the mixed reception of the IEEE’s new policy, it remains to be seen whether other SSOs will follow suit.

IV. CONCLUSION

Interoperable technologies are developing globally and therefore benefit from an internationally uniform SEP licensing system. FRAND licensing practices prevent SEP holders from gaining excessive leverage in negotiating royalties and thereby holding up the development of these interoperable technologies that rely on network effects. However, SEP implementers must also express a willingness to negotiate for, and avoid holding out from, FRAND licenses to provide sufficient reward to SEP holders for their technological contributions. Ultimately, it is difficult to arrive at a one-size-fits-all method for deriving FRAND rates because not all SEPs are equally valuable. Nonetheless, provided that royalty rates are not prohibitively high, a universal FRAND licensing standard is beneficial because it offers predictability to investors and developers, promotes judicial efficiency, and reduces litigation costs.

In recent years, the jurisdictions most important for patent policy have each decided FRAND cases. These jurisdictions have mostly been converging in how they address hold-up, hold-out, and royalty pricing issues. First, courts and regulatory authorities across the globe have imposed breach of contract damages and antitrust sanctions against SEP holders for demanding excessive royalty fees and/or seeking injunctive relief for their patented technologies. Second, most countries have maintained the availability of injunctions against uncooperative licensees.

188. Kimmel, *supra* note 177, at 22.

189. Tony Dutra, *IEEE Policy on Standard-Essential Patents Sparks Debate*, BLOOMBERG BNA (Nov. 18, 2015), http://iplaw.bna.com/iprc/5007/split_display.adp?fedfid=79327870&vname=ptdbulallissues [<https://perma.cc/W4BP-WQEE>].

Third, even though there is no global consensus on the precise mechanism for calculating FRAND rates or whether to base these rates on the value of the end product or on the SSPPU, most jurisdictions have held that FRAND royalty rates must account for royalty stacking considerations.

Further, courts and regulatory authorities have been communicating and cooperating to achieve consistency in FRAND policies. For example, the European Commission has jointly issued an article with the U.S. DOJ and FTC to urge SSOs to provide specific FRAND guidelines,¹⁹⁰ and is now cooperating with the KFTC to decide on the appropriate penalty to impose on Qualcomm.¹⁹¹

In addition to the primary issues of hold-up, hold-out, and royalty pricing, those seeking to understand international FRAND practices should keep several secondary considerations in mind. To protect its own domestic industry, a specific jurisdiction may be inclined to adopt policies that favor domestic companies at the expense of foreign companies. U.S. and European regulatory authorities have also relaxed SSOs' potential antitrust liability, which led the IEEE to update its patent policy with specific FRAND regulations.¹⁹² While it remains uncertain whether other SSOs will follow the IEEE's lead, these guidelines may provide further clarity and predictability to future SEP developers.

190. See U.S. DEPT OF JUST., *supra* note 182.

191. See Cho, *supra* note 114.

192. See IEEE, *supra* note 181.

CONCLUDING THE *AKAMAI* CHAPTER OF DIVIDED INFRINGEMENT: IS THE LIABILITY LOOPHOLE CLOSED?

Jingyuan Luo[†]

In the expected conclusion to the divided infringement saga in *Akamai Technologies, Inc. v. Limelight Networks, Inc. (Akamai V)*, the Federal Circuit's unanimous en banc decision on August 13, 2015, attempted to close the divided infringement liability loophole with respect to multi-actor patents.¹ On remand, and heeding the Supreme Court's direction,² the Federal Circuit expanded the relationship standard for direct infringement under 35 U.S.C. § 271(a).³ Direct infringement under § 271(a) occurs when a single entity performs all of the steps of a claimed method patent.⁴ With multi-actor patent claims, a court must determine whether the acts of one or more actors can be attributed to a single entity, such that the single entity is responsible for the infringement.⁵ The Federal Circuit concluded in its second en banc decision (*Akamai V*) that there are two circumstances under which courts can hold an entity responsible for others' performance of method patent steps, and thus liable for direct infringement under § 271(a): "(1) where that entity directs or

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1. *Akamai Techs., Inc. v. Limelight Networks, Inc.*, 797 F.3d 1020 (Fed. Cir. 2015). For clarity, the following shorthand will be used to identify each of the various decisions in this saga:

Akamai I: Federal Circuit's first panel decision. 629 F.3d 1311 (Fed. Cir. 2010).

Akamai II: Federal Circuit's first en banc decision. 692 F.3d 1301 (Fed. Cir. 2012).

Akamai III: Supreme Court decision. 134 S. Ct. 2111 (2014).

Akamai IV: Federal Circuit's second panel decision. 786 F.3d 899 (Fed. Cir. 2015).

Akamai V: Federal Circuit's second en banc decision. 797 F.3d 1020 (Fed. Cir. 2015).

2. *Limelight Networks, Inc. v. Akamai Techs., Inc. (Akamai III)*, 134 S. Ct. 2111, 2119 (2014).

3. *Akamai V*, 797 F.3d at 1023.

4. 35 U.S.C. § 271(a) ("Except as otherwise provided in this title, whoever without authority makes, uses, offers to sell, or sells any patented invention, within the United States or imports into the United States any patented invention during the term of the patent therefor, infringes the patent."); *BMC Res., Inc. v. Paymentech, L.P.*, 498 F.3d 1373, 1379–81 (Fed. Cir. 2007).

5. *Akamai V*, 797 F.3d at 1023.

controls others' performance, and (2) where the actors form a joint enterprise."⁶

To satisfy the "direction or control" test, the Federal Circuit previously required either a finding of agency or the existence of a contractual agreement.⁷ This standard created a loophole whereby a potential infringer could avoid liability by sharing the performance of a method claim with a third party it neither directed nor controlled. In *Akamai V*, the Federal Circuit concluded that the "direction or control" standard under § 271(a) can also be met "when an alleged infringer conditions participation in an activity or receipt of a benefit upon performance of a step or steps of a patented method and establishes the manner or timing of that performance."⁸ This broadened definition of the "direction and control" standard is aimed at would-be infringers who try to evade liability by dividing performance of a method patent with a party they neither know nor control (e.g., a customer), thus strengthening the ability of multi-actor patent holders to defend their intellectual property.⁹

To what extent this broadened standard closes the divided infringement liability loophole remains to be seen. Under this new standard, the Federal Circuit found Limelight liable for infringement because "Limelight conditions its customers' use of its content delivery network upon its customers' performance of the tagging and serving steps, and [because] Limelight establishes the manner or timing of its customers' performance."¹⁰ The Internet and software context of *Akamai's* patents,¹¹ however, is only one industry where the issue of divided infringement arises.

Biotechnology, particularly medical diagnostics, also faces divided infringement challenges. This area raises two issues with respect to the

6. *Id.* at 1022.

7. *See BMC*, 498 F.3d at 1380–81.

8. *Akamai V*, 797 F.3d at 1023 (citing *Metro-Goldwyn-Mayer Studios Inc. v. Grokster, Ltd.*, 545 U.S. 913, 930 (2005) (noting that an actor "infringes vicariously by profiting from direct infringement" if he has the right and ability to stop or limit the infringement)).

9. *Limelight Networks, Inc. v. Akamai Techs., Inc.*, 134 S. Ct. 2111, 2120 (acknowledging that its decision reinforces the single entity rule under *Muniauction, Inc. v. Thomson Corp.*, 532 F.3d 1318, 1329–30 (Fed. Cir. 2008), and that, by holding direct infringement under § 271(a) as a prerequisite inducement infringement under § 271(b), the Court opened a liability loophole for would-be infringers).

10. *Akamai V*, 797 F.3d at 1024.

11. The patent-at-issue is U.S. Patent No. 6,108,703 (issued Aug. 22, 2000). For more information about the technology at dispute in the *Akamai* case, see *infra* Section II.A.

Federal Circuit's decision. First, it is unclear, particularly with respect to diagnostics, whether the broadened standard is enough to protect patent holders' rights.¹² The court's focus on the specific facts in *Akamai V* may be an indication that it is willing to similarly do so for other technological fields in the future, even if this results in stretching the standard to apply to infringement patterns in these fields.¹³ Second, if the court does exhibit such flexibility, this raises the question of just how far the relationship standard can be stretched before it loses predictability and meaning. Consequently, a truly ideal solution to the divided infringement of multi-actor patents—particularly in a world where technology is becoming increasingly interactive—is likely to require congressional action. Nevertheless, this Note commends the Federal Circuit for working within its statutory limitations¹⁴ to reach a better-balanced interpretation of the § 271(a) relationship standard.

Part I of this Note will explore the provisions of § 271 and the evolution of the § 271(a) relationship standard leading up to the *Akamai* saga. Part II chronicles the exchange between the Federal Circuit and the Supreme Court. Finally, Part III evaluates the early effects of the decision, concluding that, although the Federal Circuit's relaxed relationship standard goes a long way in closing the liability loophole, a gap may still remain with respect to medical diagnostics and personalized medicine.

I. EVOLUTION OF DIVIDED INFRINGEMENT

Divided infringement arises from the common law doctrine of contributory infringement.¹⁵ Despite various attempts by courts to define the scope of liability in multi-actor infringement scenarios, this area of law

12. See Rachel Sachs, *Akamai v. Limelight: Implications for Medical Method Patents (Redux)*, HARV. L.: BILL OF HEALTH (Aug. 14, 2015), <http://blogs.harvard.edu/billofhealth/2015/08/14/akamai-v-limelight-implications-for-medical-method-patents-redux> [<https://perma.cc/JYT3-EMVA>] (arguing that “if under § 271 case law all [the steps in the diagnostics method patent] must be performed by a single actor in order to assign liability . . . the § 271 developments would . . . compound[] the difficulties companies face in assigning liability for them”).

13. It is also possible, of course, that the court only intended this expanded “direction or control” relationship standard to apply to the software industry. There is nothing in the decision, however, to indicate this. Furthermore, the standard is already being applied in the biotechnology context. See *infra* Section III.B.

14. For more information on the doctrinal challenges of divided infringement and how they stem from the statutory context, see *infra* Section III.A.

15. For a more detailed history of divided infringement law before the Patent Act of 1952, see Jingyuan Luo, Note, *Shining the Limelight on Divided Infringement: Emerging Technologies and the Liability Loophole*, 30 BERKELEY TECH. L. J. 675, 677–78 (2015).

remained uncertain leading up to the codification of infringement law under 35 U.S.C. § 271 in 1952. This Part first provides a primer to § 271 and then examines the rise of the “direction or control” relationship standard under § 271(a).

A. PATENT ACT OF 1952: CODIFYING INFRINGEMENT

The Patent Act of 1952 codified American patent law. That codification included two types of infringement: direct and indirect.¹⁶

1. *Direct Infringement*

Section 271(a) provides that “whoever without authority makes, uses, offers to sell, or sells any patent invention, within the United States” is liable for direct infringement.¹⁷ Under this section, in order to be liable for infringement, a party must perform all of the elements of another’s patent.¹⁸ For method patents, an alleged infringer must perform every step of the claimed method.¹⁹ The alleged direct infringer’s knowledge of the patent, or lack thereof, is irrelevant to the analysis, as direct infringement is a strict liability offense.²⁰ When the steps of a method patent are divided between more than one party, divided infringement occurs. In the divided infringement context, courts have used § 271(a) to find liability when the two or more parties carrying out the patented method claims meet certain relationship requirements.²¹ It is this relationship standard that the Federal Circuit redefines in its latest en banc decision in *Akamai* and that the following Section I.B explores.²²

2. *Indirect Infringement*

In addition to direct, and potentially divided, infringement under subsection (a), § 271 also outlines two forms of indirect infringement: induced infringement in subsection (b) and contributory infringement in subsection (c).²³ Under § 271(b), a party is liable for indirect infringement

16. 35 U.S.C. § 271 (2012).

17. § 271(a).

18. *See Joy Techs., Inc. v. Flakt, Inc.*, 6 F.3d 770, 773 (Fed. Cir. 1993).

19. *BMC Res., Inc. v. Paymentech, L.P.*, 498 F.3d 1373, 1378 (Fed. Cir. 2007) (“Direct infringement requires a party to perform or use each and every step or element of a claimed method or product.”) (citing *Warner-Jenkinson Co. v. Hilton Davis Corp.*, 520 U.S. 17, 40 (1997)).

20. *See In re Seagate Tech., LLC*, 497 F.3d 1360, 1368 (Fed. Cir. 2007).

21. *See infra* Section I.B.

22. *See id.*

23. § 271.

if it “actively induces infringement of a patent.”²⁴ To prevail under a claim of induced infringement, a patent owner must demonstrate that: (1) another person actually infringed, (2) the alleged inducer knew of the patent, and nevertheless (3) knowingly induced the infringing acts with a specific intent to encourage infringement by that person.²⁵ Under § 271(c), a party who “offers to sell or sells within the United States or imports into the United States . . . a material part of [an] invention” knowing that it is not “a staple article or commodity of commerce suitable for substantial non-infringing use,” is liable for contributory infringement.²⁶ As with induced infringement, a patent owner seeking relief under contributory infringement must first prove that another party directly infringed.²⁷ Additionally, the patent owner must demonstrate that (1) the accused indirect infringer sold or supplied a component of a patented invention, (2) that was material to the invention, (3) while knowing that the component was specially made or adapted for infringing use, and (4) is not a staple article suitable for substantial non-infringing uses.²⁸

Unlike direct infringement, which is a strict liability offense, a patent owner seeking to establish either induced or contributory infringement bears the burden of both proving the existence of direct infringement²⁹ and demonstrating that the accused indirect infringer had knowledge of the patent’s existence.³⁰ The Supreme Court, in *Global-Tech Appliances, Inc. v. SEB S.A.*,³¹ clarified that the knowledge standard includes willful blindness—when a defendant acts “despite an objectively high likelihood that its actions constituted infringement of a valid patent”—but not deliberate indifference.³²

24. § 271(b).

25. *See Vita-Mix Corp. v. Basic Holding, Inc.*, 581 F.3d 1317, 1328 (Fed. Cir. 2009).

26. § 271(c).

27. *See Dynacore Holdings Corp. v. U.S. Philips Corp.*, 363 F.3d 1263, 1272 (Fed. Cir. 2004).

28. *See Alice Juvon Abn, Finding Vicarious Liability in U.S. Patent Law: The Control of Direction Standard for Joint Infringement*, 24 BERKELEY TECH. L.J. 149, 151 (2009).

29. *See Dynacore*, 363 F.3d at 1272.

30. *See Aro Mfg. Co. v. Convertible Top Replacement Co.*, 377 U.S. 476, 488–91 (1964) (finding that contributory infringement requires both knowledge of the patent’s existence and that the component produced by the defendant is infringing).

31. 131 S. Ct. 2060, 2070–71 (2011) (finding willful blindness to include two components: “(1) the defendant must subjectively believe that there is a high probability that a fact exists, and (2) the defendant must take deliberate actions to avoid learning of that fact”).

32. *In re Seagate Tech., LLC*, 497 F.3d 1360, 1371 (Fed. Cir. 2007).

B. THE RELATIONSHIP STANDARD PRE-*AKAMAI*

Prior to 2007, the Federal Circuit left lower courts to grapple with the issue of divided infringement of multi-actor patents.³³ As a result, the lower courts applied varied relationship standards in finding liability for infringement. This Section first examines the patchwork of standards at the district court level and then details the emergence of the “direction and control” standard at the Federal Circuit.

1. *Divided Infringement in District Courts*

For fear of ensnaring innocent parties, unaware that their actions contributed to the infringement of a patent, many district courts were initially reluctant to recognize divided infringement on multi-actor patent claims.³⁴ In the early cases that did find liability, courts disagreed as to whether § 271(a) or § 271(b) provided the authority for doing so.³⁵ Eventually, two relationship standards for divided infringement—(1) “agency” or “direction or control” and (2) “some connection”—slowly emerged from the case law.³⁶

Under the agency standard, an alleged infringer is only liable for the actions of another if it is in a relationship with the other entity, such that the other entity had agreed to act under the direction and control of the alleged infringer.³⁷ Following this standard in *Free Standing Stuffer, Inc. v. Holly Development Co.*, the District Court for the Northern District of Illinois held a sales company liable for jointly infringing a patented method of inserting advertisement cards in newspapers because it directed

33. 5 DONALD S. CHISUM, CHISUM ON PATENTS § 16.02[6][a] (2014).

34. *See* *Fromson v. Advance Offset Plate, Inc.*, 720 F.2d 1565, 1571 (Fed. Cir. 1983).

35. For example, in *Metal Film Co. v. Metlon Corp.*, the court held a defendant liable for infringement under § 271(b) when the defendant hired an outside contractor to perform one step of the patent. 316 F. Supp. 96, 109 n.11 (S.D.N.Y. 1970). The patent-in-suit involved a method for making yarn, and the defendant contracted the vacuum metalizing step (a very common procedure at this time) to an outside manufacturer. *Id.* at 110 n.12. The court concluded that the two companies had acted like one such that “the infringing acts of one can be deemed the infringing acts of the other on the basis that one has induced the infringement of the other.” *Id.* at 109 n.11. Conversely, another court cited § 271(b) in resolving a patent dispute covering an offshore method. *Shields v. Halliburton Co.*, 493 F. Supp. 1376, 1389 (W.D. La. 1980). Although no single company completed every step of the patented process, the court held all three jointly liable for their combined action. *See id.* at 1380–81, 1388–89, 1391.

36. The courts remained ambiguous as to whether these standards applied to direct infringement (§ 271(a)) or indirect infringement (§ 271(b)).

37. *See* RESTATEMENT (SECOND) OF AGENCY § 220 cmt. d (1958).

the printer and newspaper to carry out the steps of the patent.³⁸ Likewise, in *Mobil Oil Corp. v. W.R. Grace & Co.*, the District Court for the District of Connecticut found infringement where the defendant performed all the steps of a patented method except the last—consisting merely of heating a catalyst—which the defendant intended its customers to perform.³⁹

Some courts, viewing the agency standard as too stringent to appropriately protect patent holders, only required “some connection” between the divided actors to find liability for divided infringement.⁴⁰ This connection can be established where the parties “worked in concert” or were in “direct contact.”⁴¹ For instance, in *Cordis Corp. v. Medtronic AVE, Inc.*, the court found that the alleged infringer had “some connection” to the physicians performing the infringing method: implantation of a coronary stent.⁴² The evidence established that the alleged infringer sent samples of the accused device to physicians, recruited physicians to participate in clinical trials, and sought physician input with respect to the accused device.⁴³ Similarly, in *Marley Mouldings Ltd. v. Mikron Industries*, the court found that the alleged infringer had “some connection” with a third party when it ordered from them the materials to make an infringing

38. *Free Standing Stuffer, Inc. v. Holly Dev. Co.*, 187 U.S.P.Q. 323, 333 (N.D. Ill. 1974).

39. *Mobil Oil Corp. v. W.R. Grace & Co.*, 367 F. Supp. 207, 253 (D. Conn. 1973). In this instance, there was no explicit agency relationship. The court, however, reasoned that the alleged infringer had effectively made each of its customers its agents because it knew that they would perform the last step. *Id.* This case involved patents covering catalysts and methods of using those catalysts for petroleum cracking, which is the process whereby complex organic molecules are broken down into simpler hydrocarbon molecules for fuel. *Id.* at 211–12. The alleged infringer manufactured these catalysts. *Id.*

40. *See Faroudja Labs., Inc. v. Dwin Elecs., Inc.*, No. 97-20010 SW, 1999 WL 111788, at *5 (N.D. Cal. Feb. 24, 1999) (articulating the standard). The patent in question concerned a method for improving image quality in televisions through a series of signal conversions and multiplications. *Id.* at *1. The defendant sold products that allowed consumers to take television transmissions and improve the image quality on their screens, and the court found it was not liable for infringement. *Id.* at *2, *4–5.

41. *Id.* at *6.

42. *Cordis Corp. v. Medtronic AVE, Inc.*, 194 F. Supp. 2d 323, 350 (D. Del. 2002). The alleged infringer argued that “although physicians who implant [stents] may carry out some of the first, third, fourth and fifth steps of the method of claim 44—utilizing, inserting, delivering, and expanding the NIR stent respectively—they do not carry out the second step of ‘disposing’ the NIR stent on a balloon catheter. Rather, [the alleged infringer] performs this step by selling the [stent] premounted on a catheter” *Id.* at 349.

43. *Id.* at 350.

product.⁴⁴ The court reasoned that under such facts, “the party that is contracting out part of the process or method . . . is in actuality performing the combination of each and every step of the claimed method.”⁴⁵ Moreover, the “some connection” standard also applied to relationships between businesses and their customers.⁴⁶ In *Hill v. Amazon.com, Inc.*, the court denied summary judgment because the evidence that the alleged infringers designed their website to control their customers’ product selection was sufficient to establish a connection between the alleged infringer and its customers.⁴⁷

2. *Emergence of the “Direction or Control” Standard at the Federal Circuit*

When the Federal Circuit finally addressed the issue of multi-actor infringement in *Cross Medical Products v. Medtronic Sofamor Danek*, it appeared to adopt the “direction or control” standard.⁴⁸ There, the court held that a medical device manufacturer did not infringe patents covering spine-stabilizing implants (even though the alleged infringer’s personnel regularly appeared in operating rooms with surgeons and directed surgeons in the assembly of the apparatus), because the alleged infringer and surgeons were not in an agency relationship.⁴⁹ A different panel of the Federal Circuit, however, appeared to adopt a looser standard one year later in the dicta of *On Demand Machine Corp. v. Ingram Industries, Inc.*⁵⁰ While the Federal Circuit did not find infringement, it suggested that it approved the “some connection” standard when it found no error in the jury instructions stating: “It is not necessary for the acts that constitute

44. *Marley Mouldings Ltd. v. Mikron Indus.*, No. 02-2855, 2003 WL 1989640 (N.D. Ill. Apr. 30, 2003). There, the patent-in-suit covered a method of “forming a solid elongated member of predetermined profile for use as a door, window or frame molding.” *Id.* at *1. The process involves both a pellet preparation stage, performed by the third party, and the final product preparation, which is performed by the alleged infringer. *Id.* at *3.

45. *Id.* at *3.

46. *See Hill v. Amazon.com, Inc.*, No. Civ.A.2:02-CV-186, 2006 WL 151911, at *1 (E.D. Tex. Jan. 19, 2006). The patents-in-suit covered electronic catalog systems and methods, which describe storing constant and variable product data on a main computer and a remote computer and periodically updating the data store on the remote computer with data stored the main computer. *Id.*

47. *Id.* at *3.

48. *See Cross Med. Prods. v. Medtronic Sofamor Danek, Inc.*, 424 F.3d 1293, 1311 (Fed. Cir. 2005).

49. *See id.*

50. *See On Demand Mach. Corp. v. Ingram Indus.*, 442 F.3d 1331, 1345 (Fed. Cir. 2006). The patents-in-suit covered on-demand book printing. *Id.*

infringement to be performed by one person or entity. When infringement results from the participation and combined action(s) of more than one person or entity, they are all joint infringers and jointly liable for patent infringement.”⁵¹

Finally in 2007, the Federal Circuit cleared up these inconsistencies with its decision in *BMC Resources v. Paymentech, L.P.*, unequivocally establishing the “direction or control” standard for divided infringement.⁵² BMC was the assignee of two patents covering methods for processing debit transactions without a personal identification number.⁵³ The method required multiple actors: a bank account holder, a third-party billing processor, and a financial institution.⁵⁴ The Federal Circuit affirmed the district court’s grant of summary judgment on the grounds that the parties were not in an agency relationship, and that none of the parties directed or controlled the activities of the others.⁵⁵ The court held that in order to find liability, one party must exhibit “direction or control” over the others’ actions.⁵⁶ In justifying this standard, the court cited the concern that a more relaxed relationship requirement under § 271(a) would ensnarl innocent third parties and subvert the statutory scheme for indirect infringement.⁵⁷ A lower standard may encourage patent owners to seek relief under a strict liability theory of direct divided infringement rather than file for relief under indirect infringement, which requires both direct infringement and intent.⁵⁸ While the court acknowledged that this “direction or control” standard opened a loophole for some infringers to enter into arms-length agreements to avoid liability, it decided on balance that the negative ramifications of a more relaxed standard prevailed.⁵⁹

51. *Id.* at 1344–45.

52. *See BMC Res., Inc. v. Paymentech, L.P.*, 498 F.3d 1373, 1379–81 (Fed. Cir. 2007).

53. *See BMC*, 498 F.3d at 1375.

54. *See id.* at 1375–76.

55. *See id.* at 1381–82.

56. *Id.* at 1378, 1380–81.

57. *Id.* Because indirect infringement requires evidence of “specific intent” to induce or contribute to infringement, plaintiffs bear a heavier burden; if patent owners could reach the independent conduct of multiple actors through direct infringement, then a patent owner would rarely ever need to bring a claim for indirect infringement. *Id.* at 1381.

58. *Id.*

59. *Id.* It is worthwhile to note that following *BMC* and *Muniauction, Inc. v. Thomson Corp.*, 532 F.3d 1318 (Fed. Cir. 2008), patent owners in lower courts applying the direction or control standard rarely prevailed on divided infringement claims absent proof of an agency relationship or contractual obligation. In *Global Patent Holdings, LLC v. Panthers BRHC LLC*, for example, the patent owner sued for infringement of a method for downloading material from a remote server in response to a query. 586 F.

Shortly after, in *Muniauction, Inc. v. Thomson Corp.*, the Federal Circuit maintained their adoption of the “direction or control” standard but elevated the satisfying degree of closeness between the parties, requiring the relationship between the entities to exist to such a degree that the entity itself “can be said to have performed every step of the asserted claims.”⁶⁰ There, the patent-in-suit covered a method for auctioning municipal bonds on an integrated system that allowed bond issuers and bidders to run the auction using conventional web browsers.⁶¹ The court found that the alleged infringer, who ran a similar online bidding platform, did not perform every step of the claimed method; the bidder performed at least one step—“inputting data associated with at least one bid . . . into said bidder’s computer.”⁶² Citing *BMC*, the court noted that “direction or control” required a mastermind to whom every step in the method is attributable.⁶³ The alleged infringer’s actions, the court concluded, did not rise to the level of a mastermind.⁶⁴

II. THE *AKAMAI* SAGA

In 2012, the Federal Circuit once again found itself wrestling with the relationship standard for divided infringement in the consolidated case of *Akamai Technologies v. Limelight Networks* and *McKesson Technologies v. Epic Systems*.⁶⁵ Rather than establishing a new relationship requirement,

Supp. 2d 1331, 1332 (S.D. Fla. 2008). Even though the defendant asserted control over a website user by supplying the user with programs and web materials that allowed the user’s machine to execute the defendant’s program, the court found this relationship insufficient to meet the direction or control requirement because the user was not contractually obligated to visit the website and submit queries. *See id.* at 1333, 1335. Similarly, in *Emtel, Inc. v. LipidLabs, Inc.*, a court did not find infringement of a telemedicine patent. 583 F. Supp. 2d 811, 814, 840 (S.D. Tex. 2008). The patent required (1) an entity to provide and operate a videoconferencing system, (2) a physician, and (3) a remote medical care facility where there is a caregiver and a patient. *Id.* at 814. Even though the alleged infringer contracted with individual physicians to perform the medical activities, the court held that “[c]ontrolling access to a system and providing instructions on using that system” failed to meet the control or direction requirement, as the physicians still retained discretion in diagnosis and treatment. *Id.* at 831.

60. *Muniauction*, 532 F.3d at 1329.

61. *Id.* at 1322.

62. *Id.*

63. *Id.* at 1329 (citing *BMC*, 498 F.3d at 1380–81).

64. *Id.* at 1330.

65. *See generally* *Akamai Techs., Inc. v. Limelight Networks, Inc. (Akamai II)*, 692 F.3d 1301 (Fed. Cir. 2012), *rev’d*, 134 S. Ct. 2111 (2014). The Federal Circuit panels for the two cases affirmed the district courts’ respective opinions and reinforced the agency requirement. *See* *McKesson Techs. Inc. v. Epic Sys. Corp.*, No. 2010-1291, 2011 U.S.

the court introduced an “inducement-only” approach, where an alleged infringer can be liable for induced infringement under § 271(b) when he performs some steps in a method patent and encourages others to complete the remaining steps, even if no single party is liable for direct infringement under § 271(a).⁶⁶ To understand how the most recent en banc decision reverts to the relationship standard under § 271(a) to address the divided infringement problem, this Part provides a brief chronicle of the exchange between the Federal Circuit and the Supreme Court on divided infringement law.

A. FACTS AND PROCEDURAL HISTORY

Akamai is the exclusive licensee of U.S. Patent No. 6,108,703 (“the ’703 patent”), which claims a method of delivering electronic data using a content delivery network (CDN).⁶⁷ A CDN is a system of distributed servers that deliver web content to users based on the geographic locations of users.⁶⁸ The closer the CDN server is to the user geographically, the faster the content delivery.⁶⁹ The patented method requires the CDN provider and website owners to work together; in order for content to be assigned to a server, it needs to be “tagged.”⁷⁰ Both Akamai and Limelight operate CDNs. Limelight’s service performs nearly every step of the method claimed in the ’703 patent, but Limelight requires its customers to perform their own tagging and provides technical assistance and instructions regarding how to tag.⁷¹

In 2006, Akamai sued Limelight for direct and induced infringement, winning a jury award of \$45 million in damages in the District of Massachusetts.⁷² Shortly after, the Federal Circuit decided *Muniauction*, holding a defendant not liable for direct infringement because he did not exercise direction or control over his customers.⁷³ In light of *Muniauction*, Limelight moved for reconsideration, which the district court granted, and

App. LEXIS 7531, at *1–2 (Fed. Cir. Apr. 12, 2011); *Akamai Techs., Inc. v. Limelight Networks, Inc. (Akamai I)*, 629 F.3d 1311, 1319 (Fed. Cir. 2010).

66. *Akamai II*, 692 F.3d 1301, 1306 (Fed. Cir. 2012), *rev’d*, 134 S. Ct. 2111 (2014).

67. *Akamai III*, 134 S. Ct. 2111, 2115 (2014).

68. *Id.*

69. *Id.*

70. *Id.*

71. *Id.*

72. *See Akamai Techs., Inc. v. Limelight Networks, Inc.*, 614 F. Supp. 2d 90, 95 (D. Mass. 2009).

73. *See Muniauction, Inc. v. Thomson Corp.*, 532 F. 3d 1318, 1330 (Fed. Cir. 2008).

after which it ruled in Limelight's favor.⁷⁴ The Federal Circuit panel affirmed, finding no material difference between Limelight's interactions with its customers and Thomson's interactions with its customers in *Muniauction*.⁷⁵ The court reiterated that an alleged infringer could be held liable for direct infringement only "when there is an agency relationship between the parties who perform the method steps or when one party is contractually obligated to the other to perform the steps."⁷⁶ Providing another party with instructions on how to complete the patented method does not itself constitute the creation of an agency relationship.⁷⁷

B. *AKAMAI II*: THE FEDERAL CIRCUIT'S INDUCEMENT ONLY RULE

On rehearing, the Federal Circuit en banc reversed the panel decision, finding that induced liability under § 271(b) can arise when an alleged infringer performs some steps of a method patent and then encourages others to perform the remaining steps, even if no single party is liable as a direct infringer.⁷⁸ Because no agency relationship existed between Limelight and its customers, the en banc (*Akamai II*) court decided that § 271(b)—which extends liability to those who advise, encourage, or otherwise induce others to engage in infringing conduct—was better suited to resolve the case.⁷⁹ Inducement is not a strict liability offense and has a scienter requirement; this requirement offers innocent third parties, who have no way of knowing that others acted in such a way that their collective conduct infringed a patent, protection in cases where no one party committed the necessary acts to infringe the patent, either personally or vicariously.⁸⁰

The court cited three primary sources of support for its decision: statutory interpretation, precedent, and general tort principles. First, the

74. *Akamai*, 614 F. Supp. 2d at 122.

75. *Akamai Techs., Inc. v. Limelight Networks, Inc. (Akamai I)*, 629 F.3d 1311, 1320–22 (Fed. Cir. 2010).

76. *Id.* at 1320.

77. *Id.* at 1321 (citing *Meyer v. Holley*, 537 U.S. 280, 286 (2003) to illustrate that the agency relationship requires not only the right to direct or control, but also consent by one entity to another that the other shall act on his behalf).

78. *See Akamai Techs., Inc. v. Limelight Networks, Inc. (Akamai II)*, 692 F.3d 1301, 1306 (Fed. Cir. 2012), *rev'd*, 134 S. Ct. 2111 (2014). The Federal Circuit remanded the case to the district court for a determination on the merits under this new doctrine of induced infringement. *Id.* at 1318–19.

79. *Id.* at 1307.

80. *Id.* (citing *In re Seagate Tech, LLC*, 497 F.3d 1360, 1368 (Fed. Cir. 2007) (en banc) ("Because patent infringement is a strict liability offense, the nature of the offense is only relevant in determining whether enhanced damages are warranted")).

Federal Circuit examined the legislative history of the Patent Act of 1952 and concluded that Congress intended for divided infringement to be addressed under the broad scope of § 271(b) in cases where no single entity is liable for direct infringement.⁸¹ Second, the court reexamined the precedent in *BMC*⁸² and *Aro Manufacturing Co. v. Convertible Top Replacement Co.*,⁸³ concluding that those cases do not in fact support the single entity rule where a single actor must commit all the acts necessary to constitute direct infringement before a court can find induced infringement.⁸⁴ Third, the Federal Circuit referred to tort law as a parallel to illustrate that holding an inducing party liable for an innocent party's underlying acts is not a concept unique to patent law.⁸⁵ The court used the principle of joint tortfeasance to demonstrate that a party could be liable for inducement even when none of the individuals whose actions constituted infringement would be liable as direct infringers.⁸⁶

C. *AKAMAI III*: THE SUPREME COURT CHIMES IN

Characterizing the inducement-only approach as “fundamentally misunderstanding what it means to infringe a method patent,” a unanimous Supreme Court reversed the Federal Circuit's decision.⁸⁷ The Court emphasized not only that there must be direct infringement in

81. Contributory Infringement in Patents: Hearings Before the Subcomm. On Patents, Trademarks, and Copyrights of the H. Comm. on Judiciary, 80th Cong. 5 (1948) (statement of Giles Rich on behalf of the New York Patent Law Association); *see also Akamai II*, 692 F.3d at 1314 (“nothing in the text of either subsection suggest[ed] that the act of ‘infringement’ required for inducement under section 271(b) must qualify as an act that would make a person liable as an infringer under section 271(a)”). Furthermore, there is nothing in the text of § 271(b) that demonstrates “the term ‘infringement’ in section 271(b) is limited to ‘infringement’ by a single entity.” *Id.* at 1309.

82. The decision essentially overturned *BMC*. *Id.* at 1318–19.

83. *Aro Mfg. Co. v. Convertible Top Replacement Co.*, 365 U.S. 336, 341 (1961).

84. *See Akamai II*, 692 F.3d at 1315–16. The Federal Circuit observed that the *BMC* decision misinterpreted another prior decision in *Dynacore Holdings Corp. v. U.S. Philips Corp.*, which only supported the proposition that indirect infringement first requires direct infringement. 363 F.3d 1263, 1272 (Fed. Cir. 2004). Nowhere in *Dynacore* does the court require that a single entity be responsible for the act of direct infringement. *See Akamai II*, 692 F.3d at 1315 n.6. Likewise in *Aro*, there was no express or implicit requirement that a single entity be responsible for direct infringement. *See Aro Mfg.*, 365 U.S. at 341.

85. *Akamai II*, 692 F.3d at 1311. In tort law, a defendant can be found liable for tortious conduct if he orders or induces conduct he knows or should have known would be tortious. *Id.* at 1312 (citing RESTATEMENT (SECOND) OF TORTS § 877(a)(1979)).

86. *Id.* at 1313.

87. *Limelight Networks, Inc. v. Akamai Techs., Inc. (Akamai III)*, 134 S. Ct. 2111, 2117 (2014).

order to find indirect infringement, but also that a single entity must be liable under § 271(a) in order to find direct infringement.⁸⁸ Thus, if there is no direct infringement by a single entity under § 271(a), there can be no inducement of infringement under § 271(b).⁸⁹ To require otherwise, Justice Alito declared, “would deprive § 271(b) of ascertainable standards.”⁹⁰ Under the inducement-only rule, he argued, an alleged infringer may be held liable for inducement if it pays another to perform the most important step of a twelve-step method claim, even if no party performs the other eleven steps.⁹¹ In that scenario, while no infringement occurred, Justice Alito noted that “no principled reason prevents him [the alleged infringer] from being held liable for inducement under the Federal Circuit’s reasoning, which permits inducement liability when fewer than all of the method’s steps have been performed.”⁹² Moreover, the Court rejected the parallel the Federal Circuit drew to tort law. In tort law, the rationale for imposing liability when two or more defendants inflict injury on another stems from the understanding that both defendants collectively violated the interests of another.⁹³ In *Akamai III*, the actions of Limelight and of its customers did not amount to an infringement of the patent-in-suit because no single entity carried out all the necessary steps; tort law thus provided an improper analogy.⁹⁴

Along with rejecting the Federal Circuit’s decision to address divided infringement under § 271(b), the Court indicated a possible solution for the liability loophole opened in the wake of its decision. The Court suggested that the Federal Circuit possibly erred in “too narrowly circumscribing the scope of § 271(a)” and left the interpretation of § 271(a) for the Federal Circuit to address on remand.⁹⁵

88. *Id.* (citing *Muniauction, Inc. v. Thomson Corp.*, 532 F.3d 1318, 1329–30 (Fed. Cir. 2008) (“method’s steps have not all been performed as claimed by the patent unless they are all attributable to the same defendant, either because the defendant actually performed those steps or because he directed or controlled others who performed them.”)).

89. *Id.*

90. *Id.* Justice Alito understood the inducement-only rule to hold an alleged infringer liable for conduct that by itself does not constitute infringement; he reasoned that this standard would make it difficult for courts to assess in future cases whether a patent holder’s rights have been violated. *Id.* at 2118.

91. *Id.*

92. *Id.*

93. RESTATEMENT (FIRST) OF TORTS § 876 (1939).

94. *See Akamai III*, 134 S. Ct. at 2119.

95. *Id.* at 2120.

D. *AKAMAI V*: FEDERAL CIRCUIT RECONSIDERS THE RELATIONSHIP STANDARD UNDER § 271(A)

Taking direction from the Supreme Court, the Federal Circuit, in its second en banc review (*Akamai V*),⁹⁶ expanded the relationship standard for a finding of direct infringement under § 271(a). And under its new standard, the court concluded that Limelight was liable for infringement.⁹⁷ The Federal Circuit first laid out that, when multiple actors are involved in practicing the steps of a patented method, the court “will hold an entity responsible for others’ performance of method steps . . . (1) where that entity directs or controls others’ performance, and (2) where the actors form a joint enterprise.”⁹⁸ Whereas the Federal Circuit previously held an actor liable for infringement under § 271(a) only if there was an agency or contractual relationship, the court announced that “liability under § 271(a) can also be found when an alleged infringer conditions participation in an activity or receipt of a benefit upon performance of a step or steps of a patented method and establishes the manner or timing of that performance.”⁹⁹ In these instances, the court reasoned, “the third party’s actions are attributed to the alleged infringer such that the alleged infringer becomes the single actor chargeable with direct infringement.”¹⁰⁰

While it was not necessary to resolve the *Akamai* dispute, the Federal Circuit also outlined an alternative relationship requirement for divided infringement: the joint enterprise rule.¹⁰¹ Actors in a joint enterprise can

96. See generally *Akamai Techs., Inc. v. Limelight Networks, Inc. (Akamai V)*, 797 F.3d 1020 (Fed. Cir. 2015). In between the Supreme Court decision and the Federal Circuit’s 2015 en banc decision, a Federal Circuit panel (Judges Prost, Linn, and Moore dissenting) upheld the 2010 panel’s decision finding Limelight not liable for infringement because it did not have an agency relationship with its customers nor was there a contractual obligation or a joint enterprise. *Akamai Techs. Inc. v. Limelight Networks, Inc. (Akamai IV)*, 786 F.3d 899, 904 (Fed. Cir. 2015).

97. *Akamai V*, 797 F.3d at 1022.

98. *Id.*

99. *Id.* at 1023 (citing *Metro-Goldwyn-Mayer Studios Inc. v. Grokster, Ltd.*, 545 U.S. 913, 930 (2005) (finding that an actor “‘infringes vicariously by profiting from direct infringement’ if that actor has the right and ability to stop or limit the infringement”)).

100. *Id.* Note that the relaxation of the relationship standard reinforces the single-entity rule.

101. The addition of the joint enterprise language is interesting, not only because it is unnecessary for resolving the divided infringement dispute in *Akamai V* and therefore could be considered dicta, but also because the Federal Circuit treats it as an existing rule, when in fact, neither *BMC Res., Inc. v. Paymentech, L.P.*, 498 F.3d 1373 (Fed. Cir. 2007) nor *Muniauction, Inc. v. Thomson Corp.*, 532 F.3d 1318 (Fed. Cir. 2008) make reference to a joint enterprise relationship standard. Joint enterprise language first appeared in Judge Linn’s dissent to the Federal Circuit’s first en banc decision in *Akamai Techs., Inc.*

all be held liable “for the steps performed by the other as if each is a single actor.”¹⁰² A joint enterprise exists where all the following requirements are met:

- (1) an agreement, express or implied, among the members of the group;
- (2) a common purpose to be carried out by the group;
- (3) a community of pecuniary interest in that purpose, among the members; and
- (4) an equal right to a voice in the direction of the enterprise, which gives an equal right of control.¹⁰³

In relaxing the relationship standard under § 271(a), the Federal Circuit effectively overruled any precedent limiting “direction and control” to principal-agent relationships and contractual agreements.¹⁰⁴ The focus of the inquiry, instead, is on whether all method steps can be attributed to a single entity.

Applying the relaxed relationship standard in *Akamai*, the court found that Limelight satisfied the “condition participation upon performance test,” because Limelight conditioned its customers’ use of its CDN upon the customers’ performing the tagging step, and because “Limelight

v. Limelight Networks, Inc. (Akamai II), 692 F.3d 1301, 1349 (Fed. Cir. 2012), *rev’d*, 134 S. Ct. 2111 (2014) (Linn, J., dissenting) (“All members of a joint venture may be jointly and severally liable to third persons for wrongful acts committed in furtherance of the joint enterprise.”). It reappeared in the 2015 Federal Circuit panel decision, unsurprisingly, authored by Judge Linn. *Akamai IV*, 786 F.3d at 904. Evidence that the joint enterprise standard is also a new approach to divided infringement, established by *Akamai V*, is the case *Golden Hour Data Systems, Inc. v. emsCharts, Inc.*, 614 F.3d 1367, 1369–71 (Fed. Cir. 2010). In *Golden Hour*, the alleged infringers formed a strategic partnership to allow their programs to work together and even collaborated to sell the programs as a single unit. *Id.* at 1371. Yet, the Federal Circuit affirmed the district court’s decision that there could be no direct infringement when the direction or control standard could not be established. *Id.* at 1380–81. Under the joint enterprise rule, however, the Federal Circuit should have found liability. *See Akamai II*, 692 F.3d at 1349 (citing *Golden Hour Data Sys.*, 614 F.3d at 1371). Judge Linn himself argued that the decision should be overturned under the joint enterprise rule. *Id.* Consequently, it is likely that the Federal Circuit did not have a joint enterprise relationship standard under § 271(a) until the most recent *Akamai* decision. It is also curious that the court explicitly chose to overturn *Golden Hour*, but not *BMC* or *Muniauction*. *Akamai V*, 797 F.3d at 1022 n.1, 1023 n.3.

102. *Akamai V*, 797 F.3d at 1023 (citing RESTATEMENT (SECOND) OF TORTS § 491 cmt. b (1965): “The law . . . considers that each is the agent or servant of the others, and that the act of any one within the scope of the enterprise is to be charged vicariously against the rest.”).

103. RESTATEMENT (SECOND) TORTS § 491 cmt. c. (1965).

104. *Akamai V*, 797 F.3d at 1023 n.3.

establishes the manner or timing of its customers' performance."¹⁰⁵ Specifically, the court referred to evidence that Limelight's customer contract delineated the steps that customers must perform to use Limelight's service, including tagging and serving.¹⁰⁶ Additionally, substantial evidence indicated that Limelight established the manner or timing of its customers' performance by sending its customers a welcome letter detailing how Limelight's Technical Account Manager leads the implementation of Limelight's services, assigning each customer a hostname, and providing step-by-step instructions on how to integrate the assigned hostname onto the customer's website (a prerequisite for using Limelight's services).¹⁰⁷ Altogether, the court concluded that Limelight's customers did not "merely take Limelight's guidance and act independently on their own."¹⁰⁸ Rather, the customers could only have availed themselves of Limelight's services if they had agreed to perform the method steps of tagging and serving.¹⁰⁹

III. CLOSING THE DIVIDED INFRINGEMENT LIABILITY LOOPHOLE?

The divided infringement saga has spanned nearly a decade in the courts¹¹⁰ because there is no singular rule or set of rules that can address the complex and varied relationships between parties carrying out a method patent. This Part first lays out the doctrinal challenge underlying divided infringement and then evaluates the balance *Akamai V* strikes between the rights of patent holders and the protection of innocent third parties.

105. *Id.* at 1024.

106. *Id.* With respect to tagging, the contract states that, "Customer shall be responsible for identifying via the then current [Limelight] process all [URLs] of the Customer Content to enable such Customer Content to be delivered by the [Limelight network]." Joint Appendix Volume I at 17807, *Akamai Techs. Inc. v. Limelight Networks, Inc.*, Nos. 06-CV-11109 and 06-CV-11585 (Fed. Cir. Mar. 16, 2010). In terms of the serving step, the contract absolves Limelight of any responsibility for failures in its CDN caused by its customers' failure to serve content. *Id.* If a customer's server is down, Limelight's CDN need not perform. *Id.*

107. *Akamai V*, 797 F.3d at 1025 (citing Joint Appendix Volume I (Mar. 16, 2010) 17790). Limelight also provided its customers with installation guides detailing how to tag content. Joint Appendix Volume I (Mar. 16, 2010) 17791. And the court reviewed testimony that Limelight's engineers continuously engaged with customers' activities. *Id.* at 17790, 17235.

108. *Akamai V*, 797 F.3d at 1025.

109. *Id.*

110. See Amended Complaint and Demand for Jury Trial, *Akamai Techs., Inc. v. Limelight Networks, Inc.*, No. 06 CA 11109 RWZ (D. Mass. July 31, 2006).

A. BRIEF SUMMARY OF DOCTRINAL CHALLENGE

In total, it took the Federal Circuit four decisions in the *Akamai* saga to arrive at a new rule for divided infringement. In order to understand why the Federal Circuit struggled, and before evaluating the decision in *Akamai V*, it is useful to reiterate the doctrinal challenge in divided infringement. The primary dilemma in crafting a rule for divided infringement is ensuring that the rule is broad enough to capture actors who attempt to evade liability by dividing performance of a method patent with parties they neither direct nor control, yet narrow enough to protect the inadvertent, non-infringing acts of innocent third parties.

In its first en banc decision (*Akamai II*), the Federal Circuit attempted to resolve this dilemma using § 271(b), where the scienter requirement (allowing the court to inquire into an alleged infringer's intent) provided the case-by-case discretion and protection for innocent third parties that the Federal Circuit determined would create the most appropriate balance between the rights of patent holders and those of innocent third parties.¹¹¹ But, as evident from the Supreme Court's response in *Akamai III*, the § 271(b) approach was problematic, as it created unascertainable standards and a "free-floating concept of 'infringement,'" untethered from the territorial limitations under § 271(a).¹¹² The Supreme Court, instead, indicated that relaxing the standards for divided infringement under § 271(a) was the more appropriate means of addressing the divided

111. See generally *Akamai Techs., Inc. v. Limelight Networks, Inc. (Akamai II)*, 692 F.3d 1301 (Fed. Cir. 2012), *rev'd*, 134 S. Ct. 2111 (2014); see also *supra* Part II.B.

112. See *supra* note 90 and accompanying text. The Federal Circuit's inducement only approach (§ 271(b) approach) ran contrary to both Congress's and the Supreme Court's long recognition of the strict territorial limits of patent law. See *Limelight Networks, Inc. v. Akamai Techs., Inc. (Akamai III)*, 134 S. Ct. 2111 (2014) (No. 12-786), 2014 WL 689554 (Timothy R. Holbrook, Counsel of Record). There is an express territorial limit for acts of direct infringement under § 271(a) but none for induced infringement under § 271(b). *Id.* at 3–4. Prior to the Federal Circuit's en banc decision (*Akamai II*), the absence of a territorial limit under § 271(b) was not an issue because an act of direct infringement under § 271(a) was a prerequisite for finding inducement infringement under § 271(b). *Id.* at 4. The en banc decision in *Akamai II* effectively severed § 271(b) from § 271(a), removing the territorial limitation on § 271(b). *Id.* at 4. This was contrary to the strong presumption against the extraterritorial application of U.S. patent law. See *Deepsouth Packing Co. v. Laitram Corp.*, 406 U.S. 518, 527 (1972) (holding that it is not an infringement to make or use a patented product outside of the United States); *Brown v. Duchesne*, 60 U.S. 183, 195 (1856) (noting that rights granted to a patent owner are confined within the borders of the United States); *Microsoft Corp. v. AT&T Corp.*, 550 U.S. 437, 454–55 (2007) (interpreting Congress's answer to *Deepsouth*, 35 U.S.C. § 271(f), narrowly and finding in favor of the defendant who sold master copies of discs containing plaintiff's patented technology abroad).

infringement dilemma.¹¹³ Using § 271(a), however, bears its own challenge: it is difficult to articulate a clear standard that can be applied consistently and yet is complex enough to account for the myriad of relationships that can arise in a divided infringement context.¹¹⁴

B. HAS THE LIABILITY LOOPHOLE BEEN CLOSED?

While method patent holders may be able to breathe a little more easily following the *Akamai V* decision, the extent to which the relaxed relationship standard under § 271(a) closes the liability loophole remains to be seen. Divided infringement typically arises in two scenarios: (1) company A performs all but one (or a few in some situations) step of a patented method and requires end users to perform the missing step(s), as in *Akamai V*, and (2) company A performs some of the steps of a patented method and sells the resulting product to company B who performs the remaining steps.¹¹⁵ The relaxed relationship standard, holding an alleged infringer liable when he “conditions participation in an activity or receipt of a benefit upon performance of a step or steps of a patented method and establishes the manner or timing of that performance,”¹¹⁶ is aimed at the former scenario while the joint enterprise rule targets the latter.

This Section will first explore how the new standard has already been applied to offer patent holders more protection for their method patents and then examine where gaps in divided infringement may still persist: medical diagnostic patents.¹¹⁷

113. *Akamai III*, 134 S. Ct. 2111, 2119 (2014).

114. The court is unclear as to why it did not lower the standard to the “some connection” standard, see *supra* Section I.B.1 and accompanying text, arising from a line of district court cases and possibly affirmed in *On Demand Machine Corp. v. Ingram Industries*, 442 F.3d 1331, 1345 (Fed. Cir. 2006). Neither *BMC Res., Inc. v. Paymentech, L.P.*, 498 F.3d 1373, 1380 (Fed. Cir. 2007), nor *Muniauction, Inc. v. Thomson Corp.*, 532 F.3d 1318 (Fed. Cir. 2008), sheds any real light on why the Federal Circuit eschewed the “some connection” standard. *Muniauction* refers primarily to *BMC*, which only notes that *On Demand* did not actually establish a “some connection” standard at the Federal Circuit level. *BMC*, 498 F.3d at 1380.

115. See Kristin E. Gerdelman, *Subsequent Performance of Process Steps by Different Entities: Time to Close Another Loophole in U.S. Patent Law*, 53 EMORY L. J. 1987, 1987–88 (2004). Of course, in both fact patterns, multiple companies can be involved. These are just simplified models.

116. *Akamai Techs., Inc. v. Limelight Networks, Inc. (Akamai V)*, 797 F.3d 1020, 1023 (Fed. Cir. 2015).

117. See Sachs, *supra* note 12; Nathan Monroe-Yavneh & Aron Fischer, *Expansion of Direct Infringement in the Federal Circuit’s Akamai Decision a Big Win for Patent Holders*, PATTERSON, BELKNAP WEBB & TYLER LLP (Aug. 18, 2015), <http://www.mondaq.com/unitedstates/x/421020/Life+Sciences+Biotechnology/Expansion+Of+Direct+Infringement+In+Federal+Circuits+Akamai+Decision+A+Big+Win+For+Patent+Holders> [<https://perma>

1. *Closing the Loophole: Eli Lilly & Co. v. Teva Parenteral Medicines, Inc.*

Eli Lilly & Company brought a Hatch-Waxman action¹¹⁸ against Teva Parenteral Medicines, Inc. for inducing infringement of a method of use claim under U.S. Patent No. 7,772,209 (“the ’209 patent”).¹¹⁹ The method protected the co-administration of ALIMTA® (pemetrexed disodium), a treatment for malignant pleural mesothelioma (cancer affecting the inside lining of the chest cavity associated with asbestos exposure),¹²⁰ with folic acid and vitamin B12.¹²¹ The nutrients, when taken with the drug itself, protect against the side effects of the drug.¹²² Teva sought FDA approval to market a generic form of the drug and further sought to sell its product with the same instructions as those described in the ’209 patent.¹²³ Under the instructions, physicians administered the pemetrexed disodium and vitamin B12.¹²⁴ But it was up to patients, following their physicians’ instructions, to obtain and take folic acid.¹²⁵

In finding for Eli Lilly, the district court applied the recently established standard in *Akamai V*, finding direct infringement by physicians under § 271(a) and consequently induced infringement by Teva under § 271(b).¹²⁶ Even though the patient was responsible for taking folic

.cc/2JEX-L8P3]; Courtenay C. Brinckerhoff & Lydia B. Choi, *Federal Circuit Expands Direct Divided Infringement*, Pharma Patents (Aug. 20, 2015), <https://www.pharmapatentsblog.com/2015/08/20/federal-circuit-expands-divided-infringement> [<https://perma.cc/QG9P-R8FM>].

118. The Hatch-Waxman Act established expedited approval of generic drugs, and part of the Act established a patent infringement resolution procedure that is carried out prior to the entry of the generic drug on the market. Elizabeth S. Weiswasser & Scott D. Danzis, *The Hatch-Waxman Act: History, Structure, and Legacy*, 71 ANTITRUST L.J. 585, 585, 595 (2003).

119. *Eli Lilly & Co. v. Teva Parenteral Meds., Inc.*, No. 1:10-cv-01376-TWP-DKL, 2015 U.S. Dist. LEXIS 112221, at *2 (S.D. Ind. Aug. 25, 2015); *Combination Antifolate Therapies*, U.S. Patent No. 7,772,209 (filed July 11, 2007) (issued Aug. 10, 2010).

120. Christian Boutin et al., *Malignant pleural mesothelioma*, 12 EUR. RESPIRATORY J. 972, 973 (1998).

121. *Eli Lilly*, 2015 U.S. Dist. LEXIS 112221, at *2–4.

122. *See id.* at *4.

123. *Id.*

124. *Id.* at *6.

125. *Id.*

126. *Id.* at *12. Teva argued that there was no way of knowing whether a patient actually took folic acid according to his physician’s instructions, thus the physician lacks “direction or control” over this step. *Id.* at *13. The court, however, noted that this was overruled case law on divided infringement, and the relevant question was “whether the physician sufficiently directs or controls the acts of the patients in such a manner as to

acid, and thus completing all the steps of the method claim, the court found that “taking folic acid in the manner specified [by the physician] is a condition of patient’s participation in pemetrexed treatment as described by the patent, and is necessary in order to receive the benefit of such treatment.”¹²⁷ Furthermore, the court concluded that the physician directed the manner and timing of the patient’s folic acid regime: 400–1000 micrograms of folic acid at least five days out of seven days before the start of treatment.¹²⁸

2. *The Medical Diagnostics Gap*

While the new *Akamai V* divided infringement rule is already offering relief to some patent holders, commentators have expressed concern that

condition participation in an activity or receipt of a benefit—in this case, treatment with pemetrexed in the manner that reduces toxicities—upon the performance of a step of the patented method and establishes the manner and timing of the performance. *Id.* at *12–13.

127. *Id.* at *14. The instructions noted that if the patient did not carry out the step, she would not benefit from the “reduction of potentially life-threatening toxicities caused by pemetrexed.” *Id.* The patient information stated: “It is very important to take folic acid . . . during your treatment with ALITMA to lower your chances of harmful side effects. You must start taking 400–1000 micrograms of folic acid every day for at least 5 days out of the 7 days before your first dose of ALITMA.” *Id.*

128. *Id.* at *14–15. While the treatment instructions in *Eli Lilly* were explicit, another interesting case, *LifeNet Health v. LifeCell Corp.*, is currently making its way through the Federal Circuit. Non-Confidential Reply Brief of Defendant-Appellant LifeCell Corporation, *LifeNet Health v. LifeCell Corp.*, No. 2015-1549, 2015 WL 6681107 (Fed. Cir. Oct. 26, 2015). There, the defendant argued that it was not liable for direct infringement, because it was not the single entity that met all the claim elements. *Id.* at *20–21. The element in particular that LifeCell did not meet is the “Not Removed Limitation” of U.S. Patent. No. 6,569,200 as exemplified in claim 7. Non-Confidential Brief of Defendant-Appellant LifeCell Corporation, *LifeNet Health v. LifeCell Corp.*, No. 2015-1549, at *14 (Fed. Cir. July 6, 2015), 2015 WL 4252714 (“A method for producing a plasticized soft tissue graft suitable for transplantation into a human, comprising: impregnating a cleaned soft tissue graft with one or more plasticizers to produce a plasticized soft tissue graft and said one or more plasticizers are not removed from an internal matrix of said plasticized soft tissue graft prior to transplantation into a human.”) (emphasis omitted). LifeCell did not prepare its grafts for transplantation, relying on independent surgeons to do so. Non-Confidential Reply Brief of Defendant-Appellant LifeCell Corporation (Oct. 26, 2015), *supra*, at *20–21. Rather than providing explicit instructions for surgeons, LifeCell encouraged them to follow their own institutional protocols and professional judgment when preparing the grafts. *Id.* at *21 (providing that the surgeons soak the grafts in saline for anywhere between two to four minutes, which greatly affects the quantity of plasticizers removed). Whether the Federal Circuit will deem these instructions as conditioning participation upon performance is interesting because LifeCell did not (though the court may not even need to reach this decision), in a strict sense, establish the manner or timing of the performance.

the decision leaves a gap of protection in the medical diagnostics field.¹²⁹ Divided infringement is particularly problematic for diagnostics in light of the Supreme Court's 2012 decision in *Mayo Collaborative v. Prometheus Labs*.¹³⁰ The decision in *Mayo* renders the purely diagnostic components of diagnostic tests, such as those that analyze a patient's DNA for the presence of a molecular variant using conventional DNA-analysis techniques, patent-ineligible.¹³¹ While the United States Patent and Trademark Office (USPTO) still permits diagnostic patents, the matter claimed must differ significantly from laws of nature.¹³² Inventors wishing to patent diagnostic tests need to claim specific applications of these tests,

129. It is beyond the scope of this Note to engage in a normative debate as to whether diagnostic tests should be patent-eligible. One should note, however, that molecular diagnostics are extremely costly to develop, due to the difficulty of performing research in the field and the complexity of molecular interactions. See Jerel C. Davis et al., *The Microeconomics of Personalized Medicine: Today's Challenge and Tomorrow's Promise*, 8 NATURE REVS. DRUG DISCOVERY 279 (2009); Geoffrey S. Ginsburg & Jeanette J. McCarthy, *Personalized Medicine: Revolutionizing Drug Discovery and Patient Care*, 19 TRENDS BIOTECHNOLOGY 491, 494–95 (2001). Additionally, even once a discovery is made, there is a lengthy FDA approval process that increases development costs and decreases the inventor's monopoly period. See Davis, *supra*, at 279. The free-riding concern in personalized medicine and biotechnology generally is high because there is a larger gap between innovator and imitator costs in this industry than in others. Consequently, the industry has little incentive to invest without strong patent protections. ROBERT P. MERGES, JUSTIFYING INTELLECTUAL PROPERTY 282 (2011) ("But there is one consistent finding across all the empirical literature on patents, one canonical truth that has been repeatedly established and confirmed beyond a peradventure of doubt: the pharmaceutical industry needs patents to survive.").

130. See *Mayo Collaborative v. Prometheus Labs*, 132 S. Ct. 1289 (2012). The claims at suit covered a medical process for optimizing the therapeutic efficiency of thiopurine based on the concentration of the drug in the patient's bloodstream. *Id.* at 1297–98. Prometheus's claims covered a method of: (1) administering a drug to a patient, (2) determining the metabolite levels of the drug in the patient's blood, and (3) informing a physician whether the metabolite levels indicated a need to increase or decrease the drug dosage. *Id.* at 1295. In 2004, Mayo began using and selling a variation of the test. *Id.* at 1296. The Court held Prometheus's claims patent-ineligible because they merely instructed doctors to gather data and draw inferences in light of a naturally occurring correlation and did not contain an inventive application of that law. *Id.* at 1297.

131. *Id.* at 1297. The overall ability to patent diagnostics has been further eroded by the Federal Circuit's 2014 decision on the patent-ineligibility of primers, single-stranded synthetic DNA molecules commonly used in diagnostic tests. See *In re BRCA1- and BRCA2-Based Hereditary Cancer Test Patent Litigation*, 774 F.3d 755, 757 (Fed. Cir. 2014).

132. Memorandum of Andrew H. Hirshfeld, Deputy Commissioner for Patent Examination Policy, March 2014 Procedure For Subject Matter Eligibility Analysis Of Claims Reciting Or Involving Laws Of Nature/Natural Principles, Natural Phenomena, And/Or Natural Products 3 (Mar. 4, 2014), http://www.uspto.gov/patents/law/exam/myriad-mayo_guidance.pdf [<https://perma.cc/T9AG-36MM>].

and this often involves writing a method patent that divides performance among several parties, including lab technicians and physicians, such that no single party can perform all of the steps alone.¹³³ While patent prosecutors have explored creative claim-drafting strategies to avoid multiple actors, the *Mayo* decision has made their task significantly more challenging.¹³⁴ Consequently, patent holders wishing to protect their intellectual property in medical processes and diagnostics must often draft their claims in a way that raises enforcement concerns.¹³⁵

It is unclear whether the *Akamai V* decision has adequately allayed these concerns. The possibility of liability in the “condition participation upon performance” scenario may not map well to divided infringement in the medical diagnostics context. Two reasons for this are:

- (1) a difference in kind—the service provider-end user and physician-patient relationships are arguably different in nature from the diagnostic company-physician relationship,¹³⁶ and
- (2) a difference in degree—there are often more actors (patients, physicians, technicians, and diagnostic companies may all participate in performing a claimed method) in the

133. Press Release, *Mayo Clinic and SV Bio Enter Strategic Relationship on Genome Diagnostics and Interpretation*, MAYO CLINIC (Jan. 21, 2013), <http://newsnetwork.mayoclinic.org/discussion/mayo-clinic-and-sv-bio-enter-strategic-relationship-on-genome-diagnostics-and-interpretation> [<https://perma.cc/9MV8-EF9W>].

134. Joanna Liebes, *Akamai: A Cure for Medical Process Patent's Prometheus Ailment?*, 5 HASTINGS SCI. & TECH. L.J. 309, 309–10 (2013). A Bloomberg BNA survey into PTO examiner actions post-*Mayo* reviewed the prosecution histories of approximately 1,000 biotechnology patents and found that 35% of the applications contained § 101 rejections based on *Mayo*. Matthew B. McFarlane, Tara Guffrey Sharp & John T. Aquino, *Stopped at the Threshold: The Practical Impact of the Supreme Court's Mayo and Myriad Decisions on Biotechnology Patent Practices*, BNA BLOOMBERG S-16 (2014). Furthermore, the *Mayo* rejections were primarily diagnostics, and when applicants followed the PTO examiner's suggestions to amend claims by adding practical steps, those amendments often imposed key limitations on enforcement. *Id.* at S-5.

135. *See Mayo*, 132 S. Ct. at 1297.

136. The diagnostic company-physician relationship is just one example of the many permutation of relationships (diagnostic company-independent lab, physician-independent lab) that can arise in the diagnostic divided infringement context. It is meant to address the laboratory developed test (LDT) fact pattern that companies including Ariosax Diagnostics, Inc. and Myriad Genetics, Inc. employ. *See infra* note 137 for a definition of LDT; *see also About the Company*, ARIOSAX DIAGNOSTICS, INC., <http://www.ariosadx.com/about-us> [<https://perma.cc/62QQ-YUDU>]; *Genetic Testing Process*, MYRIAD GENETICS, INC., <https://www.myriad.com/healthcare-professionals/about-genetic-testing/genetic-testing-process> [<https://perma.cc/2EUH-9SN8>].

medical diagnostics context, making it difficult to identify one direct infringer.

Before exploring these differences, it is important to acknowledge that any inquiry will be highly factually dependent. For simplicity, this Note addresses two different types of medical diagnostic tests. The first is the laboratory-developed test (LDT), which describes any test designed, manufactured, and used within a single laboratory.¹³⁷ As such, the actors dividing performance of a LDT method patent are physicians and diagnostic companies. This fact pattern is most analogous to that in *Akamai V*, where the CDN provider was liable for direct infringement. The second type of medical diagnostic test involves diagnostic companies who manufacture products/kits that multiple third parties, including physicians and independent labs, implement. This most closely mirrors the situation in *Eli Lilly*, where the pharmaceutical company was liable for induced infringement.

a) Liability for Direct Infringement

One challenge in applying the *Akamai V* test on its face is that, unlike in *Akamai V*, diagnostic testing companies do not, in practice, “condition physicians’ ordering of a diagnostic test on the physician using that test in a specific manner.”¹³⁸ Such a relationship would, in fact, violate the Corporate Practice of Medicine (CPM) doctrine.¹³⁹ Furthermore, the relationship between physicians and diagnostic companies is unlikely to constitute a joint enterprise. While there may be an agreement between physicians and diagnostic companies, for instance, to purchase a specific

137. *Laboratory Developed Tests*, U.S. FOOD & DRUG ADMIN., <http://www.fda.gov/MedicalDevices/ProductsandMedicalProcedures/InVitroDiagnostics/ucm407296.htm> [<https://perma.cc/LC4F-WCMK>] (“A laboratory developed test (LDT) is a type of in vitro diagnostic test that is designed, manufactured and used within a single laboratory.”). In this fact pattern, the alleged direct infringer would either be the diagnostic company, similar to Limelight in *Akamai V*, or the physician, with the diagnostic company liable for induced infringement, as in *Eli Lilly*. See *supra* notes 105–109 and accompanying text (*Akamai V*); *supra* note 126 and accompanying text (*Eli Lilly*).

138. See Sachs, *supra* note 12.

139. Most states have a CPM doctrine that prohibits a business corporation from practicing medicine or employing a physician to do so, as this would undermine the physician-patient relationship and compromise the physician’s exercise of independent judgment. *Corporate Practice of Medicine*, HEALTH LAW., <https://www.healthlawyers.org/hlresources/Health%20Law%20Wiki/Corporate%20Practice%20of%20Medicine.aspx> [<https://perma.cc/9WP2-BH7P>] (providing an excerpt from Nili Yolin, *The Corporate Practice of Medicine Prohibition and the Hospital-Captive PC Relationship—Can They Coexist*, in AMERICAN HEALTH LAWYERS ASSOCIATION BUSINESS LAW AND GOVERNANCE PRACTICE GROUP EXECUTIVE SUMMARY (2010)).

brand of test, as well as a common purpose to accurately diagnose patients, the relationship is unlikely to meet the third and fourth requirements for establishing a joint enterprise.¹⁴⁰ Physicians do not have the same pecuniary interests as diagnostic companies, nor are they likely to have equal control in a relationship.¹⁴¹

That being said, a more flexible interpretation of the “condition participation upon performance” requirement may be adequate to address divided infringement under this context. Patent holders will likely contend that even if diagnostic companies cannot “condition” a physician’s purchase of a diagnostic test on the physician using the test in a specific manner or at a specific time, the specific instructions accompanying the test, as well as limitations on how the test can be employed, effectively condition a physician’s participation upon performance. Just as the customers in *Akamai V* needed to tag their content in order to avail themselves of Limelight’s services,¹⁴² physicians arguably have to follow the instructions accompanying any diagnostic test to ensure that results are accurate for their patients. Whether courts will accept this argument, however, remains to be seen.

b) Liability for Induced Infringement

Unlike in *Akamai V* and the LDT context above, where a court found or could find a service provider or diagnostic company liable for direct infringement,¹⁴³ another scenario in the medical diagnostic context involves multiple actors: a diagnostic company that manufactures a product/kit, the steps of which are performed by a physician and independent laboratory. In order to hold the diagnostic company liable for induced infringement, it is first necessary to identify a direct infringer. Unlike in *Eli Lilly*, where it was relatively simple for a court to identify the physicians as the direct infringers—because the physicians completed nearly every step of the disputed method patent, and because the patients’ taking of folic acid in a manner specified by their physicians was a condition of participation and necessary to achieve the benefit of the treatment¹⁴⁴—it is unclear whether the physician, independent testing laboratory, or both (under a joint enterprise theory)¹⁴⁵ could be liable for

140. See RESTATEMENT (SECOND) TORTS § 491 cmt. c. (1965).

141. See *id.*

142. See *supra* notes 104–109 and accompanying text.

143. See *id.*

144. *Eli Lilly*, 2015 U.S. Dist. LEXIS 112221, at *14.

145. Just as it would be difficult to characterize the relationship between physicians and diagnostic companies as joint enterprises, it is likely to be similarly difficult to

direct infringement in this context.¹⁴⁶ Could either the physician or independent laboratory be regarded as conditioning the other's participation in the diagnostic test upon performance of certain steps of the test? And does either the physician or independent laboratory establish the method or timing of the other's actions? It is uncertain just how courts will respond to such questions.¹⁴⁷

Accordingly, there may be challenges in applying the new *Akamai V* rule, on its face, to cover divided infringement of medical diagnostic patents. The Federal Circuit's language and focus on the specific facts of the case indicate that the court may be open to further extensions of divided infringement liability on a case-by-case basis to provide patent owners protection.¹⁴⁸ But this itself raises the question of just how far the relationship standard can be extended before it becomes overly complicated for lower courts to administer and loses its meaning.

C. LOOKING FORWARD: LEGISLATIVE SOLUTIONS

The Federal Circuit's many attempts at establishing a divided infringement rule may be reflective of the Patent Act of 1952's struggle to accommodate modern technology and the corresponding litigation landscape. While the Federal Circuit's extension of the relationship

characterize the relationship between physicians and independent laboratories as joint enterprises. See *supra* Section III.B.2.a. This Note, however, does not rule out the possibility that the hospitals or medical institutions where physicians are employed may be in joint enterprises with independent laboratories. But whether a medical institution is liable for the actions of its physicians under the doctrine of respondeat superior, and how this translates into the divided infringement context is beyond the scope of this Note.

146. Additionally, there are other fields, such as the Internet-of-Things (smart devices), where this issue could arise. For a brief overview of the Internet-of-Things and the role of divided infringement in this emerging technology, see Luo, *supra* note 15 at 707–08. The Internet-of-Things refers to a complex interconnected web of physical objects and human beings, which makes it very difficult to identify just one infringing entity. W. Keith Robinson, *Economic Theory, Divided Infringement and Enforcing Interactive Patents*, 67 FLA. L. REV. 1961, 1979 (2015). With interactive technologies, it is also feasible to picture scenarios in which multiple actors divide performance of a method with no one actor conditions the participation of others upon performance; no one actor directs or controls others' actions; and the actors are not in a joint enterprise.

147. Courts could set up a rule of thumb whereby they attribute direct infringement to the party who carries out the majority of the steps of the patent, but what should constitute majority? Would over fifty percent be sufficient? Over eighty percent? And how would courts treat the issue of establishing the method and timing of performance?

148. See Sachs, *supra* note 12; Marc Lorelli & Christopher Smith, *Federal Circuit Limits "Divided Infringement" Defense—Precise Contours Of Direct Infringement Remain Uncertain*, BROOKS KUSHMAN (Aug. 17, 2015), <http://www.brookskushman.com/news/news-detail/Federal-Circuit-Limits-Divided-Infringement-Defense-Precise-Contours-Of-Direct-Infringement-Remain-Uncertain.html> [<https://perma.cc/YHX3-87GY>].

requirement under § 271(a) in *Akamai V* offers patent owners a measure of reassurance, its struggle doing so indicates that the current statute may be inadequate to address issues arising from multi-actor patents.¹⁴⁹ Because § 271(a) establishes a strict liability offense, and courts cannot inquire into an alleged infringer's intent, the Federal Circuit is caught in a difficult balancing act between the interests of patent holders and the interests of innocent third parties. It is unlikely that any standard under the current statute will ever strike the ideal balance.¹⁵⁰

As more interactive technologies involving multiple actors arise, rather than relying on an evolving relationship requirement under § 271(a), the more permanent solution likely involves congressional action.¹⁵¹ For example, Congress could delineate two types of direct infringement under § 271(a): (1) a strict liability approach when a single entity performs all the steps of a claimed method patent, and (2) a knowledge and intent inquiry where multiple entities share the performance of a patented method claim. Whatever the ultimate solution, any congressional action should take into account the increasingly interactive nature of technology.

IV. CONCLUSION

While the Federal Circuit made a commendable attempt to close the divided infringement liability loophole in *Akamai V*, gaps may still persist, particularly in medical diagnostics. How, or if, the Federal Circuit will address these gaps—whether it continues to adapt the divided infringement relationship standard under § 271(a)—is unclear. But as the difficulty with establishing a divided infringement rule that protects both patent owners and innocent third parties stems from limitations in the current statutory framework, it may be time for Congress to consider a more permanent statutory solution, ensuring that patent law can keep up with the increasingly interactive nature of modern technology.

149. See *supra* Section III.A.

150. Introducing an intent requirement under the § 271(a) analysis, however, will not solve the problem. Doing so would place a burden on the patentee to prove that an accused infringer acted with the intent to infringe, even in simple cases where one actor carried out all the steps in a method claim. This may greatly increase the cost of enforcing intellectual property rights and shift the current system in favor of accused infringers. See Robert P. Merges, *A Few Kind Words for Absolute Infringement Liability in Patent Law*, 31 BERKELEY TECH. L.J. 1 (2016).

151. See *Post Limelight, Could Patent Act Be More User Friendly?*, LAW360 (Aug. 21, 2015), <http://www.law360.com/articles/692252/post-limelight-could-patent-act-be-more-user-friendly> [https://perma.cc/EY4H-DKHC] (commentary of Steven Wong).

**ARIOSA DIAGNOSTICS V. SEQUENOM:
METASTASIS OF MAYO AND MYRLAD AND THE
EVISCERATION OF PATENT ELIGIBILITY FOR
MOLECULAR DIAGNOSTICS**

Philip Merksamer[†]

Before the advent of non-invasive prenatal testing, a doctor would insert a three-to-six-inch needle through the abdomen of a pregnant woman and into the amniotic sac surrounding the fetus to diagnose fetal disorders for certain high risk pregnancies.¹ This procedure, called amniocentesis, carried small but significant risks to the fetus and mother such as miscarriage, needle injury to the fetus, and transmission of an infection such as HIV or hepatitis C from an infected mother to fetus.² Fortunately for pregnant women living in the twenty-first century, Drs. Dennis Lo and James Wainscoat invented a non-invasive prenatal test that diagnoses fetal disorders with a simple blood draw and that carries none of the above-mentioned risks to mother and child.³ Unfortunately for Drs. Lo and Wainscoat, the Court of Appeals for the Federal Circuit determined in *Ariosa Diagnostics v. Sequenom* that their invention is not eligible for patent protection.⁴

In *Ariosa*, the Federal Circuit applied recent Supreme Court patent eligibility decisions⁵ in holding that the non-invasive prenatal test at issue is not patent-eligible subject matter under 35 U.S.C. § 101 of the U.S. Patent

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1. M. Cruz-Lemini et al., *How to Perform Amniocentesis*, 44 *ULTRASOUND IN OBSTETRICS & GYNECOLOGY* 727, 727–31 (2014); see also *Wallace Amniocentesis Needles*, <https://www.smiths-medical.com/products/assisted-reproduction/amniocentesis-needles/wallace-amniocentesis-needles> [<https://perma.cc/W9E8-T75P>].

2. *Amniocentesis Risks*, MAYO CLINIC (Oct. 30, 2015), <http://www.mayoclinic.org/tests-procedures/amniocentesis/basics/risks/prc-20014529> [<https://perma.cc/2XAQ-LWS4>]; see also Faris Mujezinovic & Zarko Alfirevic, *Procedure-Related Complications of Amniocentesis and Chorionic Villous Sampling: A Systematic Review*, 110 *OBSTETRICS & GYNECOLOGY* 687, 687–94 (2007).

3. U.S. Patent No. 6,258,540 (filed Mar. 4, 1998) [hereinafter '540 Patent].

4. *Ariosa Diagnostics, Inc. v. Sequenom, Inc.*, 788 F.3d 1371 (Fed. Cir.), *reh'g denied*, 809 F.3d 1282 (Fed. Cir. 2015).

5. See, e.g., *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 132 S. Ct. 1289 (2012).

Act.⁶ In his concurring opinion, Judge Linn lamented that he was denying patent eligibility only because he was “bound by the sweeping language of the test set out in [*Mayo*].”⁷

This Note explores and critiques how the Supreme Court in *Mayo Collaborative Services v. Prometheus Labs*⁸ and *Association for Molecular Pathology v. Myriad*⁹ and the Federal Circuit in *In re BRCA1- & BRCA2-Based Hereditary Cancer Test Patent Litigation v. Ambr*¹⁰ and *Ariosa* have broadened the scope of the law of nature and natural phenomena exceptions to patent-eligible subject matter to limit or foreclose patentability for molecular diagnostic innovations stemming from practical applications of new scientific discoveries. Part I explains the science underlying molecular diagnostics and nucleic acid chemistry to aid understanding of the fact patterns presented in the subsequent sections. Part II traces the origins of the law of nature and natural phenomena exceptions to patent-eligible subject matter and argues that *Mayo* and *Myriad* have not only broadened the scope of the exceptions but also crafted a framework where practical applications of new discoveries may not be patent eligible. Part III argues that the Federal Circuit has adopted an unnecessarily broad reading of *Mayo* and *Myriad*, which jeopardizes patent eligibility for molecular diagnostics. Part IV evaluates the policy merits of patent protection for molecular diagnostics and argues that diagnostic patents promote innovation. Finally, Part V concludes with suggestions to preserve patent eligibility for molecular diagnostics specifically and practical applications of scientific discoveries broadly.

I. THE SCIENCE OF MOLECULAR DIAGNOSTICS

The molecular biology underlying molecular diagnostics is relevant to the cases and issues discussed in the following Parts. Appendix I provides brief explanations of molecular biology terms used throughout this Note for quick reference.

A. MOLECULAR DIAGNOSTICS

Molecular diagnostics encompass the identification, characterization, and measurement of biological molecules—sometimes called biomarkers—

6. *Ariosa*, 788 F.3d at 1373.

7. *Id.* at 1380 (Linn, J., concurring).

8. *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 132 S. Ct. 1289 (2012).

9. *Ass'n for Molecular Pathology v. Myriad Genetics, Inc.*, 133 S. Ct. 2107 (2013).

10. *In re BRCA1- & BRCA2-Based Hereditary Cancer Test Pat. Litig. v. Ambr Genetics Corp.*, 774 F.3d 755 (Fed. Cir. 2014).

that distinguish normal from abnormal processes and that provide indicators of disease.¹¹ Biomarkers may include any molecules present in the human body such as nucleic acids (e.g., DNA and RNA), proteins, and various small molecules or metabolites.¹² Molecular diagnostics may ascertain the presence of disease,¹³ predict the likelihood of developing disease,¹⁴ or predict the likelihood of therapeutic effectiveness for certain treatments.¹⁵

Diagnostic innovation depends broadly on two categories of advancements. One category involves the identification and characterization of the relationships between biomarkers and diseases.¹⁶ A second category involves the improvement of analytical techniques to measure biomarkers less invasively and with greater accuracy, at greater scale, and at lower cost.¹⁷ Inventors generally protect these types of inventions with process or method patent claims that describe measuring a biomarker and correlating it to a clinically relevant phenotype and with composition claims that describe detecting agents required to analyze biomarkers. The Supreme Court in *Mayo*¹⁸ and *Myriad*¹⁹ and the Federal

11. See N. Lynn Henry & Daniel F. Hayes, *Cancer Biomarkers*, 6 MOLECULAR ONCOLOGY 140, 140 (2012).

12. See *id.*

13. For example, assaying for the presence of antibodies against HIV provides a statistically conclusive diagnosis as to whether a patient is infected with the virus that causes AIDS. See *HIV Antibodies*, AIDS MAP, <http://www.aidsmap.com/HIV-antibodies/page/1322961> [<https://perma.cc/E6Z9-5UPY>].

14. For example, diagnosing the presence of certain mutations in the BRCA1 and BRCA2 genes provides a certain statistical likelihood of developing breast or ovarian cancer. See U.S. Patent No. 5,747,282 (filed June 7, 1995) [hereinafter '282 Patent].

15. For example, the cancer therapeutic Herceptin is most effective against cancers that overexpress the HER2 gene. A diagnostic test to determine the amplification state of HER2 helps identify patients suitable for treatment with Herceptin. See *Herceptin*, <http://www.herceptin.com> [<https://perma.cc/A8TX-LXTJ>].

16. See MOUSUMI DEBNATH ET AL., MOLECULAR DIAGNOSTICS: PROMISES AND POSSIBILITIES 295–307 (18th ed. 2010).

17. See, e.g., Linnea M Baudhuin, Leslie J. Donato & Timothy S. Uphoff, *How Novel Molecular Diagnostic Technologies and Biomarkers Are Revolutionizing Genetic Testing and Patient Care*, 12.1 EXPERT REV. MOLECULAR DIAGNOSTICS 25 (2012).

18. See *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 132 S. Ct. 1289 (2012).

19. See *Ass'n for Molecular Pathology v. Myriad Genetics, Inc.*, 133 S. Ct. 2107 (2013).

Circuit in *Ambry*²⁰ and *Ariosa*²¹ have limited, jeopardized, or foreclosed both categories of claims.²²

B. NUCLEIC ACID BIOLOGY

Nucleic acids, namely DNA and RNA, are important biomarkers, and nucleic-acid-based technologies are important tools for diagnosing disease.²³ DNA and RNA are biological polymers of nucleotides, and each nucleotide contains a specific nitrogen base.²⁴ The sequence, or linear order, of these nucleotides conveys genetic information.²⁵ The human genome consists of genomic DNA, which exists in chromosomes within cells.²⁶ Genes are segments of genomic DNA that provide instructions for making specific proteins.²⁷ Many human genes consist of exons and introns.²⁸ The exons of genes provide the actual instructions for making specific proteins.²⁹ When a cell endeavors to make a specific protein, the information encoded in the exons of genes is copied into mRNA.³⁰ mRNA contains the same protein-coding information as its corresponding gene, but its chemical composition is slightly different.³¹ The protein-producing machinery of the cell 'reads' mRNA to produce a specific protein according to the instructions encoded therein.³²

20. See *In re BRCA1- & BRCA2-Based Hereditary Cancer Test Pat. Litig. v. Ambry Genetics Corp.*, 774 F.3d 755 (Fed. Cir. 2014).

21. See *Ariosa Diagnostics, Inc. v. Sequenom, Inc.*, 788 F.3d 1371 (Fed. Cir.), *reh'g denied*, 809 F.3d 1282 (Fed. Cir. 2015).

22. See *infra* Parts II and III for further discussion.

23. See DEBNATH ET AL., *supra* note 16, at 6–7.

24. The nitrogen bases are adenine, guanine, cytosine, and thymine. RNA contains uracil instead of thymine. Uracil conveys the same genetic information as thymine. See BRUCE ALBERTS ET AL., *MOLECULAR BIOLOGY OF THE CELL* 192–97, 302–303 (4th ed. 2002).

25. *Id.* at 192–97.

26. *Id.* at 198.

27. *Id.* at 200.

28. *Id.* at 202.

29. *Id.* Understanding the role of introns is not important for understanding the following Parts other than the fact that genes and genomic DNA contain introns.

30. *Id.* at 302.

31. *Id.* at 302–04. The thymine base of DNA contains a methyl group that the uracil base of RNA lacks. The ribose sugar of DNA lacks a hydroxyl group that the ribose sugar of RNA contains. Neither of these differences changes the information content embodied in these molecules. To make a finer point, while thymine and uracil have different names, they contain identical genetic information for the purposes of coding protein sequences. *Id.*

32. *Id.* at 335–36.

While some patents refer to isolated DNA, the word “isolated” is somewhat of a misnomer.³³ The isolation of human DNA is not analogous to the isolation and purification of a drug from a tree growing in the Amazon.³⁴ Instead “isolated” human DNA refers to synthetic DNA that is often a copy of a naturally occurring nucleic acid or a segment thereof.³⁵ Synthetic DNA shares physical properties with its naturally occurring counterpart, but may possess novel functions or utilities.³⁶ To copy genomic DNA, scientists may extract it from cells, fragment it, and transfer the fragments into bacteria.³⁷ As the bacteria grow, they synthesize many copies of the DNA fragments. Scientists may also use polymerase chain reaction (PCR) to amplify DNA to create billions of synthetic copies.³⁸ PCR requires primers, which are short synthetic DNA molecules that anneal to specific regions of target DNA and initiate amplification.³⁹ Scientists design primers to have specific lengths and other physical characteristics such as melting temperature in accord with the needs for each PCR reaction.⁴⁰ To copy mRNA, scientists use a process called reverse transcription, which

33. See, e.g., '282 Patent, *supra* note 14, at col. 2 l. 16.

34. See Eric Grote, Legal and Scientific Flaws in the Myriad Genetics Litigation 1, 17 (Sep. 12, 2014) (unpublished manuscript) (on file with the University of Maryland at Baltimore) (discussing the scientific inaccuracies of this hypothetical that the Supreme Court considered at oral argument in *Myriad*).

35. See '282 Patent, *supra* note 14, at col. 2 l. 16; see also Christopher Holman, *Mayo, Myriad, and The Future Of Innovation in Molecular Diagnostics and Personalized Medicine*, 15 N.C. J.L. & TECH 639, 649–50 (2014). These synthetic copies have different structural features than those found in naturally occurring DNA such as different methylation patterns. DNA methylation provides heritable information relating to gene expression and chromosome organization. See Grote, *supra* note 34, at 27.

36. See *Ass'n for Molecular Pathology v. United States PTO*, 653 F.3d 1329, 1365 (Fed. Cir. 2011) (Moore, J., concurring in part) (“The shorter isolated DNA sequences have a variety of applications and uses in isolation that are new and distinct as compared to the sequences as it occurs in nature.”).

37. ALBERTS ET AL., *supra* note 24, at 491–513. DNA fragments are ligated into plasmids, which are DNA structures found naturally in certain bacteria. Scientists use synthetic versions of plasmids, which can be introduced into laboratory bacteria. This process facilitates copying and storing the information content found in naturally occurring DNA. See *id.*

38. See *id.* Copies of genes share the same protein-encoding information as their naturally occurring counterparts, but possess some chemical differences. Naturally occurring DNA is methylated whereas PCR-generated synthetic DNA is not. Naturally occurring human DNA and synthetic DNA are also structurally different because naturally occurring human DNA, but not synthetic DNA, exists in chromosomal structures. See Grote, *supra* note 34, at 18.

39. ALBERTS ET AL., *supra* note 24, at 491–513.

40. See *id.*; see also DEBNATH ET AL., *supra* note 16, at 133.

copies mRNA into cDNA.⁴¹ Analogous to gene copies, cDNA shares the same protein-encoding information as mRNA, but possesses some chemical differences.⁴² The above-mentioned techniques for copying nucleic acids are and have been conventional, routine, and well-understood activities at the time of filing for each of the patents at issue in the following Parts.⁴³

II. THE SUPREME COURT HAS BROADENED THE MALLEABLE JUDICIAL EXCEPTIONS TO PATENT-ELIGIBLE SUBJECT MATTER

This Part critiques the Supreme Court's development of the "law of nature" and "natural phenomena" judicial exceptions to patent-eligible subject matter. Section II.A describes the statutory framework of patent-eligible subject matter. Section II.B traces the origins of the judicially created exceptions to the statutory framework and critiques how the Court in *Mayo* and *Myriad* has broadened the exceptions, which jeopardizes patentability for molecular diagnostic innovations specifically and practical applications of new discoveries generally.

A. THE CONSTITUTIONAL AND STATUTORY BASES FOR PATENT-ELIGIBLE SUBJECT MATTER

The United States Constitution authorizes Congress to grant inventors exclusive rights to their inventions for a limited time to encourage innovation.⁴⁴ Exclusive rights incentivize the public to invest in expensive and risky research by providing a limited period free from competition, which increases the chances of a return on investment.⁴⁵

41. ALBERTS ET AL., *supra* note 24, at 491–513. Reverse transcription is a naturally occurring process that retroviruses such as HIV use to copy their genomes. *Id.*

42. *See id.* The chemical differences are that cDNA has thymine and deoxyribose while mRNA contains uracil and ribose.

43. *See id.*; *see also* David McDowell, *The Polymerase Chain Reaction Patents: Going, Going, . . . Still Going*, 99 J. ROYAL SOC'Y MED. 62 (2006) (discussing the invention of PCR in 1983); *see also* *Destroying Dogma: the Discovery of Reverse Transcriptase* ROCKEFELLER U. (Mar. 3, 2016), http://centennial.ruceres.org/index.php?page=Destroying_Dogma [<https://perma.cc/9E2L-BJYV>] (discussing the discovery in 1970 of reverse transcriptase, the enzyme that creates cDNA from mRNA).

44. U.S. CONST. art. I, § 8, cl. 8 ("The Congress shall have power . . . [to] promote the Progress of Science and useful Arts, by securing for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries.").

45. *See* Kristina Lybecker, *Promoting Innovation: The Economics of Incentives*, IPWATCHDOG (July 21, 2014), <http://www.ipwatchdog.com/2014/07/21/promoting-innovation-the-economics-of-incentives/id=50428> [<https://perma.cc/25KQ-SWXU>] (discussing how intellectual property provides economic incentives to promote innovation); *see also infra* Part IV (discussing how patents promote innovation in molecular diagnostics).

Congress created a statutory framework that provides a series of hurdles inventors must overcome to receive a patent.⁴⁶ The first hurdle described in § 101 of the Patent Act sets a minimum threshold for patent eligibility.⁴⁷ Any invention or discovery is eligible if it is new, useful, and drawn to one of the following four subject matter categories: process, machine, manufacture, or composition of matter.⁴⁸ Courts at one time interpreted § 101 expansively, citing the writings of Thomas Jefferson that “ingenuity should receive a liberal encouragement”⁴⁹ and congressional reports supporting Congress’s intent for § 101 to “include anything under the sun that is made by man.”⁵⁰ The remaining sections of the Patent Act require that inventions must be new, useful, non-obvious, and sufficiently described.⁵¹ Together, these requirements intend to ensure that only meritorious inventions receive patent protection.⁵²

B. JUDICIAL LIMITATIONS TO PATENT ELIGIBILITY

While Congress drafted the patent-eligible subject matter requirements expansively, the Supreme Court has limited patent-eligible subject matter with judicially created exceptions.⁵³ Since 1981, the Court has specifically held that laws of nature, natural phenomena, and abstract ideas⁵⁴ are not patentable under § 101.⁵⁵ For about thirty years since 1981, these judicial

46. See 35 U.S.C. §§ 101–03, 112 (2012).

47. See 35 U.S.C. § 101 (2012).

48. *Id.* (“Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor . . .”).

49. *Diamond v. Chakrabarty*, 447 U.S. 303, 308 (1980) (quoting 5 WRITINGS OF THOMAS JEFFERSON 75–76 (Washington ed. 1871)).

50. *Id.* at 309 (quoting S. REP. NO. 1979, 82d Cong., 2d Sess., 5 (1952); H.R. REP. NO. 1923, 82d Cong., 2d Sess., 6 (1952)).

51. See §§ 101–03, 112. While an analysis of these requirements is beyond the scope of this Note, it is important to recognize that while this Note argues that the patent claims discussed in this Note should be patent-eligible under the subject-matter requirements of § 101, they may not necessarily be patentable under §§ 102, 103, 112 or the separate utility requirements of § 101.

52. See *id.*; see also Michael Risch, *Everything is Patentable*, 75 TENN. L. REV. 591, 591–95 (2008) (proposing that the judicially created exceptions to patent eligible subject matter are not needed and rigorous application of §§ 101–03, 112 can ensure that only meritorious inventions receive patents).

53. See *Bilski v. Kappos*, 561 U.S. 593, 601–02 (2010) (“While these exceptions are not required by the statutory text, they are consistent with the notion that a patentable process must be ‘new and useful.’”).

54. The abstract idea exception will not be discussed further because courts do not typically use this exception to reject biotechnology patents.

55. *Diamond v. Diehr*, 450 U.S. 175, 185 (1981). Before 1981, the Court has used various combinations of terms to describe judicially created exceptions such as physical

exceptions did not impede the biotechnology industry but, on the contrary, coincided with an explosion of biotechnological innovation.⁵⁶ During this era, courts rarely invalidated biotechnology patents under § 101.⁵⁷ In the mid-2010s, however, after the Supreme Court's decisions in *Mayo*⁵⁸ and *Myriad*,⁵⁹ courts have invalidated, and the U.S. Patent Office has rejected, biotechnology patents under § 101 in record numbers.⁶⁰ *Mayo* and *Myriad* did not create any new judicial exceptions, yet something has clearly changed that impacts biotechnology. An exploration and critique of the origins of the law of nature and natural phenomena exceptions help to understand how the Court in *Mayo* and *Myriad* has broadened their scope to limit patent-eligible subject matter for biotechnology.

1. *Origins of the Law of Nature and Natural Phenomena Exceptions*

Justice Douglas first used the terms “law of nature” and “phenomena of nature” together in a Supreme Court decision in *Funk Bros. v. Kalo Inoculant Co.*, but he did not likely intend to create new categorical exceptions to patentable subject matter.⁶¹ Instead, Justice Douglas elevated the patentability bar by invalidating a patent for a practical application of a new scientific discovery because the application of the discovery was not sufficiently inventive.⁶²

phenomena, mental processes, and abstract intellectual concepts. See Christopher Holman, *Patent Eligibility Post-Myriad: A Reinvigorated Judicial Wildcard of Uncertain Effect*, 82 GEO. WASH. L. REV. 1796 (2014) (analyzing the different terminology of the Court's judicial exceptions and discussing how the Court has failed to adopt clear definitions for the judicial exceptions).

56. See *History of Biotechnology*, BIOTECHNOLOGY INNOVATION ORG., <http://www.bio.org/articles/history-biotechnology> [<https://perma.cc/VEU6-DB6Y>].

57. See Rebecca S. Eisenberg, *Diagnostics Need Not Apply*, 21.2 B.U. J. SCI. & TECH. L. 256, 258–60 (2015) (finding that courts in this era used requirements other than subject matter eligibility, such as written description requirements, to invalidate overly broad claims on fundamental discoveries).

58. See *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 132 S. Ct. 1289 (2012).

59. See *Ass'n for Molecular Pathology v. Myriad Genetics, Inc.*, 133 S. Ct. 2107 (2013).

60. See Robert R. Sachs, *Update on Section 101 Rejections at the USPTO*, BILSKI BLOG (Oct. 19, 2015), <http://www.bilskiblog.com/blog/2015/10/update-on-uspto-e-commerce-patent-applications.html> [<https://perma.cc/ZZ63-QY56>]; Robert R. Sachs, *#Alicestorm For Halloween: Was It A Trick Or A Treat?*, BILSKI BLOG (Nov. 6, 2015), <http://www.bilskiblog.com/blog/2015/11/alicesstorm-for-halloween-its-scary-out-there.html> [<https://perma.cc/GU2N-FTFR>].

61. 333 U.S. 127, 130 (1948).

62. See Jeffrey A. Lefstin, *Inventive Application: A History*, 67 FLA. L. REV. 565, 629–30 (2015); see also Rebecca S. Eisenberg, *Wisdom of the Ages of Dead-Hand Control? Patentable Subject Matter for Diagnostic Methods After In Re Bilski*, 3 CASE W. RES. J.L. TECH. & INTERNET 1, 50 (2012).

Understanding Justice Douglas's opinion first requires understanding its historical context. In 1948, Congress had not yet created the non-obvious subject matter requirements present in the modern patent act.⁶³ In its void, Justice Douglas had previously created the "flash-of-genius" doctrine that required inventions to demonstrate a degree of ingenuity exceeding the skill of an ordinary practitioner.⁶⁴ In 1952, Congress rejected this exacting test by replacing it with a test of non-obviousness.⁶⁵ Congress further amended the definition of invention to include discoveries.⁶⁶

In *Funk Bros.*, Bond had patented a composition of bacteria capable of inoculating a variety of plant seeds and conferring on them the ability to fix nitrogen.⁶⁷ This composition improved on the prior use of individual bacterial species to inoculate specific plant seeds.⁶⁸ Specific bacterial species were necessary because mixing bacterial species typically caused the bacteria to cross-inhibit their respective nitrogen-fixing properties.⁶⁹ Bond overcame this challenge by experimenting with different species and discovering combinations of species that did not cross-inhibit.⁷⁰

In evaluating Bond's patent, Justice Douglas introduced the terms "laws of nature" and "phenomena of nature" as a rhetorical device to explain subject matter that has never been patentable. His often-cited passage reads:

The qualities of these bacteria, like the heat of the sun, electricity, or the qualities of metals, are part of the storehouse of knowledge of all men. They are manifestations of *laws of nature*, free to all men and reserved exclusively to none. He who discovers a hitherto unknown *phenomenon of nature* has no claim to a monopoly of it which the law recognizes. If there is to be invention from such a discovery, it must come from the application of the law of nature to a new and useful end."⁷¹

63. Congress codified the non-obvious subject matter conditions for patentability in 35 U.S.C. § 103 in the 1952 Patent Act.

64. *Cuno Engineering Corp. v. Automatic Devices Corp.*, 314 U.S. 84, 90–91 (1941).

65. See 35 U.S.C. § 103 ("Patentability shall not be negated by the manner in which the invention was made."); see also *Graham v. John Deere Co.*, 383 U.S. 1, 15 (1966).

66. 35 U.S.C. § 100(a) (2012); It is possible but uncertain that Congress by enacting § 100 intended to overrule *Funk Bros.* See Lefstin, *supra* note 62, at 632–34 (discussing the legislative history of the 1952 Patent Act).

67. See *Funk Bros. Seed Co. v. Kalo Inoculant Co.*, 333 U.S. 127, 130 (1948).

68. *Id.* at 129–30.

69. *Id.*

70. See Dennis Crouch, *Funk Brothers v. Kalo—Eligibility or Unobviousness?* PATENTLY-O (May 7, 2014), <http://patentlyo.com/patent/2014/05/brothers-eligibility-unobviousness.html> [<https://perma.cc/5M7H-9M46>].

71. See *Funk Bros.*, 333 U.S. at 130 (emphasis added).

Because “law of nature” and “phenomena of nature” were used to describe the same examples, Justice Douglas likely intended them to be synonyms.⁷² While they were not explicitly defined, the examples and the cases cited suggest that Justice Douglas was not creating new exceptions. Instead, he was using new words to describe a long-established doctrine that a principle or a scientific truth, in the absence of a specific application, is not patentable.⁷³ Justice Douglas used this rhetorical device to demonstrate the difference between the qualities of bacteria, which have never been patentable, and Bond’s act of combining bacteria that was patentable if it satisfied Justice Douglas’s stringent requirements for invention.⁷⁴ To illustrate, his next often-cited passage reads:

Discovery of the fact that certain strains of each species of these bacteria can be mixed without harmful effect to the properties of either is a discovery of their qualities of non-inhibition. It is no more than the discovery of some of the handiwork of nature and hence is not patentable. The aggregation of select strains of the several species into one product is an application of that newly-discovered natural principle. But however ingenious the discovery of that natural principle may have been, *the application of it is hardly more than an advance in the packaging of the inoculants.*⁷⁵

Thus, Justice Douglas rejected Bond’s patent, but not because it claimed ineligible subject matter. Instead, Justice Douglas separated Bond’s new discovery of cross-inhibition with the application of packaging bacteria and found that packaging bacteria was not sufficiently inventive under the flash-of-genius test.⁷⁶ Mr. Bond had discovered a new property of nature and had practically applied it, but a practical application was insufficient grounds for

72. See *Gottschalk v. Benson*, 409 U.S. 63, 67 (1972). In *Gottschalk*, Justice Douglas describes the following exceptions: “Phenomena of nature, though just discovered, mental processes, and abstract intellectual concepts are not patentable, as they are the basic tools of scientific and technological work.” *Id.* The absence of “laws of nature” suggests that “phenomena of nature” can be used synonymously with “laws of nature.”

73. *Mackay Radio & Tel. Co. v. Radio Corp. of Am.*, 306 U.S. 86, 94 (1938); see also *Rubber-Tip Pencil Co. v. Howard*, 87 U.S. 498, 507 (1874) (“an idea of itself is not patentable”); *Le Roy v Tatham*, 55 U.S. 156, 175 (1852) (“a principle, in the abstract, is a fundamental truth; an original cause; a motive; these cannot be patented”).

74. *Funk Bros.*, 333 U.S. at 131–32 (“But a product must be more than new and useful to be patented; it must also satisfy the requirements of invention or discovery.” (citing *Cuno Engineering Corp. v. Automatic Devices Corp.*, 314 U.S. 84, 90–91 (1941))).

75. *Id.* at 130–31 (emphasis added).

76. *Id.* at 131–32 (citing *Cuno Engineering Corp. v. Automatic Devices Corp.*, 314 U.S. 84, 90–91 (1941)).

patentability for Justice Douglas.⁷⁷ If Bond had created an ingenious advance in packaging bacteria, then Justice Douglas would have likely affirmed Bond's patent. Importantly, Justice Douglas did not categorically prohibit the patentability of compositions of matter that contain bacteria.

In his prescient concurring opinion, Justice Frankfurter rejected Justice Douglas's use of the term "law of nature" to invalidate Bond's patent because Justice Frankfurter feared that future courts could use this "vague and malleable" term to deny patentability to a large swath of technology that Congress intended to be patent eligible.⁷⁸ Justice Frankfurter recognized that every invention incorporates "laws of nature" and the use of such a term does not aid a determination of patentability.⁷⁹

Despite Justice Frankfurter's warnings, subsequent courts relied on Justice Douglas's heavily criticized opinion to determine patent-eligible subject matter requirements for biotechnology.⁸⁰ In 1980, the Court in *Diamond v. Chakrabarty* faced the issue of whether living organisms are patentable.⁸¹ The Court held in the affirmative, and this holding expanded patentability for biotechnology.⁸² However, in its analysis, the Court

77. See Lefstin, *supra* note 62, at 609, 629–30 (noting that this analysis was a departure from previous case decisions where practical applications of new discoveries were patentable); see also Eisenberg, *supra* note 62, at 51–52.

78. *Funk Bros.*, 333 U.S. at 134–35 (1948) (Frankfurter, J., concurring) ("It only confuses the issue, however, to introduce such terms as 'the work of nature' and the 'laws of nature.' For these are vague and malleable terms infected with too much ambiguity and equivocation. Everything that happens may be deemed 'the work of nature,' and any patentable composite exemplifies in its properties 'the laws of nature'. Arguments drawn from such terms for ascertaining patentability could fairly be employed to challenge almost every patent.").

79. *Id.* Justice Frankfurter invalidated Bond's patent because it failed to disclose the specific bacterial species that comprise the composition and because the patent claimed broadly the concept of mixing any species of *Rhizidium*. Bond's invalidated claims have analogies to Morse's invalidated claim 8 that claimed any use of electromagnetism to communicate at a distance, even uses that were not fully described in the patent's specification. See *O'Reilly v. Morse*, 56 U.S. 62, 112–13 (1853).

80. See Lefstin, *supra* note 62, at 625–26; see also John M. Golden, *Flook Says One Thing, Diehr Says Another: A Need for Housecleaning in the Law of Patentable Subject Matter*, 82 GEO. WASH. L. REV 1765, 1780–81 (2014) (citing several scholars that are critical of *Funk Bros.*).

81. 447 U.S. 303 (1980); see also Lefstein, *supra* note 62, at 625 n.425 (explaining that the *Chakrabarty* briefs argued only the issue of whether living organisms are patentable, not whether products of nature are patentable).

82. Douglas Robinson & Nina Medlock, *Diamond v. Chakrabarty: A Retrospective on 25 Years of Biotech Patents*, 17 INTELL. PROP. & TECH. L.J. 12, 13–15 (2005); see also *BIO Celebrates 30th Anniversary of Diamond v. Chakrabarty Decision*, BIOTECHNOLOGY INNOVATION ORG. (Jun. 16, 2010), <http://www.bio.org/media/press-release/bio-celebrates-30th-anniversary-diamond-v-chakrabarty-decision> [<https://perma.cc/R4CY-LPXX>] ("The

interpreted *Funk Bros.* as a prohibition against patenting unmodified bacteria and formally created a categorical prohibition to patenting compositions that are not “markedly different” from nature.⁸³ The *Chakrabarty* Court believed that while Bond’s invention was simply a product of nature, Chakrabarty’s invention was “markedly different” from nature and therefore a product of human ingenuity.⁸⁴ The Court’s metaphysical analysis is ironic because Bond and Chakrabarty used similar microbiology principles to create their bacterial compositions.

Both Bond and Chakrabarty mixed bacteria, provided a selective condition, and selected bacteria that satisfied this condition. Chakrabarty mixed bacteria containing distinct plasmids that could metabolize distinct chemicals that comprise crude oil.⁸⁵ Bacteria naturally exchange plasmids in a process called conjugation, and mixing certain bacteria under certain well-understood conditions will naturally induce this plasmid exchange.⁸⁶ Chakrabarty then applied selection pressure to the mixture such that only bacteria that contained certain combinations of plasmids were capable of growth on the nutrients that Chakrabarty provided.⁸⁷ Thus, Chakrabarty could isolate a single bacterium that contained the desired combinations of plasmids.⁸⁸ Chakrabarty used the conventional, routine, and well-understood microbiology technique of selective pressure to create this new and useful composition of plasmids within a single bacterium.

Bond inoculated plants with different combinations of bacteria, measured the resulting amounts of fixed nitrogen, and selected the

Supreme Court’s decision in *Diamond v. Chakrabarty* thirty years ago today was instrumental in spurring the creation of a dynamic and flourishing biotech industry.”).

83. Compare *Funk Bros.*, 333 U.S. at 130 (listing as examples *qualities* of bacteria and *qualities* of metals) with *Chakrabarty*, 447 U.S. at 303 (listing as examples the minerals and plants themselves instead of their qualities); see Lefstin, *supra* note 62, at 625–26. While *Ex parte Latimer*, 46 O.G., 1638 (1889), had denied a patent to a natural product, subsequent courts permitted patentability of isolated or purified natural products. See *Merck & Co., Inc. v. Olin Mathieson Chem. Corp.*, 253 F.2d 156 (4th Cir. 1958); see also *Parke-Davis & Co v. H.K. Mulford Co.*, 189 F. 95 (C.C.S.D.N.Y. 1911). *Diamond v. Chakrabarty*, 447 U.S. 303 (1980) created a formal natural product exception. See Holman, *supra* note 55, at 1821 (“*Chakrabarty*’s exhortation that naturally occurring minerals and plants are patent ineligible represents a judicial expansion of the literal language of Section 101.”).

84. See *Chakrabarty*, 447 U.S. at 310.

85. U.S. Patent No. 4,259,444 col. 3 ll. 20–23 (filed June 7, 1972) [hereinafter ‘444 Patent].

86. See LUBERT STRYER, *BIOCHEMISTRY*, 827–28 (4th ed. 1995).

87. ‘444 Patent, *supra* note 85, at col. 9 ll. 1–20.

88. *Id.*

combinations that fixed the greatest amounts of nitrogen.⁸⁹ Both Bond and Chakrabarty mixed bacteria and provided a selective condition, which induced the bacteria to adapt in accord with how they adapt to new environments in nature. The primary difference between these facts (the “markedly different” element) is that Bond’s invention ends with a composition of bacteria and Chakrabarty’s with a composition of plasmids housed within a single bacterium. Neither composition should be considered a natural phenomenon, however, because neither composition exists without human ingenuity and human intervention.

Despite *Chakrabarty*’s expansion of the judicial exceptions to include compositions that are not “markedly different” from nature, subsequent courts and the U.S. Patent Office interpreted “markedly different” liberally, and biotechnology enjoyed a thirty-year period where subject matter eligibility was not a major impediment to patentability.⁹⁰

2. *Mayo Expanded the “Law of Nature” Exception and Reintroduced Justice Douglas’s Patentability Bar for Practical Applications of New Discoveries*

In 2012, the Supreme Court in *Mayo* addressed whether a method of optimizing the therapeutic efficiency of thiopurine drugs for the treatment of inflammatory bowel disease was patent-eligible subject matter.⁹¹ At the time the patent was filed, doctors understood that the body produced certain toxic metabolites in response to thiopurine treatment.⁹² Some doctors were thus reluctant to administer thiopurines due to complications associated with the resulting toxic metabolites.⁹³ In the patent at issue, the inventors discovered concentrations of metabolites in a significant number of patients that correlated with toxic side effects and therapeutic effectiveness.⁹⁴ Applying this discovery, the inventors disclosed a method to optimize thiopurine treatment by adjusting thiopurine dosage to maintain the resulting toxic metabolites within a certain concentration window.⁹⁵

89. U.S. Patent No. 2,200,532 p. 5 ll. 9–24 (filed Aug. 24, 1938); *see also* Crouch, *supra* note 70, at 3.

90. *See* Robinson, *supra* note 82, at 13.

91. *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 132 S. Ct. 1289 (2012).

92. *See* U.S. Patent No. 6,355,623, at col. 1 ll. 61–65 (filed Apr. 8, 1999) [hereinafter ‘623 Patent].

93. *See id.*

94. *See id.* at col. 2 ll. 1–7.

95. *Mayo*, 132 S. Ct. at 1295–96 (“A method of optimizing therapeutic efficacy for treatment of an immune-mediated gastrointestinal disorder, comprising: (a) administering a drug providing 6-thioguanine to a subject having said immune-mediated gastrointestinal disorder; and (b) determining the level of 6-thioguanine in said subject having said

Thus, this patent improved an old method of treating patients with thiopurines where the improvement constituted a discovery of the relationship between metabolite concentrations and drug toxicity.⁹⁶ At issue before the Court was whether an improvement of an old method was patent eligible under § 101 where the only new and useful element of the improved method was a discovery.

The Court first determined that the relationship between concentrations of thiopurine metabolites and toxicity constituted a “law of nature.”⁹⁷ The Court rested this decision on the fact that this relationship was a consequence of the body’s metabolism of thiopurine drugs.⁹⁸ The Court reasoned that thiopurine metabolism was a natural process because it occurred in the human body.⁹⁹ Since the relationship was a consequence of a natural process, the Court concluded the relationship was a “law of nature.”¹⁰⁰

This analysis echoes Justice Frankfurter’s warning that the term “law of nature” is so “vague and malleable” that a court could reduce anything and everything to a “law of nature.”¹⁰¹ Essentially every process ever patented builds from natural processes, and essentially all process patents that utilize or depend on a biological system could fall within the “law of nature” exception under the Court’s analytical framework in *Mayo*.¹⁰²

immune-mediated gastrointestinal disorder, wherein the level of 6-thioguanine less than about 230 pmol per 8×10^8 red blood cells indicates a need to increase the amount of said drug subsequently administered to said subject and wherein the level of 6-thioguanine greater than about 400 pmol per 8×10^8 red blood cells indicates a need to decrease the amount of said drug subsequently administered to said subject.”).

96. See '623 Patent, *supra* note 92, at col. 8 ll. 40–46.

97. *Mayo*, 132 S. Ct. at 1290–91.

98. *Id.*

99. *Id.* at 1297.

100. *Id.*

101. See *Funk Bros. Seed Co. v. Kalo Inoculant Co.*, 333 U.S. 127, 135 (1948) (Frankfurter, J., concurring).

102. Compare *Mayo*, 132 S. Ct. at 1293 (“The Court has recognized, however, that too broad an interpretation of this exclusionary principle could eviscerate patent law. For all inventions at some level embody, use, reflect, rest upon, or apply laws of nature, natural phenomena, or abstract ideas.”) with *id.* at 1302 (“The laws of nature at issue here are narrow laws that may have limited applications.”); see also Christopher Holman, *Mayo*, Myriad, *And The Future of Innovation in Molecular Diagnostics and Personalized Medicine*, 15 N.C. J.L. & TECH. 639, 668 (2014) (showing the absurdity of the Court’s conclusion with the following analogy: “an airplane, for example, interacts with the air in a particular manner that results in flight. The air and its properties are natural phenomena, but surely, that does not render the interaction of an airplane with the air a natural phenomenon.”).

While a court could in theory classify any diagnostic process as a “law of nature,” since the term is so “malleable,”¹⁰³ the relationship described in *Mayo* is not similar to the examples Justice Douglas used to describe a “law of nature” in *Funk Bros.*¹⁰⁴ No human intervention is required to provide the qualities of naturally occurring bacteria or metals. Likewise, the heat of the sun exists independently of human activity.¹⁰⁵ By contrast, the “law of nature” described in *Mayo* exists only as a result of human intervention because human activity is required to administer thiopurine drugs.¹⁰⁶ Furthermore, effective dosage and side-effects are human-created abstractions that do not exist in nature.¹⁰⁷ The specific metabolite concentrations that indicate a need to raise or lower the medication are not immutable like Newton’s gravitational constant or the speed of light in a vacuum.¹⁰⁸ Instead, they represent a human decision based on a probabilistic analysis of clinical data.¹⁰⁹ While a “law of nature” should apply to all nature, the disclosed metabolite concentrations indicative of therapeutic effectiveness or side effects will not apply to all patients.¹¹⁰ Therefore, these correlations cannot be considered a “law of nature.”

The Court’s cavalier use of the “law of nature” exception has thus broadened its scope beyond Justice Douglas’s original description. Depending on how lower courts apply *Mayo*, the “law of nature” exception may encompass any relationship that arises from a natural process where a natural process is defined as any chemical transformation that occurs in the human body.¹¹¹ Because this description encompasses the entirety of

103. See *Funk Bros.*, 333 U.S. at 135.

104. See *id.* at 130 (listing as examples the qualities of bacteria and metals, the heat of the sun, and electricity).

105. *Id.*

106. See Eisenberg, *supra* note 57, at 266 (“These limits are not set by nature, but reflect human judgments about how to trade off the misery of immune-mediated gastrointestinal disorders against the misery of drug-side effects. This technological choice reflects human characterizations and preferences that are not inherent in nature.”).

107. See *id.*

108. See Robert R. Sachs & Jennifer R. Bush, *Prometheus Unbound I: The Untethering of Laws of Nature and Patent Eligibility from Scientific Reality*, BILSKI BLOG (Jul. 3, 2013), <http://www.bilskiblog.com/blog/2013/07/prometheus-unbound-the-untethering-of-laws-of-nature-and-patent-eligibility-from-scientific-reality.html> [https://perma.cc/B7KS-REXJ]; Robert R. Sachs & Jennifer R. Bush, *Prometheus Unbound II: Does Prometheus’ Claim Recite a Law of Nature?*, BILSKI BLOG (Jul. 11, 2013), <http://www.bilskiblog.com/blog/2013/07/prometheus-unbound-does-prometheus-claim-recite-a-law-of-nature.html> [https://perma.cc/S6EL-4AFR].

109. See *supra* note 108; see also ’623 Patent, *supra* note 92, at col. 17 ll. 10–20.

110. See *id.*

111. See Eisenberg, *supra* note 57, at 266.

molecular diagnostic discoveries relating to biomarker correlations, this technological field may now fall within a judicial exception to subject matter eligibility.¹¹²

After determining that the patent at issue claimed a law of nature, the *Mayo* Court next examined whether the patent contained an “inventive concept,” which the Court defined as an element or combination of elements “sufficient to ensure that the patent in practice amounts to significantly more than a patent upon the natural law itself.”¹¹³ If so, the patent would satisfy subject-matter eligibility requirements despite claiming a law of nature.¹¹⁴

The essence of this analysis is not particularly new because courts for the past 150 years have examined whether a patent claims merely a patent-ineligible principle or a practical application, which is significantly more than a principle.¹¹⁵ However, in formulating the requirements for an “inventive concept,” the *Mayo* Court re-introduced Justice Douglas’s exacting test that practical applications of new discoveries are not patentable unless they contain additional inventive elements. The *Mayo* Court separated the novel “law of nature” element from the patent claim and determined that the remaining elements, specifically administering thiopurine drugs and measuring the resulting metabolites, were “conventional, routine, and well-understood.”¹¹⁶ Since the remaining elements were conventional, the patent was not drawn to eligible subject

112. *See id.* at 268 (“This is the essential problem for diagnostic method claims under the Court’s analysis: because the Court codes the heart of the diagnostic method—the determination of when it is appropriate to modify treatment for a particular patient—as belonging to the realm of natural laws, it does not recognize any *application* of those laws (whether ‘inventive’ or ‘conventional’) in the claim at all.”).

113. *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 132 S. Ct. 1289, 1294 (2012); *see also Alice Corp. Pty. Ltd., v. CLS Bank Int’l.*, 134 S. Ct. 2347, 2355 (2014) (citing *Mayo*, 132 S. Ct. at 1294).

114. *See supra* note 113.

115. *See Lefstin, supra* note 62, at 601; *see also Le Roy v Tatham*, 55 U.S. 156, 175 (1852) (“A new property discovered in matter, when practically applied, in the construction of a useful article of commerce or manufacture, is patentable . . .”).

116. *See Mayo*, 132 S. Ct. at 1293. It is undisputed that administering thiopurine drugs and measuring metabolites were conventional at the time because doctors were already administering the drugs and measuring the resulting metabolites prior to this patent. The Court also expressed concern that a clever patent prosecutor could claim a law of nature as a process by appending a generic statement to apply the law. *Id.* at 1297. It is possible that the Court viewed the administering and measuring steps as generic steps.

matter.¹¹⁷ This analysis echoed Justice Douglas's reasoning that, after separating away the discovery of bacterial non-inhibition, the packaging of bacteria was too conventional and not sufficiently inventive to merit patent protection.¹¹⁸

Scholars debate whether the *Mayo* Court's formulation of an "inventive concept" is consistent with nineteenth century case law.¹¹⁹ Key to this debate concerns the interpretation of *Neilson v. Harford*, an English patent case from the nineteenth century that American courts have relied on for the development of American patent jurisprudence.¹²⁰ Neilson discovered that hot air improved the iron smelting process, and he applied this discovery by pre-heating air in a separate receptacle before introducing the air into the smelting furnace.¹²¹ Professor Joshua Sarnoff contended that Neilson and subsequent nineteenth century patent cases support a patent eligibility doctrine that is consistent with *Mayo* and *Funk Bros.* in which (1) a newly discovered principle should be treated as if it were already well known, and (2) an application of the principle must exhibit sufficient creativity to be patent eligible.¹²² Professor Jeffrey Lefstin argued, however, that Neilson stands for the doctrine that practical applications of new discoveries are patent eligible and that creative or unconventional application of the discovery is not necessary.¹²³ Through a careful examination of not only Neilson but also other nineteenth century patent cases, Lefstin demonstrated that Neilson's patent was affirmed not because Neilson's application was creative, but instead because his application was so trivial, conventional and well understood that he did not need to describe the

117. *See id.*; *see also* Kevin Collins, *Prometheus and Mental Steps*, 50 HOUS. L. REV. 391, 402 (2013) ("First, the Court identifies the laws of nature at issue and conceptually brackets them off from the remainder of the claimed subject matter.").

118. *Compare* *Funk Bros. Seed Co. v. Kalo Inoculant Co.*, 333 U.S. 127, 132 (1948) ("But once nature's secret of the non-inhibitive quality of certain strains of the species of *Rhizobium* was discovered, the state of the art made the production of a mixed inoculant a simple step.") *with Mayo*, 132 S. Ct. at 1298 ("[T]he claims inform a relevant audience about certain laws of nature; any additional steps consist of well understood, routine, conventional activity already engaged in by the scientific community . . .").

119. *See, e.g.*, Lefstin, *supra* note 62.

120. *See, e.g.*, *Mayo*, 132 S. Ct. at 1300; *see also* *O'Reilly v. Morse*, 56 U.S. 62, 111–17 (1853).

121. *Neilson v. Harford*, 1 Web. P.C. 331 (1841).

122. Joshua D. Sarnoff, *Patent-Eligible Inventions After Bilski: History and Theory*, 63 HASTINGS L.J. 53, 67–74 (2011); *see also* Brief of Nine Law Professors as Amici Curiae in Support of Petitioners (No. 10-1150), *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 132 S. Ct. 1289 (2012).

123. Lefstin, *supra* note 62, 569–70.

dimensions of the heating receptacle in any great detail.¹²⁴ Despite Neilson's conventional application of using a generic receptacle to heat air, his patent was sustained because his discovery of the principle that hot air is superior to cold air for smelting iron was novel.¹²⁵ Lefstin further demonstrated that throughout the nineteenth and early twentieth centuries, practical applications of new discoveries were patentable even when all the elements of the application were routine, conventional, and well understood.¹²⁶ Lefstin argued that Justice Douglas first introduced the doctrine of "inventive concept" in *Funk Bros.* in 1948 and that this doctrine radically departed from a century of English and American patent eligibility precedent.¹²⁷

Justice Douglas's doctrine was further advanced in *Parker v. Flook*,¹²⁸ but was largely overridden in *Diamond v. Diehr*, decided in 1981, which forbade dissecting claim elements and held that "a new combination of steps in a process may be patentable even though all the constituents of the combination were well known and in common use before the combination was made."¹²⁹ The "inventive concept" doctrine also frustrated the plain text of § 100 of the 1952 Patent Act that explicitly defines discoveries as patent-eligible inventions and defines processes to include new uses of known processes.¹³⁰

124. *Id.* at 586–87 (quoting *Neilson*, "The blowing apparatus was perfectly well known; the heating of air was perfectly well known; the twire was perfectly well known as applicable to blast furnaces; then what he really discovered is, that it would be better for you to apply air heated up to red heat, or nearly so, instead of cold air as you have hitherto done. That is the principle; that is the real discovery; but, in order to take out a patent, you must have an embodiment of the principle, and his embodiment of the principle is the heating of air in a separate vessel, intermediately between the blowing apparatus and the point where it enters the furnace.").

125. *Id.*

126. *See id.* at 588–623; *see also* *Le Roy v Tatham*, 55 U.S. 156, 175 (1852) ("A new property discovered in matter, when practically applied, in the construction of a useful article of commerce or manufacture, is patentable . . .").

127. Lefstin, *supra* note 62, at 645.

128. 437 U.S. 584 (1978).

129. *Diamond v. Diehr*, 450 U.S. 175, 188 (1981); *see also* Lefstin, *supra* note 62, at 571–72; Peter S. Menell, *Forty Years of Wondering in the Wilderness and No Closer to the Promised Land: Bilski's Superficial Textualism and the Missed Opportunity to Return Patent Law to its Technology Mooring*, 63 STAN. L. REV. 1289, 1298 (2011).

130. *See* 35 U.S.C. § 100 (2012).

3. *Myriad Expanded the Natural Phenomena Exception for DNA-Based Technologies*

A year after *Mayo*, the Supreme Court in *Myriad* heard another case that impacted patent eligibility for molecular diagnostics.¹³¹ The *Myriad* Court extended the principles of *Mayo* that practical applications of biological discoveries may no longer be patentable unless they contain sufficiently inventive steps in addition to the discovery.¹³² Furthermore, the Court's metaphysical analysis of DNA technology broadened the scope of the natural phenomena exception,¹³³ which could jeopardize patent eligibility for many types of DNA-based diagnostic technology.¹³⁴

The diagnostic company, Myriad Genetics, discovered the precise chromosomal location of the Breast Cancer 1 (BRCA1) gene, the sequence of BRCA1 mRNA, and a partial sequence of BRCA1 genomic DNA.¹³⁵ Myriad patented several methods and compositions stemming from its discovery that helped enable Myriad to develop tools for diagnosing breast and ovarian cancer.¹³⁶ At issue before the Court were composition claims of isolated DNA molecules coding for the BRCA1 protein.¹³⁷

The Court focused primarily on two of the composition claims. Claim 1 described an isolated DNA that codes for the BRCA1 protein.¹³⁸ Claim

131. *Ass'n for Molecular Pathology v. Myriad Genetics, Inc.*, 133 S. Ct. 2107 (2013).

132. *Id.* at 2117 ("To be sure, it found an important and useful gene, but separating that gene from its surrounding genetic material is not an act of invention.")

133. *See id.* The Court uses the term "product of nature," which is often treated synonymously as "natural phenomena" or "physical phenomena;" *see also* *Diamond v. Chakrabarty*, 447 U.S. 303, 308 (1980).

134. *See Eisenberg, supra* note 57, at 277–78 ("Of course, the more important outcome of the *Myriad* litigation for the patenting of diagnostics is not the patent-eligibility of some drug screening methods, but rather than patent-ineligibility of naturally-occurring biomarkers and methods of analyzing and comparing a patient's biomarker to a recited sequence. In broad terms, *Mayo* invalidates patents on diagnostic methods, while *Myriad* invalidates patents on diagnostic markers.")

135. *See* '282, *supra* note 14, at fig. 4, fig. 10. Myriad also discovered the chromosomal location of the BRCA2 gene. Certain mutations of the BRCA1 and BRCA2 genes are associated with breast and ovarian cancer. For further discussion of the BRCA1 discovery, see Mary-Claire King, *'The Race' to Clone BRCA1*, 343 SCIENCE 1462 (2014). For simplicity, only the BRCA1 gene and the contents of the '282 patent are discussed here because the *Myriad* Court determined the BRCA1 claims in the '282 patent were exemplary. *See Myriad*, 133 S. Ct. at 2113.

136. *See, e.g.,* '282 Patent, *supra* note 14.

137. *Myriad*, 133 S. Ct. at 2113; *see* Part I for an explanation of how DNA codes for protein.

138. '282 Patent, *supra* note 14, at col. 153 ll. 57–59.

2 described an isolated DNA of claim 1 where the DNA is defined by the BRCA1 cDNA sequence.¹³⁹

The legal scope and meaning of claim 1 is uncertain because the district court did not hold a Markman hearing to formally construe the claim.¹⁴⁰ Claim construction typically occurs during a patent infringement suit, but did not formally occur here in part because this was a declaratory judgment action and not a patent infringement suit.¹⁴¹ The district court presumed that claim 1 was directed to a naturally occurring DNA, which then necessarily meant that claim 1 was directed to BRCA1 genomic DNA.¹⁴² The patent's specification, however, did not disclose the complete BRCA1 genomic DNA sequence, which should have raised doubts as to whether claim 1 should encompass naturally occurring BRCA1 genomic DNA.¹⁴³ Given the limitations of the specification, a more reasonable interpretation is that claim 1 encompasses any cDNA capable of coding for the BRCA1

139. *Id.* at col. 153 ll. 60-61. The Court also discussed Claims 5 and 6, which describe an isolated DNA having at least 15 nucleotides of the DNAs described in claims 1 and 2 respectively. These claims are arguably the broadest because they cover regions of the genome beyond what Myriad discovered. These claims also presented the greatest hurdle for competitors wishing to sequence clinically relevant segments of the BRCA1 and BRCA2 genes because the identification of cancer-causing mutations using classical Sanger sequencing requires only isolation of a region containing the mutation and not the entire protein-coding region. However, these claims could likely have been invalidated under §§ 102 and 112. DNAs of at least fifteen nucleotides of the BRCA1 DNA exist in other genes that were part of the prior art. Myriad did not disclose the complete genomic sequence of BRCA1 DNA and therefore did not have possession of every possible fifteen-nucleotide configuration of BRCA1 DNA. See Christopher Holman, Mayo, Myriad, and *The Future Of Innovation in Molecular Diagnostics and Personalized Medicine*, 15 N.C. J.L. & TECH 639, 659-60 (2014).

140. Claim construction is a question of law that typically requires opposing parties to submit briefs and a court to hold a hearing to ascertain the scope and meaning of the patent claims. *Markman v. Westview Instruments, Inc.*, 517 U.S. 370 (1996). Claim construction requires a review of a patent's intrinsic evidence found in the patent's specification and prosecution history, and, when appropriate, extrinsic evidence. See *Phillips v. AWH Corp.*, 415 F.3d 1303 (Fed. Cir. 2005).

141. See Holman, *supra* note 54, at 1811. Myriad's lawyers never appealed this construction, and so the Supreme Court construed the claims according to the district court. See Grote, *supra* note 34, at 23.

142. See *Ass'n for Molecular Pathology v. United States Pat. & Trademark Office*, 702 F. Supp. 2d 181, 217 (S.D.N.Y. 2010). When the Court describes "genes" it is implicitly referring to the segment of genomic DNA that defines the boundaries of the BRCA1 coding region.

143. See '282 Patent, *supra* note 14, at fig. 10, col. 5 l. 67-col. 6 l. 1; see also *Ass'n for Molecular Pathology v. United States Pat. & Trademark Office*, 653 F.3d 1329, 1376 (Fed. Cir. 2011) (Bryson J., dissenting) (explaining that Myriad did not disclose the complete BRCA1 sequence).

protein.¹⁴⁴ Such an interpretation is consistent with claim 2, which depends on claim 1, and which describes one specific BRCA1 cDNA sequence.¹⁴⁵ Such an interpretation is also consistent with the text of claim 1 that defined an isolated DNA based on its ability to code for the BRCA1 protein.¹⁴⁶ Nevertheless, the Court interpreted claim 1 to include naturally occurring DNA.¹⁴⁷

After determining that claim 1 described natural DNA, the Court applied a test for inventiveness similar to those Justice Douglas and the *Mayo* Court used. The Court discounted the discovery of the chromosomal location and sequence of the BRCA1 gene and determined that “isolating” BRCA1 DNA was not sufficiently inventive.¹⁴⁸ While not stated explicitly, this reasoning was consistent with the *Mayo* Court because at the time of Myriad’s invention, once the chromosomal location and the sequence of a gene was discovered, making a synthetic copy from a gene library was conventional, routine, and well understood.¹⁴⁹ Furthermore, the Court focused its analysis on the genetic characteristics of the claim instead of its new uses. The Court expressed concern that Myriad did not create or alter any genetic information and that claim 1 shared the same genetic information as naturally occurring genomic DNA.¹⁵⁰ The Court, however, also recognized that “[a]s the first party with knowledge of the [BRCA1] sequences, Myriad was in an excellent position to claim applications of that

144. Claim 1 is necessary because many cDNAs similar to the cDNA described in claim 2 could be created to bypass claim 2. Because the genetic code is redundant, a person of ordinary skill in the art could create synonymous substitutions in the isolated DNA described in claim 2 to produce the BRCA1 protein sequence described in claim 1. For an explanation of codon degeneracy see STRYER, *supra* note 86, at 109–10.

145. This specific cDNA sequence was fully disclosed. See '282 Patent, *supra* note 14, at col. 67–80.

146. Isolated BRCA1 genomic DNA would not be able to drive expression of BRCA1 protein under standard laboratory conditions because the genomic DNA contains introns. See ALBERTS ET AL. *supra* note 24, at, at 491–513.

147. Because claim 5 depends on claim 1, the Court also determined that claim 5 encompassed any fifteen nucleotides of the BRCA1 genomic DNA. See note 139, *supra*, for an explanation why claim 5 interpreted in this manner is likely not patentable under §§ 102, 112.

148. *Myriad*, 133 S. Ct. at 2117 (“To be sure, it found an important and useful gene, but separating that gene from its surrounding genetic material is not an act of invention.”). While the Court used the term “isolating,” Myriad did not directly isolate BRCA1 from a human, but instead made a synthetic copy from a DNA library. See Grote, *supra* note 34, at 17–19; see also *supra* Part I.

149. See Grote, *supra* note 34, at 17–19; see also '282 Patent, *supra* note 14, at col. 10 ll. 46–55.

150. *Myriad*, 133 S. Ct. at 2116.

knowledge.”¹⁵¹ An isolated DNA composition is one such useful application of the knowledge of the BRCA1 sequence because isolated DNAs can be directly sequenced using classical techniques to diagnose or prognose breast or ovarian cancer whereas naturally occurring BRCA1 genes cannot.¹⁵²

Myriad also discovered the BRCA1 cDNA sequence and applied conventional, routine, and well-understood techniques to isolate it.¹⁵³ The Court, however, upheld patent eligibility for cDNA because the Court held that cDNA is not natural and therefore did not fall within a judicial exception.¹⁵⁴ cDNA, however, shares the same genetic information as naturally occurring mRNA.¹⁵⁵ In fact, both DNA compositions described in claim 1 and claim 2 share the same genetic information.¹⁵⁶ Thus, invalidating claim 1 while upholding claim 2 under the same analytical test was incongruous and created ambiguity as to what DNA technologies are patent-eligible under § 101.¹⁵⁷

III. THE FEDERAL CIRCUIT HAS APPLIED AN EXPANSIVE READING OF *MAYO* AND *MYRIAD* AND ESTABLISHED A HEIGHTENED THRESHOLD FOR PATENTING DNA-BASED DIAGNOSTIC TECHNOLOGIES

A year after *Myriad*, the Court heard another patent eligibility case.¹⁵⁸ During oral arguments, Justice Breyer, the author of the Court’s opinion in *Mayo*, remarked that *Mayo* merely “sketch[ed] an outer shell of the content’ of the patent-eligibility test.”¹⁵⁹ In support of the Justice’s comment that

151. *Id.* at 2120 (citing Ass’n for Molecular Pathology v. United States PTO, 689 F.3d 1303, 1349 (Fed. Cir. 2012) (Bryson, J., dissenting)).

152. *See* Alberts, *supra* note 24, at 491–513 (discussing Sanger sequencing).

153. ’282 Patent, *supra* note 14, at col. 11 ll. 29–51.

154. *Myriad*, 133 S. Ct. at 2119.

155. *See* Holman, *supra* note 102, at 656.

156. *See id.*

157. To be clear, cDNA contains more chemical differences than mRNA relative to the differences between isolated DNA and genomic DNA. However, these chemical differences do not alter any genetic information. Making distinctions between natural and synthetic DNAs based on the lack of a hydroxyl group or the presence of methyl group appears arbitrary and could create unsound policies regarding the patenting of DNA technologies or the patenting of other technologies related to natural products. For example, under *Myriad* a cDNA derived from a gene that contains introns would be patentable but a cDNA derived from a gene that does not contain introns would not be patentable. *See* Holman, *supra* note 102, at 657.

158. *Alice Corp. Pty. Ltd. v. CLS Bank Int’l*, 134 S. Ct. 2347 (holding that a business method implemented on a generic computer is not patent eligible under § 101).

159. *See* Lefstein & Menell, *Don’t Throw Out Fetal Diagnostic Innovation with the Bathwater: Why Ariosa v. Sequenom Is an Ideal Vehicle for Constructing a Sound Patent*

Mayo did not articulate a precise or formulaic test for patent eligibility, Professors Lefstin and Peter Menell argued that *Mayo*'s requirement for an "inventive concept" does not necessarily mean a requirement for an unconventional application.¹⁶⁰ Non-preemptive or non-generic applications may also suffice.¹⁶¹ Given the Court's prior rejection of the Federal Circuit's formalistic approaches to patent eligibility in 2010, it is possible that the Court sought to sketch a flexible patent eligibility framework for the lower courts to further develop.¹⁶²

While the Court in *Myriad* strained the boundaries between natural and synthetic compositions, the Court provided a narrow holding that denied patent eligibility only to "genes and the information they encode."¹⁶³ Moreover, the Court emphasized that new applications of *Myriad*'s discoveries may remain patent eligible.¹⁶⁴

Thus, *Mayo* and *Myriad*, while problematic, may not necessarily foreclose patent eligibility for molecular diagnostics, depending on how the lower courts delineate the boundaries of the judicial exceptions to patent-eligible subject matter.¹⁶⁵ Since these decisions, the Federal Circuit has had opportunities to shape *Mayo* and *Myriad* to preserve patent-eligibility for molecular diagnostics.¹⁶⁶ Instead, the Federal Circuit has adopted a broad and exacting interpretation of *Mayo* and *Myriad*, which has foreclosed

Eligibility Framework, PATENTLY-O (Aug. 31, 2015) <http://patentlyo.com/patent/2015/08/lefstin-sequenom-ariosa.html> [<https://perma.cc/7ZV4-FVVD>].

160. See Brief of Professors Jeffrey A. Lefstin and Peter S. Menell as Amici Curiae in Support of Rehearing En Banc (Nos. 2014–1139, 2014–1144), *Ariosa Diagnostics, Inc. v. Sequenom, Inc.*, 809 F.3d 1282 (Fed. Cir. 2015).

161. *Id.*; see also Jeffrey A. Lefstin, *The Three Faces of Prometheus: A Post-Alice Jurisprudence of Abstractions*, 16 N.C. J.L. & TECH. 647, 663–77. For a discussion of pre-emption, see Part IV, *infra*.

162. See *Bilski v. Kappos*, 561 U.S. 593, 601–02 (2010) (rejecting the Federal Circuit's formalistic machine-or-transformation test in favor of a less rigid framework where the machine-or-transformation test is merely a useful clue for assessing patent eligibility under § 101).

163. *Ass'n for Molecular Pathology v. Myriad Genetics, Inc.*, 133 S. Ct. 2107, 2120 (2013).

164. *Id.*

165. This statement is practically relevant for *Myriad* because advances in DNA sequencing no longer require gene isolation as an intermediary step, which makes *Myriad*'s narrow holding largely inconsequential to the biotechnology industry. See Grote, *supra* note 34, at 32–34.

166. See *In re BRCA1- & BRCA2-Based Hereditary Cancer Test Pat. Litig. v. Ambry Genetics Corp.*, 774 F.3d 755 (Fed. Cir. 2014); *Ariosa Diagnostics, Inc. v. Sequenom, Inc.*, 788 F.3d 1371 (Fed. Cir.), *reh'g denied*, 809 F.3d 1282 (Fed. Cir. 2015).

patent eligibility for some important diagnostic innovations.¹⁶⁷ In particular, two Federal Circuit decisions, *Ambry* and *Ariosa*, jeopardize patent eligibility for compositions and methods related to DNA-based diagnostic technology.

A. *AMBRY EXPANDED THE NATURAL PHENOMENA EXCEPTION TO INCLUDE SYNTHETIC COMPOSITIONS THAT SHARE COMMON MOLECULAR SEQUENCES WITH NATURAL PRODUCTS*

Following the Supreme Court's decision in *Myriad*, Ambry Genetics announced plans to sell BRCA testing services.¹⁶⁸ In response, Myriad sued Ambry, alleging infringement of several of Myriad's remaining valid patent claims.¹⁶⁹ Some of the claims at issue concerned a pair of DNA primers used for amplification of the BRCA genes, which is useful for sequencing and identifying cancer-related BRCA mutations.¹⁷⁰ DNA primers are synthetic and designed by scientists to amplify specific DNA sequences.¹⁷¹ To amplify a discrete gene, at least a portion of the primers must contain a sequence of nucleotides in common with a sequence found in the gene of interest.¹⁷² After the district court denied Myriad's preliminary injunction, Myriad appealed to the Federal Circuit, which affirmed the district court's denial of an injunction and invalidated Myriad's primer claims under § 101.¹⁷³

In invalidating the DNA primer claims, the Federal Circuit unnecessarily broadened the Supreme Court's narrow holding in *Myriad*

167. See *Ariosa*, 788 F.3d at 1377; see also Eneda Hoxha, Note, *Stemming the Tide: Stem Cell Innovation in the Myriad-Mayo-Roslin Era*, 30 BERKELEY TECH. L.J. 567 (2015) (discussing the challenges of patenting stem cell technologies under Federal Circuit jurisprudence).

168. See *Ambry Launches BRCA 1 & 2: Single Genes and NGS Panel Offerings*, *Ambry Genetics*, <http://www.ambrygen.com/press-releases/ambry-genetics-launches-brca-1-2-single-genes-and-ngs-panel-offerings> [https://perma.cc/5855-EAHW]. From this point onward, this Note uses the term "BRCA" as shorthand for both BRCA1 and BRCA2.

169. See *Ambry*, 774 F.3d at 758–59.

170. Myriad also alleged infringement of its method claims, which are not discussed in this Note. Claim 16 is a representative primer claim from the '282 patent: "A pair of single-stranded DNA primers for determination of a nucleotide sequence of a BRCA1 gene by a polymerase chain reaction, the sequence of said primers being derived from human chromosome 17q, wherein the use of said primers in a polymerase chain reaction results in the synthesis of DNA having all or part of the sequence of the BRCA1 gene." See '282 Patent, *supra* note 14, at col. 155 ll. 23–29. See ALBERTS ET AL., *supra* note 24, at 491–513 for a discussion of DNA sequencing.

171. See Part I, *infra*.

172. See ALBERTS ET AL., *supra* note 24, at 491–513.

173. *In re BRCA1- & BRCA2-Based Hereditary Cancer Test Pat. Litig. v. Ambry Genetics Corp.*, 774 F.3d 755 (Fed. Cir. 2014). The Federal Circuit also invalidated Myriad's method claims, which are not discussed here. *Id.* at 765.

that isolated genes are not patentable. The *Ambry* court read *Myriad* to prohibit patenting any synthetically created composition of matter that is “structurally identical” to a composition found in nature.¹⁷⁴ The court did not define “structurally identical,” but the court’s holding that primers and human genomic DNA are “structurally identical” hints at an underlying definition.¹⁷⁵ The court likely meant “structurally identical” to mean “having identical primary structures” or “having identical sequences” because this is the only kind of structural identity that primers and human genomic DNA typically share.¹⁷⁶ For a biological polymer such as DNA, primary structure can refer to the sequence, or linear order, of nucleotides, while secondary or other higher order structures generally refer to the polymer’s three-dimensional shape.¹⁷⁷ While primers and naturally occurring DNA may share the same sequence, their three-dimensional shapes differ.¹⁷⁸ The court likely did not appreciate these finer distinctions in nucleic acid structure when advancing this doctrine.

Moreover, the Federal Circuit unnecessarily read *Myriad* to be more restrictive than the Supreme Court’s intention. The *Myriad* Court focused specifically on whether gene isolation was sufficient to permit the patenting of genes and the information they encode.¹⁷⁹ While perhaps unfounded, the

174. *Id.* at 760 (“As the Supreme Court made clear, neither naturally occurring compositions of matter, nor synthetically created compositions that are structurally identical to the naturally occurring compositions, are patent eligible.”). For an explanation of why primers are not actually structurally identical, see Part I, *supra*. See also Grote, *supra* note 34, at 27.

175. See *Ambry*, 774 F.3d at 760.

176. While primers and naturally occurring DNA may share the same sequence, they may not necessarily be chemically identical due to methylation differences. See Grote, *supra* note 34, at 27. While the court did not search for an “inventive concept,” which *Mayo* demands, DNA primers were routinely designed using conventional techniques at the time of *Myriad*’s patent. See Part I, *supra*; see also ALBERTS ET AL., *supra* note 24, at 491–513.

177. The term “primary structure” is typically reserved for polymers of amino acids, called proteins, but the concept is applicable to any biological polymer. Scientists, however, typically use the term “sequence” instead of “primary structure” when referring to the linear order of nucleotides in DNA. Natural DNA exhibits several forms of higher-order structures that create unique three-dimensional shapes. Human genomic DNA is organized in chromosomal structures. See STRYER, *supra* note 86, at 35–36, 788–91; ALBERTS ET AL., *supra* note 24, at 196–97.

178. Human genomic DNA exists in a double-stranded double helix and further exists in complex chromatin structures. Primers, by contrast, may exhibit a variety of three-dimensional shapes based on their sequence including dimers and hairpins. See STRYER, *supra* note 86, at 788–91; ALBERTS ET AL., *supra* note 24, at 207–12; DEBNATH ET AL., *supra* note 16, at 133.

179. See *Ass’n for Molecular Pathology v. Myriad Genetics, Inc.*, 133 S. Ct. 2107, 2120 (2013) (“We merely hold that genes and the information they encode are not patent eligible

Myriad Court expressed concern that an isolated gene patent would preempt all uses of the information that the gene encodes.¹⁸⁰ Thus, the *Myriad* Court deliberately crafted a limited holding to bar isolated gene patents while asserting that new applications stemming from the discovery of the BRCA genes remain patent eligible.¹⁸¹ BRCA-based DNA primers represent an example of a new application that stems from the discovery of BRCA genes. Under *Ambry*, however, new compositions stemming from a discovery of a natural product may no longer be patent eligible if a portion of the primary structure or sequence of the new composition is the same as that of a natural product.¹⁸²

In addition to expanding the scope of the natural phenomena exception for DNA technologies, the *Ambry* court blurred the differences between functions and properties when it concluded that primers “do not perform a significantly new function.”¹⁸³ Most natural products possess certain distinctive properties or qualities that inventors may leverage to create compositions with novel functions. Wood, for example, is a natural product consisting of cellulosic polymers that has the properties of strength and durability.¹⁸⁴ An inventor may create a chair consisting entirely of wood. The chair shares some of the same properties with the wood, such as strength and durability, but possess a novel function—it functions as a seat.¹⁸⁵

under § 101 simply because they have been isolated from the surrounding genetic material.”).

180. *Id.* at 2118 (“Instead, the claims understandably focus on the genetic information encoded in the BRCA1 and BRCA2 genes.”). The Court’s concern is perhaps unfounded because reference human gene sequences have been freely available to the public since the completion of the human genome project in 2003, and modern advances in sequencing technology do not require possession of isolated DNAs encoding individual portions of genes. *See* Part IV, *infra*.

181. *Id.* at 2120 (citing *Ass’n for Molecular Pathology v. United States PTO*, 689 F.3d 1303, 1349 (Fed. Cir. 2012) (Bryson, J., dissenting) (“[A]s the first party with knowledge of the [BRCA1 and BRCA2] sequences, *Myriad* was in an excellent position to claim applications of that knowledge. Many of its unchallenged claims are limited to such applications.”)).

182. *See In re BRCA1- & BRCA2-Based Hereditary Cancer Test Pat. Litig. v. Ambry Genetics Corp.*, 774 F.3d 755, 761 (Fed. Cir. 2014).

183. *Id.* at 755, 760–61.

184. *See, e.g.*, Chris Woodford, *Wood, EXPLAIN THAT STUFF!*, <http://www.explainthatstuff.com/wood.html> [<https://perma.cc/5BBN-8JBZ>].

185. A chair, of course, has a different three-dimensional shape than a block of a wood or a tree, but the primary structures or sequences of the cellulosic polymers are unchanged. Likewise, human genomic DNA and primers have different three-dimensional shapes but share common sequences. *See supra* notes 176, 177, and 178.

Likewise, DNA has the property of complementary base pairing.¹⁸⁶ Myriad leveraged this property to create a primer consisting entirely of synthetic DNA.¹⁸⁷ The primer shares some of the same properties as naturally occurring DNA, namely complementary base pairing, but possesses a new function—it catalyzes a polymerase chain reaction.¹⁸⁸ Using the language of *Chakrabarty*, the primer has a distinctive character and use.¹⁸⁹

Ambry's holding that DNA compositions are not patentable unless they have different sequences from naturally occurring DNA further restricts patent-eligibility for DNA-based technologies essential to molecular diagnostics. *Ambry* creates a strict patentability threshold for DNA technologies, which is more stringent than what is required for other patented compositions that are derived from natural products.

B. *ARIOSIA* EXPANDED THE LAW OF NATURE/NATURAL PHENOMENA EXCEPTION TO INCLUDE METHODS FOR DETECTING NATURAL PRODUCTS

In 1997, Drs. Lo and Wainscoat discovered trace amounts of fragmented fetal DNA circulating in maternal blood.¹⁹⁰ They applied this discovery of cell free fetal DNA (cffDNA) using well-understood DNA manipulation techniques to create a non-invasive prenatal test.¹⁹¹ Thus, similar to the facts in *Mayo*, their invention improved an old method of fetal testing where the only new and useful element of the improved method was a scientific discovery.¹⁹²

186. See ALBERTS ET AL., *supra* note 24, at 194–95.

187. '282 Patent, *supra* note 14.

188. See *supra* Part I. PCR is not a natural process. It does not occur in nature. In nature, DNA is replicated, but this replication does not use DNA primers. Instead, replication is primed by short RNAs. See STRYER, *supra* note 86, at 805–06.

189. See *Diamond v. Chakrabarty*, 447 U.S. 303, 308 (1980).

190. Lo et al., *Presence of Fetal DNA in Maternal Plasma and Serum*, 350 LANCET 485 (1997). Fetal DNA was known to exist in circulating fetal cells, but no one had yet found fetal DNA existing outside of fetal cells in circulating maternal blood.

191. See '540 Patent, *supra* note 3. At the time of filing, it was well understood to use PCR and other DNA manipulation techniques to amplify and detect fetal DNA from fetal cells, but not from maternal serum because no one knew that fetal DNA was present in maternal serum. The patent was subsequently licensed to Sequenom, a California-based company, for commercialization.

192. See *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 132 S. Ct. 1289 (2012); see also *supra* Part II.B.

To illustrate the scope of the invention at issue, claim 25 of the '540 patent on the non-invasive prenatal test reads:

A method for performing a prenatal diagnosis on a maternal blood sample, which method comprises obtaining a non-cellular fraction of the blood sample, amplifying a paternally inherited nucleic acid from the non-cellular fraction, and performing nucleic acid analysis on the amplified nucleic acid to detect paternally inherited fetal nucleic acid.¹⁹³

Ariosa Diagnostics, Inc., Natera, Inc., and Diagnostics Center, Inc. each developed non-invasive prenatal tests based on the amplification and detection of cffDNA without a license to the '540 patent.¹⁹⁴ Beginning in December 2011, each company filed declaratory judgment actions against Sequenom, who had exclusively licensed the '540 patent, asserting that they were not infringing the '540 patent.¹⁹⁵ Sequenom countersued for patent infringement.¹⁹⁶ The district court granted summary judgment in favor of Ariosa et al. and invalidated the '540 patent under § 101.¹⁹⁷ The Federal Circuit affirmed the district court, holding that the claims of the '540 patent were not drawn to patent-eligible subject matter.¹⁹⁸

In invalidating the '540 patent, the Federal Circuit applied *Mayo* and *Ambry's* expansive reading of *Myriad* to determine that the patent claimed a natural phenomena.¹⁹⁹ The court asserted that the claims “are generally directed to detecting the presence of a naturally occurring thing or a natural phenomenon.”²⁰⁰ This reasoning further broadened *Mayo's* “law of nature/natural phenomena” analysis because under *Ariosa*, an innovation that involves detecting a natural substance falls within the judicial exception. Professor Christopher Holman pointed out the problems with this reasoning with the following example: Under *Ariosa*, a method to detect human-made toxins in drinking water would be patent eligible, but a method to detect naturally occurring pathogens would fall within a judicial

193. '540 Patent, *supra* note 3, at col. 26 ll. 29–36.

194. *Ariosa Diagnostics, Inc. v. Sequenom, Inc.*, 788 F.3d 1371, 1374 (Fed. Cir.), *reh'g denied*, 809 F.3d 1282 (Fed. Cir. 2015); *see also* Ashwin Agarwal, *Commercial Landscape of Noninvasive Prenatal Testing in the United States*, 33 *PRENATAL DIAGNOSTICS* 521, 522–23 (2013) (describing the non-invasive prenatal testing field).

195. *Ariosa*, 788 F.3d at 1374.

196. *Id.*

197. *Id.* at 1375.

198. *Id.* at 1380.

199. *See id.*

200. *Id.* at 1376.

exception and require additional scrutiny to determine patent eligibility.²⁰¹ Since essentially all molecular diagnostic methods involve the detection of naturally occurring substances, the *Ariosa* court firmly placed an entire technological field into a judicial exception. This analysis epitomizes Justice Frankfurter's warnings that a "law of nature/natural phenomena" analysis could lead judges to deny patents to technological areas that Congress intended to be patent eligible.²⁰²

In analyzing whether the patent claims encompassed a judicial exception, the *Ariosa* court stated twice that the method "begins and ends with a natural phenomenon," specifically cffDNA.²⁰³ The court's emphasis of this statement suggests its importance to the determination of whether a method claims natural phenomena. While the method at issue—and essentially all other methods except for software and related digital processes—begins with a naturally occurring substance, the method does not end with a naturally occurring substance.²⁰⁴ Instead, the method ends with an analysis or detection of synthetically created amplified cffDNA.²⁰⁵ The court's framework, in both *Ambry* and *Ariosa*, would conclude that amplified cffDNA is a natural phenomenon because it contains the same sequence as naturally occurring cffDNA. But this framework ignores the fact that amplified cffDNA is a human-made composition with a new use not found in nature. Amplified cffDNA provides clinically useful information on fetal characteristics, whereas naturally occurring cffDNA, without any human manipulation, does not.²⁰⁶ Only when naturally occurring cffDNA is transformed into a new substance—in this case through amplification—does it become useful for fetal testing.²⁰⁷ Again

201. The Biotechnology Industry Organization (Bio) And Pharmaceutical Research And Manufacturers Of America (Phrma) As *Amici Curiae* Supporting Appellants And In Favor Of En Banc Reconsideration (Nos. 2014-1139, -1144), *Ariosa Diagnostics, Inc. v. Sequenom, Inc.*, 809 F.3d 1282 (Fed. Cir. 2015).

202. *See* *Funk Bros. Seed Co. v. Kalo Inoculant Co.*, 333 U.S. 127, 134–35 (1948) (Frankfurter, J., concurring).

203. *Ariosa*, 788 F.3d at 1376, 1378.

204. For example, a method to create a new iron-based alloy begins with iron, a method to decontaminate polluted water begins with water, and a method to build a wooden chair begins with wood.

205. *See, e.g.*, '540 Patent, *supra* note 3, at col. 26 ll. 29–36.

206. *See id.*

207. *See id.*; *see also* *Parke-Davis & Co v. H.K. Mulford Co.*, 189 F. 95, 103 (C.C.S.D.N.Y. 1911) (holding that purified adrenaline was patentable because for all practical purposes it was a new substance with commercial utility). Newer technologies using a technique called molecular combing can extract clinically useful data from cffDNA without amplification. *See Molecular Combing*, GENOMIC VISION <http://www.genomicvision.com/technology/molecular-combing> [<https://perma.cc/3N3Q-2USY>].

using the language of *Chakrabarty*, amplified cffDNA is “markedly different” than naturally occurring cffDNA because it has a distinctive character and use.²⁰⁸

After concluding that the '540 patent claimed a natural phenomenon, the *Ariosa* court next examined whether the patent claimed an “inventive concept” that would allow it to be patentable.²⁰⁹ While *Ariosa* explained it was applying the *Mayo* framework, the court advanced a test that is even more exacting than *Mayo*'s. In *Mayo*, the additional elements of administering thiopurine drugs and measuring metabolites were already known and routinely performed at the time the patent was filed.²¹⁰ By contrast, no one was amplifying and detecting cffDNA at the time of the '540 patent because no one knew cffDNA existed.²¹¹ Under the *Ariosa* “inventive concept” framework, the novelty of the discovery of cffDNA was completely discounted. After discounting this discovery, *Ariosa* determined that the amplification and detection elements of the claim were well-understood, routine, and conventional because in 1997, scientists generally understood how to amplify and detect DNA.²¹² Implicit from this analysis is that the court analyzed the “inventiveness” of the additional elements as if scientists in 1997 knew that cffDNA already existed. The court thus separated the new discovery from the additional elements of amplifying and detecting DNA, which the Court in *Diehr* explicitly forbade.²¹³

In concluding that the '540 patent lacked an “inventive concept,” the court emphasized that “[t]he only subject matter new and useful as of the date of the application was the discovery of the presence of cffDNA in maternal [blood].”²¹⁴ This conclusion returns the patent eligibility analysis back to the Douglas framework, where practical applications of new

208. See *Diamond v. Chakrabarty*, 447 U.S. 303, 309–10 (1980) (citing *Hartranft v. Wiegmann*, 121 U.S. 609, 615 (1887)); see also Brief of Amicus Curiae Paul Gilbert Cole in Support of Appellants' Petition for Rehearing En Banc (Nos. 2014-1139, 2014-1144) *Ariosa Diagnostics, Inc. v. Sequenom, Inc.*, 809 F.3d 1282 (Fed. Cir. 2015).

209. *Ariosa*, 788 F.3d at 1376.

210. See *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 132 S. Ct. 1289, 1297–98 (2012).

211. See '540 Patent, *supra* note 3, at col. 1 ll. 50–55; see also *Ariosa*, 788 F.3d at 1381 (Linn, J., concurring).

212. *Ariosa*, 788 F.3d at 1377 (“The specification of the '540 patent confirms that the preparation and amplification of DNA sequences in plasma or serum were well-understood, routine, conventional activities performed by doctors in 1997.”).

213. See *Diamond v. Diehr*, 450 U.S. 175, 188 (1981). While the majority opinion in *Ariosa* did not cite to *Diehr*, Judge Linn's concurrence mentioned the holding of *Diehr*, but argued that *Mayo* superseded *Diehr* when assessing the conventionality of the additional claim elements. *Ariosa*, 788 F.3d at 1380–81.

214. *Ariosa*, 788 F.3d at 1377.

discoveries are not patentable if the discovery itself is the only new and useful aspect of the invention.²¹⁵ But Congress rejected this framework, and *Ariosa* makes the statutory text of the Patent Act, stating that discoveries are inventions, a dead letter.²¹⁶

IV. POLICY CONSIDERATIONS FAVOR PATENTABILITY FOR MOLECULAR DIAGNOSTICS

The primary policy objective of patent law is to promote innovation.²¹⁷ Patents promote innovation in at least three ways. First, they incentivize the public to invest in research by rewarding exclusive rights for useful inventions stemming from this research.²¹⁸ Second, the disclosure requirements of patent law enrich public knowledge of science and technology, which increases the flow of ideas and stimulates innovation.²¹⁹ Finally, because patents preempt or exclude public use of an invention, they incentivize ingenuity by encouraging the public to design around and improve upon existing patented technology.²²⁰

The issue of preemption, however, is a double-edged sword because overly broad patents may chill innovation if they preempt all uses of fundamental principles or naturally occurring materials.²²¹ This concern underlies the rationale for the judicially created exceptions to patentable subject matter.²²² In theory, these judicial exceptions make for sound policy. No one should have exclusive rights to the fundamental principles of gravitation or to the naturally occurring minerals of the earth.²²³ In practice,

215. See *supra* Section II.B.

216. See 35 U.S.C. §§ 100–01 (2012).

217. See U.S. CONST. art. I, § 8, cl. 8 (“The Congress shall have power . . . [to] promote the Progress of Science and useful Arts, by securing for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries.”).

218. See Lybecker, *supra* note 45.

219. See David Kline, *Do Patents Truly Promote Innovation?*, IPWATCHDOG (Apr. 15, 2014), <http://www.ipwatchdog.com/2014/04/15/do-patents-truly-promote-innovation/id=48768> [<https://perma.cc/2YPY-VDM5>] (citing a 2006 study that found that “88 percent of U.S., European, and Japanese businesses rely upon the information disclosed in patents to keep up with technology advances and direct their own R&D efforts.”).

220. See *id.* (“[P]atents also improve the allocation of resources by encouraging rapid experimentation and efficient ex post transfer of knowledge across firms.”).

221. See *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 132 S. Ct. 1289, 1305 (2012).

222. *Alice Corp. Pty. Ltd. v. CLS Bank Int’l.*, 134 S. Ct. 2347, 2354 (2014) (“We have described the concern that drives this exclusionary principle as one of pre-emption.”).

223. See *Diamond v. Chakrabarty*, 447 U.S. 303, 309 (1980). At least for principles like gravitation, the judicial exceptions are likely unnecessary because a principle by

however, applying the judicial exceptions is challenging because courts rarely, if ever, hear such straightforward examples. Moreover, since the judicial exceptions have never been precisely defined, their malleable nature creates opportunities for judges to use the exceptions to foreclose patent eligibility to technological areas based on policy issues that are more suitable for Congress to address. For example, before Justice Breyer authored the *Mayo* decision, he wrote a dissenting opinion in *Lab Corp. of America Holdings v. Metabolite Labs., Inc.* that would have invalidated under § 101 a patent that claimed a diagnostic method that identified a vitamin deficiency by measuring a metabolite.²²⁴ In his dissent, the Justice raised concerns that patents to such diagnostic methods may hinder the practice of medicine or increase the cost of health care.²²⁵ In *Mayo*, Justice Breyer suggested that diagnostic patents, in contrast to pharmaceutical patents, undermine innovation because they preempt too much.²²⁶

Since the patentability of diagnostics has captured the Court's attention, perhaps in part due to public policy considerations, these policy considerations warrant a brief exploration.²²⁷ As discussed below, policy considerations should weigh in favor of—not against—molecular diagnostic patents because such patents tend to promote rather than chill diagnostic innovation.

A. PATENTS PROMOTE DIAGNOSTIC INNOVATION

Diagnostic patents incentivize research and development of new diagnostic technologies. Similar to other biotechnological products,

definition is not a process, machine, manufacture, or composition of matter. *See Holman, supra* note 55, at 1821.

224. 548 U.S. 125 (2006) (Breyer, J., dissenting).

225. *Id.* at 138 (“[S]pecial public interest considerations reinforce my view that we should decide this case. To fail to do so threatens to leave the medical profession subject to the restrictions imposed by this individual patent and others of its kind. Those restrictions may inhibit doctors from using their best medical judgment; they may force doctors to spend unnecessary time and energy to enter into license agreements; they may divert resources from the medical task of health care to the legal task of searching patent files for similar simple correlations; they may raise the cost of healthcare while inhibiting its effective delivery.”).

226. *See Mayo*, 132 S. Ct. at 1302.

227. *See Eisenberg, supra* note 57, at 281 (“[B]oth the Supreme Court and the Federal Circuit insist that patent policy decisions are the domain of Congress, and that they are merely applying longstanding principles of patent law to the cases before them. Yet a distinction between therapeutics and diagnostics seems to lurk beneath the surface of decisions that rest more explicitly on other distinctions.”).

diagnostic tests require large investments in research and development.²²⁸ The cost to develop diagnostic tests ranges from fifty to seventy-five million dollars.²²⁹ The scientific research required to identify new biomarkers and clinically validate their efficacy to diagnose disease drives much of this cost.²³⁰ An investor's willingness to commit capital to these research endeavors depends strongly on the ability to patent useful applications stemming from these research efforts.²³¹

Historically, academic labs have discovered many of the biological correlations that form the basis of a new diagnostic test.²³² Some academics may be motivated solely from a deep curiosity about the molecular underpinnings of disease, while others may be motivated by the prospects of commercializing their discoveries.²³³ Regardless of motive, without a patent, it is unlikely that any investor would fund a company to commercialize academic discoveries due to the costs associated with process engineering, scaling up, and assessing clinical efficacy and safety.²³⁴

Diagnostic patents encourage public disclosure of valuable scientific and clinical data. Myriad possesses a vast private database of disease relevant

228. Brief Of *Amicus Curiae* Twenty-Three Law Professors In Support Of Appellants' Petition For Rehearing *En Banc* (Nos. 2014-1139, 2014-1144) *Ariosa Diagnostics, Inc. v. Sequenom, Inc.*, 809 F.3d 1282 (Fed. Cir. 2015).

229. *Id.*

230. See Christopher M. Holman, *The Critical Role of Patents in the Development, Commercialization, and Utilization of Innovative Genetic Diagnostic Tests*, CTR. FOR PROTECTION INTEL. PROP. 3 (July 2014), <http://cpip.gmu.edu/wp-content/uploads/2014/04/Holman-Critical-Role-of-Patents-in-Genetic-Diagnostic-Tests.pdf> [<https://perma.cc/FJX8-TRSX>].

231. See *id.* at 5.

232. See, e.g., Lo, *supra* note 190, 485–87.

233. See DEP'T OF HEALTH & HUMAN SERVS., GENE PATENTS AND LICENSING PRACTICES AND THEIR IMPACT ON PATIENT ACCESS TO GENETIC TESTS (2010), http://osp.od.nih.gov/sites/default/files/SACGHS_patents_report_2010.pdf [<https://perma.cc/YSG6-6YFL>] (“The Committee found that the prospect of patent protection of a genetic research discovery does not play a significant role in motivating scientists to conduct genetic research. Scientists typically are driven instead by factors such as the desire to advance understanding, the hope of improving patient care through new discoveries, and concerns for their own career advancement.”).

234. See PRESIDENT'S COUNCIL OF ADVISORS ON SCIENCE AND TECHNOLOGY, PRIORITIES FOR PERSONALIZED MEDICINE 21 (2008), https://www.whitehouse.gov/files/documents/ostp/PCAST/pcast_report_v2.pdf [<https://perma.cc/H98N-WLEZ>] (“The ability to obtain strong intellectual property protection through patents has been, and will continue to be, essential for pharmaceutical and biotechnology companies to make the large, high-risk R&D investments required to develop novel medical products, including genomics-based molecular diagnostics.”).

BRCA mutations stemming from its genetic research.²³⁵ Myriad shared BRCA mutation data with the public until 2004.²³⁶ Since 2004, Myriad has protected its BRCA mutation databases deliberately as trade secrets.²³⁷ While it is impossible to know without insider knowledge what spurred this change, uncertainty as to whether BRCA-related diagnostic tests are patentable surely does not incentivize Myriad to share data.²³⁸ Without the benefit of patent protection, trade secret protection for molecular diagnostics may become the only means to gain a competitive advantage.²³⁹ Unlike patents, trade secrets potentially endure forever, which may harm public welfare by maintaining high health care costs for diagnostic methods.²⁴⁰ Moreover, the public is deprived of the knowledge these databases provide, which impedes the sharing of ideas and stifles innovation.²⁴¹

Finally, diagnostic patents encourage the public to improve existing technology. For example, while the '540 patent provided broad protection over the diagnostic use of cffDNA, it possessed at least one critical limitation.²⁴² The method required selective amplification of paternally inherited cffDNA.²⁴³ Ten years after the discovery of cffDNA, in 2007, a research group from Stanford University invented and patented an improved non-invasive prenatal test that did not require selective amplification of paternally inherited cffDNA.²⁴⁴ While it is impossible to know whether the Stanford group would have invented this improved prenatal test if the '540 patent did not exist, there would surely be less incentive to invest the capital necessary to commercially develop a new and

235. Robert Cook-Deegan et al., *The Next Controversy in Genetic Test: Clinical Data as Trade Secrets?*, 21 EUR. J. HUMAN GENETICS 585, 585–86 (2013).

236. *Id.* at 586.

237. *Id.*

238. See Andrew Pollack, *Despite Gene Patent Victory, Myriad Genetics Faces Challenges*, N.Y. TIMES (Aug. 24, 2011), <http://www.nytimes.com/2011/08/25/business/despite-gene-patent-victory-myriad-genetics-faces-challenges.html> [<https://perma.cc/4H76-EXPA>] (quoting Peter D. Meldrum, Myriad's chief executive, "If I had my druthers, I would not want to go into a new market in a heavy-handed fashion, trying to enforce patents.").

239. See Cook-Deegan, *supra* note 235, at 586.

240. See *id.* ("The practical effect of retaining such data as a trade secret is to extend Myriad's testing monopoly beyond the life of the patents on which it was founded").

241. See *id.*

242. See '540 Patent, *supra* note 3, at col. 23 ll. 64–65.

243. See *id.*

244. See, e.g., U.S. Patent No. 7,888,017 (filed Feb. 2, 2007). Even newer technologies detect cffDNA without amplification. See *Molecular Combing*, GENOMIC VISION <http://www.genomicvision.com/technology/molecular-combing> [<https://perma.cc/BJ97-PSY4>].

improved prenatal test if the diagnostic industry could freely use the existing technology described in the '540 patent.²⁴⁵

B. PATENTS DO NOT CHILL DIAGNOSTIC INNOVATION

The Supreme Court in *Mayo* expressed concern that diagnostic patents claiming biological correlations may be fundamentally too broad, which may stifle innovation by foreclosing research opportunities related to the correlation.²⁴⁶ However, there is little evidence that the patents at issue in *Mayo*, *Myriad*, *Ambry*, and *Ariosa* were so broad that they stifled diagnostic innovation. The patent in *Mayo* described optimization of a specific drug treatment and had little impact on other areas of personalized medicine.²⁴⁷ The isolated BRCA DNA patents described in *Myriad* did not preempt sequencing the BRCA genes and identifying cancer-related mutations because advances in sequencing technology no longer require gene isolation as an intermediary step.²⁴⁸ Likewise, the primers in *Ambry* are no longer required to sequence the BRCA genes because next-generation sequencing can use universal primers instead of gene-specific primers.²⁴⁹ Finally, as described in Section IV.A, the '540 patent in *Ariosa* has not prevented the development of new patented improvements of non-invasive prenatal testing based on the detection of cffDNA.²⁵⁰

Some scholars have theorized that some diagnostic-related patents such as gene patents may create a “tragedy of the anticommons,” where too many

245. The diagnostic company Verinata commercialized non-invasive prenatal tests based on the patented Stanford University technology. See Luke Timmerman, *Verinata's Big Day Arrives, With Prenatal Down Syndrome Test Debut*, XCONOMY (Feb. 29, 2012), <http://www.xconomy.com/san-francisco/2012/02/29/verinatas-big-day-arrives-with-prenatal-down-syndrome-test-debut> [https://perma.cc/N4MZ-6Z97]. In the absence of patent protection, the Stanford group may have still researched improvements of non-invasive prenatal tests, but it is highly doubtful that venture capitalists would have invested \$58 million to commercialize this improved test. See *Verinata Health*, CRUNCHBASE, <https://www.crunchbase.com/organization/verinata-health#/entity> [https://perma.cc/AV74-64UD]. Illumina acquired Verinata in 2013 for \$350 million in upfront payments. See Luke Timmerman, *Illumina Acquires Verinata Health, Prenatal Testmaker, for \$350M*, XCONOMY (Jan. 7, 2013) <http://www.xconomy.com/san-diego/2013/01/07/illumina-acquires-verinata-health-prenatal-testmaker-for-350m> [https://perma.cc/B5FL-KDSL].

246. See *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 132 S. Ct. 1289, 1303 (2012).

247. See Eisenberg, *supra* note 57, at 269 (explaining the narrowness of the claims at issue in *Mayo*, “The *Mayo* claim is a narrowing refinement of a particular application rather than a new scientific discovery that has not yet been reduced to a particular application.”).

248. See Grote, *supra* note 34, at 32–33.

249. See Michael L. Metzker, *Sequencing Technologies—The Next Generation*, 11 NATURE REV.: GENETICS 31, 32–33 (2010).

250. See, e.g., *supra* note 244.

patent holders of “upstream” research block the development of new biotechnology products due to prohibitive transactional costs associated with patent licensing.²⁵¹ However, empirical studies have not found evidence of serious anticommons problems in the biotechnology industry.²⁵² Moreover, these fears have been unfounded for the downstream development of non-invasive fetal tests because non-invasive prenatal testing is currently available in the marketplace.²⁵³ Furthermore, two major noninvasive fetal test patent holders, Sequenom and Illumina, have formed a patent pool to share their patent resources, which should ensure that these companies continue to develop and market improvements to non-invasive fetal testing.²⁵⁴

Finally, there may be some concern that diagnostic patents that encompass scientific discoveries may impede the ability of academics to conduct basic research.²⁵⁵ This concern, however, is largely unfounded because patent holders rarely sue universities for patent infringement.²⁵⁶ If this practice were to change, Congress could enact safe harbor provisions to permit academic researchers to use patented technology for noncommercial research purposes.²⁵⁷

251. Michael A. Heller & Rebecca S. Eisenberg, *Can Patents Deter Innovation? The Anticommons in Biomedical Research*, 280 SCIENCE 698, 698–701 (1998).

252. Timothy Caulfield et al., *Evidence and Anecdotes: An Analysis of Human Gene Patenting Controversies*, 24 NATURE BIOTECHNOLOGY 1091, 1092 (“But despite the large number of patents and the numerous, heterogeneous actors—including large pharmaceutical firms, biotech startups, universities and governments—studies that have examined the incidence of anticommons problems find them relatively uncommon”); see also Rebecca Eisenberg, *Noncompliance, Nonenforcement, Nonproblem? Rethinking the Anticommons in Biomedical Research*, 45 HOUS. L. REV. 1059, 1062–63 (2008) (Symposium: Patent Law in Perspective Institute for Intellectual Property and Information Law) (suggesting a refinement of the anticommons theory that takes into account the burdens on a patent owner to detect and sue for infringement).

253. See, e.g., *The Maternit21® Plus Prenatal Test*, SEQUENOM, <https://laboratories.sequenom.com/patients/maternit21-plus> [<https://perma.cc/4PMQ-ACSU>].

254. See *Illumina and Sequenom Pool Noninvasive Prenatal Testing Intellectual Property and End Outstanding Patent Disputes*, ILLUMINA, <http://investor.illumina.com/mobile.view?c=121127&xv=203&d=1&id=1994454> [<https://perma.cc/2Z6F-72ZF>].

255. See, e.g., Tania Simoncelli & Sandra Park, *Making the Case Against Gene Patents*, 23 PERSPECTIVES ON SCIENCE 106, 121–23 (2014) (discussing negative effects of gene patents on research).

256. See Holman, *supra* note 230, at 4–5.

257. Congress has enacted safe harbor provisions for medical doctors under certain conditions. See 35 U.S.C. § 287(c) (2012).

V. CONCLUSION

Recent Supreme Court and Federal Circuit decisions collectively endanger patentability for molecular diagnostics. Sequenom has petitioned for a writ of certiorari,²⁵⁸ and the Court should grant the writ because *Sequenom v. Ariosa Diagnostics* provides an excellent vehicle for the Court to clarify how to apply the judicial exceptions to molecular diagnostics specifically and to practical applications of new discoveries generally. If and when the Court revisits its § 101 jurisprudence, the Court should heed the wisdom of Judge Learned Hand whose concluding paragraph in *Parke-Davis* is as relevant today as it was over one hundred years ago:

I cannot stop without calling attention to the extraordinary condition of the law which makes it possible for a man without any knowledge of even the rudiments of chemistry to pass upon such questions as these. The inordinate expense of time is the least of the resulting evils, for only a trained chemist is really capable of passing upon such facts. . . . How long we shall continue to blunder along without the aid of unpartisan and authoritative scientific assistance in the administration of justice, no one knows; but all fair persons not conventionalized by provincial legal habits of mind ought, I should think, unite to effect some such advance.²⁵⁹

Since courts are unlikely to employ unpartisan scientific advisors in the near future, the Supreme Court should follow the statutory text of §§ 100 and 101,²⁶⁰ nineteenth century precedent,²⁶¹ the principles of *Diehr*,²⁶² and the wisdom of Justice Frankfurter²⁶³ and Judge Hand²⁶⁴ in determining patent eligibility for molecular diagnostics. Instead of dissecting out a patent's "laws of nature" and "natural phenomena" and searching for

258. Petition for Writ of Certiorari, *Sequenom, Inc. v. Ariosa Diagnostics, Inc.* (U.S. Mar. 21, 2016) (No. 15-1182), 2016 WL 1105544.

259. *Parke-Davis & Co v. H.K. Mulford Co.*, 189 F. 95, 115 (C.C.S.D.N.Y. 1911); see also *Ass'n for Molecular Pathology v. Myriad Genetics, Inc.*, 133 S. Ct. 2107 (2013) (Scalia, J., concurring).

260. See 35 U.S.C. §§ 100–01 (2012).

261. See *supra*, notes 124, 126.

262. See *Diamond v. Diehr*, 450 U.S. 175, 188 (1981) ("In determining the eligibility of respondents' claimed process for patent protection under § 101, their claims must be considered as a whole.").

263. See *Funk Bros. Seed Co. v. Kalo Inoculant Co.*, 333 U.S. 127, 134–35 (1948) (Frankfurter, J., concurring) ("It only confuses the issue, however, to introduce such terms as 'the work of nature' and the 'laws of nature.'").

264. See *Parke-Davis & Co*, 189 F. at 103 (discussing the patentability of purified adrenaline, "it became for every practical purpose a new thing commercially and therapeutically. That was a good ground for a patent.").

indicators of inventiveness in the patent's remains, the Court should consider a patent holistically and determine whether the patent claims merely a principle or a practical application of a principle. More specifically, the Court should articulate a framework in which (1) synthetic compositions that have properties, structures, or sequences in common with naturally occurring materials are patent eligible if they have new and useful functions, and (2) conventional, routine, and well-understood applications of new discoveries are patent eligible. If the Court fails to address these concerns, then Congress should consider amending the Patent Act to reflect these suggestions and to preserve patentability for molecular diagnostics.

APPENDIX

Definitions of Molecular Biology Terms

| Term | Definition |
|------------------------------|---|
| Genomic DNA | Naturally occurring nucleic acids that contain an organism's genetic information. |
| Gene | A segment of genomic DNA that contains information for making protein. |
| Exon | A segment of a gGene that contains information for making protein. |
| Intron | A segment of a gene that does not contain information for making protein. |
| mRNA | A naturally occurring nucleic acid that contains information for making proteins according to the exons of genes. |
| Isolated DNA | A synthetic DNA, often a synthetically created copy of a segment of a naturally occurring DNA. Synthetic copies share the same genetic information as naturally occurring DNA but may have slightly different chemical compositions. Isolated DNA has similar properties as naturally occurring DNA but may have novel functions. |
| cDNA | A synthetically created copy of an mRNA. It shares the same genetic information as naturally occurring mRNA but has different chemical differences. |
| Plasmid | A DNA structure that exists in some bacteria. Scientists use plasmids to propagate and store isolated DNA and cDNA in bacteria. |
| PCR | A laboratory technique to amplify and make many copies of a DNA segment of interest. |
| Primer | Short segments of synthetic DNA that are necessary for initiating PCR. Primers may share some sequence elements in common naturally occurring DNA. The primer's sequence determines which DNA segments are amplified during PCR. |
| Cell-free fetal DNA (cffDNA) | Naturally occurring fetal DNA fragments that circulate in maternal blood. |
| Biomarker | Any molecules present in the human body such as nucleic acids (e.g. DNA and RNA), proteins, and various small molecules (often referred to collectively as metabolites) |

COMMIL v. CISCO:
**IMPLICATIONS OF THE INTENT STANDARD FOR
INDUCEMENT LIABILITY ON WILLFULNESS**

Nate Ngerebara[†]

Inducement liability enables patent holders to forestall infringement of their rights when it is either impractical or contrary to public policy to enforce a claim against direct infringers, or when the inducer is more morally culpable than the direct infringers.¹ In other instances, it might be a public relations nightmare for the patentee to sue the direct infringers.² The text of 35 U.S.C. § 271(b), specifically the phrase “whoever actively induces,” has been interpreted to require a scienter analysis.³ In its most recent addition to patent law jurisprudence, the Supreme Court contributed to a line of cases that have focused the issue of inducement liability primarily on the intent of the inducer.⁴

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1. Mark A. Lemley, *Inducing Patent Infringement*, 39 U.C. DAVIS L. REV. 225, 228 (2005) (“The goal of secondary liability is to give patent owners effective protection in circumstances in which the actual infringer either is not the truly responsible party or is impractical to sue.”); *see also* Brief for Amicus Curiae Abbvie Inc. in Support of Petitioner at 8, *Commil USA, LLC. v. Cisco Sys. Inc.*, 135 S. Ct. 1920 (2015) (No. 13-896) (discussing the policy hindrances to enforcing patents against direct infringers); Michael N. Rader, *Toward a Coherent Law of Inducement to Infringe: Why the Federal Circuit Should Adopt the Hewlett-Packard Standard for Intent Under §271(b)*, 10 FED. CIR. BAR J. 299, 300 (2000) (“It is often infeasible to sue the individual infringers in such situations, and in any case, the culpable party may well be the company encouraging or facilitating the infringing conduct.”).

2. Rader, *supra* note 1, at 306 (“[S]uing the direct infringers may constitute a bad business judgment. The direct infringers are likely to be customers of the patentee in the affected market and/or other related markets, and the patentee suing its own customers would likely have a detrimental effect on public relations.”).

3. 35 U.S.C. § 271(b) (2006) (“Whoever actively induces infringement of a patent shall be liable as an infringer.”).

4. W. Keith Robinson, *Only a Pawn in the Game: Rethinking Induced Patent Infringement*, SANTA CLARA COMPUTER & HIGH TECH. L.J. (forthcoming) (manuscript at 6), <http://ssrn.com/abstract=2630811> [<https://perma.cc/VW43-HFNL>] (“First, the Supreme Court clarified that liability for induced infringement requires proof that the defendant knew her induced acts infringed the asserted patent.”).

Unlike direct infringement, which is a strict liability offense, third-party liability (through inducement or contributory infringement) requires both knowledge and intent.⁵ Specifically, inducement requires one party actively encouraging or aiding another to infringe a patent.⁶ Following the codification of 35 U.S.C. § 271, courts struggled for over fifty years to clearly define the knowledge and intent requirements for liability under § 271(b), which provides a cause of action for induced infringement, and § 271(c), which addresses contributory infringement.⁷ Resolving its “conflicting precedent” on the scienter for inducement, the Federal Circuit in *DSU Medical Corp. v. JMS Co.* construed “actively induces” as requiring a showing of both the defendant’s knowledge that his actions would induce actual infringement and a specific intent to cause direct infringement.⁸ Subsequent cases sought to delineate the precise knowledge and the level of intent necessary for liability.⁹

Recently, in *Commil USA, LLC v. Cisco Systems, Inc.*, the Supreme Court affirmed its holding in *Global-Tech Appliances, Inc. v. SEB S.A.*, where it held that inducement liability required “actual knowledge” (or willful blindness to the fact) that the induced acts constitute patent infringement.¹⁰

5. See *Global-Tech Appliances, Inc. v. SEB S.A.*, 131 S. Ct. 2060, 2065 n.2 (2011) (asserting that direct infringement requires “no more than unauthorized use,” such that the “direct infringer’s knowledge or intent is irrelevant”).

6. 35 U.S.C. § 271(b) (2006).

7. See generally Lemley, *supra* note 1, at 228–41 (describing the scope of inducement in various cases).

8. *DSU Med. Corp. v. JMS Co.*, 471 F.3d 1293, 1304, 1306 (Fed. Cir. 2006) (referring to the seemingly contradictory standards the Federal Circuit articulated in *Hewlett-Packard Co. v. Bausch & Lomb Inc.*, 909 F.2d 1464 (Fed. Cir. 1990), and its panel decision in *Manville Sales Corp. v. Paramount Systems, Inc.*, 917 F.2d 544 (Fed. Cir. 1990), and stating that “[i]nducement requires evidence of culpable conduct, directed to encouraging another’s infringement, not merely that the inducer had knowledge of the direct infringer’s activities” and that “[t]he requirement that the alleged infringer knew or should have known his actions would induce actual infringement necessarily includes the requirement that he or she knew of the patent”).

9. See also *SEB S.A. v. Montgomery Ward & Co.*, 594 F.3d 1360, 1376 (Fed. Cir. 2010), *aff’d sub nom.* *Global-Tech Appliances, Inc. v. SEB S.A.*, 131 S. Ct. 2060 (2011) (stating that “the court resolved conflicting case law setting forth both a requirement to knowingly induce infringement and to merely knowingly induce the acts that constitute direct infringement”); see also *Global-Tech*, 131 S. Ct. at 2068 (“This question closely divided the *Aro II* Court”); Eric L. Lane, *The Federal Circuit’s Inducement Conflict Resolution: The Flawed Foundation and Ignored Implications of DSU Medical*, 6 J. MARSHALL REV. INTELL. PROP. L. 198 (2007).

10. See *Commil USA, LLC v. Cisco Sys. Inc.*, 135 S. Ct. 1920, 1926 (2015) (rejecting *Commil*’s and the government’s reading of *Global-Tech* as requiring only knowledge of the patent for induced infringement; the Court stated that such a reading “would contravene *Global-Tech*’s explicit holding that liability for induced infringement can

Prior Federal Circuit case law had established that a good-faith belief regarding the non-infringing nature of the defendant's activities was relevant in assessing intent and subsequent liability.¹¹ However, noting that it saw “no principled distinction between a good-faith belief of invalidity and a good-faith belief of non-infringement,” the Federal Circuit in *Commil* expanded on the intent requirement, holding that evidence of a subjective, good-faith belief in the invalidity of the infringed patent could be a defense against induced infringement.¹² The Supreme Court disagreed, instead holding that a belief in the invalidity of a patent was not a defense to induced infringement.¹³

The *Commil* decision suggests that a belief in the invalidity of a patent, no matter how well reasoned, may not prevent a finding that direct infringement was willful.¹⁴ Courts use the willfulness standard to decide when patent infringement (direct or indirect) is egregious enough to merit imposition of treble damages under 35 U.S.C. § 284.¹⁵ Unlike direct infringement, which has no scienter requirement, inducement liability and

only attach if the defendant knew of the patent and knew as well that the induced acts constitute patent infringement”) (internal quotes omitted); *Global-Tech*, 131 S. Ct. at 2068–69 (“The traditional rationale for this doctrine is that defendants who behave in this manner are just as culpable as those who have actual knowledge.”).

11. See *DSU Med. Corp.*, 471 F.3d at 1307 (finding a belief of non-infringement sufficient to support a verdict that the defendant did not induce infringement: “To the contrary, the record contains evidence that ITL did not believe its Platypus infringed. Therefore, it had no intent to infringe.”); *Ecolab Inc. v. FMC Corp.*, 569 F.3d 1335, 1351 (Fed. Cir. 2009) (finding that a reasonable belief of non-infringement supported a jury’s verdict that the defendant lacked the intent required for inducement); *Kinetic Concepts, Inc. v. Blue Sky Med. Grp., Inc.*, 554 F.3d 1010, 1025 (Fed. Cir. 2009) (holding that defendant’s belief supported a jury finding that the necessary intent was lacking); *Bettcher Indus., Inc. v. Bunzl USA, Inc.*, 661 F.3d 629, 648–49 (Fed. Cir. 2011) (finding that opinion of counsel regarding non-infringement was admissible to show the defendant’s state of mind regarding the intent to induce infringement).

12. See *Commil USA, LLC v. Cisco Sys. Inc.*, 720 F.3d 1361, 1364, 1368 (Fed. Cir. 2013), *vacated*, 135 S. Ct. 1920 (2015).

13. See *Commil*, 135 S. Ct. at 1928–29 (2015).

14. See Jason Schwent, *Has the Supreme Court Signaled the End of Invalidity Opinion Letters?* THOMPSON COBURN LLP BLOG (Jun. 24, 2015), <http://www.thompsoncoburn.com/news-and-information/patent-billy-goat-blog/blog/15-06-24/has-the-supreme-court-signaled-the-end-of-invalidity-opinion-letters.aspx> [https://perma.cc/UA3L-8KCS] (“In its *Commil* decision, the [J]ustices seemed to suggest that a belief as to the invalidity of a patent—no matter how well reasoned or firmly grounded—may also not prevent a finding that direct infringement was willful.”).

15. 35 U.S.C. § 284 (2009).

willfulness both have similar knowledge and intent requirements.¹⁶ Because it eradicates the good-faith belief in invalidity as a defense against induced infringement, *Commil* is in tension with the willfulness standard set in *In re Seagate Technology, LLC*.¹⁷ Under the current structure, the willfulness inquiry considers, in part, the defendant's knowledge that it proceeded "despite an objectively high likelihood that its actions constituted infringement of a valid patent."¹⁸ The inclusion of "valid" in the inquiry suggests that a good-faith belief of invalidity should remain a defense to willfulness.¹⁹ It is unclear, however, whether this standard might be held to conflict with *Commil's* distinction between validity and infringement for inducement liability.²⁰

This Note explores the impact of the *Commil* holding on willful infringement, and concludes that *Commil* further mandates a reexamination of the standard for willful infringement.²¹ Part I examines the evolution of inducement liability, specifically addressing the knowledge and intent required under § 271(b). Part II discusses the development of the standard for willful infringement. It also addresses the impact of the willfulness jurisprudence on litigation strategies and opinions of counsel. Part III summarizes the *Commil* decision, and Part IV examines the implications of the decision on the willfulness standard as well as on opinions of counsel—a once useful tool for avoiding liability.

16. See Jason A. Rantanen, *An Objective View of Fault in Patent Infringement*, 60 AM. U. L. REV. 1575, 1632 (2011) (noting that contributory infringement and inducement of infringement necessarily lead to findings of willful infringement).

17. *In re Seagate Tech., LLC*, 497 F.3d 1360, 1368, 1370–72 (Fed. Cir. 2007) (en banc).

18. See *id.* at 1371.

19. KIRK SIGMON ET. AL., MORRISON & FOERSTER, SUPREME COURT REJECTS BELIEF OF INVALIDITY DEFENSE FOR INDUCEMENT IN *COMMIL V. CISCO* (2015), <http://www.mofo.com/~media/Files/ClientAlert/2015/05/150526CommilvCisco.pdf> [<https://perma.cc/A9S6-UQ86>].

20. *Id.*

21. The Supreme Court recently granted certiorari to hear two cases on the issue of willfulness under § 284: *Stryker Corp. v. Zimmer Inc.*, 2015 U.S. LEXIS 6727 (U.S. Oct. 19, 2015) and *Halo Elecs., Inc. v. Pulse Elecs., Inc.*, 2015 U.S. LEXIS 6634 (U.S. Oct. 19, 2015). The consolidated cases challenge the appropriateness and rigidity of the Federal Circuit's two-prong *Seagate* test in light of the Supreme Court's decision in *Octane Fitness, LLC v. ICON Health & Fitness, Inc.*, 134 S. Ct. 1749, 1756–57 (2014).

I. INDUCEMENT LIABILITY

Commil eliminated a defendant's good-faith belief in the invalidity of a patent as a defense to inducement liability.²² Hence, for inducement liability, a plaintiff must show that the defendant had the intent to cause inducement, or that the defendant had knowledge of (or was willfully blind to) the existence of the patent, and also knew that the induced acts constituted patent infringement.²³ However, contrary to the Federal Circuit's case law, the defendant may not negate the intent requirement by claiming a good-faith belief that the patent was invalid.²⁴

Patent infringement occurs when "without authority [one] makes, uses, offers to sell, or sells any patented invention, within the United States or imports into the United States any patented invention during the term of the patent."²⁵ Direct infringement requires that a party perform "all the acts necessary to infringe the patent, either personally or vicariously."²⁶ The Patent Act also provides for secondary liability for those who do not directly practice the invention, but contribute to the infringement or induce others to infringe.²⁷ This secondary liability aims to give patentees effective protection in circumstances where the direct infringer is not the truly responsible party, or where it is impossible or inefficient to sue the direct infringers.²⁸

22. *Commil USA, LLC v. Cisco Sys. Inc.*, 135 S. Ct. 1920, 1931 (2015).

23. *See DSU Med. Corp. v. JMS Co.*, 471 F.3d 1293, 1306 (Fed. Cir. 2006) (noting that "inducement requires 'that the alleged infringer knowingly induced infringement and possessed specific intent to encourage another's infringement'" (citation omitted)). The modern understanding of intent is comprised of two elements: knowledge and purpose, so whereas the following discussion delineates "intent" and "knowledge" as different elements, knowledge is often subsumed in the intent element. *See* Jason A. Rantanen, *An Objective View of Fault in Patent Infringement*, 60 AM. U. L. REV. 1575, 1578–79 (2011) ("Global-Tech concluded that inducement requires knowledge of infringement, a holding that it necessarily tempered with the invocation of the problematic concept of 'willful blindness'"); *Global-Tech Appliances, Inc. v. SEB S.A.*, 131 S. Ct. 2060 (2011), *aff'g* *SEB S.A. v. Montgomery Ward & Co.*, 594 F.3d 1360, 1376 (Fed. Cir. 2010).

24. *See Commil*, 135 S. Ct. at 1931.

25. 35 U.S.C. § 271(a) (2006).

26. *Akamai Techs., Inc. v. Limelight Networks, Inc.*, 692 F.3d 1301, 1307 (Fed. Cir. 2012) (*per curiam*) (stating that direct infringement occurs when the accused device or process meets each and every claim of the existing patent), *rev'd* on other grounds.

27. *See* 35 U.S.C. §§ 271(b), (c) (2006).

28. Lemley, *supra* note 1, at 228 ("The goal of secondary liability is to give patent owners effective protection in circumstances in which the actual infringer either is not the truly responsible party or is impractical to sue."); *see also* Charles W. Adams, *A Brief History of Indirect Liability for Patent Infringement*, 22 SANTA CLARA COMPUTER & HIGH TECH. L.J. 369, 386 (2006) (stating that contributory infringement was applied to enjoin those

Under the case law before the passage of the Patent Act in 1952, courts considered inducement only as evidence supporting the requisite intent in a case of contributory infringement.²⁹ In the 1952 Patent Act, Congress drew a distinction between the theories of third party liability, separating them into two categories: induced infringement, codified by § 271(b), and contributory infringement, codified by § 271(c).³⁰ Both sections of the statute contain ambiguities as to the requisite levels of knowledge and intent for liability.³¹

Section 271(b) provides that “[w]hoever actively induces infringement of a patent shall be liable as an infringer.”³² Unlike direct infringement, a strict liability offense,³³ inducement liability requires that the patent holder “establish fault on the part of the accused.”³⁴ Courts have interpreted the phrase “actively induces” as used in § 271(b) to add an intent requirement to inducement liability.³⁵ Despite its seemingly straightforward language, the statute raised questions about the scope of liability and the required intent or level of knowledge needed to “actively” induce infringement.³⁶ In *DSU Medical Corp. v. JMS Co.*, the Federal Circuit established that inducement liability required that an alleged infringer “knowingly” and with “specific intent” induce another’s infringement.³⁷ Though the Federal Circuit seemingly settled the mental state requirement, the certainty was short-lived.³⁸ The Supreme Court modified this standard in *Global-Tech* by

who sought to cause infringement by supplying someone else with the means and directions for infringing a patent).

29. Lemley, *supra* note 1, at 227 (“Thus, the earliest cases focusing on efforts to induce infringement did not treat it as a separate offense, but rather as evidence supporting the requisite affirmative intent for a case of contributory infringement.”).

30. See generally *Global-Tech Appliances, Inc. v. SEB S.A.*, 131 S. Ct. 2060, 2067 (2011); Adams, *supra* note 28, at 370.

31. Kristin M. Hagen, *Eyes Wide Shut: Induced Patent Infringement and the Willful Blindness Standard*, 17 MARQ. INTELL. PROP. L. REV. 305, 306–07 (2013).

32. 35 U.S.C. § 271(b) (2012).

33. See *Blair v. Westinghouse Elec. Corp.*, 291 F. Supp. 664, 670 (D.D.C. 1968).

34. Rantanen, *supra* note 23, at 1578.

35. See, e.g., *Global-Tech.*, 131 S. Ct. at 2064–65.

36. See Lemley, *supra* note 1, at 23; see also Rantanen, *supra* note 23, at 1578 n.8, 1590 (pointing out that “[t]he common theme of these [scienter] standards is that they all involve an investigation into whether the accused party either intended to infringe the patent or subjectively knew that the conduct infringed”).

37. *DSU Med. Corp. v. JMS Co.*, 471 F.3d 1293, 1306 (Fed. Cir. 2006) (noting that “the alleged infringer knowingly induced infringement and possessed specific intent to encourage another’s infringement”).

38. Rantanen, *supra* note 23, at 1578 (“[T]he Federal Circuit, citing en banc, recently articulated the fault element for inducement as requiring that ‘the patentee must show . . .

adding a two-part knowledge requirement for inducement liability.³⁹ As discussed in the two Sections, *infra*, this test entails both an inquiry into the knowledge (or willful blindness) of the patent's existence, and an inquiry into the intent of the inducer.⁴⁰

A. THE KNOWLEDGE (WILLFUL BLINDNESS) INQUIRY UNDER
GLOBAL-TECH

To establish indirect patent infringement liability, like other secondary liability tort claims, a plaintiff must prove (1) the underlying tort—direct infringement, (2) the defendant's knowledge of the underlying tort, and (3) the provision of assistance to advance the tort's commission.⁴¹ In *Global-Tech*, the Supreme Court held that liability for induced infringement attaches only if the defendant knew of the patent and also knew that “the induced acts constitute patent infringement.”⁴²

Global-Tech involved Pentalpha, a Hong Kong based subsidiary of the defendant that purchased and copied all but the cosmetic features of a competitor's deep fryer.⁴³ Before copying the design, Pentalpha had conducted market research and was aware of the commercial success of SEB's fryers.⁴⁴ The company also knew that the success was due to the “advanced technology” embodied in the fryers.⁴⁵ Pentalpha hired an attorney to conduct a right-to-use study, without disclosing to the opinion counsel that its fryer design was copied.⁴⁶ Upon conducting a search, the opinion counsel concluded that the defendant was not infringing any known patents.⁴⁷ Pentalpha proceeded to sell its fryers, which were then resold in the United States.⁴⁸ Furthermore, Pentalpha's CEO, a named inventor on U.S. patents, knew that products made for overseas markets did not bear

that the alleged infringer *knowingly* induced infringement and possessed *specific intent* to encourage another's infringement.”).

39. See *Global-Tech*, 131 S. Ct. at 2064–65.

40. *Id.*

41. See, e.g., Dmitry Karshedt, *Damages for Indirect Patent Infringement*, 91 WASH. U. L. REV. 911, 925 (2014).

42. *Global-Tech*, 131 S. Ct. at 2068 (“[W]e now hold that induced infringement under § 271(b) requires knowledge that the induced acts constitute patent infringement.”).

43. *Id.* at 2064.

44. *Id.* at 2071.

45. *Id.*

46. *Id.* at 2064.

47. *Id.*

48. *Id.*

U.S. patent markings, and failed to disclose the copying of the Hong Kong model of the SEB fryer to opinion counsel.⁴⁹

Given the lack of direct evidence of the defendant's actual knowledge of the patent, the Supreme Court adopted the criminal law doctrine of willful blindness to affirm the lower court's finding of liability.⁵⁰ The Court explained that to be willfully blind, an accused infringer must: (1) have a subjective belief that there is a high probability that a fact exists and (2) take deliberate actions to avoid learning of that fact.⁵¹ Given the defendant's research and awareness of the success of the advanced technology in the fryers it copied, the fact that its CEO knew that products for overseas markets did not bear U.S. patent markings, and the failure to disclose the copying to opinion counsel, the Court concluded that Pentalpha had a subjective belief of a high probability that its activity constituted patent infringement.⁵² The Court also concluded that Pentalpha took deliberate steps to avoid confirming its knowledge, thereby willfully blinding itself to the infringing nature of the sale of its fryers in the United States.⁵³ The Federal Circuit had reasoned that the required knowledge threshold was something more than "should have known," but less than actual knowledge.⁵⁴ The Supreme Court disagreed. Rejecting the Federal Circuit's "deliberate indifference" standard, the Court explained that "[the standard] permits a finding of knowledge when there is merely a 'known risk' that the induced acts are infringing."⁵⁵

Under the willful blindness doctrine, a defendant cannot shield himself from laws requiring knowledge or intent by ignoring key facts that should be abundantly clear from the given circumstances.⁵⁶ Willful blindness, according to the Court, is appropriately limited and surpasses both recklessness and negligence.⁵⁷ A willfully blind defendant takes "deliberate actions to avoid confirming a high probability of wrongdoing," and can be said to actually know of "critical facts."⁵⁸ In contrast, recklessness requires that a defendant know and consciously disregard "a substantial and

49. *Id.* at 2071.

50. *Id.* at 2070–71.

51. *Id.*

52. *Id.* at 2072.

53. *Id.*

54. *SEB S.A. v. Montgomery Ward & Co.*, 594 F.3d 1360, 1376–77 (Fed. Cir. 2010).

55. *Global-Tech*, 131 S. Ct. at 2071.

56. See Jonathan A. Choa, *Commil v. Cisco Systems: The End of Induced Infringement?*, 27 *INTELL. PROP. LITIG.* 35, 37 (2015).

57. *Global-Tech*, 131 S. Ct. at 2070–71.

58. *Id.* at 2068–71 (explaining willful blindness).

unjustified risk” of wrongdoing.⁵⁹ A negligent defendant is one who should have known of a similar risk, but did not.⁶⁰ Notably, the Court in *Global-Tech* applied willful blindness only in the context of knowledge of the patent-in-suit.⁶¹ However, lower courts have subsequently applied the doctrine to “both knowledge elements” for inducement.⁶² Although the Court in *Commil* did not expressly discuss the willful blindness doctrine, it reiterated *Global-Tech*’s holding regarding the knowledge necessary for inducement.⁶³

Relying on guidance from the Supreme Court on inducement in a copyright case, the Federal Circuit addressed the intent prong of inducement liability for patent infringement.

B. THE INTENT REQUIREMENT FOR INDUCEMENT

The Supreme Court’s first substantive discussion of the required intent for “active inducement” arose in the context of illegal downloads of copyrighted music in *Metro-Goldwyn-Mayer Studios, Inc. v. Grokster Ltd.*⁶⁴ There, the Court premised inducement liability on “purposeful, culpable expression and conduct.”⁶⁵ The Court held that liability for inducement exists “where evidence goes beyond a product’s characteristics or the knowledge that it may be put to infringing uses, and shows statements or actions directed to promoting infringement.”⁶⁶

Relying on the *Grokster* decision, the Federal Circuit in *DSU Medical Corp. v. JMS Co., Ltd* clarified its seemingly conflicting precedent on the intent standard for inducement claims.⁶⁷ The court held that in addition to

59. *Id.* at 2070–71.

60. *Id.* at 2071.

61. *Id.* at 2070 (stating that there was no need to invoke the doctrine to establish knowledge of the infringing nature of its activities, as the defendant was “indisputably aware” that its customers were selling the product in this country).

62. Paul Ragusa & Julie Albert, *Navigating Induced Infringement Claims: A Practical Application of the Willful Blindness Doctrine*, 21 IP LITIGATOR 18, 18 (2015).

63. See *Commil USA, LLC v. Cisco Sys. Inc.*, 135 S. Ct. 1920, 1928 (2015) (“the *Global-Tech* rationale is sound”).

64. *Metro-Goldwyn-Mayer Studios, Inc. v. Grokster Ltd.*, 545 U.S. 913 (2005).

65. Timothy R. Holbrook, *The Supreme Court’s Quiet Revolution in Induced Patent Infringement*, NOTRE DAME L. REV. (forthcoming 2016) (manuscript at 107), <http://ssrn.com/abstract=2653077> [<https://perma.cc/E3SL-E9EW>].

66. *Grokster*, 545 U.S. at 935.

67. See Lane, *supra* note 9, at 198. The Federal Circuit first held in *Hewlett-Packard Co. v. Bausch & Lomb Inc.*, 909 F.2d 1464 (Fed. Cir. 1990), that inducement required intent to cause the acts constituting infringement. However, in *Manville Sales Corp. v. Paramount Systems, Inc.*, 917 F.2d 544 (Fed. Cir. 1990), the court set a higher intent, holding that the

the inducer's knowledge, the plaintiff had to show specific intent to cause direct infringement, that is, "that the alleged infringer knowingly induced infringement and possessed specific intent to encourage another's infringement."⁶⁸

II. BACKGROUND ON WILLFUL INFRINGEMENT

Like inducement, willful infringement, an often-alleged adjunct to claims of patent infringement, requires a similar assessment of the mental state of the alleged infringer. The willful infringement standard has evolved through Federal Circuit case law.

As explained by the Federal Circuit, the possibility of treble damages for willful infringement serves as an "economic deterrent" to patent infringement.⁶⁹ As such, patentees often assert claims of willful infringement in litigation.⁷⁰ Section 284 of the Patent Act allows a court to enhance a prevailing plaintiff's damage award "up to three times the amount found or assessed."⁷¹ In its seminal opinion in *Seagate*, the Federal Circuit held "that an award of enhanced damages requires a showing of willful infringement."⁷² To establish willful infringement, a plaintiff must prove that the defendant was objectively reckless.⁷³ This standard requires a two-prong test. First, an objective inquiry into whether "the infringer acted despite an objectively high likelihood that its actions constituted infringement of a valid patent," and second, a subjective inquiry into whether the objectively-defined risk (as determined by the record) was

plaintiff must show that the infringer induced the infringing acts and knew or should have known his actions would cause actual infringement. *Id.*

68. *DSU Med. Corp. v. JMS Co.*, 471 F.3d 1293, 1306 (Fed. Cir. 2006) ("Inducement requires evidence of culpable conduct, directed to encouraging another's infringement, not merely that the inducer had knowledge of the direct infringer's activities") (quoting *Grokster*, 125 S. Ct. at 2780; *Manville*, 917 F.2d at 553; *MEMC Elec. Materials, Inc. v. Mitsubishi Materials Silicon Corp.*, 420 F.3d 1369, 1378 (Fed. Cir. 2005)).

69. *Rite-Hite Corp. v. Kelley Co.*, 819 F.2d 1120, 1126 (Fed. Cir. 1987) (en banc).

70. See Kimberly A. Moore, *Empirical Statistics on Willful Patent Infringement*, 14 FED. CIR. B.J. 227, 232 (2004) (finding that willfulness was asserted in 92% of the 1,721 cases studied).

71. 35 U.S.C. § 284 (2012).

72. *In re Seagate Tech., LLC*, 497 F.3d 1360, 1368 (Fed. Cir. 2007) (en banc).

73. *Id.* at 1371 ("Accordingly, we overrule the standard set out in *Underwater Devices* and hold that proof of willful infringement permitting enhanced damages requires at least a showing of objective recklessness.").

either known or so obvious that it should have been known to the accused infringer.⁷⁴

Prior to *Seagate*, opinions of counsel regarding non-infringement or invalidity were seen as a guarantee against liability for willful infringement.⁷⁵ The Federal Circuit's decision in *Underwater Devices Inc. v. Morrison-Knudsen Co.* set forth the traditional standard for willful infringement.⁷⁶ There, the court established a "due care" standard, under which, upon actual notice of another's rights, a potential infringer "ha[d] an affirmative duty to exercise due care to determine whether or not he is infringing."⁷⁷ This duty included seeking and obtaining competent legal advice before initiating possibly infringing activities.⁷⁸ Compliance with this standard spurred the "advice of counsel" defense.⁷⁹ Defendants sought to establish that they based their infringing activity on a reliance on the advice of counsel.⁸⁰ In *Seagate*, the Federal Circuit eliminated the affirmative duty to obtain an opinion of counsel to defend against a claim of willful infringement.⁸¹

A. SEAGATE'S OBJECTIVE RECKLESSNESS STANDARD

In light of "the practical concerns facing litigants" under the *Underwater Devices* regime, the Federal Circuit revisited its willfulness doctrine in *Seagate*.⁸² In an en banc opinion, the court overruled *Underwater Devices*.⁸³ Reasoning that the "due care" standard—which was akin to negligence—was improper, the court established the more stringent "objective recklessness" standard.⁸⁴ To prevail on a claim of willful infringement under the new standard, a plaintiff must show that the infringer "acted despite an objectively high likelihood that its actions constituted infringement of a valid patent."⁸⁵ In this prong of the new standard, the infringer's subjective

74. *Id.*

75. *See Moore, supra* note 70, at 228 (noting that most practitioners and scholars believe that willfulness determinations often turned on opinion letters).

76. 717 F.2d 1380, 1389–90 (Fed. Cir. 1983).

77. *Id.*

78. *Id.*

79. *See Brett Williamson & Edgar Martinez, Post-Seagate: Advice of Counsel in Patent Defense*, 20 INTELL. PROP. LITIG. 1, 1 (2008).

80. *Id.*

81. *In re Seagate Tech., LLC*, 497 F.3d 1360, 1371 (Fed. Cir. 2007) (en banc) ("Because we abandon the affirmative duty of due care, we also reemphasize that there is no affirmative obligation to obtain opinion of counsel.").

82. *Id.* at 1370.

83. *Id.* at 1371.

84. *Id.*

85. *Id.*

state of mind is not relevant.⁸⁶ Upon meeting this threshold objective prong, the plaintiff must then demonstrate that the objectively defined risk was either known, or so obvious that the accused infringer should have known it.⁸⁷ Having abandoned the duty of care, the court emphasized that an alleged infringer had no affirmative obligation to obtain opinion of counsel.⁸⁸ This holding was subsequently codified in the America Invents Act, 35 U.S.C. § 298.⁸⁹

B. DEVELOPMENT OF THE WILLFULNESS STANDARD AFTER
SEAGATE

Following *Seagate*, the Federal Circuit further defined the contours of the willfulness standard in *Finisar Corp. v. DirecTV Group, Inc.*, where the defendant had obtained an opinion of counsel on non-infringement.⁹⁰ The court noted that a competent opinion of counsel on non-infringement or invalidity would be sufficient to proceed without being objectively reckless.⁹¹ Three years later, in *Spine Solutions, Inc. v. Medtronic Sofamor Danek USA, Inc.*, the court established that the “objective prong” of *Seagate* tends not to be met” where the alleged infringer relies on a reasonable defense to a charge of infringement.⁹² In contrast with the traditional paradigm where willfulness was a jury question, the Federal Circuit in *Bard Peripheral Vascular, Inc. v. W.L. Gore & Assocs., Inc.* announced that *Seagate*’s threshold objective prong is a question of law.⁹³ In the court’s opinion, when a defense or non-infringement theory is purely legal, the recklessness of such a theory is better left to the judge.⁹⁴ Similarly, the judge should determine the reasonableness of a proposed defense when the objective prong of the *Seagate* “objective recklessness” analysis turns on fact questions related, for example, to anticipation.⁹⁵ Given the *Seagate* standard, which puts the burden of proof on the patentee to meet the threshold objective prong, and

86. *See id.*

87. *Id.*

88. *Id. But see* *Broadcom Corp. v. Qualcomm Inc.*, 543 F.3d 683, 699 (Fed. Cir. 2008) (creating an exception in the context of inducement, such that “failure to procure such an opinion may be probative of intent”), *superseded by statute*, AIA 35 U.S.C. § 298.

89. AIA, 35 U.S.C. § 298 (stating that “[t]he failure of an infringer to obtain the advice of counsel . . . may not be used to prove that the accused infringer willfully infringed the patent or that the infringer intended to induce infringement of the patent.”).

90. *Finisar Corp. v. DirecTV Group, Inc.*, 523 F.3d 1323, 1339 (Fed. Cir. 2008).

91. *Id.*

92. *Spine Sols., Inc. v. Medtronic Sofamor Danek USA, Inc.*, 620 F.3d 1305, 1319 (Fed. Cir. 2010).

93. 682 F.3d 1003, 1006 (Fed. Cir. 2012).

94. *Id.* at 1007.

95. *Id.*

Bard's determination that this inquiry is a question of law for the judge, there is essentially an increased likelihood of summary judgment resolution of claims of willful infringement against patentees.⁹⁶

As discussed, *supra*, in *Global-Tech* the Supreme Court established another prong to the requisite scienter for inducement liability: knowledge or willful blindness, a holding the Court subsequently affirmed in *Commil*. The *Commil* Court went further, eliminating good-faith belief in the invalidity of the patent-in-suit as a defense to inducement liability. In so doing, the Court created a tension with the Federal Circuit's willfulness standard established in *Seagate*.⁹⁷ This tension, along with the heightened intent standard for inducement liability, necessitates a review of the current standard for willful patent infringement.

III. THE *COMMIL* DECISION

In *Commil*, the Supreme Court ruled that induced infringement under § 271(b) required a showing that the defendant knew of the patent and the infringing nature of the induced acts. The Court further held that a belief as to patent invalidity is not a defense to, and cannot negate the scienter required for, a claim of induced infringement. The opinion raises the scienter standard for induced infringement. This heightened standard could lead to absurd results in cases alleging direct, induced, and willful infringement.

A. FACTS AND PROCEDURAL HISTORY

The induced infringement claim in *Commil* centered on Cisco's sale of mobile devices to customers who subsequently infringed *Commil's* '395 patent. *Commil*, a patent-holding company, sued Cisco Systems, alleging direct, induced, and contributory infringement of its patent related to a method of providing faster and more reliable handoffs for mobile devices.⁹⁸

96. Eric Hagen et al., *Treble Damages in Patent Cases—A Diminishing Threat?* BLOOMBERGBNA (Sep. 21, 2012), http://www.mwe.com/files/Publication/42a79193-9972-4bc0-b92c-6d5522af7706/Presentation/PublicationAttachment/b970ac08-98ed-4902-818c-752a4c0efad9/Treble_Damages.pdf?PublicationTypes=d4366db4-cfb3-4a31-95e6-f18e3d273c8a [https://perma.cc/86KQ-J9NE]; see Christopher B. Seaman, *Willful Patent Infringement and Enhanced Damages After In re Seagate: An Empirical Study*, 97 IOWA L. REV. 417, 444–45 (2012) (finding that in post-*Seagate* cases, willfulness was found in sixty-two percent of cases when the jury was the decision maker at trial, versus nineteen percent of cases decided by a judge).

97. *In re Seagate Tech., LLC.*, 497 F.3d 1360, 1371 (Fed. Cir. 2007) (en banc).

98. *Commil USA, LLC v. Cisco Sys. Inc.*, 135 S. Ct. 1920, 1924–25 (2015). The technical details of the patent were not extensively discussed in the Supreme Court's opinion and are only summarized here.

Commil asserted that through Cisco's sale of access points and controllers, Cisco induced consumers to practice and infringe its patent.⁹⁹

Rejecting Cisco's invalidity defenses, the jury found that Cisco directly infringed but did not induce infringement of Commil's patent and awarded \$3.7 million in damages.¹⁰⁰ Commil moved for and was granted a new trial on its inducement claims.¹⁰¹ Upon retrial, a second jury found Cisco liable for inducement as well.¹⁰² On appeal to the Federal Circuit, and as relevant to the Supreme Court's analysis, Cisco argued that the district court in the second trial erroneously precluded it from presenting evidence of its good-faith belief that the patent was invalid, to rebut the requisite intent for inducement liability.¹⁰³

B. VALIDATING A NEW DEFENSE: THE FEDERAL CIRCUIT'S REASONING

The Federal Circuit agreed with Cisco, holding that "a good-faith belief of invalidity is evidence that may negate the specific intent to encourage another's infringement, which is required for induced infringement."¹⁰⁴ The Federal Circuit's analysis began by noting that the court saw "no principled distinction between a good-faith belief of invalidity and a good-faith belief of non-infringement for the purpose" of specific intent to induce infringement.¹⁰⁵ Furthermore, noting that it is "axiomatic that one cannot infringe an invalid patent," the court determined that one could be aware of a patent and induce another to perform the claimed steps without necessarily intending to induce infringement.¹⁰⁶ In the court's view, causing other entities to infringe without the required intent can occur when there is a "good-faith belief that the patent is not valid."¹⁰⁷ As such, the court concluded that "evidence of an accused inducer's good-faith belief of invalidity may negate the requisite intent for induced infringement."¹⁰⁸ Therefore, the Federal Circuit held that the district court erred in barring the defendant from presenting evidence of its good-faith belief of invalidity

99. *Commil USA, LLC v. Cisco Sys. Inc.*, 720 F.3d 1361, 1364–65 (Fed. Cir. 2013), *vacated*, 135 S. Ct. 1920 (2015).

100. *Id.* at 1365.

101. *Id.*

102. *Id.* at 1366.

103. *Id.* at 1367–68.

104. *Id.* at 1368.

105. *Id.*

106. *Id.*

107. *Id.*

108. *Id.* at 1368–69.

to rebut allegations of induced infringement.¹⁰⁹ The Supreme Court granted certiorari and reversed the Federal Circuit on the question of whether a good-faith belief in invalidity is a defense to induced infringement.¹¹⁰

C. THE SUPREME COURT'S ANALYSIS

Vacating the Federal Circuit's decision, the Supreme Court held that a good-faith belief of patent invalidity is not a defense to induced infringement.¹¹¹ The Court began by affirming its *Global-Tech* knowledge standard, under which inducement liability (as well as liability for contributory infringement) attaches only if the defendant knew of the patent and that "the induced acts constitute patent infringement."¹¹² The Court further noted that invalidity and infringement were long accepted as separate and distinct issues under the Patent Act.¹¹³ Accordingly, invalidity and non-infringement appear in separate parts of the Act, and are treated as independent defenses.¹¹⁴ The Court reasoned that because "the scienter element for induced infringement concerns infringement," which is a different issue from validity, "belief regarding validity cannot negate the scienter" for inducement liability.¹¹⁵ Furthermore, the Court reasoned that treating belief of a patent's invalidity the same as belief of non-infringement to defend against inducement claims would "conflate the issues."¹¹⁶ In the Court's opinion, allowing the defense of a good faith, but erroneous, belief in invalidity would undermine the statutory presumption of validity of issued patents.¹¹⁷

Additionally, the Court reasoned that since invalidity is an affirmative defense that "can preclude enforcement of a patent against otherwise infringing conduct," an accused inducer has the option of avoiding liability by proving that the patent was indeed invalid.¹¹⁸ In the Court's view, because "invalidity . . . is a defense to liability," not to infringement, a belief as to the invalidity of the patent cannot negate the scienter for induced infringement.¹¹⁹

109. *See id.* at 1367.

110. *Commil USA, LLC v. Cisco Systems, Inc.*, 135 S. Ct. 1920, 1925 (2015).

111. *Id.* at 1930–31.

112. *Id.* at 1927.

113. *Id.* at 1928.

114. *Id.*

115. *Id.*

116. *Id.*

117. *Id.* at 1928–29.

118. *Id.*

119. *Id.*

The Court also noted “practical reasons not to create a defense based on a good-faith belief in invalidity.”¹²⁰ An alleged inducer with a belief that a patent is invalid has numerous proper ways to challenge the validity of the patent: they can seek *inter partes* review, as well as *ex parte* reexamination, and they can also raise invalidity as an affirmative defense.¹²¹ Moreover, the Court reasoned that creating a defense of belief in invalidity could render litigation more burdensome for all parties, as every accused inducer would put forth said defense.¹²² Juries would then be tasked with separating the defendant’s belief regarding validity from the actual issue of validity.¹²³

IV. IMPLICATIONS OF THE *COMMIL* DECISION ON THE WILLFULNESS STANDARD AND OPINIONS OF COUNSEL

Commil reveals a tension between the intent standards for inducement and willful infringement. Although the *Commil* holding centers on inducement liability, the holding may affect the willfulness standard and the viability of opinion letters. First, the holding calls into question the current objective recklessness standard for willful infringement. Further, it undermines the viability and utility of counsel opinions regarding invalidity and non-infringement.

A. *COMMIL* CALLS TO QUESTION *SEAGATE*’S STANDARD ON WILLFUL INFRINGEMENT

In light of *Commil*, the culpability standard for willful infringement ought to be modified to avoid situations where a finding of inducement liability under § 271(b) essentially and inevitably implies that an accused infringer is also liable for treble damages, as having willfully infringed the patent at issue. Following the *Global-Tech* decision, courts applying the willful blindness standard to inducement liability have performed an analysis similar to the “totality of circumstances” analysis currently applied in cases of willful infringement.¹²⁴

120. *Id.*

121. *Id.*

122. *Id.*

123. *Id.* at 1930.

124. Richard W. O’Neill et al., *A Practical Guide to ‘Willful Blindness’ Under Global-Tech: When Does Fear of Infringement Turn Into Knowledge of Infringement?* BNA INSIGHTS: IP LAW (June 13, 2014), <https://www.bloomberglaw.com/document/XAIK4VM4000000> [<https://perma.cc/3D2B-LHJ7>] (positing that courts assessing willful blindness conduct an intensive factual analysis of all relevant circumstances surrounding the infringer’s state of mind, particularly factors that generally address the accused inducer’s

1. *After Commil and Global-Tech, the Scier for Inducement Is Different from, and Higher than, that for Willful Infringement*

Under the *Global-Tech* holding, affirmed in *Commil*, the scier for inducement could be met by showing either actual knowledge or willful blindness—a standard the Court noted was of “appropriately limited scope . . . surpass[ing] recklessness and negligence.”¹²⁵ In essence, the scier standard for inducement liability exceeds the objective recklessness standard articulated in *Seagate*.¹²⁶ This calls into question the willfulness standard, and could lead to absurd results where defendants found to be liable for inducement are invariably also liable for willful infringement and potentially subject to treble damage penalties.

2. *Willful Patent Infringement Requires More Culpability than Inducement, Hence the Scier for Willfulness Should Be the Same or Higher than That for Inducement to Avoid Absurd Results*

The scier standard for willful infringement requires more culpability in intent (and conduct) than inducement. This higher scier standard is necessary to avoid situations where inducement liability automatically implies potential exposure to treble damages.

“Actively induces” as used in § 271(b) directly led to the Supreme Court’s holding in *Commil*.¹²⁷ Therefore, the standard for scier of inducement arguably stems from the statute.¹²⁸ In contrast, the statutory basis for willful infringement merely states that “the court may increase the damages up to three times the amount found or assessed.”¹²⁹ Furthermore, given that willful blindness is a heightened standard applicable to inducement liability, a finding of induced infringement, especially under a totality of circumstances analysis, would almost always result in a finding of willful infringement. The instance where induced infringement could otherwise have been found, without necessarily mandating a willful

subjective belief that there was a high probability of infringement and whether the inducer took steps to avoid learning if it infringed the asserted patent); *see also* *Read Corp. v. Portec, Inc.*, 970 F.2d 816, 826 (Fed. Cir. 1992) (setting out factors to be considered in determining whether, and to what extent, to enhance damages).

125. *Global-Tech Appliances, Inc. v. SEB S.A.*, 131 S. Ct. 2060, 2070 (2011) (emphasis added).

126. *See In re Seagate Tech., LLC*, 497 F.3d 1360, 1371 (Fed. Cir. 2007) (finding that willful infringement required proof that a defendant was “objectively reckless”).

127. *See Commil USA, LLC v. Cisco Sys. Inc.*, 135 S. Ct. 1920, 1928 (2015).

128. *Id.* The *Commil* Court made a distinction between the infringement and invalidity scier (“The scier element for induced infringement concerns infringement; that is a different issue than validity.”).

129. *See* 35 U.S.C. § 284.

infringement finding, was when the accused infringer had a good-faith belief in the patent's invalidity.¹³⁰ However, after *Commil*, such a belief is no longer a defense to induced infringement, but is still a defense to willful infringement.¹³¹

Section 284 provides for increased damages where the defendant's culpability is aggravated by willful acts.¹³² Although there is no express mental state requirement codified in § 284, the Supreme Court has explained that increased damages are only available "in a case of willful or bad-faith infringement."¹³³ As articulated in *Seagate*, "proof of willful infringement permitting enhanced damages requires at least a showing of objective recklessness."¹³⁴

In *Global-Tech*, the Court noted that the willful blindness standard "surpasses" recklessness.¹³⁵ Willful blindness, the Court found, requires taking "deliberate actions to avoid confirming a high probability of wrongdoing."¹³⁶ In contrast, recklessness is knowing "of a substantial and unjustified risk" of wrong, while negligence is where a similar risk should have been known but was not.¹³⁷ The willful infringement standard, as articulated in *Seagate*, "requires at least a showing of objective recklessness."¹³⁸ As such, induced infringement will be harder to prove than willful infringement.¹³⁹ This is, however, counter-intuitive.¹⁴⁰ Ordinarily, willful infringement should require more culpable conduct than inducement. First, a finding of willful infringement implicates the

130. See Choa, *supra* note 56, at 35.

131. See, e.g., *Stryker Corp. v. Zimmer, Inc.*, 782 F.3d 649, 661–62 (Fed. Cir. 2015) ("The district court failed to undertake an objective assessment of Zimmer's specific defenses to Stryker's claims.").

132. 35 U.S.C. § 284 ("[T]he court may increase the damages up to three times the amount found or assessed."). Statutory damage enhancement in the context of copyright infringement is assessed under the recklessness standard. See 17 U.S.C. § 504(c); Rachel L. Emsley, *Copying Copyright's Willful Infringement Standard: A Comparison of Enhanced Damages in Patent Law and Copyright Law*, 42 SUFFOLK U. L. REV. 157, 157 (2009) (although the statute does not define willful, the term has consistently been defined as including reckless behavior).

133. *Aro Manufacturing Co. v. Convertible Top Replacement Co.*, 377 U.S. 476, 508 (1964).

134. *In re Seagate Tech., LLC*, 497 F.3d 1360, 1371 (Fed. Cir. 2007).

135. See 131 S. Ct. at 2070–71.

136. See *id.*

137. See *id.*

138. See *id.* at 1368.

139. See Choa, *supra* note 56, at 35.

140. *Id.*

possibility of punitive treble damages,¹⁴¹ whereas a finding of inducement only connotes liability. Furthermore, in criminal law, knowing—the mental state required for recklessness—only requires intent to commit an act, whereas willfulness requires knowledge that the act was illegal, and hence willfulness carries more culpability than recklessness.¹⁴² Accordingly, the current scienter standard for inducement appears to be more stringent than the scienter for willful infringement and should be changed to avoid unwarranted imposition of punitive damages.

In light of the *Commil* holding, it is still unclear what happens where an alleged inducer has good reason to believe a patent is invalid, for example, following a lower court's decision. Is the inducer still liable for damages that accrue during the pendency of an appeal where the lower court is reversed on the question of validity? A possible remedy would be to interpret *Commil* as only precluding a defense of good-faith belief in patent invalidity when the basis of the belief was subjective (e.g., from an opinion of counsel), and not judicially mandated. Under a totality-of-the-circumstances analysis, judicial adjudication of invalidity, though later proven wrong, should suffice for a defendant to escape inducement liability.

B. *COMMIL*'S IMPACT ON THE VIABILITY AND POTENCY OF OPINIONS OF COUNSEL

The *Commil* holding undermines the viability of invalidity opinion letters against claims of inducement and willful infringement. Furthermore, a defendant relying on such opinions would arguably be acting objectively recklessly if, in addition to relying on such opinions, the defendant failed to take the steps outlined in *Commil* to confirm the invalidity belief.

The Federal Circuit's precedent allows for an inducer who has "actual knowledge" of the patent under *Global-Tech* to still escape willfulness liability by claiming a subjective, good-faith belief in invalidity.¹⁴³ The Federal Circuit has found that a non-infringement or invalidity opinion of counsel "would provide a sufficient basis for [a potential infringer] to proceed without engaging in objectively reckless behavior."¹⁴⁴ The court has

141. See 35 U.S.C. § 284.

142. See, e.g., *United States v. McCullough*, 348 F.3d 620, 626–27 (7th Cir. 2003) ("The final difference between the two statutes is that the charged offense requires that the defendant act 'willfully,' while the lesser offense, § 922(m), requires that the defendant act 'knowingly.'").

143. See Laura Burton Perry, *Understanding the Good-Faith Belief in Invalidity: How Commil Has Impacted the Law of Induced Infringement*, 24 FED. CIR. B.J. 699, 717 (2015).

144. See *Finisar Corp. v. DirecTV Grp., Inc.*, 523 F.3d 1323, 1339 (Fed. Cir. 2008).

described opinions of counsel as serving “to provide an *objective assessment* for making informed business decisions.”¹⁴⁵

The post-*Seagate* case law further strengthened the viability of counsel opinions. In light of the *Bard* decision, judges have greater discretion to keep questions of willfulness out of the hands of a jury by determining as a matter of law that a defendant’s reliance on advice of counsel was reasonable.¹⁴⁶ Thus, obtaining a non-infringement and/or invalidity opinion still remains a powerful tool against a claim of willful infringement.

For a short while after the Federal Circuit’s *Commil* decision, invalidity opinions could provide an absolute defense against liability for induced infringement.¹⁴⁷ Although the Supreme Court’s decision did not address the viability or relevance of believing that a patent is invalid in determining whether an infringement was willful, *Commil* arguably undermines the efficacy and potency of invalidity opinions.¹⁴⁸

On the one hand, reliance on an invalidity opinion of counsel under the Federal Circuit’s precedent is seemingly reasonable. However, in light of *Commil* such reliance is arguably objectively reckless, as invalidity opinions cannot be used to show that an accused infringer lacked the requisite intent to induce under § 271(b). Although the *Commil* decision undermines the viability of invalidity opinions, parties can still use such opinions to memorialize early-stage validity analyses as part of a broader strategy of assessing potential infringement risk.¹⁴⁹

V. CONCLUSION

Although addressing inducement liability, the *Commil* holding also has implications for the Federal Circuit’s *Seagate* standard for willful infringement. The threshold standard for willfulness is currently objective recklessness, which is arguably lower than the scienter for inducement liability established in *Global-Tech* and *Commil*. This discrepancy is seemingly in tension with other areas of law, where the culpability level for

145. See *In re Seagate Tech., LLC*, 497 F.3d 1360, 1373 (Fed. Cir. 2007) (emphasis added).

146. See *Bard Peripheral Vascular, Inc. v. W.L. Gore & Assocs., Inc.*, 682 F.3d 1003, 1006–07 (Fed. Cir. 2012) (holding that the threshold objective prong of *Seagate* is a question of law for the judge).

147. See Perry, *supra* note 143, at 711 (“This case demonstrates that in the very short amount of time since *Commil* was decided, its holding has, in fact, allowed a subjective belief of invalidity to serve as an absolute defense to liability for induced infringement.”).

148. See generally Schwent, *supra* note 14.

149. Thomas Hipkins, *Invalidity Opinions of Counsel After Commil*, FREDRIKSON & BYRON, P.A. (June 30, 2015), http://www.fredlaw.com/news__media/2015/06/30/859/invalidity_opinions_of_counsel_after_commil [<https://perma.cc/H57L-NYZP>].

inducement liability is lower than the culpability necessary for claims that have punitive implications. Furthermore, *Commil* also undermines what was once a powerful tool to avoid direct and willful infringement liability—opinions of counsel regarding invalidity.

RETHINKING FINALITY IN THE PTAB AGE

Peggy P. Ni[†]

A judgment must be “final” to have preclusive effect.¹ Though the finality requirement is an elusive concept that has not been, and likely cannot be, reduced to a single test, one of the most quoted statements defines a final decision rigidly as “one which ends the litigation on the merits and leaves nothing for the court to do but execute the judgment.”² Despite the lack of a single test, many circuits have applied increasingly relatively liberalized definitions over the years.³ The Federal Circuit, however, has reverted to a “stingy” definition of finality in recent patent cases.⁴

With the Federal Circuit’s rigid interpretation of finality, district court judgments of patent infringement, which might have been final under a more pliant finality concept adopted by other circuit courts, would no longer preclude the application of intervening decisions of invalidity by the Patent Trial and Appeals Board (PTAB) of the United States Patent and Trademark Office (PTO).⁵ In *Fresenius USA, Inc. v. Baxter International, Inc.* and *ePlus, Inc. v. Lawson Software, Inc.*, the Federal Circuit concluded that the judgments were not sufficiently final to preclude PTO determinations of patent invalidity because the scope of relief remained to be determined.⁶ The Federal Circuit’s narrow interpretation of finality increases gamesmanship in patent cases because it incentivizes alleged infringers to “scrap and fight,” keeping cases alive until defendants obtain a

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1. *G. & C. Merriam Co. v. Saalfield*, 241 U.S. 22, 28 (1916).

2. *Catlin v. United States*, 324 U.S. 229, 233 (1945).

3. 15A CHARLES ALAN WRIGHT & ARTHUR R. MILLER, FEDERAL PRACTICE AND PROCEDURE § 3909 (2d ed. 2006).

4. *ePlus, Inc. v. Lawson Software, Inc.*, 789 F.3d 1349, 1369 (Fed. Cir. 2015) (O’Malley, J., dissenting).

5. Patent infringement decisions in federal district court are appealable to the Federal Circuit. 28 U.S.C. § 1295 (2006).

6. *Lawson*, 789 F.3d at 1361; *Fresenius USA, Inc. v. Baxter Int’l, Inc.*, 721 F.3d 1330, 1341 (Fed. Cir. 2013).

favorable PTO decision that might trump a non-final district court judgment of infringement.⁷

Part I of this Note introduces the concept of finality and describes the evolution of this principle in federal practice and procedure. Part II maps the pre- and post-America Invents Act (AIA) patent litigation landscape to provide insight into how dual-track litigation, and consequently the finality issue in patent litigation, arose. Part III summarizes three recent cases dealing with preclusive finality at the Federal Circuit and the ensuing problems. Finally, Part IV offers solutions to address these problems, including having the Supreme Court overrule the Federal Circuit's view of finality and implementing automatic stays of most district court proceedings in favor of PTO proceedings when there is dual-track litigation.

I. FINALITY IN FEDERAL LITIGATION

In order to investigate whether the Federal Circuit has correctly treated finality issues in patent law, it is critical to understand how courts have generally defined finality in federal practice and procedure. This Part examines the traditional definitions of finality and describes the evolution of the principle towards encompassing more flexibility.

A. FINALITY FOR APPEAL

This Section describes how courts have defined finality for appeal. In general, finality has evolved from a less flexible to a more pragmatic concept throughout the years. To understand the Federal Circuit's current treatment of finality for appeal and whether it is consistent with general practice, it is important to investigate the background of finality.

1. *Finality and Flexibility*

Finality has been defined as a decision that “ends the litigation on the merits and leaves nothing for the court to do but execute the judgment.”⁸ Several cases have underscored the importance of finality,⁹ including *Cobbledick v. United States*, where the Supreme Court emphasized the importance of finality in achieving a well-functioning legal system.¹⁰ There, Justice Frankfurter referenced the Judiciary Act of 1789 and noted that “from the very beginning,” Congress was wary of “enfeebling judicial

7. *ePlus, Inc. v. Lawson Software, Inc.* 790 F.3d 1307, 1314 (Fed. Cir. 2015) (Moore, J., dissenting from denial of rehearing en banc).

8. *Catlin v. United States*, 324 U.S. 229, 233 (1945).

9. *See* 15A WRIGHT & MILLER, *supra* note 3, § 3909.

10. 309 U.S. 323, 324–25 (1939).

administration.”¹¹ The Court thus forbade piecemeal disposition of a case on appeal.

Other cases, however, have defined finality less rigidly. For instance, in *Radio Station WOW, Inc. v. Johnson*, the Court stated that “even so circumscribed a legal concept as appealable finality has a penumbral area.”¹² The Court then noted precedent cases that allowed review of an adjudication when it was “independent of, and unaffected by, another litigation with which it happen[ed] to be entangled.”¹³ In *Dickinson v. Petroleum Conversion Corp.*, the Court even suggested a balancing approach for determining finality, where one would balance the “inconvenience and costs of piecemeal review” along with “the danger of denying justice by delay.”¹⁴

2. Pragmatic Finality

In the 1960s, courts further relaxed the rigid definition of finality, using pragmatic finality reasoning to justify appeal even when there was more left for the court to do than execute on the judgment.¹⁵ Pragmatic finality meant that the finality requirement would not be applied as a sterile formalism, but instead should be applied practically to fulfill its underlying purpose of ensuring a “just, speedy, and inexpensive determination.”¹⁶ The cases at that time involved ad hoc balancing of the needs and perils of review on a case-by-case basis.¹⁷ For instance, the Court in *Gillespie v. United States Steel Corp.* noted the importance of giving the finality requirement a “practical rather than a technical construction.”¹⁸ The Court then held that there was finality after considering the costs of piecemeal review, injustice in delaying the determination of rights, how ample the reasons were for viewing the claims as severable, and how fundamental the presented questions were to the further conduct of the case.¹⁹

Although *Gillespie* and other cases at that time seemed to abolish a generalized finality rule in favor of an ad hoc approach, later cases have

11. *Id.*

12. *Radio Station WOW, Inc. v. Johnson*, 326 U.S. 120, 124 (1945).

13. *Id.* at 126.

14. *Dickinson v. Petroleum Conversion Corp.*, 338 U.S. 507, 511 (1950); *see also* 15A WRIGHT & MILLER, *supra* note 3, § 3909.

15. 15A WRIGHT & MILLER, *supra* note 3, § 3913.

16. *Id.* (quoting *Brown Shoe Co. v. United States*, 370 U.S. 294, 306 (1962)).

17. *Id.*

18. 379 U.S. 148, 151 (1964) (quoting *Cohen v. Beneficial Industrial Loan Corp.*, 337 U.S. 541, 546 (1949)).

19. *Id.* at 152–54.

sparingly used pragmatic finality reasoning.²⁰ Indeed, cases in later years have even explicitly rejected pragmatic finality. For example, the *Johnson v. Jones* Court stated, “we do not now in each individual case engage in ad hoc balancing to decide issues of appealability.”²¹

B. FINALITY FOR PRECLUSION

This Section discusses how courts have defined finality for preclusion. Like finality for appeal, finality for preclusion has evolved into a more flexible concept. It is important to understand this background in order to gain insight into how the Federal Circuit’s definition of preclusive finality compares to how other circuit courts treat finality.

1. *Traditional Analysis*

The rules of res judicata, which determine the preclusive effect of a judgment, cover two doctrines.²² Claim preclusion, or true res judicata, prevents plaintiffs from seeking further relief on the same claim or cause of action once judgment is rendered. This applies even when there are certain matters not previously litigated so long as they should have been advanced.²³ Issue preclusion, or collateral estoppel, bars relitigation of issues that were adjudicated and essential to a prior judgment.²⁴

In the traditional approach, courts generally deem an issue final for preclusion similarly to how they determine if it is final for appeal.²⁵ Thus, finality for preclusion, as for appeal, occurs when there is a decision that “ends the litigation on the merits and leaves nothing for the court to do but execute the judgment.”²⁶ Thus, where an order would establish liability while not yet setting remedies, there would be no finality for appeal or preclusion.²⁷ On the other hand, in more complex litigation, where judgment is entered for some but not all claims or parties, but does not yet terminate the entire action, these judgments are final for both appeal and preclusion.²⁸

Preclusion can also be defeated when there is finality. While motions for a new trial and motions to vacate do not suspend preclusion, granting a

20. 15A WRIGHT & MILLER, *supra* note 3, § 3913.

21. 515 U.S. 304, 315 (1995).

22. 18 WRIGHT & MILLER, *supra* note 3, § 4402.

23. *Id.*

24. *Id.*

25. *Id.* § 4432.

26. *Catlin v. United States*, 324 U.S. 229, 233 (1945).

27. 18 WRIGHT & MILLER, *supra* note 3, § 4432.

28. *Id.*

new trial and vacating a judgment both defeat preclusion.²⁹ Though pending appeals do not affect preclusion, final rulings on appeal limit preclusion to matters that were resolved, with no preclusion as to those vacated or reversed.³⁰ Additionally, there is no preclusion when an entire case is reversed and remanded.³¹

2. *A More Flexible View of Preclusive Finality*

Similar to the definition of finality for appeal, expanded definitions of preclusive finality have emerged through the years. In *Zdanok v. Glidden Co.*, the Second Circuit held that a determination of liability should have preclusive effect despite the fact that damages had not yet been assessed.³² In *Lummus Co. v. Commonwealth Oil Refining Co.*, Judge Friendly stated that a non-final judgment for appeal could be final for preclusion, depending on factors such as the “nature of the decision” (whether or not it was “avowedly tentative”), the “adequacy of the hearing, and the opportunity for review.”³³ Indeed, the court noted that finality for preclusion may “mean little more than that the litigation of a particular issue has reached such a stage that a court sees no really good reason for permitting it to be litigated again.”³⁴ As such, the *Lummus* court held that a decision staying court proceedings pending arbitration, despite being interlocutory, had preclusive effect on arbitrability issues because the initial action was not intended to be tentative and it was appealable.³⁵

Further relaxing the definition of finality for preclusion, courts have even found preclusive power in rulings that had not been appealed and were still available for appeal in the future.³⁶ In *Sherman v. Jacobson*, a Southern District of New York court held that an unappealable ruling (where the appeal was dismissed for lacking final judgment) could preclude relitigation because the first decision was neither intended to be provisional nor was avowedly tentative.³⁷

Preclusion can also occur without a trial on the merits, such as when there has been partial summary judgment as to specific issues or parties.³⁸

29. *Id.*

30. *Id.*

31. *Id.*

32. 327 F.2d 944, 955 (2d Cir. 1964).

33. 297 F.2d 80, 89 (2d Cir. 1961).

34. *Id.*

35. *Id.* at 89–90.

36. 18 WRIGHT & MILLER, *supra* note 3, § 4434.

37. 247 F. Supp. 261, 270 (S.D.N.Y. 1965).

38. 18 WRIGHT & MILLER, *supra* note 3, § 4434.

However, courts in those instances have discretion in determining whether preclusion is appropriate, and some considerations include how thoroughly summary judgment was contested in the first action and how substantial the burdens are to renew the summary judgment in the second action.³⁹

The definitions of finality for appeal and for preclusion have evolved over time. Though both have incorporated flexibility throughout the years, courts have more recently reverted to a stricter rule for appeal finality with no such shift for preclusion finality.

II. THE RISE OF PTAB PROCEEDINGS CHALLENGING PATENT VALIDITY

Prior to the enactment of the AIA, parties infrequently sought PTO review of patents.⁴⁰ As such, courts did not need to grapple with the finality issue of when district court judgments should be given preclusive effect if different patent validity decisions were concurrently made at the judicial courts and at the PTO. The AIA changed the patent landscape, offering many advantages to patent challengers at the PTO compared to what reexamination provided. As a result, there were increased opportunities for parallel proceedings, eventually bringing finality issues into the spotlight.

A. THE PRE-AIA LANDSCAPE

By the mid-2000s, non-practicing entities (NPEs), which seek to monetize patent holdings through litigation and do not seek to use, make, or sell the patented products, had become a serious concern for both courts and companies, bringing about twenty percent of total patent infringement suits.⁴¹ NPEs use the asymmetric costs of litigating to extract settlements from patent infringement defendants.⁴² While NPEs typically encounter low litigation expenses, as they have low discovery costs and typically pay lawyers on contingent fee arrangements, the alleged infringers in contrast spend significant amounts of money finding prior art for invalidity

39. *Id.*

40. See Inter Partes Reexamination Filing Data, U.S. PAT. & TRADEMARK OFF. 1 (Sept. 30, 2014), http://www.uspto.gov/sites/default/files/documents/inter_parte_historical_stats_roll_up_EOY2014.pdf [<https://perma.cc/RW49-CL2P>]; Ex Parte Reexamination Filing Data, U.S. PAT. & TRADEMARK OFF. 1 (Sept. 30, 2014), http://www.uspto.gov/sites/default/files/documents/ex_parte_historical_stats_roll_up_EOY2014.pdf [<http://perma.cc/84QC-FK3C>].

41. James M. Rice, Note, *The Defensive Patent Playbook*, 30 BERKELEY TECH. L.J. 725, 740 (2015).

42. *Id.* at 738–39; see also Colleen V. Chien, *Holding Up and Holding Out*, 21 MICH. TELECOMM. & TECH. L. REV. 1, 9 (2014).

arguments and paying attorneys on hourly bases.⁴³ Furthermore, because NPEs do not make, use, or sell products, and typically have no assets, they need not fear countersuits.⁴⁴ The pressures to settle with NPEs are great. In the early 2000s and before, defendants in patent infringement suits needed to spend an average of \$2.46 million to defend a case through trial, while it cost only about \$57,000 to resolve a case before trial.⁴⁵

Further incentivizing NPEs to continue their practices, courts granted permanent injunctions to patentees on successful infringement suits as a matter of course prior to the 2006 *eBay Inc. v. MercExchange, L.L.C.* case.⁴⁶ This “automatic injunction rule” placed NPEs in enhanced bargaining positions in settlement negotiations, especially against defendants with profitable enterprises at stake.⁴⁷ However, the *eBay* Court stopped this practice, holding that “injunctive relief rests within the equitable discretion of the district courts, and that such discretion must be exercised consistent with traditional principles of equity, in patent disputes no less than in other cases.”⁴⁸

Though low-cost routes to invalidate patents at the PTO were available to defendants in infringement cases prior to the institution of the AIA, they were unpopular both because of their structure and because they were slow. The *ex parte* reexamination system, which is still available today, was one option, but it has its shortcomings, primarily that third party challengers cannot participate after instituting reexaminations, and patent validity challenges are limited to prior art consisting of patents and printed publications.⁴⁹ Congress also created the now-defunct *inter partes* reexamination in 1999, which did allow third parties to comment on patent holder’s responses.⁵⁰ Yet the reexamination system still remained rarely used. For many years, there were less than a hundred *inter partes* reexamination filings per year.⁵¹ Though *ex parte* reexaminations were used more frequently, those filings still never totaled more than 500 per year until

43. Rice, *supra* note 41, at 738.

44. *Id.* at 739.

45. *Id.*

46. Robin M. Davis, Note, *Failed Attempts to Dwarf the Patent Trolls: Permanent Injunctions in Patent Infringement Cases Under the Proposed Patent Reform Act of 2005 and eBay v. MercExchange*, 17 CORNELL J.L. & PUB. POL’Y 431, 433 (2008).

47. *Id.*

48. *eBay Inc. v. MercExchange, L.L.C.*, 547 U.S. 388, 394 (2006).

49. Jonathan Tamimi, Note, *Breaking Bad Patents: The Formula for Quick, Inexpensive Resolution of Patent Validity*, 29 BERKELEY TECH. L.J. 587, 588–89 (2014).

50. *Id.* at 589.

51. *Inter Partes Reexamination Filing Data*, *supra* note 40.

2005.⁵² Lengthy petitions in the reexamination system likely contributed to an inability of the PTO to timely complete proceedings, disincentivizing patent challengers from using reexaminations. In particular, the lack of page limits for *inter partes* reexamination petitions led to requests that averaged 246 pages, with the PTO taking about thirty-eight months to make decisions.⁵³

To help reexaminations proceed more quickly, in 2005 the PTO created the Central Reexamination Unit, consisting of examiners concentrating solely on reexaminations.⁵⁴ This change increased the popularity of the system, doubling the number of annual filings from 583 in 2005 to 1061 in 2010.⁵⁵

B. THE AIA ERA

The AIA renamed the Board of Patent Appeals and Interferences (BPAI) to the Patent Trial and Appeals Board (PTAB), and introduced new PTAB proceedings, involving many advantages for alleged infringers. In order to understand why defendants in patent infringement suits pursue parallel proceedings at the PTO, it is essential to examine the benefits of the new AIA reviews.

1. *Enactment of the AIA*

After many calls for patent reform in the early 2000s, with industry groups testifying in 2004 that patent litigation was too expensive and took too long⁵⁶ and companies funding lobbying groups to combat the NPE problem,⁵⁷ Congress in 2011 enacted the AIA.⁵⁸

The AIA replaced *inter partes* reexamination with *inter partes* review (IPR).⁵⁹ Anyone other than the patent holder may file an IPR petition, though filing a civil action first bars IPR filing.⁶⁰ IPRs contain certain limitations. For example, petitioners may only assert novelty (§ 102) and obviousness (§ 103) arguments based on patents and printed publications as

52. Ex Parte *Reexamination Filing Data*, *supra* note 40.

53. Ryan J. Gatzemeyer, Note, *Are Patent Owners Given a Fair Fight? Investigating the AIA Trial Practices*, 30 BERKELEY TECH. L.J. 531, 542 (2015).

54. Tamimi, *supra* note 49, at 590.

55. *Inter Partes Reexamination Filing Data*, *supra* note 40; Ex Parte *Reexamination Filing Data*, *supra* note 40.

56. Tamimi, *supra* note 49, at 591.

57. Rice, *supra* note 41, at 741.

58. *Id.* at 742.

59. 35 U.S.C. § 311 (2012).

60. §§ 311(a), 315(a)(1).

grounds for invalidity.⁶¹ Further, IPRs involve certain timing restrictions, as petitioners must wait until nine months after a patent is granted or after a post-grant review (PGR) is concluded before filing a request.⁶²

The AIA also added two new procedures to challenge patent validity: PGR⁶³ and the transitional program for covered business method (CBM) review.⁶⁴ Any person other than the patent holder can file a PGR request on any ground of invalidity.⁶⁵ There are timing constraints, as PGR requests must be filed within nine months of a patent grant; also, first filing a civil action challenging patent validity would bar a PGR.⁶⁶ CBMs mostly mirror PGRs, though there are some differences. First, the CBM is only a transitional program that lasts eight years.⁶⁷ Second, a patent challenger must have already been sued for infringement in order to invoke a CBM.⁶⁸ Third, a challenger can file a CBM petition at any time so long as the patent fits within the “covered business method” definition.⁶⁹

2. *Advantages of the New Reviews Under the AIA*

The new reviews under the AIA offer many advantages to patent challengers over reexaminations. First, the time frame to a final decision is relatively short. The PTAB must issue a final written decision in eighteen months for AIA reviews, though a six-month extension is available.⁷⁰ Second, the invalidation rates are favorable to patent challengers. The PTAB has invalidated the majority of claims in cases it has instituted, including a nearly seventy-five percent invalidation rate for IPRs and an over ninety-four percent invalidation rate for CBMs,⁷¹ with no final decisions yet for PGRs (and only three PGRs instituted as of September 2015).⁷²

61. § 311(b).

62. § 311(c).

63. § 321.

64. Leahy-Smith America Invents Act, Pub. L. No. 112-29, § 18, 125 Stat. 284, 329-331 (2011).

65. 35 U.S.C. § 321(a)-(b).

66. §§ 321(c), 325(a)(1)-(2).

67. Leahy-Smith America Invents Act § 18(a)(3).

68. § 18(a)(1)(B).

69. § 18(d)(1).

70. Tamimi, *supra* note 49, at 594.

71. Gregory Dolin, *Dubious Patent Reform*, 56 B.C. L. REV. 881, 926, 930 (2015).

72. *Am. Simmental Ass'n v. Leachman Cattle of Colo., LLC*, No. PGR2015-00005 (P.T.A.B. June 19, 2015) (institution of post-grant review); *Am. Simmental Ass'n v. Leachman Cattle of Colo., LLC*, No. PGR2015-00003 (P.T.A.B. June 19, 2015) (institution of post-grant review); *Netsirv v. Boxbee, Inc.*, No. PGR2015-00009 (P.T.A.B. Aug. 4, 2015) (institution of post-grant review).

There may be several reasons for the high invalidation rates. One possible reason affecting CBMs in particular is the Supreme Court's recent interpretation of § 101's requirement for subject matter eligibility. After the Court's 2014 *Alice Corp. v. CLS Bank International* decision, it has been unwritten policy that claims directed to financial or business methods are presumed abstract and thus patent-ineligible by examiners, with patent-eligibility reached if the inventions are "significantly more' than the abstract idea."⁷³ Another potential reason is the high threshold (especially compared to *ex parte* reexaminations) needed to institute an AIA review. Petitioners must show a "reasonable likelihood" of prevailing for IPRs⁷⁴ and that it is "more likely than not" a challenged claim is unpatentable for PGRs and CBMs.⁷⁵

Additionally, it is easier for a patent challenger to prevail at the PTO compared to district courts due to differences in the burden of proof and claim construction. PTAB proceedings only require a "preponderance of the evidence" to invalidate patents,⁷⁶ which is more favorable for patent challengers than the district court's "clear and convincing" standard.⁷⁷ And, whereas district courts give claims their ordinary and customary meaning,⁷⁸ PTO proceedings apply the "broadest reasonable construction" standard, increasing the chance that claims will infringe on prior art.⁷⁹ However, this difference may change as the Supreme Court in January 2016 granted certiorari to determine whether the PTO should continue using its claim construction standard.⁸⁰

C. THE RISE OF PARALLEL LITIGATION IN DISTRICT COURTS AND THE PTAB

Pursuit of a parallel proceeding at the PTO has many advantages, including decreasing a patent's economic value, providing alleged patent infringers with relief from an unfavorable district court judgment of

73. Jasper L. Tran, *Software Patents: A One-Year Review of Alice v. CLS Bank*, 97 J. PAT. & TRADEMARK OFF. SOC'Y 532, 539 (2015).

74. 35 U.S.C. § 314(a).

75. 35 U.S.C. § 324(a); Leahy-Smith America Invents Act § 18(a).

76. 35 U.S.C. §§ 316(e), 326(e).

77. Dolin, *supra* note 71, at 916.

78. *See In re Translogic Tech., Inc.*, 504 F.3d 1249, 1257 (Fed. Cir. 2007).

79. *See* 37 C.F.R. §§ 42.100(b), 42.200(b), 42.300(b) (2014); *In re Cuzo Speed Techs., LLC*, 793 F.3d 1268, 1278–79 (Fed. Cir. 2015) (affirming "broadest reasonable interpretation standard").

80. Ryan Davis, *High Court to Review PTAB's Claim Construction Standard*, LAW360 (Jan. 15, 2016), <http://www.law360.com/articles/744734/high-court-to-review-ptab-s-claim-construction-standard> [<http://perma.cc/46AC-CKJW>].

infringement, and taking advantage of a different claim construction standard. Providing background on why parallel proceedings are attractive is essential for understanding the rise in dual track litigation and the resulting issues on finality.

1. *Pursuit of PTO Reviews Can Decrease a Patent's Economic Value*

There is a substantial percentage of dual-track litigation at district courts and at the PTAB. In one study, eighty percent of IPRs involved patents also asserted in district court litigation.⁸¹ This percentage is especially high when compared to the thirty-three percent of *ex parte* reexaminations involving patents also in litigation.⁸²

One reason why parties pursue parallel litigation is that courts are more likely than not to grant motions to stay the district court litigation until the resolution of PTO proceedings.⁸³ This delays the resolution of litigation, negatively impacting the ability of patent holders to reap economic benefits from their patents, such as damages awards and royalties. This is especially important in fast-moving industries where patented technologies have short lifespans and infringing companies commonly go out of business. Indeed, companies have pointed to the existence of reexaminations as the reason they refused to purchase licenses.⁸⁴ Gaining a reprieve from litigation can also give the alleged patent infringer market advantage in the form of additional time to design a non-infringing alternative.⁸⁵ As the Federal Circuit noted, “unwarranted reexaminations can harass the patentee and waste the patent life.”⁸⁶

Further, companies use reexaminations and AIA reviews—or merely threats of a PTO proceeding—to pressure patent holders into negotiating a settlement or licensing terms favorable for the challenger.⁸⁷ The uncertainty surrounding patent validity during PTO proceedings has broad effects on patent holders, including undermining the ability of an inventor to assert his or her patent, adversely affecting a company's stock prices and scaring

81. Brian J. Love & Shawn Ambwani, *Inter Partes Review: An Early Look at the Numbers*, 81 U. CHI. L. REV. DIALOGUE 93, 103 (2014).

82. *Ex Parte Reexamination Filing Data*, *supra* note 40.

83. Raymond A. Mercado, *The Use and Abuse of Patent Reexamination: Sham Petitioning Before the USPTO*, 12 COLUM. SCI. & TECH. L. REV. 92, 109 (2011); Tamimi, *supra* note 49, at 610.

84. Mercado, *supra* note 83, at 114.

85. Stefan Blum, *Ex Parte Reexamination: A Wolf in Sheep's Clothing*, 73 OHIO ST. L.J. 395, 427 (2012).

86. *In re Recreative Techs. Corp.*, 83 F.3d 1394, 1397 (Fed. Cir. 1996).

87. Dolin, *supra* note 71, at 944–46; Blum, *supra* note 85, at 425.

off investors, as well as alerting current or potential licensees to a patent's potential weaknesses.⁸⁸

2. *PTO Proceedings Can Provide Relief from a District Court Judgment of Infringement*

Additionally, a patent challenger may gain relief from a district court judgment of infringement if a PTO proceeding finds a patent invalid. This occurred in *Flexiteek Americas, Inc. v. PlasTEAK, Inc.*, where the district court granted the defendant's motion for relief from judgment, finding it would be "unequitable" under the Federal Rules of Civil Procedure 60(b)(5) and (6) to enforce an injunction and money judgment predicated on an invalid and cancelled claim.⁸⁹ Similarly, the Federal Circuit (in a non-precedential opinion) vacated a district court injunction and damage award for infringement when a reexamination proceeding invalidated the patent claims due to obviousness.⁹⁰

3. *Application of the Broadest Reasonable Interpretation Standard in Post-Grant Proceedings Contributes to Dual Track Litigation*

The PTAB standard of claim construction, broadest reasonable interpretation (BRI), has an established place in patent examinations. There, applicants amend claims to distinguish the invention from the prior art, a process that decreases the chance that allowed claims would have a broader scope than justified.⁹¹

However, a problem arises when the PTO applies the BRI standard to issued claims in post-grant proceedings, and they encourage alleged patent infringers to pursue dual track litigation. The issue is that the ability to amend claims during post-grant proceedings is illusory, with motions to amend rarely granted.⁹² As such, instead of facilitating an iterative amendment process that aids in defining claim scope, application of BRI during post-grant proceedings harmfully and inappropriately broadens claims until they read on prior art.⁹³ This may lead to high invalidation rates of patents in post-grant proceedings⁹⁴ when these patents could have

88. Blum, *supra* note 85, at 426.

89. No. 08-60996-CIV, 2012 WL 5364247, at *2 (S.D. Fla. Oct. 31, 2012).

90. *Translogic Tech., Inc. v. Hitachi, Ltd.*, 250 F. App'x 988, 988 (Fed. Cir. 2007).

91. *In re Cuozzo Speed Techs., LLC*, 793 F.3d 1268, 1285–86 (2015) (Newman, J., dissenting).

92. *Id.* at 1287–88 (2015) (Newman, J., dissenting).

93. *Id.* at 1287 (Newman, J., dissenting).

94. *See Dolin, supra* note 71, at 901.

survived in district court because the BRI standard is not used there.⁹⁵ A high rate of patent invalidation at the PTAB would encourage alleged infringers to pursue post-grant review, and indeed, by February 2015 the number of IPR filings was 2.5 times higher than predicted.⁹⁶

III. THE FINALITY GAME

As a source of recent uncertainty for patent holders seeking to assert their patents, the Federal Circuit has come to different conclusions for when a district court judgment of infringement becomes sufficiently “final” to preclude an intervening PTO decision of patent invalidity. While the Federal Circuit in *Versata Computer Industry Solutions, Inc. v. SAP AG* left the district court damage award intact,⁹⁷ it vacated the district court judgment of infringement in *Fresenius*. The court reasoned that the judgment, while final for purposes of appeal, was not sufficiently final for preclusion.⁹⁸ Against this backdrop, the Federal Circuit recently considered a third finality case, *Lawson*, and reached the same conclusion as in *Fresenius*.⁹⁹ This Part will analyze these cases to address the question of when a judgment is actually final for purposes of preclusion.

A. A RACE TO FINALITY BETWEEN THE PTAB AND THE DISTRICT COURT

Whether a district court judgment of infringement precludes a PTO decision of patent invalidity depends in large part on timing and which decision the Federal Circuit affirms first. The following Sections explore the timelines of the *Versata* and *Fresenius* cases to explain the disparate outcomes.

1. *In Versata, the Federal Circuit Affirms District Court Judgment of Infringement Before Ruling on PTAB Decision of Invalidity*

In *Versata*, the Federal Circuit affirmed the district court’s judgment of infringement and damages award in a non-precedential opinion,¹⁰⁰ despite the PTAB’s holding in a CBM that the patentee’s claims were

95. *Id.* at 916.

96. Gene Quinn, *Are PTAB Proceedings Fundamentally Unfair to Patent Owners?*, IP WATCHDOG (Sept. 22, 2015), <http://www.ipwatchdog.com/2015/03/06/ptab-proceedings-unfair-to-patent-owners/id=55397> [<https://perma.cc/9KEF-SQAG>].

97. 564 F. App’x 600, 601 (Fed. Cir. 2014).

98. 721 F.3d 1330, 1341, 1347 (Fed. Cir. 2013).

99. *See* 789 F.3d 1349, 1361 (Fed. Cir. 2015).

100. 564 F. App’x at 601.

unpatentable.¹⁰¹ Importantly, after the Federal Circuit in 2013 had vacated the district court's injunction,¹⁰² the patent holder moved to dismiss its claims for injunctive relief in 2014.¹⁰³ As such, the district court on remand found the injunction issue "moot," leaving its previous judgment awarding damages as the "operative" one.¹⁰⁴ The Federal Circuit then affirmed, finding that the district court had indeed entered final judgment in 2011.¹⁰⁵ The timeline in Figure 1 summarizes the progress of *Versata* through the courts.

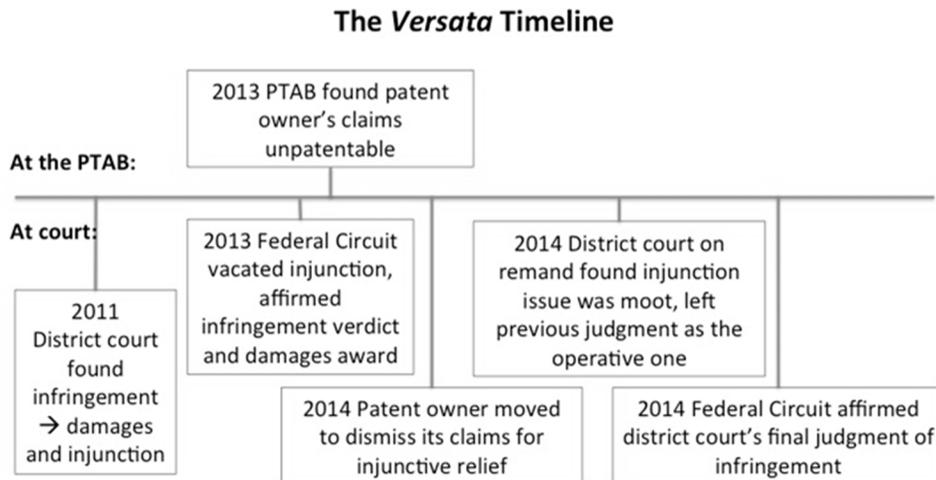


Figure 1: Timeline of *Versata Computer Industry Solutions, Inc. v. SAP AG*

2. *In Fresenius, the Federal Circuit Affirms the PTAB Decision of Invalidity*

In contrast, in *Fresenius*, the Federal Circuit found that a district court "judgment final for purposes of appeal . . . was not sufficiently final to preclude application of the intervening final judgment in *In re Baxter* [in which the Federal Circuit affirmed the PTO's rejection of claims in reexamination]."¹⁰⁶ The district court in 2007 had granted patent holder Baxter's motion for judgment as a matter of law (JMOL), finding that *Fresenius* had not proven that the patent claims were invalid.¹⁰⁷ A jury trial

101. *SAP Am., Inc. v. Versata Dev. Grp., Inc.*, No. CBM2012-00001 (P.T.A.B. June 11, 2013).

102. *Versata Software, Inc. v. SAP Am., Inc.*, 717 F.3d 1255, 1258 (Fed. Cir. 2013).

103. *Versata Software, Inc. v. SAP Am., Inc.*, No. 2:07cv153-RSP, 2014 U.S. Dist. LEXIS 35267, at *6 (E.D. Tex. Mar. 16, 2014).

104. *Id.*

105. *Versata*, 564 F. App'x at 600.

106. *Fresenius USA, Inc. v. Baxter Int'l, Inc.*, 721 F.3d 1330, 1341 (Fed. Cir. 2013).

107. *Id.* at 1332–33.

later awarded damages to Baxter for infringement of three asserted patents, and the district court entered an injunction and post-verdict royalties as well.¹⁰⁸ On appeal in 2009, the Federal Circuit affirmed the JMOL with respect to U.S. Patent No. 5,247,434 (“the ’434 patent”), reversed with respect to the other two patents, and remanded for the district court to revise the injunction and royalty award.¹⁰⁹ However, reexamination proceedings at the PTO had invalidated relevant claims of the ’434 patent in 2007, with the Federal Circuit affirming in 2012.¹¹⁰

The affirmed PTO decision trumped the district court judgment because the 2007 district court judgment was set aside in 2009, and because the 2009 decision to remand was not final as it left the injunction and royalties unresolved.¹¹¹ As such, there was no finality sufficient to preclude application of the Federal Circuit’s 2012 decision affirming the PTO’s cancellation of the claims,¹¹² leading to dismissal of the case.¹¹³ Figure 2 summarizes the progress of *Fresenius* through the courts.

The *Fresenius* Timeline

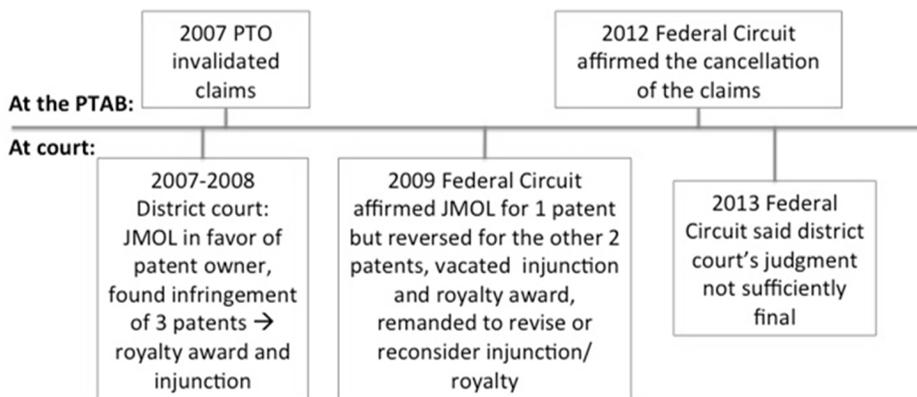


Figure 2: Timeline of *Fresenius USA, Inc. v. Baxter International, Inc.*

B. *EPLUS, INC. V. LAWSON SOFTWARE, INC.*

The Federal Circuit most recently considered the finality issue in *Lawson*. The court found similarly to *Fresenius* and determined that the

108. *Id.* at 1333.

109. *Id.*

110. *Id.* at 1334, 1336.

111. *Id.* at 1341.

112. *Id.*

113. *Id.* at 1347.

PTO invalidity decision trumped the non-final district court judgment of infringement.¹¹⁴

1. *Facts and Procedural History*

In 2009, ePlus, Inc., the owner of U.S. Patent Nos. 6,023,683 (“the ’683 patent”) and 6,505,172 (“the ’172 patent”), sued Lawson Software, Inc. for infringement.¹¹⁵ The patents related to methods and systems for using electronic databases to search for product information and order from third-party vendors.¹¹⁶ Lawson sold modular computer software products, and customers decided which combination of individual software components to purchase.¹¹⁷ The configurations generally allowed users to search for, select, and order products electronically.¹¹⁸ ePlus asserted different patent claims against distinct configurations of Lawson’s software modules, and a jury found that two configurations infringed two system claims and three method claims, while a third configuration infringed one system claim.¹¹⁹ The district court then issued an injunction prohibiting Lawson from “making, using, offering to sell, or selling . . . any of the [adjudged infringing] product configurations.”¹²⁰

On appeal, the Federal Circuit found the majority of the claims invalid or not infringed, affirming infringement only with respect to method claim 26 of the ’683 patent.¹²¹ As a result, the third configuration was no longer infringing,¹²² and the court consequently remanded for the district court to reconsider the terms of the injunction.¹²³ On remand, the district court modified the injunction by removing the third configuration.¹²⁴ Additionally, the district court instituted contempt proceedings, as ePlus alleged that Lawson’s redesign of its software did not make its products more than colorably different from the infringing configurations.¹²⁵ The court held Lawson in contempt for violating the injunction and ordered Lawson to pay fines.¹²⁶ While Lawson’s appeals of the modified injunction

114. ePlus, Inc. v. Lawson Software, Inc., 789 F.3d 1349, 1361 (Fed. Cir. 2015).

115. *Id.* at 1352.

116. *Id.* at 1351.

117. *Id.* at 1352.

118. *Id.*

119. *Id.*

120. *Id.*

121. *Id.*

122. *Id.* at 1353.

123. *Id.*

124. *Id.*

125. *Id.* at 1353–54.

126. *Id.* at 1354.

and contempt order were pending, the Federal Circuit affirmed the PTO's reexamination decision invalidating claim 26 of the '683 patent.¹²⁷ The PTO subsequently cancelled claim 26.¹²⁸

2. *The Federal Circuit's Analysis*

When the case returned to the Federal Circuit, the court considered two issues.¹²⁹ The first was whether the modified injunction must be set aside once the PTO cancelled the claim on which it was based.¹³⁰ Second, the court considered whether civil contempt remedies based on the violation of an injunction must also be set aside when the injunction was overturned on appeal.¹³¹

With respect to the injunction, the court stated, "It is well established that an injunction must be set aside when the legal basis for it has ceased to exist."¹³² Courts have previously applied this rule when there were changes in the law as well as when patents were found invalid.¹³³ As such, the *Lawson* court reasoned there was "no longer any legal basis to enjoin Lawson's conduct" with the PTO's cancellation of claim 26 and thus vacated the injunction.¹³⁴

Regarding the civil contempt issue, the court stated that the right to relief falls with an injunction deemed to be erroneously issued, provided that the injunction is "not final, i.e., that is still subject to litigation over the propriety of its issuance."¹³⁵ The court then noted that the rule has been applied to set aside civil contempt sanctions when the Supreme Court had invalidated a patent.¹³⁶ Reasoning that the case was "not distinguishable on the ground that the basis for the injunction has been removed as the result of the PTO proceeding rather than a court judgment," the Federal Circuit determined that the civil contempt sanctions may be set aside.¹³⁷ In reaching its conclusion, the court referenced *Fresenius*, where the damages award was set aside when the PTO cancelled the patent claim.¹³⁸

127. *Id.*

128. *Id.*

129. *Id.* at 1351.

130. *Id.*

131. *Id.*

132. *Id.* at 1354.

133. *Id.* at 1354–55.

134. *Id.* at 1355–56.

135. *Id.* at 1356.

136. *Id.* at 1357 (citing *Worden v. Searls*, 121 U.S. 14, 25–26 (1887)).

137. *Id.* at 1358.

138. *Id.* (citing *Fresenius USA, Inc. v. Baxter Int'l, Inc.*, 721 F.3d 1330, 1344, 1347 (Fed. Cir. 2013)).

In determining whether the injunction was final, the Federal Circuit stated that a final decree “adjudicates upon the entire merits, leaving nothing further to be done except the execution of it,”¹³⁹ whereas in a non-final judgment, “the scope of relief remains to be determined.”¹⁴⁰ The court found that because the district court’s original injunction did not link specific enjoined activities or products with specific infringed claims, the Federal Circuit’s invalidation and holding of non-infringement with respect to the majority of the claims resulted in “a substantial question as to the appropriate scope of the injunction.”¹⁴¹ The court also questioned the propriety of the sales and manufacturing injunction.¹⁴² Because the Federal Circuit had invalidated the system claims, leaving only a method claim as infringing, there was a question of whether enjoining the sales and manufacturing of Lawson’s systems could be based on a method claim.¹⁴³ Though ePlus argued that induced infringement by Lawson of method claim 26 justified the sales and manufacturing injunction, the court dismissed that argument, reasoning that inducement requires active steps to encourage direct infringement and an affirmative intent for the product to be used to infringe.¹⁴⁴ The court stated that mere sale of an apparatus capable of performing the method does not satisfy the requirements for induced infringement.¹⁴⁵

Therefore, because “the propriety of the injunction against sales and manufacturing was still an issue after the first appeal, there had not been ‘a final decree . . . that finally adjudicates upon the entire merits, leaving nothing further to be done except the execution of it.’”¹⁴⁶ Additionally, “the ‘scope of the relief remain[ed] to be determined.’”¹⁴⁷ As such, the PTO’s cancellation of the method claim 26 required vacating the injunction and contempt sanctions.¹⁴⁸ Figure 3 summarizes the progress of *Lawson* through the courts.

139. *Id.* (quoting *John Simmons Co. v. Grier Bros. Co.*, 258 U.S. 82, 88 (1922)).

140. *Id.* (quoting *Fresenius*, 721 F.3d at 1341).

141. *Id.* at 1359.

142. *Id.* at 1359–60.

143. *Id.*

144. *Id.* at 1360.

145. *Id.*

146. *Id.* at 1361 (quoting *John Simmons Co. v. Grier Bros. Co.*, 258 U.S. 82, 88 (1922)).

147. *Id.* (quoting *Fresenius USA, Inc. v. Baxter Int’l, Inc.*, 721 F.3d 1330, 1341 (Fed. Cir. 2013)).

148. *Id.*

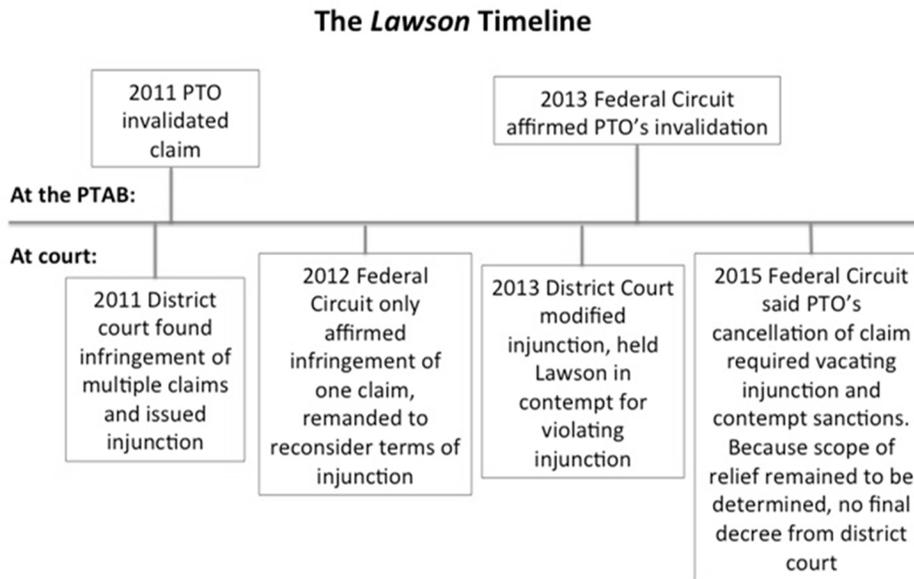


Figure 3: Timeline of *ePlus, Inc. v. Lawson Software, Inc.*

C. UNFAIR OUTCOMES AND CONCERNS WITH GAMESMANSHIP

Lawson and *Fresenius* create issues of unfairness and gamesmanship. The application of such a narrow definition of finality in *Lawson* to overturn a permanent injunction unfairly burdens patent holders relying on relief from courts. Also, the incentive to prolong district court litigation so that alleged infringers may potentially receive a favorable PTO decision of invalidity increases gamesmanship, a result that harms the public and patent holder.

1. *Too Much Deference to the PTO is Unfair to the Plaintiff in Lawson*

In *Lawson*, too much deference to the PTO combined with the Federal Circuit's narrow definition of finality resulted in the Federal Circuit vacating the contempt sanctions through retroactive dissolution of the contempt order.¹⁴⁹ The court reasoned that the right to relief falls with an injunction erroneously issued, even a permanent injunction, so long as the injunction was not final.¹⁵⁰ But, in applying a more flexible definition of

149. *See id.*

150. *Id.* at 1356.

finality, the injunction was final because it was not reversed or vacated on appeal, and the district court did not exceed its power when it issued it.¹⁵¹

From a policy standpoint, allowing a collateral attack on a permanent injunction contravenes principles of res judicata and finality.¹⁵² Respect for permanent injunctions is important for following court orders and judicial procedures, as well as for avoiding repetitious litigation.¹⁵³ When courts defer to PTO determinations of invalidity—despite having issued a final decree—and consequently vacate contempt awards, it is “just plain unfair” to plaintiffs counting on permanent injunctions to halt patent infringement.¹⁵⁴

2. *Lawson and Fresenius Increase Gamesmanship*

The timing of *Lawson*, *Fresenius*, and *Versata* put together has suggested that alleged patent infringers losing at the judicial courts ought to “scrap and fight,” prolonging litigation until a PTO determination in their favor can “unravel the district court judgment against them.”¹⁵⁵ Indeed, critical to the *Versata* decision was that while the Federal Circuit had vacated injunctive relief and remanded the case in 2013, seemingly without final judgment because the court did not leave “nothing further”¹⁵⁶ to do except the execution of the decree, the patent holder moved to dismiss its claims for injunctive relief.¹⁵⁷ The plaintiff did not scrap and fight to prolong litigation. This led to the district court on remand deeming the injunction issue moot and its previous judgment of infringement as the operative one.¹⁵⁸

In contrast, the alleged infringer in *Fresenius* scrapped and fought, ultimately benefiting from the PTO determination of patent invalidity that trumped the district court judgment of infringement. After initiating a declaratory judgment of invalidity and non-infringement of four of Baxter’s

151. See *ePlus, Inc. v. Lawson Software, Inc.*, 790 F.3d 1307, 1313 (Fed. Cir. 2015) (Newman, J., dissenting from denial of rehearing en banc).

152. *Id.*

153. *Id.* at 1312 (Newman, J., dissenting from denial of rehearing en banc) (quoting *N.L.R.B. v. Local 282, Int’l Bhd. of Teamsters*, 428 F.2d 994, 999 (2d Cir. 1970)).

154. *Id.* at 1315 (Moore, J., dissenting from denial of rehearing en banc).

155. *Id.* at 1314 (Moore, J., dissenting from denial of rehearing en banc).

156. *John Simmons Co. v. Grier Bros. Co.*, 258 U.S. 82, 88 (1922).

157. *Versata Software, Inc. v. SAP Am., Inc.*, No. 2:07cv153-RSP, 2014 U.S. Dist. LEXIS 35267, at *6 (E.D. Tex. Mar. 16, 2014).

158. *Id.*

patents, Fresenius's subsequent actions indicated a dilatory motive.¹⁵⁹ Fresenius sought reexamination of two of the patents, but when the PTO in 2006 issued non-final rejections of the claims, Fresenius did not move for a stay in favor of the PTO proceeding.¹⁶⁰ Instead, presumably believing it would prevail, Fresenius chose to proceed with trial.¹⁶¹ Fresenius suffered a substantial setback when the district court granted JMOL in favor of Baxter. It consequently filed a reexamination request of a third patent.¹⁶² Immediately after (but four years after initiating the litigation), Fresenius requested that the district court stay a damages trial until the PTO concluded its reexamination proceedings.¹⁶³ Though Fresenius was unsuccessful in its motion to stay, it ultimately won, as the Federal Circuit eventually set aside the district court judgment, leaving no final judgment to preclude application of the PTO's decision of invalidity.¹⁶⁴

From these two cases, as well as *Lawson*, which had the same outcome as *Fresenius*, alleged infringers can learn many useful lessons. These include the benefits of keeping claims alive, proceeding on multiple fronts to invalidate patents, engaging in delay tactics, and continuously filing requests for PTO reexaminations or post-grant reviews, all to prolong litigation until there is a favorable PTO determination of invalidity that can trump a district court's "non-final" judgment of infringement.

As a result of this gamesmanship, the patent holder and the public lose. Though it is true that invalidating bad patents has social value—indeed, many believe that the ability to obtain poor business method patents led to the NPE problem in the first place¹⁶⁵—and thus the indirect effect of gamesmanship can be beneficial to the public, in other ways it is harmful. Parties who have won judgments of infringement "fair and square"¹⁶⁶ at district court can subsequently see their damage awards, injunctions, and contempt sanctions for violating the injunction all vacated. This is

159. *Fresenius Med. Care Holdings, Inc. v. Baxter Int'l, Inc.*, No. 03-1431, 2007 WL 1655625, at *1, *5 (N.D. Cal. June 7, 2007) (order denying Fresenius's motion to stay) ("It is difficult to imagine a scenario in which a dilatory motive could be more apparent.").

160. *Id.* at *2.

161. *Id.* at *5.

162. *Id.* at *2.

163. *Id.* at *2-3, *5 ("Thus, after years of protracted litigation, only now, at the 11th hour and after suffering a substantial setback, does Fresenius extol the virtues of reexamination.").

164. *Fresenius USA, Inc. v. Baxter Int'l, Inc.*, 721 F.3d 1330, 1341 (Fed. Cir. 2013).

165. H.R. REP. NO. 112-98, pt. 1, at 54 (2011).

166. Brief for Biotechnology Indus. Org. as Amicus Curiae Supporting Petitioners at 9, *Baxter Int'l Inc. v. Fresenius USA, Inc.*, No. 13-1071, 2014 WL 1389012, at *9 (U.S. Apr. 7, 2014).

detrimental to companies' financial success. Companies with biological products, for example, depend on significant investments from third parties, which are secured by patent protection.¹⁶⁷ With uncertainty in the ability to enforce patent rights, the ability to obtain investments to generate innovative products for the benefit of the public is jeopardized.¹⁶⁸

Furthermore, uncertainty can increase the pressures on patent holders to settle. For example, alleged infringers can file petitions to institute a PTAB proceeding to bolster a defense to willfulness,¹⁶⁹ consequently encouraging patent holders to settle because they lose the ability to collect treble damages when there is a successful willfulness defense.¹⁷⁰ Similarly, the uncertainty may pressure patent holders to settle for licensing terms favorable to the licensees. For example, because PGRs can be initiated on numerous grounds¹⁷¹ and may thus be an attractive post-grant proceeding for patent challengers, patent holders would likely be hesitant to be overly aggressive in out-licensing its patents during the time window when PGRs are eligible.¹⁷²

One can argue that these results are justified by the need to invalidate bad patents. It is true that the new proceedings under the AIA were meant to "encourage the filing of meritorious patentability challenges" in order to "further improve patent quality."¹⁷³ Yet, the AIA reviews were not meant to undermine the purpose of the finality requirement, which is to ensure a just, speedy, and inexpensive determination.¹⁷⁴ The AIA reviews ought to improve patent quality without the gamesmanship that can create so much uncertainty regarding patent rights, making it difficult for patent holders to obtain investments as well as pressuring patent holders to settle or to acquiesce to certain licensing terms for fear that patent challenges may be pursued.

167. *Id.* at 1.

168. *Id.* at 2.

169. Aashish Kapadia, Note, *Inter Partes Review: A New Paradigm in Patent Litigation*, 23 TEX. INTELL. PROP. L.J. 113, 135 (2015).

170. *Id.*

171. 35 U.S.C. § 321(b) (2012).

172. Robert Greene Sterne et al., *America Invents Act: The 5 New Post-Issuance Procedures*, 13 SEDONA CONF. J. 27, 34–35 (2012).

173. *Coal. for Affordable Drugs VI, LLC v. Celgene Corp.*, IPR2015-01092, IPR2015-01096, IPR2015-01102, IPR2015-01103, IPR2015-01169, at 4 (P.T.A.B. Sept. 25, 2015) (order denying motions for sanctions).

174. *See* 15A WRIGHT & MILLER, *supra* note 3, § 3913.

IV. PARTIAL SOLUTIONS TO THE FINALITY ISSUE

There are different ways to at least partially remedy the unfairness in the system and uncertainty about the rights of patent holders. One solution is to overturn the Federal Circuit's stingy view of preclusive finality for patent cases, which conflicts with its own definition of finality for appeals and with other circuit courts. Alternatively, instituting a nearly automatic stay of litigation rule would solve many, even if not all, problems.

A. THE FEDERAL CIRCUIT SHOULD NOT TREAT PRECLUSIVE FINALITY MORE STINGILY THAN FINALITY FOR APPEAL

The Federal Circuit has a "stingy" view of preclusive finality.¹⁷⁵ For instance, the court in *Fresenius* reasoned that a district court judgment of infringement could be sufficiently final for appeal, but it was not sufficiently final for preclusion of the affirmed PTO's determination of invalidity.¹⁷⁶ In so holding, the court relied on a traditional analysis of preclusive finality, which is that an order establishing liability but leaving open the question of damages or other remedies is not final for purposes of preclusion.¹⁷⁷

The Federal Circuit in *Lawson* took it further by inappropriately applying *Fresenius* to a case with materially different remand instructions. While the *Fresenius* court vacated the injunction on appeal and required the district court to analyze the injunction anew, the *Lawson* court did not and merely suggested that the district court use its discretion to consider any changes.¹⁷⁸ Further, the remand order in *Lawson* was more specific than in *Fresenius*, not allowing the district court to change the final determinations on the merits or undertake further proceedings.¹⁷⁹

In applying *Fresenius* reasoning to a situation where an injunction remained in force and where the remand order was more limited in scope, the *Lawson* decision further narrows the definition of finality as well as by creating unacceptable uncertainty whenever there are contempt orders. *Lawson* states that a final decree "adjudicates upon the entire merits, leaving nothing further to be done except the execution of it,"¹⁸⁰ while in a non-final judgment, "the scope of relief remains to be determined."¹⁸¹ For

175. *ePlus, Inc. v. Lawson Software, Inc.*, 789 F.3d 1349, 1369 (Fed. Cir. 2015) (O'Malley, J., dissenting).

176. *Fresenius USA, Inc. v. Baxter Int'l, Inc.*, 721 F.3d 1330, 1341 (Fed. Cir. 2013).

177. *Id.* at 1341–42.

178. *Lawson*, 789 F.3d at 1367 (O'Malley, J., dissenting).

179. *Id.* at 1371.

180. *Id.* at 1358 (quoting *John Simmons Co. v. Grier Bros. Co.*, 258 U.S. 82, 88 (1922)).

181. *Id.* (quoting *Fresenius*, 721 F.3d at 1341).

injunctions, district courts retain the equitable power to revise them in light of changed circumstances.¹⁸² As such, courts relying on *Lawson* would find every injunction non-final, as the “scope of relief remains to be determined” in perpetuity, and then vacate every contempt order when a later PTO decision invalidates the patent at issue.¹⁸³ This outcome is highly problematic for patent holders depending on enforceable injunctions to prevent infringement.

Furthermore, when comparing the *Lawson* and *Fresenius* decisions with *Robert Bosch, LLC v. Pylon Manufacturing Corp.*, the Federal Circuit appears to have “wildly divergent” views on finality for purposes of appeal and for preclusion.¹⁸⁴ In *Bosch*, the Federal Circuit held that liability determinations in patent cases were final for purposes of appeal, though damages and willfulness determinations remained.¹⁸⁵ This liberal view of finality for appeal conflicts with the stingy *Fresenius* and *Lawson* view of finality for preclusion.

In contrast, other circuit courts have applied finality less strictly for preclusion than for appeal, not more so. For instance, the court in *Miller Brewing Co. v. Joseph Schlitz Brewing Co.* stated that to be final for purposes of collateral estoppel, “[f]inality’ in the sense of 28 U.S.C. § 1291 [for appeal] is not required.”¹⁸⁶ And in *Lummus*, the court delineated factors for courts to weigh “[w]hether a judgment, not ‘final’ in the sense of 28 U.S.C. § 1291, ought nevertheless be considered ‘final’ in the sense of precluding further litigation of the same issue.”¹⁸⁷ In order to treat finality for appeal and finality for preclusion consistently with *Bosch* as well as more in line with other circuit courts, the Federal Circuit should adopt a more flexible view of finality for preclusion.

B. THE FEDERAL CIRCUIT SHOULD TREAT FINALITY AS OTHER CIRCUIT COURTS HAVE

While the Federal Circuit applies a traditional notion of preclusive finality in patent cases, which allows patent validity to be re-decided when post-judgment damages still remain, other circuit courts are more flexible,

182. *Id.* at 1370 (O’Malley, J., dissenting).

183. *Id.*

184. *Id.* at 1371 (O’Malley, J., dissenting).

185. *Robert Bosch, LLC v. Pylon Mfg. Corp.*, 719 F.3d 1305, 1320 (Fed. Cir. 2013).

186. 605 F.2d 990, 996 (7th Cir. 1979).

187. *Lummus Co. v. Commonwealth Oil Refining Co.*, 297 F.2d 80, 89 (2d Cir. 1961).

imposing finality and preclusion to issues that were finally decided in full and fair litigation.¹⁸⁸

The other circuit courts have a more relaxed view of finality rather than a traditional view. In *Zdanok*, the Second Circuit stated that “collateral estoppel . . . includes many dispositions which, though not final in that sense [leaving nothing except execution of the judgment], have nevertheless been fully litigated.”¹⁸⁹ The Third Circuit defines preclusive finality as a “more ‘pliant’ concept than it would be in other contexts.”¹⁹⁰ Likewise, the Fourth Circuit describes finality for collateral estoppel as a “flexible concept,” “mean[ing] little more than that the litigation of a particular issue has reached such a stage that a court sees no really good reason for permitting it to be litigated again.”¹⁹¹ The Sixth Circuit explained that an adverse judgment following a full and fair opportunity to litigate is preclusive, as “[o]ne bite at the apple is enough.”¹⁹² Similarly, the Eighth Circuit reasoned that it made sense for preclusion to apply to preliminary resolutions or liability determinations without damage awards or other forms of relief when the parties had presented evidence with strong incentives to litigate the issue fully, and when the first proceeding addressed the same issue presented in the second proceeding.¹⁹³

Under the finality principles of other circuit courts to the facts of *Fresenius* and *Lawson*, there should have been preclusive finality. First, it is likely that there were strong incentives for all parties to litigate the issue fully. There were substantial stakes involved in the form of tens of millions of dollars in a damage award or a permanent injunction,¹⁹⁴ six to ten years of litigation,¹⁹⁵ and the opposing parties making related products in the same fields.¹⁹⁶ Second, both judicial and PTAB proceedings involved the

188. *Fresenius USA, Inc. v. Baxter Int'l, Inc.*, 721 F.3d 1330, 1355 (Fed. Cir. 2013) (Newman, J., dissenting).

189. *Zdanok v. Glidden Co.*, 327 F.2d 944, 955 (2d Cir. 1964).

190. *Henglein v. Colt Indus. Operating Corp.*, 260 F.3d 201, 210 (3d Cir. 2001).

191. *Swentek v. USAIR, Inc.*, 830 F.2d 552, 561 (4th Cir. 1987).

192. *Emps. Own Fed. Credit Union v. City of Defiance*, 752 F.2d 243, 245 (6th Cir. 1985).

193. *John Morrell & Co. v. Local Union 304A of United Food & Commercial Workers*, 913 F.2d 544, 564 (8th Cir. 1990).

194. *Fresenius USA, Inc. v. Baxter Int'l, Inc.*, 721 F.3d 1330, 1333 (Fed. Cir. 2013) (\$14.266 million); *ePlus, Inc. v. Lawson Software, Inc.*, 789 F.3d 1349, 1352 (Fed. Cir. 2015) (permanent injunction).

195. *Fresenius*, 721 F.3d at 1332 (10 years); *Lawson*, 789 F.3d at 1352 (6 years).

196. *Fresenius*, 721 F.3d at 1332 (hemodialysis); *Lawson*, 789 F.3d at 1351–52 (electronic databases).

same issue: patent invalidity.¹⁹⁷ As such, applying the more pliant and flexible view of finality to *Fresenius* and *Lawson* makes more sense, as it is overwhelmingly adopted in the other circuit courts, and it would be fair because it prevents the alleged infringers from taking a second bite at the apple.

C. THE SUPREME COURT SHOULD APPLY *EBAY* REASONING TO CONFORM FINALITY TO ESTABLISHED PRACTICE

The Supreme Court should resolve the conflicts described above by applying *eBay* reasoning. Prior to the *eBay* decision, the Federal Circuit had an “automatic injunction rule” for patent cases.¹⁹⁸ According to this categorical rule, courts would issue permanent injunctions once there was infringement and patent validity, unless there were exceptional circumstances to protect public interest.¹⁹⁹ This rule was troubling not only because it deviated from the traditional four-factor test for injunctive relief, it also placed NPEs in enhanced bargaining positions.²⁰⁰ In *eBay*, the Supreme Court overturned the automatic injunction rule, finding that a departure from traditional equity practice should not be “lightly implied.”²⁰¹ The Court held that injunctive relief is within the “equitable discretion of the district courts” and that courts must exercise that discretion consistently with “traditional principles of equity, in patent disputes no less than in other cases.”²⁰² In so holding, the Court highlighted the language of the Patent Act of 1952, stating that injunctions “may [be issued] in accordance with the principles of equity.”²⁰³ In the aftermath, *eBay* essentially eliminated NPEs’ leverage power, as NPEs were no longer able to viably threaten companies with injunctions.²⁰⁴

Here, the Federal Circuit has significantly deviated from the established federal practice of finality, applying an overly stringent rule and departing from other circuit courts. The Supreme Court ought to step in and rule that

197. *Fresenius*, 721 F.3d at 1332–35; *Lawson*, 789 F.3d at 1352, 1354. To be precise, though district courts can invalidate patents, they do not actually find patents “valid,” only that the patent challenger did not meet its burden of finding invalidity. *ePlus, Inc. v. Lawson Software, Inc.*, 790 F.3d 1307, 1309 (Fed. Cir. 2015) (Dyk, J., concurring in denial of rehearing en banc).

198. *Davis*, *supra* note 46.

199. *eBay Inc. v. MercExchange, L.L.C.*, 547 U.S. 388, 393–94 (2006).

200. *Davis*, *supra* note 46.

201. 547 U.S. at 391, 395 (quoting *Weinberger v. Romero-Barcelo*, 456 U.S. 305, 320 (1982)).

202. *Id.* at 394.

203. *Id.* at 392 (quoting 35 U.S.C. § 283 (2012)).

204. *Rice*, *supra* note 41, at 742–43.

a more flexible definition of finality applies to “patent disputes no less than in other cases.”²⁰⁵ Though the Supreme Court did reject a pragmatic finality approach in *Johnson v. Jones*,²⁰⁶ the decision occurred prior to *eBay*, and the Court may likely find more persuasive the *eBay* rationale that such a departure from established practice in patent cases should not be “lightly implied.”²⁰⁷

Just as the *eBay* Court relied on the 1952 Patent Act to come to its conclusion, the Court here could refer to the AIA’s emphasis on providing for “quick and cost effective alternatives to litigation.”²⁰⁸ If the Federal Circuit continues defining finality rigidly, PTO proceedings will no longer be true alternatives to litigation but avenues of gamesmanship for defendants in patent infringement suits. Knowing the Federal Circuit’s stringent view of finality, alleged patent infringers can merely prolong district court litigation until a favorable PTO result overthrows district court judgments that should have been deemed final. There are some limitations to this practice, such as timing restrictions (for instance, the alleged infringer only has one year after being sued to file an IPR petition)²⁰⁹ and the likelihood that only infringers of weak patents having a risk of being invalidated would pursue this. Despite these caveats, the defendants who can game the system have significant leverage power that the NPEs used to have, and they can force patent holders to settle or agree to certain licensing terms before PTO decisions are made and used to trump district court judgments.

One counterargument is that conforming the Federal Circuit’s treatment of finality to other circuit courts’ more flexible definition creates unfairness because initial infringers would be held liable if the PTO eventually invalidates a patent, while later infringers would not. Furthermore, Congress created the Federal Circuit to place “unusually complex [and] technically difficult” patent cases in the hands of a single appeals court to create uniform and better-quality patent decisions.²¹⁰ So long as the Federal Circuit is consistent with its rigid finality rule, perhaps a specialist court should receive deference in its patent decisions and not be forced to conform to other circuit courts.

205. See *eBay Inc. v. MercExchange, L.L.C.*, 547 U.S. 388, 394 (2006).

206. 515 U.S. 304, 315 (1995).

207. See *eBay*, 547 U.S. at 391.

208. H.R. REP. NO. 112-98, pt. 1, at 48 (2011).

209. 35 U.S.C. § 315(b) (2012).

210. H.R. REP. NO. 97-312, at 22–23 (1981).

D. ALTERNATIVELY, DISTRICT COURTS SHOULD IMPLEMENT
AUTOMATIC STAYS IN MOST CASES

Nearly automatic stays of district court litigation until resolution of a PTO proceeding would prevent contradictory determinations of validity at the courts and the PTO. This would eliminate problems of unfairness resulting from either a rigid or flexible finality rule, as there would only be one decision of validity or invalidity from the start. Further, the Federal Circuit would not need to conform its finality definition to the other circuit courts because there would be no district court judgments in conflict with PTO determinations. Because an automatic stay rule would incentivize gamesmanship, an absolute rule would not be viable.

Currently, there is no automatic stay rule, and district courts have wide discretion to stay cases pending PTO proceedings. Courts consider three factors in weighing their decisions: whether a stay would “unduly prejudice or present a clear tactical disadvantage to the non-moving party,” whether a stay would “simplify the issues in question and trial of the case,” and “whether discovery is complete and whether a trial date has been set.”²¹¹ For CBMs, district courts are especially lenient in granting stays, recognizing a fourth factor of whether a stay would reduce the burden of litigation on the parties and on the court.²¹² Interestingly, motions to stay pending resolution of a PTO proceeding have increased dramatically,²¹³ and grant rates for litigation stays have also risen,²¹⁴ with stays fully denied only seventeen percent of the time.²¹⁵ If district courts continue granting stays in the majority of cases, they may solve the problems associated with dual-track litigation by themselves, without the need to implement an automatic stay rule.

Nonetheless, district courts do not favor stays in certain situations. For instance, district courts are cognizant of when defendants may be gaming the system, waiting to move for a stay until after trial and only when there

211. PETER S. MENELL ET AL., PATENT CASE MANAGEMENT JUDICIAL GUIDE § 2.2.6.4.1 (3d ed. 2015).

212. *Id.* § 2.2.6.4.2.

213. *Motions to Stay District Court Cases Pending Post-Grant Proceedings*, DOCKET REP. (Aug. 24, 2015), <http://docketreport.blogspot.com/2015/08/motions-to-stay-district-court-cases.html> [<http://perma.cc/QFX4-TJLV>].

214. MENELL ET AL., *supra* note 211 § 2.2.6.4.1.

215. Joseph Casino & Michael Kasdan, *Trends from 2 Years of ALA Post-Grant Proceedings*, LAW360 (Sept. 29, 2014), <http://www.law360.com/articles/581512/trends-from-2-years-of-aia-post-grant-proceedings> [<http://perma.cc/8UPY-KASX>].

is a favorable PTO action for them.²¹⁶ In general, delay in filing is detrimental to the movant, and judges have refused to grant stays if they sense a dilatory motive or if they have already invested time and energy on a case.²¹⁷ Thus, despite the general pattern of judges typically granting stays, the discretion can lead to denial of stays, dual proceedings, and disparate determinations on patent validity. As such, having *nearly* automatic stays may be advisable when PTO proceedings are instituted.

An absolute automatic-stay rule would not be viable because it would further incentivize gamesmanship. Currently, delays in district court litigation can greatly benefit alleged infringers because they negatively impact the ability of patent holders to obtain damage awards and royalties, and uncertainty over patent rights pressures patent holders to acquiesce to licensing or settlement terms unfavorable to them.²¹⁸ With an automatic stay rule, *all* defendants would likely petition for PTO review in order to obtain these benefits associated with delay. As such, a nearly automatic stay rule would be preferable. With this rule, district courts should stay unless there is evidence of egregious strategic behavior by the movants, such as immense delay in moving to stay or an exceedingly low likelihood of patent invalidation at the PTO.

With a nearly automatic stay rule, PTO post-grant proceedings will truly be alternatives to litigation. It is possible that this rule will burden district court judges who may have invested time and energy on a case, leading to resentment of the proposed system. But, it seems that the overall burdens would be less than in the current system, where district court judgments of patent infringement—the results of numerous years of litigation—have the potential to be deemed non-final for preclusion and set aside for PTO determinations of invalidity.

216. *E.g.*, *Fresenius Med. Care Holdings, Inc. v. Baxter Int'l, Inc.*, No. 03-1431, 2007 WL 1655625, at *2–3, *5 (N.D. Cal. June 7, 2007) (order denying Fresenius's motion to stay) (“Thus, after years of protracted litigation, only now, at the 11th hour and after suffering a substantial setback, does Fresenius extol the virtues of reexamination.”).

217. *See* Kapadia, *supra* note 169, at 127 (noting that a motion to stay was denied when the movant waited until only seven business hours before jury selection to request a stay, while a court found no dilatory motive in a different case when the movant waited less than three months after receiving the complaint to request a stay); Casino & Kasdan, *supra* note 215 (contrasting situations where requests to stay were granted, such as before claim construction had been briefed, with situations where stays were denied, for instance when the movant requested a stay after discovery and Markman hearing).

218. *See supra* Section II.C.1.

V. CONCLUSION

With short timeframes for decisions and high patent invalidity rates, AIA reviews have become very popular with alleged infringers, leading to increased dual-track litigation at the PTO and at the district court. As seen in *Versata*, *Fresenius*, and *Lawson*, with concurrent litigation comes the question of when a district court judgment of infringement is sufficiently final to preclude an intervening PTO determination of invalidity. The Federal Circuit has applied a rigid definition of finality to patent cases, stating that a final judgment leaves nothing further to be done except its execution. This treatment of finality raises gamesmanship concerns, as alleged infringers are incentivized to prolong district court litigation in hopes of receiving a favorable PTO determination. Further, the Federal Circuit's treatment of finality in patent cases contrasts with the other circuits' more pliant, flexible definition of finality. To address concerns of gamesmanship, unfairness, and the special treatment of patent cases, the Federal Circuit should conform its finality definition to established federal practice, or district courts should implement stays absent strategic behavior.

MISGUIDED PANIC AND MISSED OPPORTUNITY FOR PHARMACEUTICAL INVENTIONS: HOW UNEXPECTED RESULTS ECLIPSED REASONABLE EXPECTATION OF SUCCESS IN *BMS v. TEVA*

Christelle K. Pride[†]

In *Bristol-Myers Squibb Co. v. Teva Pharmaceuticals USA, Inc.*, the Federal Circuit missed an opportunity to clarify how courts should interpret “reasonable expectation of success” (RES) when assessing the nonobviousness of pharmaceutical and chemical inventions.¹ RES is when a person can predict that applying the prior art teachings will yield the desired invention.² Although 35 U.S.C § 103 of the Patent Act requires that courts evaluate RES from the perspective of the person having ordinary skill in the art (PHOSITA), the Federal Circuit often overlooks the PHOSITA’s viewpoint in nonobviousness inquiries.³ The three-pronged nonobviousness test for pharmaceutical compounds is whether a PHOSITA would have selected the lead compound, had the motivation to change it to obtain the invention, and had a reasonable expectation of success in doing so. Therefore, by disregarding the determination of a PHOSITA specific to the field of the invention, and in turn what would be nonobviousness to such a person, courts essentially dilute the effectiveness of the nonobviousness test. Given the complexity and prohibitive cost of chemical inventions, a proper assessment of RES would incentivize innovation while rewarding only inventions that would not have occurred in the normal course of research.

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1. *Bristol-Myers Squibb Co. v. Teva Pharm. USA, Inc.* (*BMS v. Teva, per curiam*), 769 F.3d 1339, 1341 (Fed. Cir. 2014) (per curiam).

2. *In re O’Farrell*, 853 F.2d 894, 903–04 (Fed. Cir. 1988).

3. See Rebecca S. Eisenberg, *Obvious to Whom? Evaluating Inventions from the Perspective of PHOSITA*, 19 BERKELEY TECH. L.J. 885, 889–90 (2004); see also 3 MOY’S WALKER ON PATENTS § 9:50 (4th ed.) (pointing out that even in *Graham v. John Deere*, the case that introduced the level of skill in the art into the obviousness analysis, the Supreme Court failed to determine a PHOSITA); *Graham v. John Deere Co. of Kan. City*, 383 U.S. 1 (1966).

In *Bristol-Myers Squibb Co. v. Teva Pharmaceuticals U.S.A, Inc.*, a Federal Circuit panel held that Bristol-Myers Squibb's patent for Entecavir, a drug used to treat chronic hepatitis B, was invalid under § 103.⁴ Bristol-Myers Squibb (BMS) sued Teva Pharmaceuticals (Teva), alleging patent infringement.⁵ The district court held that the patent was invalid as obvious under § 103.⁶ On appeal, the Federal Circuit panel rejected an attempt by BMS to use post-filing evidence of the prior art compound's *in vivo* toxicity to challenge the lead compound selection and findings of motivation to combine.⁷ BMS waived its argument with regard to RES.⁸ Consequently, the court reasoned that Entecavir's only unexpected property, high genetic barrier to resistance, was insufficient to rebut Teva's showing of prima facie obviousness.⁹ The pharmaceutical industry expressed concern about *BMS v. Teva* because it thought that the Federal Circuit was now rejecting post-invention data as evidence of unexpected results.¹⁰

Although the *BMS* court did not change the law on the admissibility of post-filing data, it missed an opportunity to clarify how trial courts should apply the existing standard for RES. Pharmaceutical inventions need strong patent protection to incentivize the costly and prolonged investment in research and development (R&D).¹¹ A precise determination of RES, based on an accurate assessment of the PHOSITA, would enable the allowance or validation of strong patents.

Following BMS's petition for rehearing or rehearing en banc, the court delivered a set of seemingly conflicting opinions that the pharmaceutical industry perceived to radically change the standard for nonobviousness.¹² BMS and the pharmaceutical industry expressed concern over the possible

4. *Bristol-Myers Squibb Co. v. Teva Pharm. USA, Inc. (BMS v. Teva, panel decision)*, 752 F.3d 967 (Fed. Cir. 2014).

5. *Bristol-Myers Squibb Co. v. Teva Pharm. USA, Inc. (BMS v. Teva)*, 923 F. Supp. 2d 602, 608 (D. Del. 2013), *aff'd*, *BMS v. Teva, panel decision*, 752 F.3d 967 (Fed. Cir. 2014).

6. *Id.*

7. *BMS v. Teva, panel decision*, 752 F.3d at 974–76.

8. *BMS v. Teva*, 923 F. Supp. 2d at 674 n.36.

9. *BMS v. Teva, panel decision*, 752 F.3d at 977–78.

10. *See* Brief of Amicus Curiae Biotechnology Industry Organization Association in Support of Rehearing en Banc at 1, *BMS v. Teva, panel decision*, 752 F.3d 967 (Fed. Cir. 2014) (No. 14-886), 2015 WL 763993.

11. *See* Brief of Amicus Curiae Biotechnology Industry Organization Association in Support of Rehearing en Banc at 1, *BMS v. Teva, panel decision*, 752 F.3d 967 (Fed. Cir. 2014) (No. 14-886), 2015 WL 763993.

12. *BMS v. Teva, per curiam*, 769 F.3d at 1341.

prohibition of post-invention evidence to establish unexpected results and the undue limitation of the types of results that qualify as unexpected.¹³

This Note argues that the court overlooked an issue that is especially relevant to chemical and pharmaceutical inventions: the realistic assessment of “reasonable expectation of success.” In view of the complexity and unpredictability of the chemical arts, courts should narrowly define RES to incentivize innovation while rewarding only inventions that would not have arisen in the normal course of research. Part I describes the evolution of the nonobviousness doctrine and its application to the pharmaceutical and chemical arts. Part II summarizes the Federal Circuit’s decision in *BMS v. Teva*. Part III analyzes the court’s ruling and explains why *BMS v. Teva* did not change precedent on the use of post-filing evidence to establish unexpected results. Part IV examines the court’s missed opportunity to review the standard for reasonable expectation of success.

I. INTRODUCTION TO THE NONOBVIOUSNESS INQUIRY AND ITS APPLICATION TO THE CHEMICAL AND PHARMACEUTICAL ARTS

United States patent law requires that patentable inventions be nonobvious in view of the prior art.¹⁴ This Part describes the origins of the nonobviousness doctrine and examines the application of § 103 to pharmaceutical and chemical inventions.

A. EVOLUTION OF THE NONOBVIOUSNESS REQUIREMENT OF PATENTABILITY

Two landmark events have shaped the development of the nonobviousness requirement for patentability: Congress’s passage of the Patent Act in 1952, and the Supreme Court’s decision in *Graham v. John Deere* in 1966.

1. *The Statutory Test for Nonobviousness*

To incentivize the “Progress of Science and useful Arts,” Article I, Section 8, Clause 8 of the Constitution grants to inventors the exclusive

13. *Id.* at 1341 (BMS’s petition for rehearing or rehearing en banc was filed along with amicus briefs from the Biotechnology Industry Organization, the Bay Area Bioscience Association, Pfizer, Inc., Eli Lilly & Co., the Pharmaceutical Research and Manufacturers of America, the Intellectual Property Owners Association, and Merck Sharp & Dohme Corp.).

14. *See* *Graham v. John Deere Co. of Kan. City*, 383 U.S. 1, 17–18 (1966) (stating that an invention requires a “degree of skill and ingenuity” (citing *Hotchkiss v. Greenwood*, 52 U.S. 248, 267 (1850))).

rights to their works for a limited period of time.¹⁵ In 1851, the Supreme Court introduced nonobviousness into the judicial determination of patentability by stipulating that an invention required “more ingenuity and skill” than were possessed by an “ordinary mechanic acquainted with the business.”¹⁶ In the Patent Act of 1952, Congress codified the requirement for nonobviousness:

A patent for a claimed invention may not be obtained, notwithstanding that the claimed invention is not identically disclosed as set forth in section 102, if the differences between the claimed invention and the prior art are such that the claimed invention as a whole would have been obvious before the effective filing date of the claimed invention to a person having ordinary skill in the art to which the claimed invention pertains. Patentability shall not be negated by the manner in which the invention was made.¹⁷

Over the years, the Supreme Court has shaped the interpretation of § 103 nonobviousness through seminal decisions, notably, *Graham v. John Deere*¹⁸ and *KSR Int'l Co. v. Teleflex Inc.*¹⁹ In *Graham*, the Court described the factual inquiries that inform the obviousness analysis.²⁰ Several decades later, in *KSR*, it rejected the rigid application of the Federal Circuit’s Teaching, Suggestion, and Motivation (TSM) test²¹ and espoused a more flexible approach that bars the patentability of inventions that are predictable variations of the prior art.²²

2. *The Nonobviousness Requirement in Graham v. John Deere*

Nonobviousness is a question of law based on several factual inquiries called the *Graham* factors.²³ Under § 103, a fact finder must determine the scope and content of the prior art, assess the differences between the prior art and the invention, and evaluate the level of ordinary skill in the pertinent art.²⁴ Further, to ascertain the circumstances existing when the invention was made, the fact finder might evaluate secondary considerations such as commercial success, long felt but unresolved needs, and the failure of

15. U.S. CONST. art. 1, § 8, cl. 8.

16. *Hotchkiss v. Greenwood*, 52 U.S. 248, 267 (1850).

17. 35 U.S.C. § 103 (1952).

18. *Graham*, 383 U.S. at 17.

19. *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398 (2007).

20. *Graham*, 383 U.S. at 17.

21. *KSR*, 550 U.S. at 415.

22. *Id.* at 417.

23. *Graham*, 383 U.S. at 17.

24. *Id.*

others.²⁵ Although *Graham* established the factual framework that guides the legal inquiry of nonobviousness, it did not provide bright-line rules for determining nonobviousness.²⁶

Furthermore, *Graham* merely introduced the concept of secondary considerations, leaving lower courts to expound additional categories of secondary considerations such as copying,²⁷ professional approval or skepticism,²⁸ and unexpected results.²⁹ By adding secondary considerations to the nonobviousness analysis, the *Graham* Court intended that these “objective indicia” guard against hindsight bias by illuminating the context within which the invention was made.³⁰ This is because secondary considerations emphasize “economic and motivational, rather than technical issues, and are therefore more susceptible of judicial treatment than are the highly technical facts often present in patent litigation.”³¹

Although the Federal Circuit ruled soon after its creation³² that evidence of secondary considerations “must always when present be considered en route to a determination of obviousness,”³³ there has been no uniform or regular application of secondary considerations.³⁴ While some courts examine several secondary indicia, others merely acknowledge the existence of these criteria by citing to *Graham*.³⁵

B. THE NONOBVIOUSNESS INQUIRY IN THE CHEMICAL ARTS

Although the § 103 requirement of patentability applies to all arts, the development of chemical and pharmaceutical inventions has some unique

25. *Id.*

26. See Justin Lee, Note, *How KSR Broadens (Without Lowering) the Evidentiary Standard of Non-Obviousness*, 23 BERKELEY TECH. L.J., 15 (2008); see also *Panduit Corp. v. Dennison Mfg. Co.*, 810 F.2d 1561, 1567–68 (Fed. Cir. 1987) (supplementing the *Graham* fact inquiries with legal questions and legal standards for fact-finding).

27. *Janssen Pharmaceutica N.V. v. Mylan Pharm. Inc.*, 456 F. Supp. 2d 644, 669 (D.N.J. 2006).

28. See Natalie A. Thomas, *Secondary Considerations in Nonobviousness Analysis: The Use of Objective Indicia Following KSR v. Teleflex*, 86 N.Y.U. L. REV. 2070, 2078 (2011).

29. See *id.* at 2078–79.

30. See *id.* at 2075–76.

31. *Graham v. John Deere Co. of Kan. City*, 383 U.S. 1, 36 (1966).

32. Congress formed the Federal Circuit in 1982, and the ruling on secondary considerations was issued in 1983.

33. *Stratoflex, Inc. v. Aeroquip Corp.*, 713 F.2d 1530, 1538 (Fed. Cir. 1983).

34. See Thomas, *supra* note 28, at 2084–85 (mentioning a survey of district court and Federal Circuit opinions that revealed that secondary considerations were sufficient to overcome a prima facie case of nonobviousness in a single case out of ninety-three).

35. See Jonathan J. Darrow, *Secondary Considerations: A Structured Framework for Patent Analysis*, 74 ALB. L. REV. 47, 51 (2011).

attributes. This Section examines some of these attributes and presents how courts apply § 103 to the chemical arts.

1. *Particularities of Chemical and Pharmaceutical Inventions*

First, the lengthy and costly drug development process increases the importance of patents to the pharmaceutical industry. Drug development is the process of taking a candidate drug from identification to marketing approval by the United States Food and Drug Administration (FDA).³⁶ On average, the development of an approved drug takes ten to fifteen years and costs \$1.5 billion.³⁷ Pharmaceutical companies depend on patents for a period of market exclusivity during which they can recoup their investment.³⁸ Therefore, securing a patent for a pharmaceutical or chemical invention is even more important than it is in most other industries.

At the same time, overcoming nonobviousness is particularly difficult for pharmaceutical and chemical inventions.³⁹ This is because in those fields, innovation often begins with modifying known compounds by trial and error and then testing the products until one with the desired properties is obtained.⁴⁰ Small changes at the molecular level can yield significantly different products.⁴¹ This process is unlike what happens in the mechanical arts, which tend to include less micro-scale modification of existing devices. Consequently, pharmaceutical and chemical inventions are highly susceptible to a finding of obviousness-to-try.⁴²

2. *Nonobviousness Analysis for Chemical and Pharmaceutical Inventions*

Presently, courts assess the obviousness of chemical compounds by focusing on the identification of a lead compound, which is a compound in the prior art that would be “a natural choice for further development

36. See, e.g., Henry Grabowski, *Patents, Innovation, and Access to New Pharmaceuticals*, 5 J. INT'L ECON. L. 849, 851 (2002).

37. See Michael Enzo Furrow, *Pharmaceutical Patent Life-Cycle Management After KSR v. Teleflex*, 63 FOOD & DRUG L.J. 275, 278, 283 (2008).

38. *Id.* at 278.

39. See Kristen C. Buteau, *Deuterated Drugs: Unexpectedly Nonobvious?* 10 J. HIGH TECH. L. 22, 23 (2009).

40. *Id.*

41. See Andrew V. Trask, “*Obvious-to-try.*” *A Proper Patentability Standard in the Pharmaceutical Arts?*, 76 FORDHAM L. REV. 2625, 2626 (2008) (using the thalidomide story to illustrate how chemically identical but spatially different molecules can have drastically different biological effects).

42. See Jonathan M. Spenner, *Obvious-to-Try Obviousness of Chemical Enantiomers in View of Pre- and Post-KSR Analysis*, 90 J. PAT. & TRADEMARK OFF. SOC'Y. 475, 477 (2008).

efforts.”⁴³ This Section examines the § 103 test for chemical inventions and introduces two principles of nonobviousness, “obvious-to-try” and “teaching away.”

To carry out a lead compound analysis (LCA), the nonobviousness test for chemical compounds, a court must determine:

- (a) Whether an artisan of ordinary skill would have selected the asserted prior art as starting point or lead compound;⁴⁴
- (b) Whether the prior art would have provided the PHOSITA with the motivation to alter the lead compound to obtain the claimed compound;⁴⁵ and
- (c) Whether the PHOSITA would have had a reasonable expectation of success in making the invention.⁴⁶

Over the years, the Federal Circuit’s decisions have provided practical guidelines for conducting a lead compound analysis. For instance, the selection of a lead compound must be based upon the compound’s pertinent properties such as activity, potency, and toxicity.⁴⁷ In general, a compound with better activity than the other candidates will likely be the choice.⁴⁸ Additionally, a small and finite number of lead compounds can be advantageous in convincing a court that a PHOSITA would have selected a certain lead compound.⁴⁹

Once a lead compound has been established, the party contending that the patent is obvious can prove motivation to modify this compound through explicit references in the prior art.⁵⁰ In the absence of a specific teaching, courts can find a motivation to alter the lead compound by looking at the prior art as a whole.⁵¹

43. *Altana Pharma AG v. Teva Pharms. USA, Inc.*, 566 F.3d 999, 1008 (Fed. Cir. 2009).

44. *Takeda Chem. Indus., Ltd. v. Alphapharm Pty., Ltd.*, 492 F.3d 1350, 1357 (Fed. Cir. 2007).

45. *Id.*

46. *Id.*

47. *Otsuka Pharm. Co., Ltd. v. Sandoz, Inc.*, 678 F.3d 1280, 1292 (Fed. Cir. 2012).

48. *See Takeda*, 492 F.3d at 1357; *see also Altana*, 566 F.3d at 1008 (finding that a disclosed compound, compound 12, was the clear choice for further development because it had a higher potency than any of the other compounds, and even though there were concerns about its toxicity).

49. *Ortho-McNeil Pharm. Inc. v. Mylan Lab., Inc.*, 520 F.3d 1358, 1364 (Fed. Cir. 2009).

50. *Altana*, 566 F.3d at 1008.

51. *Pfizer, Inc. v. Apotex, Inc.*, 480 F.3d 1348, 1352 (Fed. Cir. 2007).

Finally, the patent challenger must show that “as of the date of the invention,” a PHOSITA would have had a reasonable expectation of success in modifying the lead compound.⁵² This is the third prong of the *prima facie* obviousness inquiry for chemical compounds. It has been recognized for a long time and occupies the middle ground between “absolute predictability” and a “general incentive” to pursue a course of research.⁵³

In addition to the LCA, courts sometimes use two principles of nonobviousness: obvious-to-try and teaching away. In *KSR*, the Supreme Court rejected the Federal Circuit’s assertion that “a patent claim cannot be proved obvious merely by showing that the combination of elements was obvious to try.”⁵⁴ An invention would likely be obvious where there was a “design need or market pressure to solve a problem,” and a PHOSITA had a “finite number of identified, predictable solutions” to try.⁵⁵

Additionally, the Federal Circuit has extensively used the principle of “teaching away.” According to this rationale, an invention may be nonobvious if the prior art discouraged the solution that the inventor chose, or would have led a PHOSITA on a path that conflicts with the one the inventor selected.⁵⁶ The teaching away inquiry is a question of fact.⁵⁷ A reference that is silent and does not “criticize, discredit, or otherwise discourage” the invention claimed does not teach away.⁵⁸ Additionally, a reference that discloses several alternatives, and even emphasizes that the invention is not the best option, does not teach away unless it specifically discourages the inventor’s choice.⁵⁹ Furthermore, the obviousness inquiry must consider the totality of the prior art. When a single reference teaches away, yet others consistently point to the claimed invention, a finding of nonobviousness is not assured.⁶⁰

52. *Amgen Inc. v. Hoffman–La Roche*, 580 F.3d 1340, 1362 (Fed. Cir. 2009).

53. *See* Trask, *supra* note 41, at 2634–36.

54. *KSR Int’l Co. v. Teleflex, Inc.*, 550 U.S. 398, 402 (2007).

55. *Id.*

56. *United States v. Adams*, 383 U.S. 39, 51 (1966).

57. *Para–Ordnance Mfg., Inc. v. SGS Imps. Int’l, Inc.*, 73 F.3d 1085, 1088 (Fed. Cir. 1995).

58. *DePuy Spine, Inc. v. Medtronic Sofamor Danek, Inc.*, 567 F.3d 1314, 1327 (Fed. Cir. 2009); *see also* *Para–Ordnance Mfg., Inc. v. SGS Imps. Int’l, Inc.*, 73 F.3d 1085, 1090 (Fed. Cir. 1995).

59. *See* *Santarus, Inc. v. Par Pharm., Inc.*, 694 F.3d 1344, 1355–56 (Fed. Cir. 2012) (citing *Syntex (U.S.A.) LLC v. Apotex, Inc.*, 407 F.3d 1371, 1380 (Fed. Cir. 2005) (“A statement that a particular combination is not a preferred embodiment does not teach away absent clear discouragement of that combination.”)).

60. *See* *Medichem, S.A. v. Rolabo, S.L.*, 437 F.3d 1157, 1165–66 (Fed. Cir. 2006).

II. BMS V. TEVA

BMS sued Teva in the United States District Court for the District of Delaware for allegedly infringing its United States Patent No. 5,206,244 (“244 patent”).⁶¹ At trial, Teva challenged the validity of the ’244 patent under § 103.⁶² The district court held that Teva had demonstrated by clear and convincing evidence that the ’244 patent was invalid as obvious under § 103.⁶³ After reviewing the obviousness issue *de novo*, a Federal Circuit panel of three judges affirmed the district court’s finding of invalidity.⁶⁴ The Federal Circuit later denied BMS’s petition for rehearing and rehearing en banc, issuing two concurrences and two dissents.⁶⁵ This Part presents the facts of *BMS v. Teva* and reviews the district court and Federal Circuit rulings.

A. THE FACTS OF *BMS V. TEVA*

In October 1990, BMS applied for the patent at issue, the ’244 patent.⁶⁶ The United States Patent and Trademark Office (USPTO) granted the patent in 1993.⁶⁷ Claim 8 was directed towards Entecavir, a compound developed to treat chronic hepatitis B virus infections.⁶⁸ Entecavir is a nucleoside analog, a compound created to mimic naturally occurring nucleosides that interfere with viral DNA replication.⁶⁹ Specifically, Entecavir is structurally similar to the natural nucleoside deoxyguanosine, with the substitution of an exocyclic methylene group (carbon-carbon double bond) for the oxygen in the five-membered ring (see Figure 1).⁷⁰

At the time of Entecavir’s invention, 2’-CDG, another deoxyguanosine analog, existed in the prior art and was widely regarded as an effective antiviral agent (see Figure 1).⁷¹ In 1989, published findings indicated that 2’-CDG had “excellent” *in vitro* activity against the hepatitis B virus and was effective at *in vitro* concentrations much lower than its toxic level.⁷²

61. *BMS v. Teva*, 923 F. Supp. 2d 602, 608 (D. Del. 2013), *aff’d*, *BMS v. Teva*, *panel decision*, 752 F.3d 967 (Fed. Cir. 2014).

62. *Id.*

63. *Id.*

64. *BMS v. Teva*, *panel decision*, 752 F.3d 967 (Fed. Cir. 2014).

65. *BMS v. Teva*, *per curiam*, 769 F.3d 1339 (Fed. Cir. 2014).

66. U.S. Patent No. 5,206,244 (filed Sep. 20, 1991).

67. *Id.*

68. *BMS v. Teva*, 923 F. Supp. 2d 602, 608 (D. Del. 2013), *aff’d*, *BMS v. Teva*, *panel decision*, 752 F.3d 967 (Fed. Cir. 2014).

69. *Id.* at 611.

70. *Id.* at 620.

71. *Id.* at 618–20.

72. *Id.* at 618.

However, *in vivo* studies conducted in the 1990s, after Entecavir's invention, revealed that 2'-CDG was unsafe in animals.⁷³

In 2005, BMS obtained the FDA's approval to market Entecavir under the trade name Baraclude®.⁷⁴ In June 2010, Teva filed an abbreviated new drug application (ANDA) to market a generic version of Baraclude®.⁷⁵ The ANDA contained a Paragraph IV certification asserting that the '244 patent was invalid or unenforceable, and/or Teva's manufacture, use, or sale of Entecavir tablets would not infringe the '244 patent.⁷⁶ BMS then initiated a patent infringement suit against Teva in the United States District Court for the District of Delaware.⁷⁷

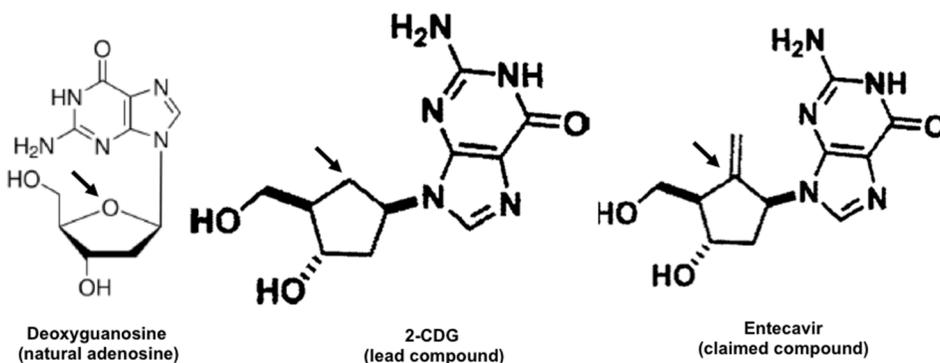


Figure 1: Molecular Structures of deoxyguanosine, 2'-CDG, and Entecavir: the arrows indicate the differences in molecular structure between the three compounds.

B. THE DISTRICT COURT DECISION

The district court held that Teva had demonstrated by clear and convincing evidence that the '244 patent was invalid as obvious under § 103.⁷⁸ The court assessed Teva's *prima facie* case of obviousness and then evaluated objective considerations of nonobviousness.⁷⁹ It found a strong *prima facie* case because a PHOSITA would have found the selection of 2'-CDG as lead compound obvious and would have had a motivation to

73. *Id.* at 608.

74. *Id.*

75. *Id.*

76. *Id.*

77. *Id.*

78. *Id.* This Note does not discuss BMS's alleged inequitable conduct before the Patent and Trademark Office (PTO). The district court found that Teva had not met its burden of proof with regard to inequitable conduct, and the matter was not raised on appeal.

79. *Id.* at 686–87.

alter 2'-CDG to make Entecavir with a reasonable expectation of success.⁸⁰ Conversely, the court decided that evidence of secondary considerations (unexpected results, commercial success, and long-felt need) was not compelling.⁸¹ Consequently, in light of Teva's persuasive and un rebutted prima facie arguments, the court held that claim 8 was invalid as obvious.⁸²

C. THE FEDERAL CIRCUIT DECISION

On appeal, the Federal Circuit issued opinions about *BMS v. Teva* on two occasions. First, a three-judges panel affirmed the trial court's finding of invalidity due to obviousness. Second, in the denial of BMS's petition for rehearing and rehearing en banc, the court released two concurrences and two dissents.

1. Decision of the Three-Judge Panel

BMS appealed the district court's decision of invalidity to the Federal Circuit.⁸³ First, because 2'-CDG was discovered to be toxic after Entecavir's invention, BMS contested the lower court's finding that a PHOSITA would have selected 2'-CDG as lead compound and modified it to obtain Entecavir with a reasonable expectation of success.⁸⁴ Second, BMS contended that the district court had erred by holding Entecavir obvious in spite of evidence of unexpected results.⁸⁵ After reviewing the obviousness issue *de novo*, a panel of three judges affirmed the district court's ruling.⁸⁶

With regard to BMS's first challenge, the judges found that since 2'-CDG's high toxicity was still unknown at the time of Entecavir's invention, researchers commonly used 2'-CDG as lead compound.⁸⁷ Given 2'-CDG's established antiviral properties and the pronounced structural similarities between 2'-CDG and Entecavir, the panel concluded that, at the time of the invention, a PHOSITA would have selected 2'-CDG and

80. *Id.* at 654–74. The court found that at the time of Entecavir's invention, the prior art taught the selection of 2'-CDG as a lead compound with antiviral activity, and given the structural similarity between 2'-CDG and Entecavir, a skilled chemist would have had a reason to modify 2'-CDG to yield Entecavir with a reasonable expectation of success of creating an antiviral compound.

81. *Id.* at 686. In assessing the presence of unexpected results as an objective index of nonobviousness, the court found that some of Entecavir's attributes (high potency, large therapeutic window) were predictable at the time of its invention, whereas its high genetic barrier to resistance was unexpected.

82. *Id.*

83. *BMS v. Teva, panel decision*, 752 F.3d 967 (Fed. Cir. 2014).

84. *Id.*

85. *Id.*

86. *Id.*

87. *Id.* at 974.

modified its structure by making “small conservative changes” to obtain Entecavir, with a reasonable expectation of success.⁸⁸

Additionally, on the issue of unexpected results, the panel contrasted a difference “in degree,” which is that of a known and expected property, to a difference “in kind,” which is a new attribute unlike the known attribute.⁸⁹ The court found that Entecavir’s only unexpected property, a high genetic barrier to resistance,⁹⁰ did not *per se* defeat an established motivation to modify 2'-CDG to yield expected beneficial antiviral activity.⁹¹ Therefore, the panel upheld the trial court’s finding of invalidity due to obviousness.⁹²

2. *Opinions from the Denial for Rehearing and Rehearing En Banc*

BMS further filed a petition for rehearing and rehearing en banc, which the court denied in October 2014 while issuing two concurrences and two dissents.⁹³ BMS and the amici raised two issues in their petition: (1) whether post-invention differences between the prior art and the claimed compound could be used to rebut a *prima facie* case of obviousness;⁹⁴ and (2) whether the panel had reduced the importance of unexpected results by distinguishing “differences in kind” from “differences in degree.”⁹⁵ BMS and the amici expressed concerns that the panel’s ruling would unduly bar evidence of unexpected results in the pharmaceutical context, even though it is common practice in the industry to conduct experiments after filing a patent application.⁹⁶ Furthermore, BMS and the amici argued that the distinction between difference “in degree” and “in kind” was unwarranted

88. *Id.* at 975–76.

89. *Id.* at 977–78.

90. *Id.* at 978. A genetic barrier is the number of mutations before resistance to the drug occurs, leading to decreased efficacy.

91. *Id.* at 976 (reiterating the court’s finding in *In re Dillon*, 919 F.2d 688, 692 (Fed. Cir. 1990) that “an unexpected result or property does not by itself support a finding of nonobviousness”).

92. *Id.*

93. *BMS v. Teva, per curiam*, 769 F.3d 1339, 1341 (Fed. Cir. 2014). BMS’s petition was filed along with amicus briefs from the Biotechnology Industry Organization, the Bay Area Bioscience Association, Pfizer Inc., Eli Lilly & Co., the Pharmaceutical Research and Manufacturers of America, the Intellectual Property Owners Association, and Merck Sharp & Dohme Corp.

94. *Id.* at 1342.

95. *Id.* at 1344.

96. Dennis Crouch, *Proving Non-Obviousness with Ex-Post Experimental Evidence?* PATENTLYO (Oct. 21, 2014), <http://patentlyo.com/patent/2014/10/obviousness-experimental-evidence.html> [<https://perma.cc/HU7L-XSU2>] (last visited Feb. 15, 2016).

because the extent “to which a drug is safe and effective is measured as success and failure in the pharmaceutical industry.”⁹⁷

First, the circuit judges who issued concurring and dissenting opinions appeared sharply divided on the criteria for using post-invention data in the obviousness analysis.⁹⁸ Judge Dyk, in the first concurring opinion to the denial of rehearing, strongly opposed considering Entecavir’s safety—relative to the later-found evidence of 2’-CDG’s toxicity—an unexpected result.⁹⁹ Judge Dyk cited, among other precedential cases, his dissent in *Genetics Institute LLC v. Novartis Vaccines and Diagnostics, Inc.*, where he stated that an unexpected result had to be “either contained in the specification or contemporaneously known to the inventors.”¹⁰⁰ In contrast, Judge O’Malley (concurring) and Judge Newman (dissenting) both cited to the majority opinion in *Novartis*, declaring that case law clearly permits the consideration of later-discovered differences between the prior art and the invention as evidence of unexpected results.¹⁰¹ Importantly, Judge O’Malley sought to alleviate the concern BMS and amici expressed, that the panel’s decision had dramatically changed the obviousness standard for pharmaceutical cases.¹⁰² Nonetheless, Judge O’Malley emphasized that while judicial precedent permits later-discovered differences between the prior art and the invention to prove *unexpected results*, such post-invention evidence is not necessarily sufficient to rebut the prima facie case of obviousness.¹⁰³ Consequently, the concurrence concluded that the circumstances of the case did not support BMS’s argument that post-invention differences between 2’-CDG and Entecavir would have eliminated a PHOSITA’s reasonable expectation of success at the time of Entecavir’s invention.¹⁰⁴

97. *Id.*; see also Brief of Amicus Curiae Bay Area Bioscience Association in Support of Petitioner at 10, *BMS v. Teva*, per curiam, 769 F.3d 1339 (Fed. Cir. 2014) (No. 14-886), 2015 WL 763993.

98. See *BMS v. Teva*, per curiam, 769 F.3d at 1341.

99. See *id.*

100. *Genetics Inst., LLC v. Novartis Vaccines & Diagnostics, Inc.*, 655 F.3d 1291, 1317–18 (Fed. Cir. 2011).

101. See *BMS v. Teva*, per curiam, 769 F.3d at 1342, 1348 (Fed. Cir. 2014).

102. *Id.* at 1342.

103. *Id.* at 1343.

104. *Id.* at 1344. In her dissenting opinion, Judge Newman was silent on BMS’s contention that the post-invention differences in toxicity between Entecavir and 2’-CDG would have changed a PHOSITA’s choice of lead compound and altered his motivation to create Entecavir from 2’-CDG with a reasonable expectation of success. Judge Newman argued instead, as conceded by Judge O’Malley, that post-invention differences between the prior art and the invention could be used to prove unexpected results.

Second, the circuit judges had conflicting opinions on the panel's use of differences "in kind" versus those "in degree" while assessing unexpected results. Judge O'Malley's concurrence discounted the distinction as nothing more than an illustration of how one can assess unexpected properties.¹⁰⁵ In contrast, Judge Newman argued that the difference between toxic 2'-CDG (in mammals) and safe Entecavir (in humans) was not merely one in degree.¹⁰⁶

Finally, Judge Taranto's dissent was atypical in that it pointed out that the panel's ruling upset the meaning of expressions such as "reasonable expectation of success" and "unexpected results."¹⁰⁷ He urged for a comprehensive analysis of the doctrinal issues "that may bear on assessing the real-world consequences of one answer or another in an industry where research is especially expensive and uncertain."¹⁰⁸

III. ANALYSIS OF THE FEDERAL CIRCUIT'S DECISION IN *BMS V. TEVA*

In *BMS v. Teva* the Federal Circuit answered, albeit in a confusing way, two questions related to unexpected results: whether patentees could use later-discovered information to establish unexpected results, and what types of differences between the prior art and the claimed invention qualify as "unexpected results." However, the court failed to articulate a practical test for "reasonable expectation of success," one that would account for the PHOSITA's perspective in the narrow field to which the invention pertains.

A. *BMS V. TEVA* DOES NOT CHANGE THE STANDARD FOR THE ADMISSIBILITY OF POST-FILING EVIDENCE OF UNEXPECTED RESULTS

The concern BMS and the amici expressed that the outcome here created a new standard for unexpected results was unsubstantiated because the decision followed Federal Circuit precedent.¹⁰⁹ Nevertheless, the circuit

105. *Id.* at 1345.

106. *Id.* at 1352.

107. *Id.* at 1353.

108. *Id.* at 1354.

109. *BMS v. Teva, per curiam*, 769 F.3d 1339, 1342–43 (Fed. Cir. 2014) (O'Malley, J.) (stating that "[o]ur case law clearly allows the consideration of later-discovered differences between the prior art and the invention"). Precedent where courts consider post-invention differences between the prior art and the invention when evaluating unexpected results includes: *Genetics Inst., LLC v. Novartis Vaccines & Diagnostics, Inc.*, 655 F.3d 1291, 1317–18 (Fed. Cir. 2011); *Leo Pharm. Prod., Ltd. v. Rea*, 726 F.3d 1346, 1358 (Fed. Cir.

judges issued concurrences and dissents to the court's denial of rehearing, which taken together seemed to obscure the standard for resolving future cases.¹¹⁰ This Section begins by reviewing two precedential cases where the Federal Circuit credited post-filing differences between the prior art and the invention—arising specifically from newly uncovered facts about the prior art compound—as unexpected results.¹¹¹ Next, it examines why the pharmaceutical industry thought that the *BMS v. Teva* ruling endangered the future admissibility of post-invention data.

Novartis is the first of the two cases where the Federal Circuit accepted post-filing data about the prior art's shortcomings and credited the differences between the prior art and the claimed compound as unexpected results.¹¹² There, the court held that Novartis' recombinant protein had a structure that conferred unexpected binding ability, even though the importance of these structural features for binding and their absence from Genetics's prior art protein were not appreciated at the time of Novartis's invention.¹¹³ Both patents were directed to a truncated form of Factor VIII, which is a blood-clotting protein that circulates in the blood in an inactive form and resists degradation by binding to a large protein called von Willebrand factor (vWF).¹¹⁴ However, Genetics's protein lacked, and Novartis's protein had, structural portions of Factor VIII that were revealed,

2013); *Sanofi-Aventis Deutschland GmbH v. Glenmark Pharm., Inc.*, 748 F.3d 1354, 1360 (Fed. Cir. 2014); *Knoll Pharm. Co. v. Teva Pharm. USA, Inc.*, 367 F.3d 1381, 1385 (Fed. Cir. 2004). The court does distinguish whether the differences between the prior art and the invention are the result of later-discovered properties of the prior art or those of the invention. *See BMS v. Teva, per curiam*, 769 F.3d at 1344 (O'Malley, J.) (stating that “[t]he panel’s decision to affirm the district court’s findings does not foreclose the possibility that post-invention evidence regarding the properties of either the invention or the prior art might be persuasive in the appropriate case”).

110. *BMS v. Teva, per curiam*, 769 F.3d at 1353 (Taranto, J.) (stating that “in affirming invalidity for obviousness on the recited facts, [the panel] may have dismissed postfiling discoveries of prior-art compounds’ true properties as categorically irrelevant to the statutory inquiry . . . or it may have merely rejected the particular postfiling evidence here as insufficient”).

111. This Note specifically highlighted cases that addressed later-discovered deficiency of the prior art compound because, as Judge Taranto remarked, the panel’s decision might be misunderstood as narrowly rejecting post-invention data about the prior art compound’s true properties. *Id.*

112. *Genetics Inst., LLC v. Novartis Vaccines & Diagnostics, Inc.*, 655 F.3d 1291, 1295 (Fed. Cir. 2011).

113. *Id.* at 1307–08. The majority in *Novartis* addressed Judge Dyk’s dissent arguments by emphasizing that “[a]lthough the § 103 analysis remains properly focused ‘at the time the invention was made,’ it would be error to prohibit a patent applicant or patentee from presenting relevant indicia of nonobviousness, whether or not this evidence was available or expressly contemplated at the filing of the patent application.” *Id.*

114. *Novartis*, 655 F.3d at 1295.

post-filing, to be critical for the protein's blood-clotting activity by virtue of its ability to bind vWF.¹¹⁵ Genetics sued Novartis, asserting that the latter's claims were obvious in view of Genetics's patent.¹¹⁶ The Federal Circuit affirmed the district court's finding that Novartis's claims were not prima facie obvious because the proteins claimed were structurally different from those in the prior art, and because Genetics had failed to establish a motivation for modifying the proteins to achieve Novartis's invention.¹¹⁷ Additionally, the court agreed with the district court that the ability of Novartis's proteins to bind vWF was evidence of unexpected results, even if the importance of the binding region was not appreciated at the time of invention.¹¹⁸ Consequently, the court held Novartis's claim nonobvious.¹¹⁹

Similarly, in *Leo Pharmaceutical Products, Ltd. v. Rea*, the Federal Circuit held that post-invention evidence that the prior art formulations caused significant degradation of the active ingredients was a "strong indication" that the new pharmaceutical composition was unexpected.¹²⁰ There, Galderma R&D challenged Leo Pharmaceuticals Products's ("Leo") patent, which taught the treatment of psoriasis using a storage-stable combination of vitamin D and corticosteroids in one formulation.¹²¹ Although similar combination treatments existed in the prior art, none had confronted or solved the stability problems associated with combining vitamin D analogs and corticosteroids in a single formulation.¹²² Leo's inventors recognized the storage stability problem and, after extensive testing of solvents taught by the prior art, discovered one, polyoxypropylene 15 stearyl ether ("POP-15-SE"), which enabled a storage stable combination of a vitamin D analog and a corticosteroid.¹²³ The Board of Patent Appeals and Interferences found that Leo's improved formulation was not unexpected to a PHOSITA because one reference provided a motivation to use POP-15-SE as a

115. *Id.* at 1302.

116. *Id.* at 1302.

117. *Id.* at 1304.

118. *Id.* at 1307–08. The majority in *Novartis* addressed Judge Dyk's dissent arguments by emphasizing that "[a]lthough the § 103 analysis remains properly focused 'at the time the invention was made,' it would be error to prohibit a patent applicant or patentee from presenting relevant indicia of nonobviousness, whether or not this evidence was available or expressly contemplated at the filing of the patent application." *Id.*

119. *Id.*

120. *Leo Pharm. Prod., Ltd. v. Rea*, 726 F.3d 1346, 1358 (Fed. Cir. 2013).

121. *Id.* at 1349.

122. *Id.* Vitamin D analogs are best stored in basic environments with a pH above eight, while corticosteroids are most stable in acidic milieu where the pH is between four and six.

123. *Id.*

solvent.¹²⁴ The Federal Circuit reversed the Board's ruling, holding that evidence submitted during reexamination, proving that the prior art formulations resulted in "significant degradation of the vitamin D analog and corticosteroid," supported a finding of unexpected results.¹²⁵ Therefore, as *Novartis* and *Leo* demonstrate, the Federal Circuit accepts post-invention differences between the prior art and the claimed compound when evaluating unexpected results, even when such differences merely stem from newly revealed deficiencies in the prior art.

Like in *Novartis* and *Leo*, where post-filing experimentation revealed crucial deficiencies in the prior art, thereby amplifying the difference between the prior art and the claimed invention, knowledge of 2'-CDG's toxicity magnified Entecavir's safety. In *Novartis*, Novartis capitalized on such a difference to successfully argue for a finding of unexpected results.¹²⁶ In contrast, in *BMS v. Teva*, BMS presented evidence of Entecavir's unexpected properties "almost as an afterthought."¹²⁷ BMS instead concentrated on the choice of 2'-CDG as lead compound, arguing that in view of 2'-CDG's later-found toxicity, a PHOSITA would not have selected the compound as starting point or had a motivation to modify it with a reasonable expectation of obtaining Entecavir.¹²⁸ In so doing, BMS focused on the wrong parts of the obviousness analysis: the lead compound selection, the motivation of the PHOSITA, and the reasonable expectation of success are all fixed at the time of the invention, whereas unexpected results can be supported by post-invention evidence. Therefore, the later-acquired evidence of 2'-CDG's toxicity could be used to rebut the prima facie case of obviousness, but not to avoid a finding of prima facie obviousness in the first place.

Along the same lines, Judge Taranto noted that the panel's decision could elicit two interpretations: (1) post-invention data of the prior art's true properties is not relevant to the obviousness analysis; or (2) the particular evidence in this case, 2'-CDG's toxicity, was insufficient to overcome a strong prima facie case of obviousness.¹²⁹ Precedent (*Novartis* and *Leo*) refutes the first interpretation. By default, and as Judge O'Malley stated, the second interpretation is what the panel intended.¹³⁰ However, the court's

124. *Id.* at 1352.

125. *Id.* at 1349, 1354.

126. *Genetics Inst., LLC v. Novartis Vaccines & Diagnostics, Inc.*, 655 F.3d 1291, 1307–08 (Fed. Cir. 2011).

127. *BMS v. Teva, per curiam*, 769 F.3d 1339, 1346 (Fed. Cir. 2014).

128. *BMS v. Teva, panel decision*, 752 F.3d at 974.

129. *BMS v. Teva, per curiam*, 769 F.3d at 1353.

130. *Id.* at 1343.

lack of justification for rejecting BMS's post-filing evidence, other than timing, likely explains the concern expressed by BMS and the amici.¹³¹

Furthermore, the industry's perception of *BMS v. Teva* might come from the underlying tension between obvious-to-try and unexpected results, which was addressed there with much disarray. Professor Mark Lemley has written about the conflict between obvious-to-try and unexpected results in the chemical arts.¹³² He pointed out that post-*KSR*, courts have grappled to resolve the tension between obvious-to-try and unexpected results.¹³³ He remarked that when, as in *BMS v. Teva*, the prior art's shortcoming was unknown at the time the patent was filed, and a PHOSITA would be motivated to make simple changes to the prior art to arrive at the invention, unpredictable results do not make the invention nonobvious.¹³⁴ *Leo* supports Professor Lemley's thesis. The factual elements of *Leo* differ from those of *BMS v. Teva* in a significant way. Unlike *Leo*, who recognized the storage stability problem and sought to solve it with its pharmaceutical formulation, BMS had no pre-invention knowledge of 2'-CDG's *in vivo* toxicity.¹³⁵ This distinction means that *Leo*'s invention was not obvious-to-try to a PHOSITA, "who would not have thought to try at all because they would not have recognized the problem."¹³⁶ In contrast, BMS had little chance of proving, based on the record, that it had not merely followed a "finite number of identified, predictable solutions," including the pre-1990s knowledge of 2'-CDG's *non-toxicity*, to make Entecavir.¹³⁷ Therefore, under Professor Lemley's rationale, Entecavir's obviousness-to-try and the pre-filing knowledge of 2'-CDG's non-toxicity rendered all future evidence of unexpected results moot.¹³⁸ However, it is apparent from the judges' concurrences and dissents that the court did not want to offer a bright-line rule, choosing instead to limit the decision to the "circumstances of this case."¹³⁹ Additionally, the court indicated that although BMS waived the argument here, evidence of 2'-CDG's toxicity could have made the claims

131. *Id.* at 1353.

132. See Mark A. Lemley, *Expecting the Unexpected* (unpublished manuscript) (on file with author).

133. See *id.* at 14.

134. *Id.*

135. *BMS v. Teva*, panel decision, 752 F.3d at 974.

136. See *Leo Pharm. Prod., Ltd. v. Rea*, 726 F.3d 1346, 1357 (Fed. Cir. 2013).

137. See *id.*

138. *But cf.* Scott R. Conley, *Irrational Behavior, Hindsight, and Patentability: Balancing the "Obvious to Try" Test with Unexpected Results*, 51 IDEA 271, 306 (2011) (proposing that "unexpectedly superior results should always rebut a *prima facie* obviousness determination under the 'obvious to try' test").

139. See *BMS v. Teva*, *per curiam*, 769 F.3d 1339, 1341 (Fed. Cir. 2014).

of reasonable expectation of success “less credible.”¹⁴⁰ Further, Judge Taranto emphasized the important role that reasonable expectation of success should play in the obviousness inquiry, as discussed further in Section IV.A below.¹⁴¹ Therefore, the *BMS v. Teva* ruling was very fact-specific, and larger questions such as the meaning of “unexpected results” and “reasonable expectation of success” remained unresolved, likely contributing to the pharmaceutical industry’s malaise.

B. *BMS v. TEVA* AFFIRMS THAT THE FEDERAL CIRCUIT DISTINGUISHES BETWEEN DIFFERENCES IN KIND AND THOSE IN DEGREE IN ITS ASSESSMENT OF UNEXPECTED RESULTS

BMS v. Teva highlights that the Federal Circuit views evidence of unexpected results as either “differences in kind” or “differences in degree” between the prior art and the invention.¹⁴² The *BMS v. Teva* panel declared that “‘differences in degree’ of a known and expected property [were] not as persuasive in rebutting obviousness as differences in ‘kind’—i.e., a new property dissimilar to the known property.”¹⁴³ Using this standard, the court rejected BMS’s claims of unexpected properties with regard to high potency against hepatitis B and larger than expected therapeutic window because the results were expected in view of 2’-CDG’s properties and structural similarity to Entecavir.¹⁴⁴ However, Judge Newman’s dissent to the denial of rehearing en banc argued that precedent going as far back as the Court of Customs and Patent Appeals (CCPA) had found an unexpected improvement in physiological activity probative of nonobviousness.¹⁴⁵ The dissent explained that while there was no conspicuous point at which “an obvious difference in degree [became] an unobvious difference in kind,” consideration of the subject matter was important.¹⁴⁶ Using this rationale, it argued that the difference between 2’-CDG’s toxicity in mammals and Entecavir’s safety in humans qualified as more than “a mere difference in degree.”¹⁴⁷

140. *See id.* at 1343–44 (O’Malley, J.) (stating that *BMS v. Teva* “[did] not foreclose the possibility that post-invention evidence regarding the properties of either the invention or the prior art might be persuasive in the appropriate case”).

141. *See id.* at 1355–56.

142. *BMS v. Teva*, panel decision, 752 F.3d at 977.

143. *Id.* (using the definition of “difference in degree” from *In re Papesch*, 315 F.2d 381, 392 (C.C.P.A. 1963)).

144. *Id.* at 977–78.

145. *BMS v. Teva*, per curiam, 769 F.3d 1339, 1351 (Fed. Cir. 2014).

146. *Id.* at 1352.

147. *Id.*

Because a finding of unexpected results has the potential to obviate a ruling of obviousness over the prior art, this Note seeks to determine, by reviewing fifteen cases that invoked unexpected results, whether certain factors were likely to yield a difference in kind versus one in degree.¹⁴⁸ In addition, this Note analyzes those factors' probativeness of nonobviousness¹⁴⁹ by selecting cases that were decided post-*KSR* and which span the period from 2007 to 2015. Two-thirds of the selected cases have been appealed to the Supreme Court and denied certiorari. The remaining cases have been highlighted as important in a treatise or a law review article. The selected cases includes decisions about patents directed to drug substances (two), pharmaceutical formulations (ten), combination compositions (three) and a stereoisomer (one). The Appendix shows a summary of the findings.

Several trends emerge from the review. First, the prior art that taught away from the invention was a predictor of the type of differences that the court would credit as unexpected results probative of nonobviousness.¹⁵⁰ Second, for new chemical entities, differences in degree of safety (fewer side effects) led to a finding of nonobviousness.¹⁵¹ Third, for formulations, differences in degree and those in kind could yield to a finding of obviousness or nonobviousness. Interestingly, the notable delineation between obviousness and nonobviousness appeared to be teaching away. Fourth, for combination treatments, differences in degree led to a finding of obviousness, while a difference in kind resulted in a finding of

148. See *BMS v. Teva, panel decision*, 752 F.3d 967; *Takeda Chem. Indus., Ltd. v. Alphapharm Pty., Ltd.*, 492 F.3d 1350, 1357 (Fed. Cir. 2007); *In re Rosuvastatin Calcium Patent Litig.*, 703 F.3d 511 (Fed. Cir. 2012); *Hoffman-La-Roche, Inc. v. Apotex, Inc.*, 748 F.3d 1326 (Fed. Cir. 2014); *Allergan, Inc. v. Apotex, Inc.*, 754 F.3d 952 (Fed. Cir. 2014); *Galderma Labs., L.P. v. Tolmar, Inc.*, 737 F.3d 731 (Fed. Cir. 2013); *Allergan, Inc. v. Sandoz, Inc.*, 796 F.3d 1293 (Fed. Cir. 2015); *Unigene Labs., Inc. v. Apotex, Inc.*, 655 F.3d 1352 (Fed. Cir. 2011); *In re Cyclobenzaprine Hydrochloride Extended Release Capsule Patent Litig.*, 676 F.3d 1063 (Fed. Cir. 2012); *Cadence Pharms., Inc. v. Exela PharmSci, Inc.*, 780 F.3d 1364 (Fed. Cir. 2015); *Insite Vision, Inc. v. Sandoz, Inc.*, 783 F.3d 853 (Fed. Cir. 2014); *Novo Nordisk A/S v. Caraco Pharm. Labs., Ltd.*, 719 F.3d 1346 (Fed. Cir. 2013); *Allergan, Inc. v. Sandoz, Inc.*, 726 F.3d 1286 (Fed. Cir. 2013); *Leo Pharm. Prod., Ltd. v. Rea*, 726 F.3d 1346 (Fed. Cir. 2013); *Sanofi-Synthelabo v. Apotex, Inc.*, 550 F.3d 1075 (Fed. Cir. 2008).

149. *Id.*

150. In five of the fifteen cases, the court held that the claimed invention was obvious over the prior art. See Appendix. Interestingly, in four of those five cases, the court did not find any evidence that the prior art taught away from the invention. *Id.* Conversely, in eight of the ten cases with a ruling of nonobviousness, the court found or affirmed the district court's judgment that the prior art taught away from the invention. *Id.*

151. See *Takeda*, 492 F.3d 1350; see also *In re Rosuvastatin*, 703 F.3d 511.

nonobviousness. The review suggests that prior art that teaches away from the invention rather than differences in kind or degree is predictive of nonobviousness.

Additionally, the review suggests that the court sometimes credits as unexpected results differences in degree between the prior art and the claimed compound that are statistically significant, quantifiable, or numerically substantial. For example, in *Senju Pharmaceutical Co. v. Lupin Ltd.*, the court found that the claimed benefits of a patented formulation were not statistically significant from those of the prior art, and hence, were obvious.¹⁵² In contrast, in *Cadence Pharmaceuticals, Inc. v. Exela PharmSci, Inc.*, the court found that a method produced unexpected results because it yielded pharmaceutical formulations that remained stable for two years, compared to those of the prior art, which only lasted several months.¹⁵³ Similarly, the court in *Insite Vision, Inc. v. Sandoz, Inc.* found that a sixty-fold increase in the concentration of the active ingredient when administered topically compared to orally constituted unexpected results.¹⁵⁴ Finally, the *Galderma* court stated that differences in percentages are differences in degree rather than kind, “where the modification of the percentage is within the capabilities of one skilled in the art at the time.”¹⁵⁵

Applying our findings to *BMS v. Teva*, we determine that the panel correctly found that Entecavir’s enhanced potency and larger than expected therapeutic window were expected properties, which only differed in degree from those of 2’-CDG.¹⁵⁶ Rather than teaching away from Entecavir, the prior art as a whole guided a PHOSITA towards the selection of 2’-CDG and its modification to yield a compound with equal or better features.¹⁵⁷ There is no indication that the court attempted, like in *Senju*, to weigh the statistical significance of the differences between Entecavir and 2’-CDG.¹⁵⁸ It simply affirmed the district court’s finding that high potency and a large therapeutic window were expected properties that were not on a spectrum of unexpectedness like the property at issue in *Cadence*.¹⁵⁹ In contrast, the court rightly credited Entecavir’s high genetic barrier to resistance as an

152. *Senju Pharm. Co. v. Lupin Ltd.*, 780 F.3d 1337, 1353 (Fed. Cir. 2015).

153. *Cadence*, 780 F.3d at 1376.

154. *Insite*, 783 F.3d. 853.

155. *Galderma Labs., L.P. v. Tolmar, Inc.*, 737 F.3d 731, 739 (Fed. Cir. 2013).

156. *BMS v. Teva, panel decision*, 752 F.3d at 977–78.

157. *Id.* at 975–76.

158. *See Senju Pharm. Co. v. Lupin Ltd.*, 780 F.3d 1337, 1350–51 (Fed. Cir. 2015).

159. *Cadence Pharms., Inc. v. Exela PharmSci, Inc.*, 780 F.3d 1364, 1376 (Fed. Cir. 2015).

unexpected result.¹⁶⁰ Therefore, the court concluded that there was not sufficient evidence of unexpected results to rebut a prima facie case of obviousness.

Lastly, with regard to other secondary objectives of nonobviousness, BMS's evidence of long-felt need and commercial success was not very robust. The court highlighted in *Leo* that the time gap between the prior art's teaching of the components and the eventual preparation of a successful composition "speaks volumes to the nonobviousness" of the patent.¹⁶¹ In contrast, the *BMS v. Teva* court agreed with the district court that evidence of long-felt need was "of limited value to BMS."¹⁶² The plaintiffs in *In re Rosuvastatin* emphasized the unpredictability that pervaded the field of statin development at the time of the invention, highlighting that at least five companies had abandoned their research efforts.¹⁶³ Here, BMS could not successfully claim the same, given the multiple researchers who used 2'-CDG as lead compound before Entecavir's invention, and the existence—before Entecavir's invention and FDA approval—of three other drugs for treating hepatitis B.¹⁶⁴ Therefore, although BMS protested the court's use of difference "in kind" or "in degree," the ruling was based on precedent.

In view of Federal Circuit precedent, this Note presents a few practical lessons derived from the review of several cases about unexpected results. First, given that evidence of teaching away can rebut a prima facie case of obviousness, patentees must dutifully catalog prior art that teaches away from the invention during research and development. In addition, they must emphasize, when possible, quantitative and statistically significant differences between the prior art and the claimed invention.

IV. *BMS V. TEVA'S* CAUTIONARY TALE AND ITS IMPLICATIONS

Although *BMS v. Teva* received considerable attention for the court's perceived curtailment of the types of post-filing evidence that patent applicants could use to prove nonobviousness, a more important aspect of the opinion concerns what the Federal Circuit failed to do: clarify the application of reasonable expectation of success.

160. *BMS v. Teva, panel decision*, 752 F.3d at 977–78.

161. *Leo Pharm. Prod., Ltd. v. Rea*, 726 F.3d 1346, 1359 (Fed. Cir. 2013).

162. *BMS v. Teva, panel decision*, 752 F.3d at 979.

163. *In re Rosuvastatin Calcium Patent Litig.*, 703 F.3d 511, 517 (Fed. Cir. 2012).

164. *BMS v. Teva, panel decision*, 752 F.3d at 978–79.

A. *BMS v. TEVA* OVERLOOKED THE MISGUIDED APPLICATION OF REASONABLE EXPECTATION OF SUCCESS

BMS argued before the trial court that in view of 2'-CDG's toxicity in mammals, no medicinal chemist could have had a reasonable expectation of success from the selection of 2'-CDG as lead compound because it was uncertain whether the invention would be safe for human use.¹⁶⁵ The trial court rightly rejected that argument because, like the PHOSITA's selection of lead compound, reasonable expectation of success is ascertained at the time of the invention, and allowing later-acquired knowledge would lead to impermissible hindsight.¹⁶⁶ Further, BMS first touched upon the PHOSITA's reasonable expectation of success in its reply brief to the trial court, thereby effectively waiving the substantive value of the argument in this case.¹⁶⁷

Nonetheless, as Judge Taranto recognized, a more pertinent issue about "reasonable expectation of success" is whether success refers to what "motivates the investment in research—an acceptable safety/efficacy profile."¹⁶⁸ Stating that the panel's decision was not precedent for proving "reasonable expectation of success," based only on *in vitro* experiments with the lead compound,¹⁶⁹ he proposed a more adequate standard: whether, at the time of the invention, a PHOSITA would have had the reasonable expectation that "the lead compound, 2'-CDG, would be acceptably safe in humans."¹⁷⁰ Such a particularized statement of the reasonable expectation of success would adequately account for a PHOSITA's practical perspective and strengthen the quality of patents while preserving the incentive to pursue R&D. The Note therefore recommends that courts more diligently ascertain the level of skill in the art as part of the nonobviousness inquiry.

The Patent Act of 1952 centers the nonobviousness inquiry on what a PHOSITA would have believed or expected at the time of the invention.¹⁷¹ Consequently, implementation of the statute should help distinguish patent-worthy inventions from routine advances, while also capturing the research objectives of the ordinary inventor. However, it has been posited that in practice, courts have attributed a minor role to the PHOSITA when

165. *BMS v. Teva, per curiam*, 769 F.3d 1339, 1343 (Fed. Cir. 2014).

166. *In re Dow Chem. Co.*, 837 F.2d 469, 473 (Fed. Cir. 1988) (stating that "[b]oth the suggestion and the expectation of success must be founded in the prior art, not in the applicant's disclosure").

167. *BMS v. Teva, per curiam*, 769 F.3d. at 1343–44.

168. *Id.* at 1355.

169. *Id.*

170. *Id.*

171. *See* 35 U.S.C. § 103.

determining nonobviousness and often gloss over this third prong of the *Graham* factors.¹⁷² Nonetheless, the Federal Circuit's nonobviousness jurisprudence includes a few cases where the court's decision hinged upon whether the PHOSITA's perspective had been adequately considered.¹⁷³

One of these cases is *Daiichi Sankyo Co. v. Apotex, Inc.*, where the Federal Circuit held that the district court's incorrect determination of the PHOSITA led to the exclusion of prior art that made the invention obvious and thereby "tainted [the district court's] obviousness analysis."¹⁷⁴ There, the patent covered a method of treating bacterial ear infections by topically administering an antibiotic into the ear.¹⁷⁵ The district court found that the PHOSITA "would have a medical degree, experience treating patients with ear infections, and knowledge of the pharmacology and use of antibiotics," concluding that such a person would be a pediatrician or a general practitioner.¹⁷⁶ Apotex, the patent challenger, argued that the PHOSITA was "a person engaged in developing new pharmaceuticals, formulations, and treatment methods, or a specialist in ear treatments such as an otologist, otolaryngologist, or otorhinolaryngologist who also has training in pharmaceutical formulations."¹⁷⁷ The Federal Circuit determined that the art was to make a compound to treat ear infections without damaging the patient's ear as a side effect and adopted Apotex's definition of a PHOSITA because animal testing to determine the antibiotic's toxicity was outside a pediatrician or general practitioner's training.¹⁷⁸ Therefore, the court held that Daiichi's method of treatment was obvious in view of a prior art reference that the district court had excluded because the article targeted "a highly, highly subspecialized physician . . . which would be the otologist or the ear doctor," and not a pediatrician or general practitioner.¹⁷⁹

BMS could have used the Court's rationale in *Daiichi* to argue in its original brief that the PHOSITA was a medicinal chemist engaged in the synthesis of a compound aimed at treating a medical condition in humans. Dr. Slusarchyk, the medicinal chemist who created the synthetic pathway for Entecavir, testified that "toxicity data about nucleoside analogs that he was making 'wouldn't deter [him] from making more compounds in the

172. See Eisenberg, *supra* note 3, at 889–90.

173. See *Daiichi Sankyo Co., Ltd. v. Apotex, Inc.*, 501 F.3d 1254, 1257 (Fed. Cir. 2007).

174. *Id.*

175. *Id.* at 1255.

176. *Id.* at 1256.

177. *Id.* at 1257.

178. *Id.*

179. *Id.* at 1257–58.

area to investigate further’ as he was a ‘medicinal chemist,’ not a ‘toxicologist.’”¹⁸⁰ Such a perspective is shortsighted and not an accurate representation of a PHOSITA engaged in drug development. As the *Daiichi* court recognized, in the course of conducting research aimed at creating a medication, a PHOSITA does not divorce compound toxicity or safety from efficacy.¹⁸¹ Commentators have pointed out that the use of research teams with personnel from various specialties, as in the pharmaceutical industry, could render the PHOSITA determination problematic.¹⁸² However, to date, the Federal Circuit has not ruled on such a case.

In addition to reversing a district court’s PHOSITA determination, the Federal Circuit has at times denied a finding of obviousness where the patent challenger did not consider safety or efficacy when arguing that the PHOSITA would have had a reasonable expectation of success of making the invention.¹⁸³ For example, in *In re Cyclobenzaprine Hydrochloride Extended-Release Capsule Patent Litigation*, the court found that the modified-release formulation of a muscle relaxant was nonobvious because there was no proof that a PHOSITA had enough information to create a therapeutic formulation with a reasonable expectation of success.¹⁸⁴ Similarly, in *Eli Lilly & Co. v. Teva Pharmaceuticals USA, Inc.*, the court found that animal studies data, which suggested that the active ingredient would not have sufficient bioavailability in humans, would have deterred a PHOSITA from using the compound with a reasonable expectation of success.¹⁸⁵

Finally, another way in which the determination of the person of ordinary skill in the art affects the obviousness analysis is the failure of the selected “PHOSITA” to account for intricacies in the art of the invention, for example, by inferring drug safety in humans solely from *in vitro* test results. A fundamental principle of pharmacology and toxicology is that a compound that causes an effect in one mammalian species will likely do the

180. *BMS v. Teva*, 923 F. Supp. 2d at 624.

181. *See Daiichi*, 501 F.3d at 1257.

182. *See, e.g.*, Douglas L. Rogers, *Federal Circuit’s Obviousness Test for Pharmaceutical Compounds: Gobbledygook?* 14 CHI.-KENT J. INTELL. PROP. 49 (2014).

183. *See* Matter of Application of Carroll, 601 F.2d 1184, 1185 (C.C.P.A. 1979); *Genetics Inst., LLC v. Novartis Vaccines & Diagnostics, Inc.*, 655 F.3d 1291, 1305 (Fed. Cir. 2011).

184. *In re Cyclobenzaprine Hydrochloride Extended Release Capsule Patent Litig.*, 676 F.3d 1063, 1066 (Fed. Cir. 2012).

185. *Eli Lilly & Co. v. Teva Pharms, USA, Inc.*, 619 F.3d 1329, 1339 (Fed. Cir. 2010).

same in another species.¹⁸⁶ In contrast, as Judge Taranto highlighted in his opinion, *in vitro* tests are rarely predictive of human clinical trials.¹⁸⁷

By carefully accounting for the PHOSITA's expertise in the above cases, the Federal Circuit rewarded the efforts of an inventor who had persisted along a research path that a PHOSITA was discouraged from pursuing. Therefore, a meticulous articulation of the PHOSITA helps achieve two main purposes of patent law. First, it promotes more innovation by rewarding the inventor who took a risk and pursued a research direction from which the prior art taught away. Second, it ensures that only inventions that would not occur in the routine course of research receive patents.

B. GREATER JUDICIAL CONSIDERATION OF THE PHOSITA WOULD FULFILL A POLICY GOAL OF PATENT LAW

The primary goal of patent law is to incentivize innovation. The purpose of the obviousness requirement is to ensure that only patent-worthy inventions are rewarded with a period of exclusivity.¹⁸⁸ The PHOSITA gives courts adaptability and allows determinations of obviousness in a variety of technologies.¹⁸⁹ Patent law relies on this legal construct because it makes sense to use as arbiter of nonobviousness a person that works in a certain art and understands the patent in the context of the prior art.¹⁹⁰ Limiting patents to inventions that are not obvious to the PHOSITA and would not have occurred in the normal course of experimentation helps advance innovation while preserving resources.¹⁹¹ Without an assessment standard such as the PHOSITA, R&D would stall as competitors rushed to patent every incremental discovery, and the transaction costs from patent thickets would undermine further investment in innovation.¹⁹² Additionally, viewing developments from the PHOSITA's perspective provides an

186. See FED. JUDICIAL CTR., REFERENCE MANUAL ON SCIENTIFIC EVIDENCE 646 (3d ed. 2011).

187. *BMS v. Teva*, per curiam, 769 F.3d 1339, 1355 (Fed. Cir. 2014) (citing Henry Grabowski, *Patents, Innovation, and Access to New Pharmaceuticals*, 5 J. INT'L ECON. L. 849, 849–51 (2002) (“[F]ewer than 1% of the compounds examined in the pre-clinical period make it into human testing.”); Michael Hay et al., *Clinical Development Success Rates for Investigational Drugs*, NAT. BIOTECH. 40, 47 (Jan. 2014) (10.4 % of drugs entering human testing emerge as marketed drugs)).

188. See Eisenberg, *supra* note 3, at 886.

189. See Dan L. Burk & Mark A. Lemley, *Is Patent Law Technology Specific?*, 17 BERKELEY TECH. L.J. 1155, 1190–91 (2002).

190. See *id.*; see also Eisenberg, *supra* note 3, at 886.

191. See Eisenberg, *supra* note 3, at 886.

192. See *id.*

additional safeguard against hindsight bias by anchoring the decision-maker's mind to the time of the invention rather than the present.¹⁹³

Accurate determination of the PHOSITA is essential to the assessment of nonobviousness and patentability.¹⁹⁴ On one hand, aiming too low with the PHOSITA allows “undeserving” patents that protect noninventive concepts. On the other hand, aiming too high with the PHOSITA yields too many findings of obviousness on “deserving” inventions. Finding the right balance would promote stronger patents, in turn giving greater confidence to pharmaceutical companies and encouraging investment in R&D.

To achieve a balanced and precise determination of the PHOSITA, this Note recommends implementing a two-pronged approach. First, courts need to reinstate the statutory role of the PHOSITA as spelled out under § 103. Some scholars have pointed out that active judicial review has steadily overtaken what should be a PHOSITA-driven evaluation of obviousness at the time the invention was made.¹⁹⁵ A return to conducting the obviousness inquiry from the perspective of the PHOSITA would start in courts, including the Federal Circuit, which in recent years has placed high emphasis on non-technological evidence such as secondary considerations when conducting an obviousness analysis.¹⁹⁶

However, the stakes are high by the time the PHOSITA's perspective is obtained in the course of litigation.¹⁹⁷ An even better way to ensure the adequate assessment of obviousness while avoiding litigation costs is to modify practices at the USPTO.¹⁹⁸ Patent examiners are often former practitioners whose perspective on what is cutting edge lags behind that of current practitioners.¹⁹⁹ Hence, some have suggested that the USPTO should consult with outside practitioners at an early stage of the examination process.²⁰⁰ Peer review of obviousness issues, modeled on what

193. *See id.* at 885.

194. *See* Joseph P. Merea, *Just Who is the Person Having Ordinary Skill in the Art? Patent Law's Mysterious Personage*, 77 WASH. L. REV. 267, 277–78 (2002). Currently, the Federal Circuit uses six factors in determining the PHOSITA. These factors are: “(1) educational level of the inventor; (2) type of problems encountered in the art; (3) prior art solutions to those problems; (4) rapidity with which inventions are made; (5) sophistication of the technology; and (6) educational level of active workers in the field.” *Id.*

195. *See* Eisenberg, *supra* note 3, at 889–90; *see also* Timothy R. Holbrook, *Patents, Presumption, and Public Notice*, 86 IND. L.J. 779, 784–85 (2011).

196. *See* Eisenberg, *supra* note 3, at 893.

197. *See id.* at 899.

198. *See id.* at 899–90.

199. *See id.*

200. *See id.*

happens at some federal agencies, has also been proposed.²⁰¹ Ultimately, an approach that combines regulatory and judicial implementation of § 103 from the perspective of the PHOSITA would best fulfill Congress's mandate as spelled out in the Patent Act of 1952.

V. CONCLUSION

The Federal Circuit's decision in *BMS v. Teva* was widely depicted as imposing an extra burden on the pharmaceutical industry by unduly prohibiting post-invention evidence of unexpected results. In reality, although the judges' opinions appeared contradictory, the court did not change the precedent on the admissibility of post-invention data. *BMS v. Teva* reiterated that post-filing differences between the prior art and the claimed compound could help establish evidence of unexpected results. Additionally, it maintained the Federal Circuit's pattern of distinguishing between results that are differences "in kind" and those that are "in degree." Although *BMS v. Teva* did not alter precedent, it missed the opportunity to clarify the application of "reasonable expectation of success." This Note recommends a return to an emphasis on the PHOSITA's perspective and accurate assessment of "reasonable expectation of success" because such an approach leads to strong patents and incentivizes pharmaceutical innovation.

201. *See id.* at 900–01.

APPENDIX

Summary of Selected Cases, Organized by Patent Subject Area

| New Chemical Entities | | | | | |
|--|---|--|--|---|--------------------|
| Case Name | Invention Type | Teaching Away | Secondary Considerations | Unexpected results | Fed. Cir. Findings |
| Bristol-Myers Squibb Co. v. Teva Pharmaceuticals USA, Inc., 752 F.3d 967, (Fed. Cir. 2014) | Nucleotide analog for treating chronic Hepatitis B. | N/A | Failure to prove unexpected results; Evidence of long-felt need and commercial success not robust. | High potency (degree) Larger than expected therapeutic window (degree) High genetic barrier to resistance (kind). | Obvious |
| Takeda Chemical Industries, Ltd. v. Alphapharm Pty., Ltd., 492 F.3d 1350 (Fed. Cir. 2007) | The claimed compound, pioglitazone, is the active ingredient in Takeda's anti-diabetic drug. | The prior art taught away from using compound b as lead compound. | No prima facie of obviousness, therefore no consideration of objective indices. | Controls blood sugar in in patients with Type 2 diabetes with fewer side effects (degree). | Nonobvious |
| In re Rosuvastatin Calcium Patent Litigation, 703 F.3d 511 (Fed. Cir. 2012) | Rosuvastatin is one of several statin products that lower cholesterol production in the liver by inhibiting the enzyme HMG-CoA reductase. | The prior art taught a preference not for hydrophilic substituents but for lipophilic substituents at the C2 position. | "Obvious to try" negated by the general skepticism, failure of others, and the evidence of teaching away. Also, commercial success, long felt but unfilled need, and unexpected results. | Superior efficacy in lowering low-density (LDL) cholesterol and elevating high-density (HDL) cholesterol, and its reduced side effects, as compared with other commercial statins (degree). | Nonobvious |

| Formulation | | | | | |
|--|---|---|--|---|--------------------------|
| Case Name | Invention Type | Teaching Away | Secondary Considerations | Unexpected results | Federal Circuit Findings |
| Hoffmann-La Roche Inc. v. Apotex Inc. 748 F.3d 1326 (Fed. Cir. 2014) | Once monthly oral dosage regimen of ibandronate to treat osteoporosis. | The prior art did not teach away from the invention. | The evidence of superior efficacy does not outweigh the motivation to try a monthly dose and the reasonable expectation of success with the monthly dose, even if the level of success may have turned out to be somewhat greater than would have been expected. (Difference in degree). | Increased bioavailability when administered orally (degree); Effectiveness in reducing fractures. | Obvious |
| Allergan, Inc. v. Apotex Inc., 754 F.3d 952 (Fed. Cir. 2014) | Method for the treatment of eyelash hair loss through topical application of bimatoprost. | The district court found no evidence of teaching away in the prior art. | Evidence of unexpected results not commensurate with the scope of the claims. No rebuttal of prima facie. | Spontaneous growth of longer and thicker eyelash hair (kind). | Obvious |

| Formulation | | | | | |
|--|--|---|---|---|--------------------------|
| Case Name | Invention Type | Teaching Away | Secondary Considerations | Unexpected results | Federal Circuit Findings |
| Galderma Laboratories, L.P. v. Tolmar, Inc., 737 F.3d 731 (Fed. Cir. 2013) | Pharmaceutical composition with active ingredient at 0.3% concentration. | Reversed the district's court finding of teaching away. | No commercial success as objective criterion of non-obviousness. The comparable tolerability of 0.1% and 0.3% adapalene was unexpected in view of the prior art, but it was a difference in "degree." | Concentration that treats acne without concomitant increase in side-effects (degree). | Obvious |
| Allergan, Inc. v. Sandoz Inc., 796 F.3d 1293, (Fed. Cir. 2015) | Drug formulation to treat glaucoma and ocular hypertension. | Prior art taught away from using BAK at 200 ppm to minimize cytotoxicity issues Also taught that BAK would not improve permeability of bimatoprost, but might reduce it. | Claimed inventions exhibited unexpected results that differed in kind from prior art. | Improved permeability of bimatoprost while decreasing side effects (kind). | Nonobvious |

| Formulation | | | | | |
|---|---|--|---|--|---|
| Case Name | Invention Type | Teaching Away | Secondary Considerations | Unexpected results | Federal Circuit Findings |
| Unigene Laboratories, Inc. v. Apotex, Inc., 655 F.3d 1352 (Fed. Cir. 2011) | New formulation (pharmaceutical nasal spray) to deliver FDA-approved active ingredient salmon calcitonin) to treat, among other things, post-menopausal osteoporosis. | Prior art taught away from using 20mM citric acid as a stabilizing agent in a liquid formulation with a salmon calcitonin active ingredient. | | Increased blood delivery to the organs of interest (degree). | Thus, the “about 20.0 mM citric acid” limitation alone supports the district court’s grant of summary judgment of nonobviousness. |
| In re Cyclo-benzaprine Hydrochloride Extended-Release Capsule Patent Litigation, 676 F.3d 1063, (Fed. Cir. 2012.) | Modified-release formulation of skeletal muscle relaxants and method of relieving muscle spasms with the formulation. | | Evidence of a long-felt need for an extended-release formulation and the failure of others to formulate one strongly support a conclusion of non-obviousness. | Relief of muscle spasms for longer periods of time (degree). | Nonobvious |

| Formulation | | | | | |
|---|--|--|---|---|--------------------------|
| Case Name | Invention Type | Teaching Away | Secondary Considerations | Unexpected results | Federal Circuit Findings |
| Cadence Pharmaceuticals Inc. v. Exela PharmSci Inc., 780 F.3d 1364 (Fed. Cir. 2015) | Formulations and methods for making liquid acetaminophen. | Prior art either taught away from the path adopted by the patentee, or was not aware of the storage stability issues that the patentee addressed. | Method claimed attained unexpected stability compared to the one disclosed in the prior art (two years versus only several months). | Invention stable for 2 years before six months (degree). | Nonobvious |
| Insite Vision Inc. v. Sandoz, Inc. 783 F.3d 853, (Fed. Cir. 2014) | Methods of treating eye infections by the topical administration of azithromycin to the eye. | The district court concluded that the prior art would have directed persons of ordinary skill in the art away from the topical administration of azithromycin. | Unexpected results Long-felt need. | 60-fold increase in the concentration of the active ingredient when administered topically compared to orally (degree). | Nonobvious |

| Combination Treatment | | | | | |
|--|--|---------------|--|---------------------|--|
| Case Name | Invention Type | Teaching Away | Secondary Considerations | Unexpected results | Federal Circuit Findings |
| Novo Nordisk A/S v. Caraco Pharmaceutical Laboratories, Ltd. | Combination therapy for type II diabetes, using repaglinide and metformin. | | Obvious to try; secondary consideration evidence of unexpected synergy (i.e., attempt to prove unexpected results) was not sufficient to overcome challenger's prima facie case. | Synergism (degree). | Obvious. "It was apparently well-known in the art that two drugs having different mechanisms for attacking diabetes may be more effective than one, and so drugs were often tested in combination therapy after demonstrating effectiveness in monotherapy." |

| Combination Treatment | | | | | |
|---|---|---------------|---|--|--|
| Case Name | Invention Type | Teaching Away | Secondary Considerations | Unexpected results | Federal Circuit Findings |
| Allergan, Inc. v. Sandoz Inc., 726 F.3d 1286 (Fed. Cir. 2013) | Combination composition comprising about 0.2% brimonidine by weight and about 0.5% timolol by weight as the sole active agents, useful for treating glaucoma or ocular hypertension ('149 patent) method of reducing the number of daily topical ophthalmic doses of brimonidine administered topically to an eye of a person in need thereof for the treatment of glaucoma or ocular hypertension from 3 to 2 times a day without loss of efficacy. | | Long felt need claims conclusory; unexpected results are not sufficient to outweigh the other evidence of obviousness as to the formulation claims. | Increased efficacy of the drug and a reduction in side effects (degree). | Formulation obvious; method of administration nonobvious. |

| Combination Treatment | | | | | |
|--|---|---------------|--|---|--------------------------|
| Case Name | Invention Type | Teaching Away | Secondary Considerations | Unexpected results | Federal Circuit Findings |
| Leo Pharmaceutical Products, Ltd. v. Rea, 726 F.3d 1346 (Fed. Cir. 2013) | Pharmaceutical composition to treat psoriasis, consisting of a Vitamin D analog, a corticosteroid, and a solvent. | teaching away | An invention can be the recognition of the problem itself; commercial success, long-felt need. | First to recognize and fix deficiency in the prior art. (unknown) (kind). | Nonobvious |

| Enantiomer | | | | | |
|---|---|--|--|------------------------------------|--------------------------|
| Case Name | Invention Type | Teaching Away | Secondary Considerations | Unexpected results | Federal Circuit Findings |
| Sanofi-Synthelabo v. Apotex, Inc. 550 F.3d 1075 (Fed. Cir 2008) | Pharmaceutical product having the common name clopidogrel bisulfate and used to inhibit the aggregation of blood platelets, and treat or prevent heart attacks and strokes. | Evidence that the prior art taught away from the use of sulfuric acid with an enantiomer, for strong acids could encourage racemization. | Rare "absolute stereoselectivity": "The dextro-rotatory enantiomer provided all of the favorable antiplatelet activity but with no significant neurotoxicity, while the levorotatory enantiomer produced no antiplatelet activity but virtually all of the neurotoxicity." | Rare "absolute stereoselectivity." | Nonobvious |

PATENT INFRINGEMENT DEMAND LETTERS: DOES *NOERR-PENNINGTON* OR THE FIRST AMENDMENT PREEMPT STATE-LAW LIABILITY FOR MISLEADING STATEMENTS?

Eric J. Riedel[†]

Demand letters enhance the efficiency of patent infringement resolution, since patent owners can use them to notify others of potentially infringing activity and to initiate a patent licensing agreement. In a few cases, however, demand letters have been used not as a means to enforce patent rights but, rather, as a tool to extract the “nuisance value” of an infringement claim.¹ Where the cost of the license is less than the cost of investigating and litigating a claim of infringement, recipients of a demand letter may pay a licensing fee without even evaluating the merits of the claim.

To illustrate, Company X owns a patent that it claims covers a technology widely used in everyday business. But after settling an infringement suit when it became clear that its patent would be invalidated, Company X designs a licensing campaign intended to monetize its patent in a way that minimizes the risk of further judicial scrutiny.

The licensing program consists of three rounds of demand letters. And before issuing a single license for its patent, Company X sends the first round of letters to tens of thousands of small businesses, ones that it believes are unfamiliar with the patent system and without resources to sustain litigation. The letter states that the recipient business has been identified as a company that appears to be using Company X’s patented technology. And it states that based on prior agreements, it has determined that a fair price for a license negotiated in good faith is a payment of \$1000 per employee.

The second and third letters, unlike the first, are sent in the name of Company X’s law firm. The second letter states that since Company X has

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1. See D. Rosenberg & S. Shavell, *A Model in Which Suits Are Brought for Their Nuisance Value*, 5 INT’L REV. L. & ECON. 3, 3 (1985) (defining a suit brought for its nuisance value as one where “the plaintiff is able to obtain a positive settlement from the defendant even though the defendant knows the plaintiff’s case is sufficiently weak that he would be unwilling or unlikely actually to pursue his case to trial.”).

received no response to its prior letter, it therefore must assume that the recipient business infringes and needs a license, which Company X is willing to negotiate. Similarly, the third letter states that if the recipient company does not respond within two weeks, Company X will initiate a lawsuit. The letter even includes a draft complaint, and recommends that the recipient show the complaint to legal counsel. Three months after sending the third letter, however, Company X does not file a single complaint.

The licensing tactics described in the example above are based on an actual business model. In 2012 a company named MPHJ Technology Investments (MPHJ) sent demand letters to more than 16,000 small businesses across the country, claiming that each business was infringing on its patent for scan-to-email technology.² Local businesses receiving these letters complained, and in response, state legislatures enacted so-called “patent trolling legislation,” which regulates the contents of any demand letter asserting a claim of patent infringement.³

This Note argues that these new laws are often superfluous because states *should* already have the ability under unfair competition and consumer protection laws to impose liability for false and misleading statements used in commerce.⁴ From the above illustration, for example, the claim that the \$1000 licensing fee had been based on good faith negotiations and the claim that Company X intended to initiate litigation were both objectively false.

Only the state of Vermont has used consumer protection law to bring a claim against MPHJ for its licensing practices.⁵ This dearth of litigation is

2. Scan-to-email technology refers to the process of electronically sending scanned documents directly to an email account. *See* Complaint ¶ 17, *In re MPHJ Tech. Invs., LLC*, No. C-4513 (F.T.C. Mar. 13, 2015), <https://www.ftc.gov/enforcement/cases-proceedings/142-3003/mphj-technology-investments-llc-matter> [<https://perma.cc/W76T-DMLR>] [hereinafter FTC Complaint].

3. *See* Jonathan Griffin, *2015 Patent Trolling Legislation*, NAT’L CONF. ST. LEGISLATURES (Aug. 12, 2015), <http://www.ncsl.org/research/financial-services-and-commerce.aspx> [<https://perma.cc/E8YF-5EAR>].

4. *But see* Paul R. Gugliuzza, *Patent Trolls and Preemption*, 101 VA. L. REV. 1579, 1645 (2015) (arguing that, unlike anti-trolling statutes, laws prohibiting unfair and deceptive trade practices may not permit plaintiffs to recover damages, and do not allow for the award of attorney fees).

5. In July 2103, the attorney general of Nebraska sent a cease and desist order to Farney Daniels PC, the law firm representing MPHJ, ordering it to stop sending demand letters to Nebraska businesses. However, for reasons distinguishing this case from litigation in Vermont and following the logic of Section III.B, *infra*, the District of Nebraska ordered an injunction blocking the cease and desist order because the order was made before any charge was ever investigated, which violated Farney Daniels’s constitutional rights. *See Activision TV, Inc. v. Pinnacle Bancorp, Inc.*, 976 F. Supp. 2d 1157, 1166 (D. Neb. 2013), dismissed (Nov. 22, 2013); Allissa Wickham, *Patent Trolls’ Secure Victory Against Nebraska*

likely a consequence of Federal Circuit precedent stating that the Petition Clause of the First Amendment preempts any state-law liability based on an assertion of one's patent rights, a standard derived from the Supreme Court's *Noerr-Pennington* doctrine, which originated in the context of antitrust.⁶ The Federal Circuit grants an exception only where the assertion is a "sham," meaning that the infringement claim is both objectively baseless and subjectively made in bad faith.⁷ The Federal Circuit's standard is problematic, and unlikely to survive Supreme Court scrutiny, if applied to state-law liability for claims based on statements tangential to a claim of patent infringement. Although the Federal Circuit has not decided such a case, the Northern District of Illinois addressed the question in *In re Innovatio IP Ventures*,⁸ holding that the Petition Clause preempted state-law claims based on misrepresentations in the demand letter because those representations did not affect the outcome of the infringement claim.⁹

This Note dissects the evolution of petitioning immunity (i.e., preemption based on the Petition Clause) and concludes that this immunity does not apply to statements tangential to a claim of patent infringement contained in a demand letter. Part I discusses the role of demand letters in patent litigation and how these letters can be leveraged to extract licensing fees that are arguably unjustified—a practice that this Note refers to as demand letter extortion. It also compares Little FTC Acts and anti-trolling statutes, both of which impose liability for false and misleading statements in demand letters. Part II chronicles the Supreme Court and the federal circuit courts' jurisprudence on petitioning immunity, focusing on the constitutional and statutory justifications for the *Noerr-Pennington* doctrine,¹⁰ the doctrine's "sham" litigation exception, and how *Noerr* has

AG, LAW 360 (Sep. 3, 2014), <http://www.law360.com/articles/573068/patent-trolls-secure-victory-against-nebraska-ag> [<https://perma.cc/PK64-VDYB>].

6. ABA SECTION OF ANTITRUST LAW, MONOGRAPH 25, THE *NOERR-PENNINGTON* DOCTRINE 55 (2009).

7. *Globetrotter Software, Inc. v. Elan Computer Grp., Inc.*, 362 F.3d 1367, 1377 (Fed. Cir. 2004).

8. *In re Innovatio IP Ventures, LLC Patent Litig.*, 921 F. Supp. 2d 903 (N.D. Ill. 2013).

9. *See id.* at 911 ("*Noerr-Pennington* has been extended beyond the antitrust laws, where it originated, and is today understood as an application of the first amendment's speech and petitioning clauses."); *id.* at 921 ("[T]his court will adopt the rule that only misrepresentations material enough to affect the outcome of a litigation proceeding are sufficient to render petitioning activity a sham.")

10. "The *Noerr-Pennington* doctrine is a judicially created immunity that shields an antitrust defendant from liability for injuries resulting from concerted or individual conduct that is reasonably calculated or genuinely intended to petition government decision-makers

been applied beyond antitrust. Part III argues that the Federal Circuit, in interpreting *Noerr-Pennington*, has conflated the policy justifications underlying preemption based on the Petition Clause with preemption based on federal patent law.¹¹ This Part also evaluates whether the *Noerr-Pennington* doctrine extends petitioning immunity to assertions of patent infringement, concludes that this right extends only to the assertion itself, and proposes two alternative exceptions to petitioning immunity in the context of demand letters. Finally, this Part discusses *Octane Fitness, LLC v. Icon Health & Fitness, Inc.*, the most recent Supreme Court case addressing *Noerr-Pennington*, to support the assertion that *Noerr* requires both a constitutional and a statutory foundation. Part IV asserts that separate tests for preemption based on the Petition Clause and federal patent law would once again permit state regulation of the content of demand letters, negating the perceived need for state anti-trolling statutes.

I. STATE-LAW LIABILITY FOR FALSE OR MISLEADING STATEMENTS IN DEMAND LETTERS

Demand letters play an important role in the efficient functioning of the patent system. But these letters can be used to extract licensing fees from unsuspecting end users of widely used technologies. In the absence of a federal response to a few high-profile cases of such abuse, states have taken action on their own, with more than half of states enacting laws to curb aggressive licensing schemes, and the state of Vermont bringing suit for violations of state consumer protection laws.¹²

A. ROLE OF DEMAND LETTERS IN PATENT LITIGATION

Demand letters are a form of pre-suit communication sent by a patent owner that put the recipient on notice of the existence of the sender's patent

for redress." ABA SECTION OF ANTITRUST LAW, HANDBOOK ON THE SCOPE OF ANTITRUST 77 (2015).

11. See generally Marin R. Scordato, *Federal Preemption of State Tort Claims*, 35 U.C. DAVIS L. REV. 1, 10 (2001) (discussing the sources of federal preemption—including the Supremacy Clause which prohibits states from enforcing a state law that conflicts with a valid federal law or regulation).

12. The FTC as well as several state attorneys general have reached settlements with MPHJ. See, e.g., Joe Mullin, *FTC Ends First Case Against a "Patent Troll" with a Slap on the Wrist*, ARS TECHNICA (Nov. 7, 2014), <http://arstechnica.com/tech-policy/2014/11/ftc-ends-first-case-against-a-patent-troll-with-a-slap-on-the-wrist> [<https://perma.cc/5CEX-KJBA>]; Ashby Jones, *New York State Cracks Down on 'Patent Trolls'*, WALL ST. J. (Jan. 13, 2014), <http://www.wsj.com/articles/SB10001424052702303819704579319071070777820> [<https://perma.cc/53VH-D24M>].

rights and the possibility of infringement.¹³ These letters can also contain additional information communicating the patent owner's state of mind, such as information about counsel that has been retained and the patent owner's willingness to consider entering into a licensing agreement.¹⁴ But sending a demand letter is not required.¹⁵ Patent owners can file and serve a complaint on an accused infringer without providing advanced notification of infringing activity.¹⁶ Or they can file a complaint and send a demand letter and a courtesy copy of the complaint to the accused infringer instead of serving the complaint.¹⁷ Although demand letters are not specifically mentioned in the federal patent statute, § 287 of the statute requires proof of notification of infringement as a prerequisite for damages.¹⁸

B. DEMAND LETTER EXTORTION AS A BUSINESS MODEL

Patent owners can use lawsuits to leverage a settlement where the cost of obtaining a license to their patents is significantly less than the cost of investigating and litigating the claim of infringement.¹⁹ This behavior is based on “patent nuisance fee economics,” which incentivizes assertion of patents because the high cost of defending a lawsuit is often enough to induce a settlement.²⁰ Similarly, leveraging the threat of litigation through

13. DON W. MARTENS ET AL., PRE-LITIGATION PATENT ENFORCEMENT § 3:2 (2015–2016 ed. 2015).

14. *Id.*

15. *Id.* § 3:3.

16. *Id.* (explaining that a “plaintiff has 120 days [from the filing date] to serve [a] complaint,” which gives the patent owner almost four months to settle the matter before needing to serve the complaint, assuming the recipient chooses not to answer the complaint upon receipt).

17. *Id.*

18. 35 U.S.C. § 287(a) (2012). Specifically, § 287 states that where patentees do not mark their invention with the word “patent” or the abbreviation “pat.” and the number of the patent or a web address that contains the number, no damages shall be recoverable “except on proof that the infringer was notified of the infringement and continued to infringe thereafter.” *Id.*

19. See Robert W. Payne, *Fighting Patent Trolls: New Weapons Emerge*, BUS. L. TODAY (June 2015), http://www.americanbar.org/publications/blt/2015/06/01_payne.html [<https://perma.cc/VAB4-EXWH>] (stating that frightened companies often find that the “troll toll” is cheaper than the cost of fighting or investigating the issue).

20. See Colleen V. Chien, *Reforming Software Patents*, 50 HOUS. L. REV. 325, 342 (2012) (discussing patent nuisance fee economics—settlements driven by the cost of avoiding legal costs and remedies rather than the economic value of the patent); Michael J. Meurer, *Controlling Opportunistic and Anti-competitive Intellectual Property Litigation*, 44 B.C. L. REV. 509, 515 (2003) (“A defendant may settle an anti-competitive suit because the cost of a defense threatens the defendant’s solvency.”); Ranganath Sudarshan, *Nuisance-*

demand letters, patent owners can attempt to translate the “nuisance fee” into a licensing agreement without the cost of actually bringing a suit.²¹ This Note refers to this practice as “demand letter extortion.” Although it is not extortion in a legal sense,²² since sending demand letters is within the legal rights of patent owners, such acts certainly fit the dictionary definition of extortion: “to obtain from a person by force [or] intimidation.”²³

Four notable circumstances enable patent owners to exploit the nuisance value through demand letter extortion. First, the allegedly infringed patent appears to read on a commonly used technology. Second, the strength of the patent is irrelevant. Third, an asymmetry of information about patent law exists between the patent owner and the accused infringers. And fourth, the threat of litigation appears genuine. In explaining these characteristics, the licensing practices of MPHJ are used as an example.

First, where patent claims appear to read on commonly used technologies, owners of those patents can make objectively true statements about the possibility of infringement without having to investigate whether the accused product actually infringes their patent. And discussing the legal rights given to patent holders creates the appearance of a genuine infringement claim. For example, MPHJ based its allegations of infringement on statements such as, “Our research . . . has led us to the conclusion that an overwhelming majority of companies like yours utilize systems that are set up to practice at least one of the scenarios [claimed in the patent].”²⁴ And it added, “Infringers who continue to infringe in the face

Value Patent Suits: An Economic Model and Proposal, 25 SANTA CLARA COMPUTER & HIGH TECH. L.J. 159, 161–62 (2008).

21. Tactics used in demand letter extortion are a variation of those used by companies that Professor Lemley and Mr. Melamed have termed “bottom-feeder trolls,” patent assertion entities who sue many defendants on the same patent, hoping to score a few quick settlements. Mark A. Lemley & A. Douglas Melamed, *Missing the Forest for the Trolls*, 113 COLUM. L. REV. 2117, 2126 (2013).

22. Extortion, BLACK’S LAW DICTIONARY (10th ed. 2014) (“The act or practice of obtaining something or compelling some action by *illegal means*, as by force or coercion.”) (emphasis added).

23. *Extort*, MERRIAM-WEBSTER ONLINE, <http://www.merriam-webster.com/dictionary/extort> [<https://perma.cc/ZNV5-B8AG>] (defining extort as “obtain[ing] from a person by force, intimidation, or undue or illegal power”); *Extortion*, MERRIAM-WEBSTER ONLINE, <http://www.merriam-webster.com/dictionary/extortion> [<https://perma.cc/PUB7-4PRS>]; see Erin Coe, *4 Ways to Knock Out a Frivolous Patent Suit in East Texas*, LAW 360, ¶¶ 7–9 (Nov. 9, 2015), http://www.law360.com/ip/articles/723519?nl_pk=593224bc-13ec-4c6d-b3cb-e0f5a1ecfa62&utm_source=newsletter&utm_medium=email&utm_campaign=ip [<https://perma.cc/AK5L-S3VG>] (discussing hallmark signs of a patent owner who is a bad actor or an extortionist).

24. Complaint Ex. A at 3, *In re MPHJ Tech. Invs., LLC*, No. C-4513 (F.T.C. Mar. 13, 2015), <https://www.ftc.gov/enforcement/cases-proceedings/142-3003/mphj-technology>

of an objectively high risk of infringement of a valid patent can be forced to pay treble (triple) the actual damages, as well as the patent owner's litigation costs²⁵ Statements such as these attempt to convince the recipient that the accuser has a strong case for patent infringement, even though the accuser has not even investigated the claim.

Second, where a patent is valid and defensible, the holder usually sues upstream manufacturers to maximize the damage award.²⁶ But where a patent is weak, the owner is not interested in seeing the claim through to litigation.²⁷ Instead, that owner must rely on the nuisance fee, not the validity of the patent, to extract monetary value.²⁸ In the case of MPHJ, the New York State Attorney General found that the patent used in the licensing scheme had been acquired for one dollar, indicating that the underlying technology was essentially worthless.²⁹

-investments-llc-matter [<https://perma.cc/W76T-DMLR>] [hereinafter FTC Complaint Ex. A].

25. *Id.* at 5.

26. This is not always the case. For example, patent owners have sent small- and medium-sized businesses demand letters based on seemingly valid patents for wireless Internet technology. See Steven J. Vaughan-Nichols, *Patent Troll Innovatio IP Goes After Small Businesses*, ZDNET (Oct. 5, 2011), <http://www.zdnet.com/article/patent-troll-innovatio-ip-goes-after-small-businesses> [<https://perma.cc/PGW9-N67G>]. In response to demand letters sent by Innovatio to end users of Wi-Fi devices, the manufacturers of the allegedly infringing products brought suit and eventually agreed to pay Innovatio a licensing fee. *In re Innovatio IP Ventures, LLC Patent Litig.*, 921 F. Supp. 2d 903, 906 (N.D. Ill. 2013); Ryan Davis, *Motorola Strikes Deal with Innovatio in Wi-Fi Patent Case*, LAW 360 (Dec. 18, 2013), <http://www.law360.com/articles/496921/motorola-strikes-deal-with-innovatio-in-wi-fi-patent-case> [<https://perma.cc/8EXF-JJ8F>]; Joe Mullin, *Wi-Fi "Patent Troll" Will Only Get 3.2 Cents Per Router from Cisco*, ARS TECHNICA (Feb. 6, 2014), <http://arstechnica.com/tech-policy/2014/02/cisco-strikes-deal-to-pay-wi-fi-patent-troll-3-2-cents-per-router> [<https://perma.cc/Q88F-EGQR>].

27. See Chien, *supra* note 20, at 369 ("Nuisance suits' have a low or questionable expected recovery because the patent is weak or its economic value is low.").

28. See *id.* *Eon-Net LP v. Flagstar Bancorp* provides a rare example of such a case that was actually litigated. 653 F.3d 1314 (Fed. Cir. 2011) (litigating an award of attorney fees under § 285). Eon-Net filed over 100 lawsuits for patent infringement, and after filing, it offered a quick settlement at a price roughly 10% of the cost of litigation. See *id.* at 1327. The Federal Circuit held that this conduct was in bad faith because it exploited the high cost of litigation to extract a nuisance value settlement from the defendant. The court also held that Eon-Net strategically used low settlement offers to ensure that its baseless infringement allegations remained unexposed, allowing it to continue to collect additional nuisance value settlements. *Id.* (noting that it was clear why the vast majority of those accused by Eon-Net chose to settle, since the defendant expended over \$600,000 in attorney fees and costs to litigate the case through claim construction, while the settlement offered by Eon-Net was in the range of \$25,000–\$75,000).

29. See Assurance of Discontinuance at 2, *In re Investigation* by Eric T. Schneiderman, Attorney General of the State of New York, of MPHJ Technology

Third, asserting claims of infringement against businesses with less familiarity with patent law increases the longevity of the licensing scheme. Such businesses are less likely to question the validity of the patent,³⁰ which is important because, when a patent is unlikely to be upheld in court, litigation jeopardizes the licensing scheme and cuts into profits. MPHJ selected businesses based on two criteria obtained from a business directory database: (1) an estimate of the number of employees, and (2) the business's standard industrial classification.³¹ The former likely acted as a proxy for the business's ability to sustain litigation, and the latter as a proxy for its familiarity with patent litigation.³²

Fourth, because no complaint is actually filed, litigation must appear imminent to pressure the recipient to respond. Demand letter extortion depends on the illusion of litigation unless the recipient either pays a licensing fee or proves they do not infringe.³³ MPHJ demanded that the recipient respond within two weeks of receipt of the third and final letter, or it would sue for patent infringement.³⁴ In fact, in the third letter it even included a copy of a draft complaint bearing the name of the recipient business.³⁵

Ultimately, where the cost of litigation makes the licensing fee appear reasonable, the recipient business owner may choose to pay the fee. MPHJ

Investments, LLC (signed Jan. 13, 2014) (No. 14-015), <http://www.ag.ny.gov/pdfs/FINALAODMPHJ.pdf> [<https://perma.cc/4L7J-H8LG>]; see also Joe Mullin, *Patent Trolls Want \$1,000—for Using Scanners*, ARS TECHNICA (Jan. 2, 2013) (describing the alleged activities of Project Paperless, the company that sold the patents to MPHJ), <http://arstechnica.com/tech-policy/2013/01/patent-trolls-want-1000-for-using-scanners/> [<https://perma.cc/MQ5T-SJU2>].

30. See Robin Feldman, *Intellectual Property Wrongs*, 18 STAN. J.L. BUS. & FIN. 250, 286–94 (2013) (discussing patent monetizers who have made a practice of targeting businesses with little information about patents and little ability to do anything but pay up); Meurer, *supra* note 20, at 514 (“A plaintiff with a weak lawsuit can successfully bluff a defendant because in the early stages of IP litigation the plaintiff is likely to have better information about the scope and validity of the IP rights.”).

31. FTC Complaint, *supra* note 2, ¶ 13 (finding that MPHJ targeted business with between twenty and ninety-nine employees and limited its search to fifty-four specific business codes).

32. Complaint ¶ 36, Vermont v. MPHJ Tech. Invs., LLC, 2014 WL 2178325 (D. Vt. Mar. 7, 2014) (No. 282-5-13 WNC) [hereinafter Vermont Complaint].

33. The first letter requires that companies prove non-infringement by providing: (1) copies of the user manuals for its office copying/scanning equipment, (2) the IP addresses and daily activity logs for all those devices, and (3) the registry of each of the email servers and file servers used by the company. FTC Complaint Ex. A, *supra* note 24, at 4.

34. FTC Complaint, *supra* note 2, ¶ 23.

35. *Id.* ¶ 24.

generally asked for approximately \$1000 per employee,³⁶ making its licensing fee range approximately \$20,000 to \$100,000 per business, a sum significantly less than \$600,000, the approximate cost of litigating a case through claim construction.³⁷ To prevent companies from using demand letters to exploit the nuisance fee of patent litigation, states have turned not only to existing law, but also to enacting new laws to prevent these licensing practices.

C. STATE-LAW OPTIONS FOR DETERRING THE MASS MAILING OF DEMAND LETTERS

By late 2013, Congress was debating several patent reform bills,³⁸ but it had not yet legislated a solution to disruptive licensing campaigns, such as Innovatio's, which began in 2011,³⁹ or MPHJ's, which began in 2012.⁴⁰ In response, states took action, passing their own legislation. This Section discusses two of the legal options available to states: (1) "Little FTC" Acts and (2) newly enacted state anti-trolling laws.

1. *State Law: Little FTC Statutes*

Vermont as well as twenty other states and the District of Columbia have "Little FTC" Acts prohibiting deceptive and unfair business practices in the marketplace.⁴¹ These laws are modeled after Section 5 of the Federal Trade Commission (FTC) Act, and often direct state courts to use FTC rulings and federal court decisions to guide their interpretations of the law.⁴²

36. *See id.* ¶ 30.

37. *See Eon-Net LP v. Flagstar Bancorp*, 653 F.3d 1314, 1327 (Fed. Cir. 2011); *see also* Vermont Complaint, *supra* note 32, ¶ 46 (estimating that litigating an unsuccessful patent-infringement action may cost the defendant at least one million dollars).

38. Dennis Crouch, *Patent Reform 2013: Pending Bills*, PATENTLY-O (Oct. 28, 2013), <http://patentlyo.com/patent/2013/10/patent-reform-2013-pending-bills.html> [<https://perma.cc/2MPM-5YAX>].

39. Joe Mullin, *Wi-Fi Patent Troll Hit with Racketeering Suit Emerges Unscathed*, ARS TECHNICA (Feb. 13, 2013), <http://arstechnica.com/tech-policy/2013/02/wi-fi-patent-troll-hit-with-novel-anti-racketeering-charges-emerges-unscathed> [<https://perma.cc/GG6E-VW8Q>].

40. FTC Complaint, *supra* note 2, ¶ 12.

41. Philip J. Carihfield, *Deceptive Advertising*, in 1 BUSINESS TORTS § 7.06[5] (Joseph D. Zamore et. al. 2015) (describing the scope of "Little FTC" Acts); *id.* § 7.06[5] n.74 (listing the states that have enacted "Little FTC" Acts: Florida, Illinois, Pennsylvania, Alabama, Alaska, Connecticut, Hawaii, Louisiana, Maine, Massachusetts, Mississippi, Montana, Nebraska, New Hampshire, North Carolina, Rhode Island, South Carolina, Vermont, Washington, West Virginia, Wisconsin).

42. *Id.* § 7.06[5]. Where state law refers directly to the federal FTC Act, it provides state-law protection against "[u]nfair methods of competition in or affecting commerce, and unfair or deceptive acts or practices in or affecting commerce." 15 U.S.C. § 45 (2012).

Little FTC Acts empower state attorneys general to bring claims against companies for unfair or deceptive business practices, and several also contain provisions for private action.⁴³ Additionally, twelve states have adopted provisions of the Uniform Deceptive Trade Practices Act⁴⁴ that prohibit, *inter alia*, business conduct that creates a likelihood of confusion or misunderstanding.⁴⁵

The Vermont litigation against MPHJ is based on the state's Little FTC Act, contained in its consumer protection code.⁴⁶ The attorney general opted not to pursue liability under the state's anti-patent troll act, which was signed into law shortly after the suit was filed, likely to keep the case out of federal court.⁴⁷ The complaint alleged that MPHJ "engaged in unfair and deceptive acts by sending a series of letters to many small businesses . . . [that] threatened patent litigation if the businesses do not pay licensing fees."⁴⁸ MPHJ removed the case to federal district court, but the Federal Circuit upheld remand of the case to state court.⁴⁹

2. State Law: Anti-trolling Legislation

As of October 2015, twenty-seven states had enacted legislation regulating assertions of patent infringement (i.e., demand letters) and creating a cause of action for assertions made in bad faith (i.e., patent

43. Carihfield, *supra* note 41, § 7.06[5].

44. *Id.* § 7.06[6].

45. See 815 ILL. COMP. STAT. 510/2 (1965).

46. Vermont Complaint, *supra* note 32, ¶ 1. Unfair competition law and consumer protection law refer to the same type of statutes; they are differentiated based on the section of the state code they are located in. See Carihfield, *supra* note 41, § 7.06[3] (discussing state statutes on deceptive advertising); Vt. Stat. Ann. tit. 9, § 2451a (defining a "consumer" broadly as, *inter alia*, "a person who . . . contracts for, or otherwise agrees to pay consideration for goods or services not for resale in the ordinary course of his or her trade or business but . . . in connection with the operation of his or her business").

47. *Id.* Although the complaint was filed before the passage of Vermont's anti-patent troll law, the attorney general likely chose not to amend the complaint to keep the case out of federal court. See Kelly Knaub, *Vt. Wins Bid to Keep Suit Against 'Patent Troll' in State Court*, LAW 360 (Sep. 28, 2015), <http://www.law360.com/articles/707955> [<https://perma.cc/3NDS-K6BJ>].

48. Vermont Complaint, *supra* note 32, ¶ 1.

49. Vermont v. MPHJ Tech. Invs., LLC, 803 F.3d 635, 642, 651 (Fed. Cir. 2015) (holding that (1) MPHJ's counterclaim arose under federal patent law, so the Federal Circuit had jurisdiction over the appeal and (2) the complaint did not refer to the Vermont Bad Faith Assertions of Patent Infringement Act, so there was no basis for removal).

trolling).⁵⁰ Vermont was the first state to pass such a law in May 2013,⁵¹ and the majority of states have used it as a model.⁵² These laws are generally crafted to avoid federal preemption,⁵³ but the efficacy of this effort is yet to be determined. Although preemption of these recent laws is outside the scope of this Note, several commentators and students have discussed it at length.⁵⁴

A brief review of the structure of these anti-trolling laws helps to illustrate the issue of demand letter extortion, because these laws attempt to balance the commercial interests of local businesses with the rights granted to patent owners under federal patent law.⁵⁵ For example, the main thrust

50. *Patent Progress's Guide to State Patent Legislation*, *Patent Progress* (Jan. 4, 2016), <http://www.patentprogress.org/patent-progress-legislation-guides/patent-progress-guide-state-patent-legislation> [<https://perma.cc/TBC8-RG5G>]; see also Griffin, *supra* note 3.

51. Eric Goldman, *Vermont Enacts the Nation's First Anti-patent Trolling Law*, *FORBES* (May 22, 2013), <http://www.forbes.com/sites/ericgoldman/2013/05/22/vermont-enacts-the-nations-first-anti-patent-trolling-law> [<https://perma.cc/U2JE-2VPA>].

52. Rebecca Schoff Curtin, *Slapping Patent Trolls: What Anti-trolling Legislation Can Learn from the Anti-SLAPP Movement*, 18 *STAN. TECH. L. REV.* 39, 56 (2014) (categorizing state anti-trolling laws into three general categories: the Vermont model, the Oklahoma model, and the Virginia model, and stating that the vast majority of states follow the Vermont model).

53. The preamble of the Vermont statute limits the scope of the law to the contents of a demand letter, and not the validity of the patent. See VT. STAT. ANN. tit. 9, § 4195(a) (“Vermont wishes to help its businesses avoid [litigation] costs by encouraging the most efficient resolution of patent infringement claims without conflicting with federal law [So] it is necessary that [Vermont businesses] receive specific information regarding how their product, service, or technology may have infringed the patent at issue.”).

54. See generally Gugliuzza, *supra* note 4; Hayden W. Gregory, *States Go After Patent Trolls—How Far Can They Go?*, 6 *NO. 6 LANDSLIDE 2* (2014); Craig Drachtman, Note, *Taking on Patent Trolls: The Noerr-Pennington Doctrine's Extension to Pre-lawsuit Demand Letters and Its Sham Litigation Exception*, 42 *RUTGERS L. REC.* 229 (2014–2015); David Lee Johnson, Note, *Facing Down the Trolls: States Stumble on the Bridge to Patent-Assertion Regulation*, 71 *WASH. & LEE L. REV.* 2023 (2014); Elizabeth M. Thoman, Comment, *A Modern Adaptation of “Three Billy Goats Gruff”: Is Vermont’s “Bad Faith Assertions of Patent Infringement” Statute Strong Enough to Help Patent Owner’s Safely Cross the Bridge?*, 83 *U. CIN. L. REV.* 989 (2015).

55. See *Vermont House and Senate Approve Legislation Prohibiting Bad Faith Patent Infringement Claims*, *DOWNS RACHLIN MARTIN PLLC* (May 17, 2013), <http://www.drm.com/news/vermont-house-and-senate-approve-legislation-prohibiting-bad-faith-patent-infringement-claims> [<https://perma.cc/FAJ6-7LCG>] (Downs Rachlin Martin PLLC helped the Vermont Legislature draft the legislation); *Vermont’s Governor Shumlin Signs Nation’s First Patent Protection Law Against Bad Faith Claims*, *VERMONT CHAMBER OF COMMERCE* (May 22, 2013), <http://www.vtchamber.com/wcnews/NewsArticleDisplay.aspx?articleid=401> [<https://perma.cc/DW7Z-VP6P>]; Jim Beesen, Op-ed, *How Patent Trolls Doomed Themselves by Targeting Main Street*, *ARS TECHNICA* (Sept. 12, 2013), <http://arstechnica.com/tech-policy/2013/09/op-ed-how-patent-trolls-doomed-themselves-by-targeting-main-street/> [<https://perma.cc/8J4G-PD4D>].

of the Vermont law is that “[a] person shall not make a bad faith assertion of patent infringement.”⁵⁶ Bad faith is determined based on a balancing test consisting of nine factors that a court may consider as evidence of a bad faith assertion and seven factors that the court may consider as evidence that the assertion was not made in bad faith.⁵⁷ These factors include both objective and subjective factors relating to the intent of the patent owner.⁵⁸ The law also provides public and private remedies for assertions of patent infringement made in bad faith.⁵⁹

State anti-trolling statutes, however, create a patchwork of state regulation with which patent owners must comply, and threaten the goal of uniformity in patent law.⁶⁰ These state laws are rendered superfluous if patent owners can be held liable under state Little FTC Acts for any false or misleading statement contained in a demand letter.

II. PETITIONING IMMUNITY AND THE *NOERR-PENNINGTON* DOCTRINE

The Petition Clause of the First Amendment states that “Congress shall make no law respecting . . . the right of the people . . . to petition the Government for a redress of grievances.”⁶¹ Case law interpreting this phrase is muddled⁶² because most cases rely on other First Amendment principles, such as the Free Speech Clause.⁶³ Complicating matters, many courts use the *Noerr-Pennington* doctrine as shorthand for petitioning immunity generally.⁶⁴ But *Noerr-Pennington* is actually rooted in both the Petition

56. VT. STAT. ANN. tit. 9, § 4197(a).

57. VT. STAT. ANN. tit. 9, § 4197(b), (c) (each category permits the court to consider any factor that it finds relevant).

58. *See id.*

59. VT. STAT. ANN. tit. 9, §§ 4198–99.

60. *See* Sharon Israel & Jeong Ah Joy Lee, *Navigating the Growing Patchwork of Fraudulent Patent Demand Letter Laws: Tips for Patent Owners and Accused Infringers*, INSIDE COUNSEL (Oct. 7, 2015) (stating that state anti-trolling laws may present a trap for persons or entities sending patent assertion letters), <http://www.insidecounsel.com/2015/10/07/navigating-the-growing-patchwork-of-fraudulent-pat> [https://perma.cc/DU9L-MS4E].

61. U.S. CONST. amend. I.

62. *See, e.g.*, Einer Elhauge, *Making Sense of Antitrust Petitioning Immunity*, 80 CALIF. L. REV. 1177, 1191 (1992) (explaining that “antitrust petitioning immunity remains a doctrine without any clear moorings”).

63. Carol Rice Andrews, *A Right of Access to Court Under the Petition Clause of the First Amendment: Defining the Right*, 60 OHIO ST. L.J. 557, 673 (1999) (contrasting the right to petition and the right to freedom of speech).

64. *See* *Cardtoons, L.C. v. Major League Baseball Players Ass’n*, 208 F.3d 885, 889–90 (10th Cir. 2000).

Clause *and* statutory interpretation.⁶⁵ Although it is clear that petitioning immunity extends to petitions made to all three branches of government unless the act of petitioning is a “sham,”⁶⁶ defining these terms is less certain. As discussed in Section II.C, *infra*, there is a split among the circuit courts as to (1) whether immunity extends to pre-suit communications made incident to a valid petition and (2) the conditions under which the “sham” litigation exception applies.

A. SUPREME COURT JURISPRUDENCE

The Supreme Court has applied *Noerr-Pennington* in two contexts: the Sherman Act⁶⁷ and the National Labor Relations Act.⁶⁸ But the Court did not extend *Noerr-Pennington* doctrine to acts of libel committed in a petition to the executive branch. Where the doctrine does apply, there is an exception for cases of “sham” petitioning,⁶⁹ but it is unclear if this is the only test for the sham exception.

1. *Noerr-Pennington Doctrine: Immunity from Antitrust Litigation and the Right to Petition the Government*

Modern petitioning jurisprudence arose in the context of antitrust, taking its roots from both statutory interpretation and the First Amendment. Although the Court has wavered over time as to the significance of each of the constitutional and statutory justifications, *Octane Fitness*, discussed in Section III.E, *infra*, demonstrates that the Court continues to see petitioning immunity through both lenses.

In *Eastern Railroad Presidents Conference v. Noerr Motor Freight, Inc.* (“*Noerr*”),⁷⁰ the Supreme Court first recognized antitrust immunity for petitioning activities, holding that “no violation of the [Sherman] Act can

While we do not question the application of the right to petition outside of antitrust, it is a bit of a misnomer to refer to it as the *Noerr-Pennington* doctrine; a doctrine which was based on two rationales. In our view, it is more appropriate to refer to immunity as *Noerr-Pennington* immunity only when applied to antitrust claims. In all other contexts, including the present one, such immunity derives from the right to petition.

Id.

65. *Id.*

66. *Cal. Motor Transp. Co. v. Trucking Unlimited*, 404 U.S. 508, 510 (1972).

67. *See, e.g., E. R.R. Presidents Conference v. Noerr Motor Freight, Inc.*, 365 U.S. 127, 135 (1961).

68. *See, e.g., Bill Johnson’s Rests. v. NLRB*, 461 U.S. 731 (1983).

69. *Profl Real Estate Inv’rs Inc. v. Columbia Pictures Indus., Inc.*, 508 U.S. 49, 60–61 (1993).

70. 365 U.S. 127 (1961).

be predicated upon mere attempts to influence the passage or enforcement of laws.”⁷¹ As for statutory interpretation, the Court stated that there is no basis in the legislative history of the Sherman Act to indicate that it was intended to regulate political activity.⁷² And invoking the Petition Clause, the Court held that construing the Sherman Act to regulate political activity would “raise important constitutional questions,” and that it “cannot . . . lightly impute to Congress an intent to invade [the freedoms protected by the Bill of Rights].”⁷³ In the second namesake case, *United Mine Workers of America v. Pennington*,⁷⁴ the Court affirmed that the right to petition extends to petitioning executive branch agencies.⁷⁵

2. *Limits of Noerr Immunity: The “Sham” Exception*

The sham exception applies when the government process, as opposed to the outcome of that process, is used as an anticompetitive weapon.⁷⁶ In other words, immunity is lost where the defendant’s anticompetitive objective would occur regardless of any action taken by the government.⁷⁷

In *California Motor Transport Co. v. Trucking Unlimited* (“*Motor Transport*”),⁷⁸ the Court held, for the first time, that *Noerr* immunity does not apply in cases of “sham” petitioning, a concept originally discussed as dicta in *Noerr*.⁷⁹ Further, it expanded *Noerr* immunity to all branches of government, including administrative agencies and courts, stating that “[t]he right of access to the courts is indeed but one aspect of the right of petition.”⁸⁰

71. *Id.* at 135. Although frequently referred to as “*Noerr* immunity,” most courts have treated the *Noerr-Pennington* doctrine as an affirmative defense. *See* ABA, *supra* note 6, at 107.

72. *Id.* at 137.

73. *Id.* at 138. Additionally, in dicta, the Court stated: “There may be situations in which a publicity campaign, ostensibly directed toward influencing governmental action, is a mere sham to cover what is actually nothing more than an attempt to interfere with the business relationships of a competitor and the application of the Sherman Act would be justified.” *Id.* at 144. This statement would later be the basis for the doctrine’s “sham” litigation exception.

74. 381 U.S. 657 (1965).

75. *Id.* at 670 (“Joint efforts to influence [executive branch] officials do not violate the antitrust laws even though intended to eliminate competition.”).

76. *City of Columbia v. Omni Outdoor Advert., Inc.*, 499 U.S. 365, 380 (1991); *see also* DANIEL A. CRANE, ANTITRUST 181 (Vicki Been et. al. eds., 2014).

77. Crane, *supra* note 76, at 181.

78. 404 U.S. 508 (1972).

79. *Id.* at 511, 516.

80. *Id.* at 510.

Importantly, the Court commented that a party cannot avail itself of First Amendment protections when its speech is “used as an integral part of conduct which violates a valid statute.”⁸¹ And it made clear that there was a sliding scale of immunity, stating that “[m]isrepresentations, condoned in the political arena, are not immunized when used in the adjudicatory process.”⁸² Even though one claim of misconduct may go unnoticed, “a pattern of baseless, repetitive claims may emerge which leads the factfinder to conclude that the administrative and judicial processes have been abused.”⁸³

In *Allied Tube & Conduit Corp. v. Indian Head, Inc.*,⁸⁴ the Court restricted the scope of petitioning activity, concluding that whether or not the government or a private party was the source of the restraint was a determinative factor.⁸⁵ In doing so, it distinguished between liability due to harm caused by government action, which receives immunity under *Noerr*, and harm caused by the direct effects of the marketplace, which receives no such immunity.⁸⁶ Furthermore, the Court placed weight on whether the restraint was imposed by a body accountable to the public, or by a private party with a financial stake in the outcome.⁸⁷

In *Professional Real Estate Investors, Inc. v. Columbia Pictures Industries, Inc.* (“*PRE*”), the Court sought to clarify its jurisprudence on the “sham” litigation exception,⁸⁸ outlining a two-part definition of “sham” litigation based on both an objective and a subjective test.⁸⁹ Litigation efforts are considered a “sham” only if the lawsuit is (1) “objectively baseless in the sense that no reasonable litigant could realistically expect success on the

81. *Id.* at 514.

82. *Id.* at 513.

83. *Id.*

84. 486 U.S. 492 (1988).

85. *See id.* at 492–93; *see also* FTC, ENFORCEMENT PERSPECTIVES ON THE *NOERR-PENNINGTON* DOCTRINE 8 (2006), <https://www.ftc.gov/policy/policy-actions/advocacy-filings/2006/10/ftc-staff-report-concerning-enforcement-perspectives> [<https://perma.cc/2A5L-K7TE>].

86. *See id.* at 501–02 (holding that petitioning of a standard-setting organization did not receive immunity since no government had conferred official authority on the National Fire Protection Association, even though the organization’s recommendations would be adopted by governments as building code at a later date).

87. *Id.*; *see also* *FTC v. Superior Court Trial Lawyers Assoc.*, 493 U.S. 411, 424–25 (1990) (holding that *Noerr* immunity did not apply because the harm was entirely the result of the boycott, a harm that would have occurred regardless of whether the legislature had acted, and that even where petitioning activity is genuine (i.e., not a “sham”), it is not necessarily immune from antitrust liability under *Noerr*).

88. ABA, *supra* note 6, at 27.

89. 508 U.S. 49, 61 (1993).

merits,” and (2) “an attempt to interfere *directly* with the business relationship of a competitor through the use of the governmental *process*—as opposed to the *outcome* of that process—as an anticompetitive weapon.”⁹⁰ Furthermore, only if the challenged litigation is objectively meritless may a court examine the subjective motivations behind the litigation.⁹¹

Of significance, the Court explicitly declined to decide whether or not *Noerr* immunity extends to cases where antitrust liability arises from acts of fraud or other misrepresentations.⁹² But it referred back to its statement in *Motor Transport* that “[m]isrepresentations, condoned in the political arena, are not immunized when used in the adjudicatory process.”⁹³

3. *Right to Petition the Government Outside of Antitrust*

The Supreme Court has applied the “sham” litigation test not only in cases concerning the Sherman Act but also in cases implicating the National Labor Relations Act (NLRA). In *Bill Johnson’s Restaurants v. NLRB*,⁹⁴ the Court, in discussing the extent of First Amendment protections, stated, “Just as false statements are not immunized by the . . . right to freedom of speech, baseless litigation is not immunized by the . . . right to petition.”⁹⁵ The Court held that, considering the First Amendment right to access the courts, the “sham” litigation exception articulated in *Motor Transport* applied in cases arising under the NLRA.⁹⁶

Later, in *BE&K Construction Co. v. NLRB*,⁹⁷ the Court, citing *PRE* and *Pennington*, linked the First Amendment concerns from antitrust to those concerning the NLRA, stating “while the burdens on speech at issue in this case are different from those at issue in *Professional Real Estate Investors*, we are still faced with a difficult constitutional question: namely, whether a class of petitioning may be declared *unlawful* when a substantial portion of it is subjectively *and* objectively genuine.”⁹⁸

90. *Id.* at 60–61 (citations omitted) (emphasis in original).

91. *Id.* at 60.

92. *Id.* at 61 n.6.

93. *Id.*

94. 461 U.S. 731 (1983).

95. *Id.* at 743 (citing *Herbert v. Lando*, 441 U.S. 153, 171 (1979); *Gertz v. Robert Welch, Inc.*, 418 U.S. 323, 340 (1974)).

96. *See Bill Johnson’s Rests.*, 461 U.S. at 744. The Court created a “reasonable-basis inquiry” and held that “the Board may not halt the prosecution of a state-court lawsuit, regardless of the plaintiff’s motive, unless the suit lacks a reasonable basis in fact or law.” *Id.* at 748.

97. 536 U.S. 516 (2002).

98. *Id.* at 535.

However, the Court did not apply *Noerr* in a suit for libelous statements made in a petition to the executive branch. In *McDonald v. Smith*,⁹⁹ while the plaintiff was being considered for the position of United States Attorney, the defendant wrote letters to President Reagan that allegedly contained false, slanderous, and derogatory statements about the plaintiff.¹⁰⁰ The Court reasoned that, since First Amendment rights are inseparable, the speech in the defendant's letters should be afforded the same constitutional protections as all other expressions.¹⁰¹ The Court cited *Motor Transport* and *Bill Johnson's Restaurants* in asserting that petitioning immunity is not absolute, but it did not apply *Noerr* immunity nor did it apply an objectively baseless test.¹⁰² Instead, even though the statements were made as part of a genuine petition, the Court applied the "malice" standard for common law damages for libel.¹⁰³

B. THE FEDERAL CIRCUIT'S APPLICATION OF *NOERR-PENNINGTON* TO DEMAND LETTERS

Until 2004, eleven years after *PRE*, the Federal Circuit applied traditional preemption analysis in cases involving state-law claims based on pre-suit assertions of patent infringement. But in *Globetrotter Software, Inc. v. Elan Computer Group, Inc.*,¹⁰⁴ the Federal Circuit adopted the *Noerr-Pennington* doctrine and sham litigation exception as its test for federal preemption of state-law liability stemming from an assertion of patent rights. This change in jurisprudence shifted the focus of preemption of these claims from the federal patent law to the Petition Clause.¹⁰⁵

1. *Pre-Globetrotter: Preemption Based on Bad Faith Includes Objective and Subjective Factors*

Prior to *Globetrotter* the Federal Circuit applied preemption analysis based on federal patent law.¹⁰⁶ In the case *Zenith Electronics Corp. v. Exzec, Inc.*, the court addressed whether or not federal patent law preempts state-

99. 472 U.S. 479 (1985).

100. *Id.* at 480–81.

101. *Id.* at 485.

102. *Id.* at 484.

103. *Id.* at 485.

104. 362 F.3d 1367 (Fed. Cir. 2004).

105. See generally Marin R. Scordato, *Federal Preemption of State Tort Claims*, 35 U.C. DAVIS L. REV. 1 (2001) (discussing the traditional sources for the doctrine of federal preemption).

106. See *Zenith Elecs. Corp. v. Exzec, Inc.*, 182 F.3d 1340, 1355 (Fed. Cir. 1999) ("Preemption can occur in any one of three ways—explicit, field, or conflict preemption.").

law liability based on a claim of patent infringement.¹⁰⁷ Consolidating prior preemption analysis, the court held that to avoid patent law preemption of state claims, “bad faith must be alleged and ultimately proven, even if bad faith is not otherwise an element of the tort claim.”¹⁰⁸ As to the standard for “bad faith,” the court held that “exactly what constitutes bad faith remains to be determined on a case by case basis,” and noted that bad faith may encompass subjective as well as objective considerations.¹⁰⁹

2. *Post-Globetrotter: Preemption Based on Bad Faith Requires Objective Baselessness and Subjective Bad Faith*

In *Globetrotter*, the Federal Circuit shifted the focus of preemption from patent law to the Petition Clause. Abandoning the *Zenith* standard of “bad faith,” developed under federal patent law preemption, the court imported the Supreme Court’s “sham” litigation test from *PRE* (“the *PRE* standard”), which is rooted in the Petition Clause and statutory interpretation. This shift effectively bifurcated the test for preemption into two distinct parts: one for “objective baselessness” and one for “subjective bad faith.”¹¹⁰

Justifying its decision to import the *PRE* standard into patent law from antitrust, the Federal Circuit provided four reasons. First, patent holders must be allowed to inform potential infringers of infringing activity.¹¹¹ Supporting this assertion, the court cited the Supreme Court, which had reasoned—in 1913—that patents would be of little value if a potential infringer could not be notified of their actions.¹¹² Second, because other circuit courts had applied the *Noerr* and *PRE* line of cases to bar state-law liability for pre-suit communications, the Federal Circuit reasoned that

107. Liability in *Zenith* was based on claims of infringement, not any statement ancillary to those claims. *Id.* at 1343. The plaintiff, Exzec, alleged that *Zenith* should be liable under state unfair competition law for two false statements: (1) that Exzec’s product infringes *Zenith*’s patents, and (2) that Exzec could not manufacture a noninfringing product. *Id.*

108. *Zenith*, 182 F.3d at 1355 (citing *Dow Chem. Co. v. Exxon Corp.*, 139 F.3d 1470, 1476–77 (Fed. Cir. 1998); *Hunter Douglas, Inc. v. Harmonic Design, Inc.*, 153 F.3d 1318, 1336–37 (Fed. Cir. 1998)).

109. *Id.* at 1354–55 (citing *Mikohn Gaming Corp. v. Acres Gaming, Inc.*, 165 F.3d 891, 896 (Fed. Cir. 1998)).

110. *See generally* 6A CHISUM ON PATENTS § 19.06[2] (2015).

111. *Globetrotter Software, Inc. v. Elan Computer Grp., Inc.*, 362 F.3d 1367, 1377 (Fed. Cir. 2004).

112. *Id.* at 1374 (citing *Virtue v. Creamery Package Mfg. Co.*, 227 U.S. 8, 37–38 (1913) (“Patents would be of little value if infringers of them could not be notified of the consequences of infringement, or proceeded against in the courts. Such action, considered by itself, cannot be said to be illegal.”)).

Noerr should apply to demand letters in patent cases.¹¹³ Third, the same First Amendment principles supporting *Noerr* immunity in antitrust apply to immunity from state-law liability.¹¹⁴ And fourth, in *Golan v. Pingel Enterprises, Inc.*,¹¹⁵ a prior Federal Circuit case that prohibited a finding of bad faith when the information about potential infringement was “objectively accurate,” had already established a similar precedent.¹¹⁶ For these reasons, the court concluded that *Noerr* applied because state-law claims based on assertions of infringement were preempted under federal patent law *and* the First Amendment.¹¹⁷

According to the Federal Circuit, both petitioning immunity and the federal patent law preempt state-law tort liability so long as an assertion of patent infringement was not made in “bad faith.”¹¹⁸ Applying the *PRE* standard, “bad faith” requires proof of both objective and subjective components.¹¹⁹ Absent a showing that the infringement allegations are objectively baseless, the allegations of patent infringement are not in “bad faith.”¹²⁰

113. *Id.* at 1376 (citing *Coastal States Mktg., Inc. v. Hunt*, 694 F.2d 1358, 1367 (5th Cir. 1983); *A.D. Bedell Wholesale Co. v. Philip Morris, Inc.*, 263 F.3d 239, 252–53 (3d Cir. 2001); *Primetime 24 Joint Venture v. Nat’l Broad. Co.*, 219 F.3d 92, 100 (2d Cir. 2000); *McGuire Oil Co. v. Mapco, Inc.*, 958 F.2d 1552, 1560 (11th Cir. 1992)).

114. *Id.*

115. 310 F.3d 1360 (Fed. Cir. 2002).

116. *Globetrotter*, 362 F.3d at 1377. The court in *Golan* evaluated “bad faith” by asking whether the patent owner had a reasonable basis upon which to believe that the plaintiff’s products infringed. *See Golan*, 310 F.3d at 1371. The court outlined its standard for preemption under the patent law as follows:

[P]atentees do not violate the rules of fair competition by making accurate representations, and are allowed to make representations that turn out to be inaccurate provided that they make them in good faith. Nevertheless, if the party challenging such statements under state . . . law presents clear and convincing evidence that the infringement allegations are objectively false, and that the patentee made them in bad faith, viz., with knowledge of their incorrectness or falsity, or disregard for either, the statements are actionable and are not protected by the existence of a patent.

Id. (citation omitted). The court found that evidence of a disingenuous threat to file suit was insufficient, concluding that the intention to file suit is only one factor in determining bad faith, and that asserting one’s patent rights is permitted under the patent laws “in the absence of falsity or incorrectness, or disregard for either.” *Id.* at 1372.

117. *Globetrotter*, 362 F.3d at 1377 (“Our decision to permit state-law tort liability for only objectively baseless allegations of infringement rests on both federal preemption and the First Amendment.”).

118. *Globetrotter*, 362 F.3d at 1374–75.

119. *See id.* at 1376–77.

120. *See id.*

The *PRE* standard for sham litigation is based on the rationale that a litigant with probable cause to institute a lawsuit cannot be acting in bad faith.¹²¹ In the first part of the test, infringement allegations are “objectively baseless” when “no reasonable litigant could reasonably expect success on the merits.”¹²² Under this “reasonableness” standard,¹²³ state-law claims will be preempted unless they are a “sham”—that is, unless there is clear and convincing evidence that the patent owner had no reasonable basis to believe that (1) the patent rights were invalid at the time an accusation was made, or (2) the accused did not infringe any asserted patent claim.¹²⁴ But unlike under *Zenith* and its predecessors,¹²⁵ the Federal Circuit has yet to encounter a case where the infringement claims were subject to state-law liability, because it has not yet found a claim to be objectively baseless.¹²⁶

The second part of the test is subjective bad faith, which relates to the mindset of the patent owner in enforcing his or her patent rights.¹²⁷ Although the subjective component has received scant analysis, the Federal Circuit has designated broad categories of behaviors as exclusively related to subjective bad faith. Such behaviors include: (1) failing to examine a competitor’s product prior to making allegations of infringement,¹²⁸ (2) failing to seek expert advice or opinion before making accusations of infringement,¹²⁹ (3) not making infringement claims against makers of

121. See *Dominant Semiconductors Sdn. Bhd. v. OSRAM GmbH*, 524 F.3d 1254, 1261 (Fed. Cir. 2008).

122. *GP Indus., Inc. v. Eran Indus., Inc.*, 500 F.3d 1369, 1374 (Fed. Cir. 2007) (citing *Prof'l Real Estate Inv'rs, Inc. v. Columbia Pictures Indus., Inc.*, 508 U.S. 49, 60 (1993)).

123. See *Matthews Int'l Corp. v. Biosafe Eng'g, LLC*, 695 F.3d 1322, 1332 (Fed. Cir. 2012) (applying a reasonableness standard to determine whether or not the patent owner’s infringement allegations were objectively baseless).

124. See *800 Adept, Inc. v. Murex Sec., Ltd.*, 539 F.3d 1354, 1370 (Fed. Cir. 2008) (citing *Golan v. Pingel Enters., Inc.*, 310 F.3d 1360, 1371 (Fed. Cir. 2002)).

125. See *Zenith Elecs. Corp. v. Exzec, Inc.*, 182 F.3d 1340, 1343 (Fed. Cir. 1999); *Hunter Douglas, Inc. v. Harmonic Design, Inc.*, 153 F.3d 1318, 1318 (Fed. Cir. 1998); *Dow Chem. Co. v. Exxon Corp.*, 139 F.3d 1470, 1470 (Fed. Cir. 1998).

126. See *Gugliuzza*, *supra* note 4, at 1627 (stating that since *Globetrotter*, the Federal Circuit has barred state law claims in all but one case). In the case where the Federal Circuit found a material issue of fact pertaining to objectively baselessness, there was an issue as to whether or not the defendant had an exclusive license to the patents it referenced in letters to the plaintiff’s distributors and retailers. *Breckenridge Pharm. v. Metabolite Labs.*, 444 F.3d 1356, 1360, 1368 (Fed. Cir. 2006).

127. See *Prof'l Real Estate Inv'rs*, 508 U.S. at 60 (“Only if challenged litigation is objectively meritless may a court examine the litigant’s subjective motivation.”).

128. See *GP Indus.*, 500 F.3d at 1375.

129. See *Dominant Semiconductors Sdn. Bhd. v. OSRAM GmbH*, 524 F.3d 1254, 1263–64 (Fed. Cir. 2008) (holding that failure to perform sufficient analysis prior to bringing an infringement claim at the International Trade Commission was arguably relevant to subjective intent, but not objectively baseless); *GP Indus.*, 500 F.3d at 1375.

similar products,¹³⁰ and (4) having a reasonable basis for knowing that a patent was invalid at the time an infringement claim was made.¹³¹ In sum, these categories indicate that everything short of knowledge that a claim of infringement is false would likely be considered subjective bad faith. Determining whether these categories of behavior align with Supreme Court precedent on subjective bad faith requires a review of other circuits' treatment of pre-suit correspondence.

C. OTHER CIRCUIT COURTS' APPLICATION OF *NOERR-PENNINGTON* TO PRE-SUIT CORRESPONDENCE

Circuit courts have all applied the *Noerr-Pennington* doctrine beyond the context of antitrust, applying it to state-law business torts¹³² as well as other state and common law claims.¹³³ The courts differ, however, on (1) the extent to which *Noerr* immunity applies beyond direct petitions to the government and (2) exceptions to the doctrine.

1. *Split on Whether or Not Noerr Immunity Extends to Pre-suit Communications*

Several circuit courts have extended petitioning immunity to threats of litigation.¹³⁴ The Ninth Circuit, for example, extended *Noerr* to conduct that is incidental to a petition if the petition itself receives immunity.¹³⁵ The court reasoned that although demand letters are not themselves petitions, they may still receive immunity under the Petition Clause "so as to preserve

130. See *GP Indus.*, 500 F.3d at 1375.

131. See *800 Adept, Inc. v. Murex Sec., Ltd.*, 539 F.3d 1354, 1370–71 (Fed. Cir. 2008) (holding that allegations that the patent owner knew at the time it made allegations of infringement that prior art would anticipate its patent were relevant only to the question of subjective bad faith).

132. See, e.g., *IGEN Int'l, Inc. v. Roche Diagnostics GmbH*, 335 F.3d 303, 310 (4th Cir. 2003) ("[A]lthough originally developed in the antitrust context, the [*Noerr-Pennington*] doctrine has now universally been applied to business torts.").

133. See ABA, *supra* note 6, at 117–18.

134. See, e.g., *McGuire Oil Co. v. Mapco, Inc.*, 958 F.2d 1552, 1560 (11th Cir. 1992) (holding that concerted threats of litigation are protected under *Noerr*); *Coastal States Mktg., Inc. v. Hunt*, 694 F.2d 1358, 1367 (5th Cir. 1983) (holding that petitioning immunity extends to generalized threats to litigate a claim).

135. *Freeman v. Lasky, Haas & Cohler*, 410 F.3d 1180, 1184 (9th Cir. 2005). The incidental conduct rule is based on the Supreme Court's statement that a "restraint cannot form the basis for antitrust liability if it is 'incidental' to a valid effort to influence government action." *Allied Tube & Conduit Corp. v. Indian Head, Inc.*, 486 U.S. 499 (1988) (citing *E. R.R. Presidents Conference v. Noerr Motor Freight, Inc.*, 365 U.S. 127, 136 (1961)).

the breathing space required for the effective exercise of the rights it protects.”¹³⁶

The Tenth Circuit, on the other hand, extends petitioning immunity only to petitions made to “the Government,”¹³⁷ reasoning that the “clear language of the First Amendment” prevails over any policy argument in favor of granting immunity to private threats of litigation.¹³⁸ In the Tenth Circuit, therefore, statements threatening litigation are subject to liability under state statutory and common law,¹³⁹ unless preempted under some other basis.

2. *Different Exceptions to Noerr Immunity*

Some circuit courts apply two other exceptions in addition to the sham exception when the petitioning involves the courts. Two circuits have limited the sham exception articulated in *PRE* to cases involving a single act of petitioning, and apply a pattern of misconduct exception in cases involving a series of legal proceedings.¹⁴⁰ And several circuits permit a misrepresentation exception when a party knowingly made misrepresentations to a judicial body.¹⁴¹

The Ninth and Second Circuits apply *PRE*'s “sham” litigation test only where there is a single act of petitioning.¹⁴² Where a defendant is accused of

136. *Sosa v. DIRECTV, Inc.*, 437 F.3d 923, 933 (9th Cir. 2006); *see also* *BE&K Const. Co. v. NLRB*, 536 U.S. 516, 525 (2002) (“[T]he right to petition extends to all departments of the Government, and [] the right of access to the courts is . . . but one aspect of the right of petition.”) (citations omitted).

137. *Cardtoons, L.C. v. Major League Baseball Players Ass’n*, 208 F.3d 885, 891–92 (10th Cir. 2000) (emphasizing *McDonald* and noting that “statements made in a letter threatening litigation are not absolutely protected by the petition clause”).

138. *Id.* at 893.

139. *Id.* (holding that private threats of litigation do not receive petitioning immunity because they are not a petition made to the government).

140. *See, e.g.*, *Mercatus Grp., LLC v. Lake Forest Hosp.*, 641 F.3d 834, 843 (7th Cir. 2011); *Baltimore Scrap Corp. v. David J. Joseph Co.*, 237 F.3d 394, 401–02 (4th Cir. 2001) (citing *Cheminor Drugs, Ltd. v. Ethyl Corp.*, 168 F.3d 119, 123–24 (3d Cir. 1999)); *Primetime 24 Joint Venture v. Nat’l Broad. Co.*, 219 F.3d 92, 101 (2nd Cir. 2000); *USS-POSCO Indus. v. Contra Costa Cty. Bldg. & Const. Trades Council, AFL-CIO*, 31 F.3d 800, 811 (9th Cir. 1994).

141. *See, e.g.*, *Kearney v. Foley & Lardner, LLP*, 590 F.3d 638, 646 (9th Cir. 2009); *Kottle v. Nw. Kidney Ctrs.*, 146 F.3d 1056, 1060–61 (9th Cir. 1998).

142. *Primetime 24*, 219 F.3d at 101 (citing *USS-POSCO*); *USS-POSCO Indus. v. Contra Costa Cty. Bldg. & Const. Trades Council, AFL-CIO*, 31 F.3d 800, 811 (9th Cir. 1994) (interpreting *PRE*). In *USS-POSCO*, the Ninth Circuit concluded that *PRE* and *Motor Transport* dealt with different questions, stating, “We’re not persuaded that *Professional Real Estate Investors* effectively overrules *California Motor Transport*. Far from criticizing or limiting *California Motor Transport*, the *Professional Real Estate Investors* majority cites it with approval.” *Id.* at 810.

bringing a whole series of legal proceedings, a pattern of misconduct exception is permitted, and the test is prospective, not retrospective.¹⁴³ The relevant question becomes whether there is a pattern of misconduct, i.e., the legal filings were made, not out of a genuine interest in redressing grievances, but as part of a “pattern or practice” of successive legal actions undertaken “essentially for purposes of harassment.”¹⁴⁴ And, where the legal proceedings were brought without regard to the merits of the claim and for the purpose of a competitive advantage, it is immaterial that some of the claims might have merit.¹⁴⁵

Several courts apply varying forms of a misrepresentation exception. Under the Ninth Circuit rule, for example, litigation may be a sham where (1) a party knowingly made intentional representations to the court, and (2) those misrepresentations deprive the litigation of its legitimacy.¹⁴⁶ Other circuits, including the Third, Fourth, and Seventh Circuits, apply a more restrictive test, holding that if a misrepresentation exception exists, “it extends only to the type of fraud that deprives litigation of its legitimacy.”¹⁴⁷ According to this test, only misrepresentations that “infect the core” of the litigant’s case will deprive the litigant of the First Amendment Right to petition the government.¹⁴⁸ In the Seventh Circuit, for example, to render litigation a sham, misrepresentations must be (1) “intentionally made, with knowledge of [their] falsity,” and (2) “material, in the sense that [they] actually alter[] the outcome of the proceeding.”¹⁴⁹

The split in circuit court precedent discussed in this Section gives rise to two relevant questions. Should petitioning immunity extend to pre-suit communications? And if so, to what extent should immunity apply?

III. PETITIONING IMMUNITY SHOULD EXTEND TO THE RIGHT TO MAKE AN ASSERTION OF PATENT INFRINGEMENT

Whether petitioning immunity extends to the contents of a demand letter is a question that *Globetrotter* and its progeny are not equipped to

143. *Primetime 24*, 219 F.3d at 101.

144. *See id.*

145. *See id.*

146. *See Kearney*, 590 F.3d at 646; *Kottle*, 146 F.3d at 1060.

147. *Baltimore Scrap Corp. v. David J. Joseph Co.*, 237 F.3d 394, 401–02 (4th Cir. 2001) (citing *Cheminor Drugs, Ltd. v. Ethyl Corp.*, 168 F.3d 119, 123–124 (3d Cir. 1999)); *see Mercatus Grp., LLC v. Lake Forest Hosp.*, 641 F.3d 834, 843 (7th Cir. 2011).

148. *Baltimore Scrap Corp.*, 237 F.3d at 402; *Cheminor Drugs*, 168 F.3d at 123.

149. *See Mercatus Grp.*, 641 F.3d at 843.

address.¹⁵⁰ Specifically, there are two primary reasons why the fact patterns in previous cases applying petitioning immunity to pre-suit communications are different from those of demand letter extortion. First, prior questions of preemption turned on the truth of the infringement claim, whereas demand letter extortion involves liability based on statements regarding the value, or existence, of patent rights.¹⁵¹ Second, prior questions involved pre-suit communications that were sent to customers, distributors, or potential business partners of a competitor, whereas demand letter extortionists send communications directly to the alleged infringer.¹⁵² Therefore, in cases of demand letter extortion, because the harm is caused not only by the threat of litigation but also by false or misleading statements regarding the value of the patent, the First Amendment policy concerns justifying the Federal Circuit's adoption of the *PRE* standard do not apply. Responding to this distinction, this Part considers the statutory and constitutional underpinnings of extending petitioning immunity to assertions of patent infringement, considers the proper extent of petitioning immunity, and proposes two alternative exceptions to the doctrine.

A. APPLICATION OF *PRE* IN *MOTOROLA V. INNOVATIO* TWISTS
NOERR IMMUNITY BEYOND RECOGNITION

The Northern District Court of Illinois, applying Federal Circuit precedent, addressed the question of whether *Noerr* protects false or misleading statements in pre-suit demand letters.¹⁵³ In the case *In re Innovatio IP Ventures, LLC Patent Litigation*, a patent assertion entity sent demand letters to 8000 small- to medium-sized businesses. These letters alleged that the recipient's use of Wi-Fi technology infringed its patents, and they threatened to initiate "costly litigation" with anyone who did not

150. *But see* Chien, *supra* note 20, at 344 (describing the agrarian patent crisis of the late 1800s—a similar phenomenon—when patents were granted for slight changes in farm tools and royalty collectors would demand royalties from farmers).

151. *See, e.g.*, *Globetrotter Software, Inc. v. Elan Computer Grp., Inc.*, 362 F.3d 1367, 1368 (Fed. Cir. 2004) (alleging state-law counterclaims for tortious interference with prospective economic advantage and unfair competition arising from allegations of patent infringement sent to a company that was engaged in acquisition talks with the accused infringer); *Matthews Int'l Corp. v. Biosafe Eng'g, LLC*, 695 F.3d 1322, 1326 (Fed. Cir. 2012) (alleging multiple state-law claims based on claims that the defendant had made false accusations of patent infringement to the plaintiff's customers).

152. *See, e.g.*, *Golan v. Pingel Enters., Inc.*, 310 F.3d 1360, 1364–65 (Fed. Cir. 2002) (alleging unfair competition for cease-and-desist letters sent to the plaintiff's distributors stating that plaintiff's products infringed the defendant's patents).

153. *In re Innovatio IP Ventures, LLC Patent Litig.*, 921 F. Supp. 2d 903, 921 (N.D. Ill. 2013).

acquiesce to paying for a license.¹⁵⁴ The plaintiffs—the recipients of the demand letters—alleged that the demand letters contained misrepresentations regarding, *inter alia*, the number of licenses that had been issued for the patents, the value of the licenses, and the number of patents that had been held valid.¹⁵⁵

Applying the Seventh Circuit’s misrepresentation exception, discussed in Section II.C, *supra*, in conjunction with the Federal Circuit’s two-part test for sham litigation, the court adopted a rule that “only misrepresentations material enough to affect the outcome of a litigation proceeding are sufficient to render petitioning activity a sham.”¹⁵⁶ And applying this rule, it concluded that none of the alleged misrepresentations were “sufficiently central to Innovatio’s infringement claim to make its entire licensing campaign a sham.”¹⁵⁷ The court’s decision is problematic, however, because it tied preemption analysis to the plausibility of the claim of infringement. In other words, speech otherwise prohibited by state law was granted immunity solely because it was associated with a claim of patent infringement.¹⁵⁸

The holding in *In re Innovatio* is inconsistent with the Supreme Court’s precedent on petitioning immunity. In *McDonald*, for instance, the Court stated that speech contained in an act of petitioning is afforded the same constitutional protections as all other speech.¹⁵⁹ Yet in *In re Innovatio*, the district court granted blanket immunity in cases where liability was based on statements associated with assertions of patent infringement, effectively elevating the Petition Clause above the protections afforded to other speech. This holding exemplifies the distortions caused by the overextension of the *Noerr-Pennington* doctrine, and calls for a discussion of the appropriate limits for petitioning immunity and the *Noerr-Pennington* doctrine.

154. *Id.* at 907–08.

155. *Id.* at 920. For example, the complaint alleged that Innovatio’s representation that the patents had generated more than one billion dollars in settlements and licensing fees was a misrepresentation because almost ninety percent of the sum was based on a single settlement paid by Qualcomm, which was unrelated to the licensing program. *Id.* at 921.

156. *Id.* at 921.

157. *Id.*

158. See Gugliuzza, *supra* note 4, at 1631 (arguing that allowing patent holders to falsely threaten infringement litigation and to fabricate stories about past licensing success is tantamount to “a legal right to lie”).

159. *McDonald v. Smith*, 472 U.S. 479, 485 (1985) (holding that statements made in an act of petitioning should be judged under the “malice” standard for common law damages for libel).

B. THE FIRST AMENDMENT SHOULD IMMUNIZE PATENT OWNERS FROM STATE-LAW LIABILITY BASED ON ASSERTION OF PATENT INFRINGEMENT IN DEMAND LETTERS

Petitioning immunity granted under *Noerr-Pennington* should extend to the right to send demand letters because such a right is rooted in federal patent law and the First Amendment. Extending the right to petition to pre-suit communications of patent infringement, therefore, carries similar justifications as those given by the Supreme Court in *Noerr*.¹⁶⁰

1. *Statutory Basis in the Patent Act*

The Patent Act contains language indicating that Congress intended for patent owners to notify alleged infringers of infringing activity. As discussed in Section I.A, *supra*, the Patent Act states that “no damages shall be recover[able] . . . except on proof that the infringer was notified of the infringement and continued to infringe thereafter.”¹⁶¹ Based on this statutory language, Congress intended for patent owners to notify others of potentially infringing activities.

2. *Support from First Amendment Policy Justifications*

The Supreme Court crafted the *Noerr-Pennington* doctrine, and its exception for “sham” litigation, to avoid chilling the exercise of the First Amendment right to *petition the government* for the redress of grievances.¹⁶² The question is whether the Petition Clause provides immunity for communications occurring before any petition to the government is made.

Several circuits attempting to effectuate the purpose of *Noerr* extend petitioning immunity to conduct “incidental to a petition” so that the right to petition is protected.¹⁶³ The Ninth Circuit’s “breathing space” argument, for example, reasons that petitioning immunity should overprotect baseless petitions to ensure patent holders can access the courts without fear of

160. See Alan Devlin, *Antitrust Limits on Targeted Patent Aggregation*, 67 FLA. L. REV. 775, 845 (2015) (arguing that *Noerr* immunity should not apply to pre-suit correspondence where the sender threatens suit based on targeted patent aggregation).

161. 35 U.S.C. § 287(a) (2012).

162. See *Octane Fitness, LLC v. ICON Health & Fitness, Inc.*, 134 S. Ct. 1749, 1757 (2014); *Prof'l Real Estate Inv'rs, Inc. v. Columbia Pictures Indus., Inc.*, 508 U.S. 49, 56 (1993) (“Those who petition government for redress are generally immune from antitrust liability.”).

163. *Freeman*, 410 F.3d at 1184 (citing the Supreme Court’s statement in *Allied Tube* that “private action . . . cannot form the basis for antitrust liability if it is ‘incidental’ to a valid effort to influence governmental action,” 486 U.S. at 499); see also *McGuire Oil Co. v. Mapco, Inc.*, 958 F.2d 1552, 1560 (11th Cir. 1992) (citing *Coastal States Mktg., Inc. v. Hunt*, 694 F.2d 1358, 1367 (5th Cir. 1983)).

prosecution.¹⁶⁴ In fact, this stance is similar to the Federal Circuit's position that patents would be of little value if patent owners could not notify others of potential infringement.¹⁶⁵ And as stated by the Fifth Circuit, "If litigation is in good faith, a token of that sincerity is a warning that it will be commenced and a possible effort to compromise the dispute."¹⁶⁶ In the context of patent law, notifications of potentially infringing activity constitute an integral part of the process of petitioning the government. Accordingly, demand letters are arguably an integral part of the process of petitioning the courts, so they deserve the same protections as petitions generally.

The Tenth Circuit, in contrast, refuses to extend petitioning immunity to pre-litigation correspondence because potential state-law liability arising from assertions of patent infringement does not impede the *right* to bring an infringement suit.¹⁶⁷ This logic certainly applies to those statements in a demand letter that are not related to the assertion of patent infringement. But the threat of state-law liability may diminish the *incentive* for patent holders to enforce their patent rights. Because damages for infringement require proof that the infringer was notified of infringing activity,¹⁶⁸ any increase in potential liability based on such notification would limit the efficacy of petitioning to enforce one's patent rights. Therefore, the right to assert one's patent should receive constitutional protection because freedom to petition the court is integral to the property right that a patent conveys.

Alternatively, the right to notify an accused infringer of potentially infringing activity may have roots in the Intellectual Property Clause of the Constitution.¹⁶⁹ As cited by the Federal Circuit in *Globetrotter*,¹⁷⁰ the Supreme Court has stated, "Patents would be of little value if infringers of them could not be notified of the consequences of infringement Such action considered by itself cannot be said to be illegal."¹⁷¹ So, arguably,

164. See *Sosa v. DIRECTV, Inc.*, 437 F.3d 923, 934 (9th Cir. 2006).

165. See *Globetrotter Software, Inc. v. Elan Computer Grp., Inc.*, 362 F.3d 1367, 1374 (Fed. Cir. 2004).

166. *Coastal States*, 694 F.2d at 1367 (following its statement with the sentence: "This is the position taken by most of the courts that have considered the question.>").

167. See *Cardtoons, L.C. v. Major League Baseball Players Ass'n*, 208 F.3d 885, 892 (10th Cir. 2000) ("The plain language of the First Amendment protects only those petitions which are made to 'the Government.'").

168. See 35 U.S.C. § 287(a) (2012) ("In the event of failure so to mark, no damages shall be recovered by the patentee in any action for infringement, except on proof that the infringer was notified of the infringement and continued to infringe thereafter").

169. U.S. CONST. art I, § 8, cl. 8.

170. *Globetrotter*, 362 F.3d at 1374.

171. *Virtue v. Creamery Package Mfg. Co.*, 227 U.S. 8, 37–38 (1913).

notification of infringement is protected under the Constitution as a means “[t]o promote the Progress of Science and useful Arts, by securing for . . . Inventors the exclusive Right to their . . . Discoveries.”¹⁷² In sum, statutory and constitutional justifications support extending petitioning immunity to assertions of patent infringement, but not to statements tangential to such assertions because those statements extend beyond conduct incidental to a petition.

C. CURRENT TESTS FOR PREEMPTION BASED ON *NOERR-PENNINGTON* AND PETITIONING IMMUNITY ARE ILL-SUITED FOR CASES OF DEMAND LETTER EXTORTION

The problem with the Federal Circuit’s adoption of *Noerr-Pennington* in the context of patent infringement is that the court grounds its decision in both federal patent law *and* petitioning immunity.¹⁷³ But in the case of demand letters, statements tangential to a claim of infringement are too far removed to be “incidental” to a petition to the government. But the *Globetrotter* standard, as well as the misrepresentation exception, ignores this difference, shielding otherwise unlawful statements from state-law liability.

Demand letters are entitled to minimal protection under *Noerr* because they are a form of correspondence between private parties, not petitions addressed to the legislature.¹⁷⁴ Although *Globetrotter*’s adoption of *PRE*’s sham litigation standard, requiring preemption of state law unless the claim of infringement is both objectively and subjectively baseless,¹⁷⁵ reasonably protects those who are exercising their patent rights in good faith, applying this standard to statements tangential to a claim of infringement shields otherwise unlawful commercial conduct from state-law liability. In fact, statements tangential to a claim of infringement, such as those about the value of a patent, are not even “incidental” to any future petition.¹⁷⁶ As such, they are not entitled to the same protection as the claim of infringement. *Globetrotter*, however, arguably extends to the entirety of a demand letter

172. U.S. CONST. art I, § 8, cl. 8.

173. Gugliuzza, *supra* note 4, at 1616 (“Although the Federal Circuit has sometimes framed [] decisions [on a state’s ability to regulate patent enforcement] as involving preemption under the Supremacy Clause, the core issue is actually petitioning immunity under the First Amendment.”).

174. *See Allied Tube & Conduit Corp. v. Indian Head, Inc.*, 486 U.S. 492, 499 (1988) (holding that *Noerr* immunity depends on the “source, context, and nature” of the harm).

175. *See supra* Section II.B.2; *see generally* 6A CHISUM ON PATENTS § 19.06 (2015).

176. *See McDonald v. Smith*, 472 U.S. 479, 485 (1985) (“The right to petition is guaranteed; the right to commit libel with impunity is not.”).

the same constitutional protection as those protections afforded to petitions made to the legislative branch.

Globetrotter essentially extends immunity from state-law liability to the contents of a demand letter whenever there is a plausible claim of infringement. The test demands such reach because an assertion of patent rights is deemed a “sham” only if the patent owner knew that (1) the patent rights were invalid at the time the accusation was made, or (2) the accused’s product obviously did not infringe.¹⁷⁷ Illustrating the possible breadth of this test, MPHJ, in its Memorandum in Support of Its Motion for Summary Judgment, claimed that under *Globetrotter* and its progeny, the objectively baseless standard shields all of its licensing activities from state liability.¹⁷⁸ This statement is likely true because Federal Circuit precedent¹⁷⁹ classifies licensing practices, such as MPHJ’s, as administrative-like activities, which are indicative of subjective bad faith only.¹⁸⁰

Such far-reaching immunity conflicts with *McDonald*, which states that while the right to petition is guaranteed under the First Amendment, the right to deceive is not.¹⁸¹ Immunizing deceptive conduct in pre-suit communications implies that these communications receive the same

177. See 800 Adept, Inc. v. Murex Sec., Ltd., 539 F.3d 1354, 1370 (Fed. Cir. 2008) (“To prove . . . objective[] baseless[ness], [the plaintiff] was required to offer clear and convincing evidence that [the defendant] had no reasonable basis to believe that its patent claims were valid or that they were infringed . . .”).

178. MPHJ Tech. Invs., LLC’s Memorandum in Support of Its Motion for Summary Judgment Under Rules 12(d) & 56 at 19, Vermont v. MPHJ Tech. Invs., LLC (2014) (No. 2:13-CV-00170), 2014 WL 2420054.

[T]he State has contended that it could meet its burden to establish objective baselessness by presenting evidence of at least the following: (1) that MPHJ made threats to sue without having an intent to sue, threatened to sue in two weeks, and threatened to sue if recipients did not pay money; (2) that MPHJ had done an insufficient pre-suit investigation prior to sending the letters and “indiscriminately” sent the letters; . . . [and] (5) that MPHJ made allegedly false statements about responses and royalties it had received from prior parties The problem for the State is that none of these points relate to validity or infringement As a result, the State plainly cannot now contend that their allegations can prove objectively baselessness on the part of MPHJ’s patent enforcement activity.

Id.

179. See *supra* Section II.B.2.

180. See, e.g., Dominant Semiconductors Sdn. Bhd. v. OSRAM GmbH, 524 F.3d 1254, 1263–64 (Fed. Cir. 2008) (holding that failure to perform sufficient analysis prior to bringing an infringement claim at the International Trade Commission was arguably relevant to subjective intent, but not objectively baseless).

181. See *McDonald*, 472 U.S. at 485.

protections under *Noerr* as those given to acts in the political arena. But the Supreme Court clearly states that private communications are given substantially less protection than political speech.¹⁸²

Furthermore, the harm Vermont's attorney general alleged in *Vermont v. MPHJ Technology Investment, LLC* resulted from the direct effects of the marketplace, not government action.¹⁸³ This harm, based on "unfair and deceptive acts," would have occurred regardless of whether MPHJ filed suit. And, as held by the Supreme Court in *Allied Tube* and *FTC v. Superior Court Trial Lawyers Association*,¹⁸⁴ immunity under *Noerr* extends only to harm caused by government action. In sum, although *Globetrotter* effectively protects patent owners' right to assert their patent rights, the First Amendment policy justifications supporting *Noerr-Pennington* do not support extending immunity beyond these assertions.

Just like *Globetrotter's* two-part sham litigation test, the misrepresentation exception potentially extends petitioning immunity beyond assertions of patent infringement. As illustrated by *In re Innovatio*,¹⁸⁵ the misrepresentation exception inextricably links preemption of state-law claims based on misleading statements in demand letters to the validity of the patent owner's infringement claim.¹⁸⁶ But where such statements pertain to the value of patent rights, such statements will never affect the underlying claim of infringement. As a result, applying the misrepresentation exception test shields otherwise unlawful commercial conduct from state-law liability. An alternative test that balances the rights of patent owners with the rights of states to regulate business transactions would better effectuate the purpose of the *Noerr-Pennington* doctrine in cases of demand letter extortion.

182. See *Cal. Motor Transp. Co. v. Trucking Unlimited*, 404 U.S. 508, 513 (1972) ("Misrepresentations, condoned in the political arena, are not immunized when used in the adjudicatory process.").

183. See Vermont Complaint, *supra* note 31, ¶¶ 56–57.

184. 493 U.S. 411 (1990); see *supra* Section II.A.1.

185. *In re Innovatio IP Ventures, LLC Patent Litig.*, 921 F. Supp. 2d 903, 921 (N.D. Ill. 2013) ("[T]he Seventh Circuit has established that a misrepresentation can render an adjudicative proceeding a sham under *Noerr-Pennington* only if the misrepresentation is material enough to 'actually alter[] the outcome of the proceeding.'" (citation omitted)).

186. See *Mercatus Grp., LLC v. Lake Forest Hosp.*, 641 F.3d 834, 843 (7th Cir. 2011) (holding that to render litigation a sham, misrepresentations must be (1) "intentionally made, with knowledge of [their] falsity," and (2) "material, in the sense that [they] actually alter[] the outcome of the proceeding").

D. TWO ALTERNATIVE STANDARDS FOR BAD FAITH MAY PROVIDE
A BETTER TEST FOR CASES OF DEMAND LETTER EXTORTION

Given the shortcomings of combining preemption under the federal patent law with preemption under the Petition Clause, a more appropriate test provides flexibility in determining bad faith using objective *and* subjective factors. Therefore, assuming that petitioning immunity extends to assertions of patent infringement, the question is, what is the appropriate standard for a “sham” assertion of patent infringement? Two complementary standards are (1) the rule applied in *Zenith* and (2) the pattern of misconduct exception. The *Zenith* standard separates preemption based on petitioning immunity from preemption based on the federal patent law.¹⁸⁷ The pattern of misconduct exception permits state-law liability for an assertion of patent infringement where multiple assertions were made in bad faith.¹⁸⁸

1. *Return to Preemption Analysis Under Zenith*

If immunity under the Petition Clause is limited to notifications of patent infringement, claims arising from statements tangential to an infringement claim may still be preempted under federal patent law principles.¹⁸⁹ In essence, this is a return to the *Zenith* standard. Under *Zenith*, to avoid patent law preemption of state-law tort claims, “bad faith must be alleged and ultimately proven, even if bad faith is not otherwise an element of the tort,”¹⁹⁰ with the standard for “bad faith” being determined on a case-by-case basis using subjective as well as objective considerations.¹⁹¹ This standard focuses preemption analysis on the source of the alleged harm, which in cases of demand letter extortion is the false and misleading statements contained in the letter.

Because the *Zenith* standard is not based on the Petition Clause, false and misleading statements are judged under the same standard as

187. *See supra* Section II.B.1.

188. *See supra* Section II.C.2.

189. *See* David McGowan & Mark A. Lemley, *Antitrust Immunity: State Action and Federalism, Petitioning and the First Amendment*, 17 HARV. J.L. & PUB. POL’Y 293, 399 (1994) (arguing that *Noerr* immunity in the litigation context should extend to a right of access and no more).

190. *Zenith Elecs. Corp. v. Exzec, Inc.*, 182 F.3d 1340, 1355 (Fed. Cir. 1999) (citing *Hunter Douglas, Inc. v. Harmonic Design, Inc.*, 153 F.3d 1318, 1336–37 (Fed. Cir. 1998)).

191. *See id.* at 1354–55 (citing *Mikohn Gaming Corp. v. Acres Gaming, Inc.*, 165 F.3d 891, 896 (Fed. Cir. 1998)).

commercial speech.¹⁹² And where speech is used in a commercial context, if it is misleading, or concerns illegal activity, it is considered not legitimate and receives no constitutional protection.¹⁹³ In the case of MPHJ, for example, the false statement that the licensing fee of \$1000 per employee was derived through good faith negotiations would receive no protection under the First Amendment's Free Speech Clause. MPHJ's false statement, therefore, would be subject to liability under a state's Little FTC Act.

It is worth noting that state anti-trolling laws often conform to the *Zenith* standard of bad faith. State laws, such as the one passed by Vermont,¹⁹⁴ use objective and subjective factors to determine when patent holders should be liable for the contents of a demand letter. Decoupling petitioning immunity from federal patent law preemption and applying the *Zenith* standard would likely render these laws moot.

2. Possible Adoption of the Pattern of Misconduct Exception

Additionally, courts may choose to expand acceptance of the "pattern of conduct exception." This exception applies a prospective test linking preemption analysis to the intent of the patent owner where there are multiple petitions (or, in this context, multiple assertions of patent infringement).¹⁹⁵ Applying the Ninth and Second Circuits' standard, an assertion of infringement is made in bad faith (i.e., it is a sham) where demand letters are sent, not out of a genuine interest in redressing

192. Statements in demand letters about the value of patent rights generally fit the definition of commercial speech. See Victor Brudney, *The First Amendment and Commercial Speech*, 53 B.C. L. REV. 1153, 1155–56 (2012) (defining "narrow" commercial speech as consisting "of a communication that (1) proposes or offers explicitly or 'implicitly' a sale or exchange transaction in a specified commodity or service, and is made by the proposer (or its agents) as part of its business of profiting from such transactions, and (2) does no more than describe the terms of such proposal or simply identify the putative seller's products"). Professor Gugliuzza makes a similar proposal, arguing for a return to the "good faith" standard, where the law protects patent holders from state-law liability unless their allegations of infringement are unfair or deceptive. And in applying the good faith standard, courts should consider both subjective and objective considerations. Gugliuzza, *supra* note 4, at 1642.

193. See *Va. St. Bd. of Pharmacy v. Va. Citizens Consumer Council, Inc.*, 425 U.S. 748, 771–72 (1976) ("The First Amendment, as we construe it today does not prohibit the State from insuring that the stream of commercial information flow cleanly as well as freely."); DANIEL A. FARBER, *THE FIRST AMENDMENT* 169 (Robert C. Clark et. al. eds., 4th ed. 2014); see generally Jennifer E. Rothman, *Commercial Speech, Commercial Use, and the Intellectual Property Quagmire*, 101 VA. L. REV. 1929 (2015) (defining commercial speech in the context of intellectual property).

194. See *supra* Section I.C.2.

195. See James D. Hurwitz, *Abuse of Governmental Processes, the First Amendment, and the Boundaries of Noerr*, 74 GEO. L.J. 65, 100–02 (1985).

grievances but for the purpose of harassment, without regard to the fact that some of the claims might have merit.¹⁹⁶ Therefore, where the defendant is accused of bringing a whole series of legal proceedings, a “prospective” test applies.¹⁹⁷

This exception is based on *Motor Transport*, where the Supreme Court stated that where there is “a pattern of baselessness, repetitive claims may emerge which lead[] the factfinder to conclude that the . . . judicial processes have been abused.”¹⁹⁸ *Noerr* immunity protects petition activities resulting in harm due to government action, but not harm that occurs in the marketplace. Harm caused by repetitive claims can reasonably be considered the result of the plaintiff’s business decisions, not judicial action.

The misconduct test requires caution, however, because depending on the scope of infringement, patent owners may send demand letters to large numbers of end users for genuine infringement claims. These letters, legitimately sent for the purpose of monetizing patent rights, might, on a large enough scale, appear as harassment of local businesses. But a factfinder can find a “pattern of baselessness” only where the subjective factors indicating bad faith overwhelm the merits of the infringement claim—a significant threshold given the presumption of patent claim validity.¹⁹⁹ So where claims of infringement are objectively accurate and made in subjective good faith, there is no abuse of the judicial process.

For example, in the MPJH litigation, such a standard weighs a presumption that the patent claims are valid against the (1) empty threats to sue if recipients do not pay money; (2) absence of pre-suit investigation, (3) targeting of businesses who are unable to afford an attorney, and (4) false and misleading statements about the value of the patent rights. If the harm caused by the scale of the deception outweighed the right to assert the patent, petitioning immunity would no longer apply. And based on the combination of these factors, a court could conclude that, although MPHJ’s infringement claims may have merit, because the letters were not sent to address a “genuine” grievance, the company may still be liable under state law for claims based on receipt and contents of the demand letter.

196. See *Primetime 24 Joint Venture v. Nat’l Broad. Co.*, 219 F.3d 92, 101 (2d Cir. 2000); *USS-POSCO Indus. v. Contra Costa Cty. Bldg. & Const. Trades Council, AFL-CIO*, 31 F.3d 800, 811 (9th Cir. 1994).

197. *Primetime 24*, 219 F.3d at 101.

198. *Cal. Motor Transp. Co. v. Trucking Unlimited*, 404 U.S. 508, 513 (1972).

199. See 35 U.S.C. § 282 (2012); Sudarshan, *supra* note 20, at 174–75 (discussing the implications of the presumption of validity).

E. *OCTANE FITNESS* FURTHER SUPPORTS A MORE LIMITED APPLICATION OF *NOERR-PENNINGTON*

The most recent Supreme Court case interpreting *Noerr* was *Octane Fitness*.²⁰⁰ The Federal Circuit had applied *PRE*'s "sham" litigation test as the standard for determining whether a case was so "exceptional" that an award of attorney's fees was justified under § 285 of the Patent Act.²⁰¹

Overturing the Federal Circuit, the Court looked to the statutory and constitutional support for applying *PRE*. First, the Court held that the *PRE* standard was not rooted in the text of § 285, and it made little sense in the context of determining an award of attorney's fees. Second, the Court pointed out that the exception for "sham" litigation was crafted, specifically, "to avoid chilling the exercise of the First Amendment right to petition the government for the redress of grievances."²⁰² *PRE*, therefore, did not apply because the Court found no reason why shifting fees in an "exceptional" patent case would diminish the right to petition the government.²⁰³

The Court's evaluation of *Octane Fitness* likely reflects the way it would judge the merits of applying petitioning immunity to (1) demand letters and (2) the contents of a demand letter. As discussed in Section III.B, *supra*, in the case of patent infringement, demand letters find a statutory basis in § 287(a) of the federal patent statute. And petitioning immunity arguably serves to promote the ability of patent owners to access the courts in exercising their patent rights. As for contents of a demand letter, there is no statutory basis for such immunity and permitting state-law liability would have no greater impact on petitioning than the application of state law to other commercial speech. Based on these similarities, the Supreme Court

200. *Octane Fitness, LLC v. ICON Health & Fitness, Inc.*, 134 S. Ct. 1749, 1749 (2014).

201. *Id.* at 1757. A unanimous Court defined the *Noerr-Pennington* doctrine and its "sham exception" as follows:

[D]efendants are immune from antitrust liability for engaging in conduct (including litigation) aimed at influencing decisionmaking [sic] by the government. But under a "sham exception" to this doctrine, "activity 'ostensibly directed toward influencing governmental action' does not qualify for *Noerr* immunity if it 'is a mere sham to cover . . . an attempt to interfere directly with the business relationships of a competitor [T]o qualify as a "sham," a "lawsuit must be objectively baseless" and must "concea[1] 'an attempt to interfere directly with the business relationships of a competitor In other words, the plaintiff must have brought baseless claims [in bad faith].

Id. at 1757 (quoting *Prof'l Real Estate Inv'rs, Inc. v. Columbia Pictures Indus., Inc.*, 508 U.S. 49, 51, 56, 60–61 (1993)).

202. *Id.*

203. *Id.*

would likely overturn any extension of *Noerr-Pennington* beyond the assertion of patent infringement.

IV. CONCLUSION

Extending petitioning immunity to threats of litigation possibly stretches the *Noerr-Pennington* doctrine beyond the bounds established by the Supreme Court. But in the case of patent infringement, the right to assert one's patent rights implicates a combination of statutory and constitutional moorings similar to those justifying petitioning immunity in antitrust. As such, the act of notification, but no other communication, should receive immunity from state-law liability under the Petition Clause. Courts, thereby, can protect patent owners' right to notify alleged infringers of potentially infringing activity, and at the same time, ensure that valid state-law claims are not improperly preempted based on their connection to a demand letter. Unlike current Federal Circuit precedent, this approach would enable states to apply traditional commercial regulations in the context of commercial speech contained in assertions of patent infringement.²⁰⁴ These reforms, therefore, should curb abuse of the judicial system through demand letter extortion and nullify the perceived need for state anti-trolling laws.

204. See Gugliuzza, *supra* note 4, at 1603–09 (discussing Supreme Court precedent on preemption under the federal patent law and the Supremacy Clause generally).

“SHALL” WE DANCE? INTERPRETING THE BPCIA’S PATENT PROVISIONS

Jon Tanaka[†]

Since the Food and Drug Administration (FDA) first approved a biologic in 1982, biologics, a type of therapeutic drug, have become an increasingly significant percentage of the pharmaceutical market. Hundreds of biologics have been approved to treat a wide array of diseases.¹ However, due to their large development costs, biologics have remained much more expensive than other pharmaceutical products.

In an attempt to address the high cost of biologics, Congress passed the Biologics Price Competition and Innovation Act of 2009 (BPCIA), which created an abbreviated FDA approval pathway for biosimilars, the equivalent of generic drugs for biologics. The BPCIA aimed to balance innovation with consumer interest by allowing the biosimilar maker to partially benefit from an approved reference product’s clinical trial data, while giving the innovator twelve years of exclusivity and a means for efficiently resolving patent disputes. The patent dispute resolution process included an exchange of information—the biosimilar maker’s application and manufacturing information for the reference product sponsor’s list of potentially infringed patents—termed the “patent dance.”

In the Federal Circuit’s first decision interpreting the BPCIA, *Amgen Inc. v. Sandoz Inc.*,² a split court found that the patent dance was not mandatory, and a biosimilar maker could decline to engage in the information exchange. However, the language, statutory structure, and legislative history of the patent dispute resolution provisions in the BPCIA show that Congress intended the patent dance to be mandatory. In the short run, the Federal Circuit’s *Amgen* decision may lead to a greater number of cheaper biosimilar products getting to market more quickly. Overall, the decision may make resolving biosimilar patent disputes a lengthier, costlier,

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1. FDA, PURPLE BOOK: LISTS OF LICENSED BIOLOGICAL PRODUCTS WITH REFERENCE PRODUCT EXCLUSIVITY AND BIOSIMILARITY OR INTERCHANGEABILITY EVALUATIONS, <http://www.fda.gov/Drugs/DevelopmentApprovalProcess/HowDrugsareDevelopedandApproved/ApprovalApplications/TherapeuticBiologicApplications/Biosimilars/ucm411418.htm> [<http://perma.cc/F342-LK8B>] (last visited Jan. 26, 2016).

2. 794 F.3d 1347, 1348 (Fed. Cir. 2015).

and more inefficient process, as well as create additional uncertainty in biosimilar patents, ultimately hurting incentives to innovate.

Part I of this Note sets up background information for understanding the current state of biosimilars and biosimilar regulation. Next, Part II sets forth the Federal Circuit's decision in *Amgen Inc. v. Sandoz Inc.* Part III goes through a statutory interpretation analysis of the BPCIA. Finally, Part IV suggests that the Federal Circuit's decision may be beneficial for consumers in the short run, but harmful in the long term.

I. BACKGROUND

In part, the science behind biologics created particular issues for any biosimilar regulation to address. Moreover, the growing importance of biologics in the pharmaceutical industry increased the pertinence of passing legislation to regulate biosimilars. Responding to this specific need for biologics and biosimilar regulation, congressional representatives introduced multiple bills proposing different schemes of biosimilar regulation over the course of five years. Ultimately, Congress passed the BPCIA, which contained the particular patent dispute resolution provisions at issue in *Amgen*.

A. THE SCIENCE OF BIOLOGICS & BIOSIMILARS

Pharmaceutical drugs can be roughly divided into two categories: chemical compounds and biologics. Biologics are protein-based drugs typically made by utilizing cell lines with recombinant DNA technology to synthesize the biologic molecule.³

Biologic drugs can consist of millions of atoms, as opposed to small-molecule chemical compounds which comprise no more than a few dozen atoms.⁴ Because biologics are created using living systems and not simply chemically synthesized, there is some heterogeneity in the structure of biologics.⁵ Small variations in manufacturing conditions can lead to minor structural differences in "identical" biologics.⁶ Owing both to the large,

3. Joyce Wing Yan Tam, *Biologics Revolution: The Intersection of Biotechnology, Patent Law, and Pharmaceutical Regulation*, 98 GEO. L.J. 535, 535 (2010).

4. Linfong Tzeng, *Follow-On Biologics, Data Exclusivity, and the FDA*, 25 BERKELEY TECH. L.J. 135, 138 (2010).

5. *Id.*

6. *Id.*

complex nature and structural variations of biologics, the composition of biologics can be difficult to fully characterize.⁷

The nature of biologics presents unique difficulties in assessing follow-on products that do not apply to small molecules. As minute changes in the manufacturing conditions can result in differences, follow-on biologics can only achieve structural similarity, and not structural identity, with the original product.⁸ Moreover, current analytical techniques cannot fully resolve the differences between the original and follow-on product for direct comparison.⁹ Not every protein structure may be resolved with current techniques, and using these techniques to identify protein structure is costly and time-intensive,¹⁰ making it infeasible to structurally resolve every batch of biologic. Thus, the possibility exists that these small differences in structure and manufacture may lead to tangible differences in product efficacy, safety, and purity.¹¹ Unfortunately, the only way to know whether those changes will result in reduced efficacy or safety is through clinical trials.¹²

B. THE INCREASING BIOLOGICS & BIOSIMILARS MARKET

The market and market share for biologics has increased significantly since the turn of the century. In 2014, biologics accounted for 29% (\$159 billion) of global pharmaceutical sales, up from just 10% in 2000.¹³ And the market is projected to continue to grow.¹⁴ In part, the high percentage of sales is due to the extraordinary cost of biologics. In 2013, the average daily cost in the United States of a biologic drug was \$45, compared to \$2 for a small-molecule drug.¹⁵

The increasing market for biologics makes them ripe for competition. Moreover, many biologics are no longer covered by intellectual property rights, as patent protection for many lucrative biologics either already has

7. Arthur J. Chirino & Anthony Mire-Sluis, *Characterizing Biological Products and Assessing Comparability Following Manufacturing Changes*, 22 NATURE BIOTECHNOLOGY 1383, 1383 (2004).

8. Tzeng, *supra* note 4, at 138.

9. *Id.* at 139.

10. *See* Chirino & Mire-Sluis, *supra* note 7, at 1389.

11. *Id.* at 1384.

12. Tzeng, *supra* note 4, at 139–40.

13. Ashley Kindergan, *Biosimilars Are Here. Now What?*, FINANCIALIST (Apr. 13, 2015), <https://www.thefinancialist.com/biosimilars-are-here-now-what> [<http://perma.cc/7MRU-2ZG7>].

14. *See* Erwin A. Blackstone & Joseph P. Fuhr, Jr., *The Economics of Biosimilars*, 6 AM. HEALTH & DRUG BENEFITS 469, 470 (Sept.–Oct. 2013).

15. *Id.* at 469.

expired or will expire in the next few years. Between 2009 and 2015, an estimated thirty-two biologics, representing \$51 billion in sales in 2009, lost patent protection.¹⁶ By 2018, biologics worth \$43 billion are projected to lose patent protection.¹⁷

Even without considering patent exclusivity, there are still significant barriers to enter the biosimilars market. Whereas generic drugs cost between \$1 million and \$4 million to develop and market, biosimilar development takes seven to eight years and costs between \$100 million and \$250 million.¹⁸ Still, the development cost of a biosimilar is significantly lower than the estimated \$1.9 billion in 2012¹⁹ and ten to fifteen years to develop a new pharmaceutical drug.²⁰ Moreover, due to the significant barriers to entry, biosimilars are likely to be produced by large pharmaceutical companies with significant capital²¹ and to be priced much more closely to the original biologic. In Europe, the average biosimilar is 30% less expensive than its reference product.²² Thus, while introducing biosimilars into the market will help alleviate the high price of biologics, they will remain significantly more expensive than small-molecule drugs.

C. THE LEGISLATIVE HISTORY OF THE BPCIA

Before the enactment of the BPCIA, overlap between existing regulatory structures caused confusion for the regulation of biologics.²³ Starting in 2006, Congress actively engaged in passing new, unified legislation to regulate biosimilar approval. Between 2006 and 2009, Congress proposed eight different bills and a slew of amendments to create an abbreviated biosimilar approval pathway. Those bills varied substantially in their definitions of biosimilarity and interchangeability and the length of innovator exclusivity.²⁴

16. *Id.* at 470.

17. Kindergan, *supra* note 13.

18. Blackstone & Fuhr, *supra* note 14, at 470–71.

19. *Id.* at 473.

20. Michael S. Montgomery, Note, *Generics and Biosimilars: Mapping the Biosimilars Regulatory Approval Pathway Against the Hatch-Waxman Act and Projecting Future Effects on the Biologics Market and Patent Protection*, 75 U. PITT. L. REV. 387, 388 (2014).

21. Bruno Calo-Fernández & Juan Leonardo Martínez-Hurtado, *Biosimilars: Company Strategies to Capture Value from the Biologics Market*, 5 PHARMS. 1393, 1399 (2012).

22. Blackstone & Fuhr, *supra* note 14, at 471.

23. Krista Hessler Carver et al., *An Unofficial Legislative History of the Biologics Price Competition and Innovation Act of 2009*, 65 FOOD & DRUG L.J. 671, 681–82 (2010).

24. See generally Parker Tresemer, Comment, *Interests in the Balance: FDA Regulations Under the Biologics Price Competition and Innovation Act*, 16 UCLA J.L. & TECH. 1 (2012) (comparing the biosimilarity requirements and exclusivity periods of various bills).

The bills also proposed multiple different schemes to resolve patent disputes between the innovator and the biosimilar applicant. Important differences in these schemes included: (1) whether the patent scheme was mandatory, (2) how the biosimilar applicant disclosed its information, and (3) when and which party could initiate a declaratory judgment action. The specifics of these patent provisions were important to industry actors and carefully considered by Congress.

Representative Henry Waxman introduced three bills between 2006 and 2008: H.R. 6257, H.R. 1038, and H.R. 1427.²⁵ These bills had largely identical patent provisions, which were more favorable to the biosimilar applicant than any other proposed bill's provisions. These bills proposed a patent resolution process that was much different from the provisions in today's BPCIA.

H.R. 6257 provided that the biosimilar applicant "may send a written request for patent information to the holder of the approved application for the reference product."²⁶ As such, the patent dispute resolution process as a whole was an option that the biosimilar applicant could decide to take part in. The bill explicitly provided that "[t]he decision as to whether to invoke the procedures set forth in this paragraph is left entirely to the discretion of the applicant."²⁷ Should the applicant make a request, the patent holder would be required to send a list of all the patents it believed covered the reference product.²⁸ Notably, there were no provisions which required the biosimilar applicant to disclose any of its own information to the patent holder.

The patent holder could only bring suit if the applicant decided to provide a notice that the patents were invalid, unenforceable, or not infringed.²⁹ The bill then proposed limitations on the remedies available should the innovator fail to disclose a patent or bring suit in a timely manner. An innovator who fails to disclose a patent entirely would be barred from bringing an infringement action on that patent.³⁰ And one who fails

25. H.R. 1427, 111th Cong. (1st Sess. 2008); H.R. 1038, 110th Cong. (1st Sess. 2007); H.R. 6257, 109th Cong. (2d Sess. 2006). Concurrently with H.R. 6257, Senator Schumer introduced an identical bill, S. 4016, to the Senate. Carver et al., *supra* note 23, at 716.

26. H.R. 6257 § 3(a)(2) (proposed Public Health Service Act (PHSA) § 351(k)(16)(A)(i)).

27. *Id.* § 3(a)(2) (proposed PHSA § 351(k)(16)(E)).

28. *Id.* § 3(a)(2) (proposed PHSA § 351(k)(16)(A)(i)).

29. *Id.* § 3(a)(2) (proposed PHSA § 351(k)(16)(B)–(C)).

30. *Id.* § 3(a)(2) (proposed PHSA § 271(e)(5)(B)).

to bring suit within the allotted forty-five days would have a reasonable royalty as a sole remedy for prevailing in an infringement action.³¹

The patent provisions of Waxman's bills were criticized by the makers of original biologic products, referred to as the innovator industry. The Biotechnology Innovation Organization (BIO), a trade association representing the interests of innovator companies, "strongly oppose[d]" H.R. 1038, in part because it "eviscerate[d] incentives to develop new therapies through its one-sided alteration of long-standing patent law in ways that favor follow-on biologics' manufacturers."³² Additionally, in a 2009 House hearing, Teresa Rea, President of the American Intellectual Property Law Association (AIPLA), criticized Waxman's patent resolution provisions as having the potential to weaken biotechnology patents.³³ Chiefly, Rea was concerned that the bill would limit patent holders' ability to assert their patent rights, as it did not provide the patent holder with "any access to information to determine whether the follow-on product likely infringes any of the reference product holder's patents."³⁴ And, without allowing for all disputes to be resolved prelaunch, patent disputes "would strain the federal judiciary by requiring—in preliminary injunction proceedings—resolution of the complex legal and scientific questions involved with each biosimilar product launch."³⁵

Patent dispute resolution provisions were clearly important to the innovator industry. In 2007, Representative Jay Inslee introduced H.R. 1956.³⁶ H.R. 1956 had strong support from the innovator industry.³⁷ However, notably, the Inslee bill did not provide for any mechanism of patent dispute resolution.³⁸ In a largely supportive letter to Representative Inslee regarding the bill, BIO stressed the importance of adding such a provision to the legislation. As such, BIO encouraged Inslee to add

31. *Id.* § 3(a)(2) (proposed PHSA § 271(e)(5)(A)).

32. Press Release, Biotechnology Innovation Organization, BIO Restates Opposition to H.R. 1038 (Mar. 26, 2007), <http://www.bio.org/media/press-release/bio-restates-opposition-hr-1038> [<http://perma.cc/GT8C-VB5U>].

33. *Biologics and Biosimilars: Balancing Incentives for Innovation: Hearing Before the Subcomm. on Courts and Competition Policy of the H. Comm. on the Judiciary*, 111th Cong. 21, 197 (2009) [hereinafter *Biologics Hearings*].

34. *Id.* at 208.

35. *Id.* at 201.

36. H.R. 1956, 110th Cong. (1st Sess. 2007).

37. Carver et al., *supra* note 23, at 739.

38. *See* H.R. 1956.

“appropriate mechanisms for the resolution of any patent-related disputes that may occur prior to market entry of a follow-on biologic.”³⁹

Also in 2007, Senator Judd Gregg introduced a bill similar to Representative Inslee's.⁴⁰ One main difference between Inslee's bill and Gregg's bill was that the latter included patent resolution provisions. Once the biosimilar application was submitted, the reference product sponsor “may request information” from the applicant to determine infringement, provide patent information to the applicant, or indicate licensing preference.⁴¹ Thus, the patent scheme was a nonmandatory scheme which gave the reference product sponsor the ability to decide whether to initiate the process. Finally, the bill provided limitations upon when the biosimilar applicant could bring a declaratory judgment action but not on when the patent holder could.⁴²

In 2008, Representative Anna Eshoo introduced H.R. 5629, with yet another distinct patent resolution structure.⁴³ Upon submission of the application, the biosimilar applicant “shall provide the reference product sponsor” the application and manufacturing information.⁴⁴ At the time, interested industry actors seemed to interpret this language to mean the disclosure was mandatory.⁴⁵ Unlike any other bill, it allowed “interested third parties” to give notice to the biosimilar applicant and engage in the patent resolution process.⁴⁶ The bill also limited the applicant's ability to bring a declaratory judgment action to the later of (1) three years before the expiration of data exclusivity period or (2) 120 days after the applicant provided written explanation of invalidity or noninfringement.⁴⁷

Generic companies and supporters opposed Representative Eshoo's bill.⁴⁸ The opposition largely stemmed from what the generics industry

39. Letter from James C. Greenwood, Pres. & CEO, Biotechnology Industry Organization, to Jay Inslee, Representative (Aug. 27, 2007), https://www.bio.org/sites/default/files/Inslee_Support_Letter_20070827.pdf [<http://perma.cc/T6UT-G75S>].

40. Carver et al., *supra* note 23, at 739 (citing *GOP Senators Introduce Brand-Friendly Biogenics Bill*, FDA WEEK (June 1, 2007)).

41. S. 1505, 110th Cong. § 2(a)(2) (1st Sess. 2007) (proposed PHSA § 351(k)(8)(B)(i)).

42. *Id.* (proposed PHSA § 351(k)(8)(E)).

43. Carver et al., *supra* note 23, at 771.

44. H.R. 5629, 110th Cong. § 101(a)(2) (2d Sess. 2008) (proposed PHSA § 351(l)(4)(A)(i)).

45. *Biologics Hearings*, *supra* note 33, at 204 (“Eshoo-Barton mandates disclosure,” “the reference product sponsor would be entitled to access to the follow-on product's abbreviated application”).

46. H.R. 5629, 110th Cong. § 101(a)(2) (proposed PHSA § 351(l)(1)(D)).

47. *Id.* (proposed PHSA § 351(l)(6)).

48. *Reps. Eshoo, Barton Introduce Bill on FDA Approval of Bigeneric Drugs*, 6 PHARM. L. & IND. R. 330 (Mar. 21, 2008), http://news.bna.com/piln/PILNWB/split_display

perceived as a lengthy data exclusivity period and needless roadblocks to access.⁴⁹ On the other hand, BIO praised the bill and specifically called the patent dispute resolution process a “balanced procedure” that would make it “likely that such disputes can fairly be resolved prior to the market-entry of a follow-on biologic.”⁵⁰

When Representative Eshoo reintroduced her bill, H.R. 1548,⁵¹ in 2009 at a House hearing⁵² she emphasized that an important goal of her bill was the resolution of patent disputes before the commercial marketing of biosimilars, as well as the ability for third-party patent holders to defend their patent rights.⁵³ Bruce A. Leicher, Senior Vice President of Momenta Pharmaceuticals, criticized Eshoo’s bill as (1) creating a “complex, lengthy, patent clearance process that only begins 3 years before the end of a lengthy data exclusivity period,” which would lead to litigation delaying the commercial marketing of a biosimilar and (2) increasing the cost and time of litigation by allowing third parties to enter.⁵⁴

By contrast, Teresa Rea praised the bill. Rea said the information exchange provisions were “reasonable” and “balanced,” as they “entitled” the reference product sponsor to access the follow-on maker’s application and manufacturing information.⁵⁵ In general, Rea described the patent resolution provisions as an “efficient, streamlined prelaunch patent litigation” method.⁵⁶

Finally, four members of the Senate Committee on Health, Education, Labor, and Pensions (HELP) worked with the generic and innovator industries to introduce a bipartisan bill that they hoped would represent a compromise.⁵⁷ S. 1695, the bill proposed by the HELP committee and that which would eventually be passed as the BPCIA, included most of the ultimate language regarding patent dispute resolution. It provided that the biosimilar applicant “shall” provide a copy of the biosimilar application and

.adp?fedfid=7147825&vname=plirnotallissues&jd=plir_6_330&split=0 [http://perma.cc/9YZN-L8M4].

49. *Id.*

50. Letter from James C. Greenwood, Pres. & CEO, Biotechnology Industry Organization, to Anna Eshoo & Joe Barton, Representatives (May 9, 2008), http://www3.bio.org/healthcare/followonbkg/20080509_Eshoo_Barton_support_letter.pdf [http://perma.cc/ND8E-43CK].

51. H.R. 1548, 111th Cong. (1st Sess. 2009).

52. *Biologics Hearings*, *supra* note 33.

53. *Id.* at 9.

54. *Id.* at 21.

55. *Id.* at 204.

56. *Id.* at 197.

57. Carver et al., *supra* note 23, at 724.

other information regarding the process used to manufacture the biological product.⁵⁸ It then required the reference product sponsor to give the applicant a list of patents, provided for a process to narrow it down, and created an act of infringement, allowing the patent holder to bring suit.⁵⁹ The bill also included a notice provision for commercial marketing⁶⁰ and limits upon when the reference product sponsor and applicant could bring declaratory judgment actions.⁶¹ The specifics of these provisions are discussed in Section I.D, *infra*.

A press release from Senator Orrin Hatch, one of the four committee members who introduced the bill to the Senate, summarized the bill's patent resolution provisions.⁶² With respect to the initial information disclosure, the press release summarized that “[t]he biosimilar applicant *must* provide its application and information about its manufacturing process to the brand company.”⁶³ The press release also characterized the limits on when parties could bring suit, in part, as resulting from the biosimilar applicant's failure to do “what it is required to do.”⁶⁴

D. THE BPCIA'S PATENT PROVISIONS

The BPCIA serves three primary functions. It sets forth a regulatory pathway for follow-on biologic approval, provides an exclusivity period to biologics, and creates a mechanism for identifying and resolving patent disputes.

The BPCIA provides a detailed structure for resolution of patent disputes, briefly outlined in Figure 1.

58. S. 1695, 110th Cong. § 2(a)(2) (2d Sess. 2007) (proposed PHSA § 351(l)(2)(A)).

59. *Id.* (proposed PHSA § 351(l)(3)–(7)).

60. *Id.* (proposed PHSA § 351(l)(8)).

61. *Id.* (proposed PHSA § 351(l)(9)).

62. Press Release, United States Senator Orrin Hatch, Hatch, Enzi: Biosimilar Bill Will Reduce Prescription Drug Costs (June 26, 2008), <http://www.hatch.senate.gov/public/index.cfm/2008/6/hatch-enzi:-biosimilar-bill-will-reduce-prescription-drug-costs> [<http://perma.cc/C9MJ-3XST>].

63. *Id.* (emphasis added).

64. *Id.*

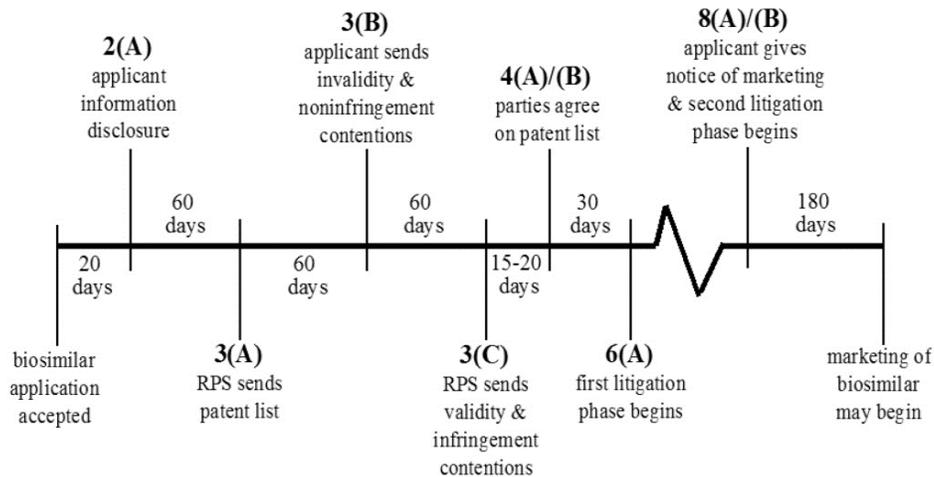


Fig. 1: Timeline of the BPCIA's patent resolution structure.

Initially, the BPCIA states that a biosimilar applicant, known as a subsection (k) applicant, within twenty days of being accepted for review, “shall provide to the reference product sponsor a copy of the application . . . and such other information that describes the process or processes used to manufacture the biological product that is the subject of such application.”⁶⁵ The applicant also “may provide to the reference product sponsor additional information requested.”⁶⁶ This initial disclosure triggers a chain of disclosures and negotiations aimed at clarifying patent issues.

Within sixty days of receiving application information, the reference product sponsor (RPS) then must provide a list of patents it believes support an infringement claim and any patents it would be willing to license.⁶⁷ Then, within sixty days of receiving the patent list, the applicant must respond to each patent, either with an acknowledgement of infringement, a statement that it will not market until the patent has expired, or a “detailed statement that describes, on a claim by claim basis, the factual and legal basis” for noninfringement or invalidity.⁶⁸ The RPS must then respond to that detailed statement with its own detailed statement of validity and infringement.⁶⁹ Thus, no later than 180 days after the RPS receives the

65. 42 U.S.C. § 262(1)(2)(A) (2012).

66. *Id.* § 262(1)(2)(B).

67. *Id.* § 262(1)(3)(A).

68. *Id.* § 262(1)(3)(B).

69. *Id.* § 262(1)(3)(C).

applicant's information, both parties have formed detailed patent infringement positions.

The BPCIA then requires that both parties engage in good faith negotiations to agree on which patents the RPS shall pursue in a patent infringement action.⁷⁰ Should the parties fail to reach an agreement in fifteen days, the parties exchange lists of patents that they believe should be the subject of a patent infringement action, with the requirement that the RPS may not list more patents than the applicant.⁷¹

After the list of patents has been decided, the BPCIA provides for a first phase of patent litigation. Within thirty days of either agreement or exchange of patent lists, the RPS can bring an action for patent infringement with respect to those patents.⁷²

The applicant must provide notice of marketing to the RPS at least "180 days before the date of the first commercial marketing" of the licensed biological product.⁷³ This sets up the second phase of litigation. Upon notification, the RPS may then also seek a preliminary injunction with respect to any patent included in its first list of patents but not included in the first phase of litigation.⁷⁴ This includes any patents that issued after the first disclosure of patents, where the RPS notified the applicant within thirty days of issuance or licensing.⁷⁵ The applicant then must reasonably cooperate to expedite discovery in conjunction with these preliminary injunction motions.⁷⁶

Finally, the BPCIA provides "limitations on declaratory judgment action."⁷⁷ If the applicant provides the RPS with its application and manufacturing information, neither party may bring a declaratory judgment action for any patent not included in the first phase of litigation.⁷⁸ However, if the applicant fails to provide such information, the RPS may bring a declaratory judgment action for "any patent that claims the biological product or a use of the biological product."⁷⁹ Further, if the applicant provides the initial information but then fails to comply with a later

70. *Id.* § 262(1)(4)(A).

71. *Id.* §§ 262(1)(4)(B), (5).

72. *Id.* § 262(1)(6)(A)–(B).

73. *Id.* § 262(1)(8)(A).

74. *Id.* § 262(1)(8)(B).

75. *Id.* § 262(1)(7).

76. *Id.* § 262(1)(8)(C).

77. *Id.* § 262(1)(9).

78. *Id.* § 262(1)(9)(A).

79. *Id.* § 262(1)(9)(C).

provision, the RPS may bring a declaratory judgment action for any patent it included in its initial list of patents.⁸⁰

II. AMGEN V. SANDOZ

Amgen represents the first time that the Federal Circuit issued a decision interpreting the BPCIA. In doing so, the court set forth the framework that all future biosimilar applicants and reference product sponsors will use to litigate patent disputes.

A. FACTS & PROCEDURAL HISTORY

In May 2014, Sandoz filed an abbreviated application for Zarxio, a biosimilar product for which Amgen's Neupogen is the reference product.⁸¹ The FDA notified Sandoz that it had accepted its application for review on July 7, 2014.⁸² Sandoz notified Amgen of the pending application review and that it intended to launch Zarxio immediately upon FDA approval, around "Q1/2 of 2015," but explicitly opted out of providing Zarxio's product and manufacturing information as detailed in § 262(l)(2)(A).⁸³ The FDA approved Zarxio on March 6, 2015, at which time Sandoz gave "further notice of commercial marketing."⁸⁴

Amgen sued Sandoz in the Northern District of California in October 2014 for (1) unfair competition for unlawful business practices, (2) conversion for wrongful use of Amgen's Neupogen license, and (3) infringement of U.S. Patent No. 6,162,427, a patent claiming the method for using the biologic.⁸⁵ At the heart of the unfair competition and conversion claims, Amgen alleged that Sandoz's failure to disclose product information within twenty days of the FDA accepting its application, as contemplated in § 262(l)(2)(A), violated the BPCIA.⁸⁶ Additionally, Amgen argued that Sandoz's notice of commercial marketing was premature and ineffective because it was given before the FDA approved Zarxio.⁸⁷ Sandoz counterclaimed for a declaratory judgment that it had accurately interpreted the BPCIA.⁸⁸

80. *Id.* § 262(l)(9)(B).

81. *Amgen Inc. v. Sandoz Inc.*, 794 F.3d 1347, 1352–53 (Fed. Cir. 2015).

82. *Id.* at 1352.

83. *Id.* at 1353.

84. *Id.*

85. *Id.*

86. *Id.*

87. *Id.*

88. *Id.*

The parties filed cross motions for summary judgment on these issues.⁸⁹ The district court granted summary judgment to Sandoz on both interpretations, finding that (1) the exchange of information in § 262(l)(2)(A) is not mandatory, and (2) an abbreviated Biologic License Application applicant may give notice of commercial marketing before the biosimilar is FDA approved.⁹⁰ Because Sandoz did not violate the BPCIA, the court dismissed Amgen's unfair competition and conversion claims. Amgen appealed the decision to the Federal Circuit.⁹¹

B. THE FEDERAL CIRCUIT'S DECISION

In its decision, the Federal Circuit answered two questions of statutory interpretation regarding the BPCIA: (1) Is it mandatory under § 262(l)(2)(A)⁹² for a subsection (k) applicant to provide the RPS with its application and product manufacturing information?, and (2) Does the biosimilar product need to be FDA approved before an applicant can give effective notice of commercial marketing under § 262(l)(8)(A)? The Federal Circuit split 2–1, with a different judge dissenting on each question. The majority held that (1) the initiation of the “patent dance” was not mandatory,⁹³ relying heavily on § 262(l)(9)(C), which explicitly contemplates noncompliance, but (2) a biosimilar product must be approved by the FDA before the biosimilar maker is capable of giving effective notice of commercial marketing.⁹⁴ This Note only addresses the first question.⁹⁵

In holding that it was permissible for a subsection (k) applicant to opt out of supplying the RPS with its application and product information, the court considered both textual and statutory organization arguments. The court found that the language of the relevant subsection favored a reading that the information exchange was mandatory. Section 262(l)(2)(A) states that an applicant “shall” provide information to the RPS, as opposed to § 262(l)(2)(B), which states additional information “may” be provided.

89. *Id.*

90. *Id.*

91. *Id.* at 1354.

92. “[T]he subsection (k) applicant shall provide to the reference product sponsor a copy of the application submitted to the Secretary under subsection (k), and such other information that describes the process or processes used to manufacture the biological product that is the subject of such application.” 42 U.S.C. § 262(l)(2)(A).

93. *Amgen*, 794 F.3d at 1357.

94. *Id.* at 1358.

95. On the second question, the dissenting opinion depends in part on an inconsistency that arises from interpreting § 262(l)(2)(A) as nonmandatory. *Id.* at 1367 (Chen, J., dissenting). As this Note argues that § 262(l)(2)(A) is mandatory, this inconsistency would be remedied.

Additionally, the court recognized that other provisions refer to “information *required* to be produced pursuant to paragraph (2).”⁹⁶ The court found that, in isolation, these textual arguments would tend to support an understanding that “shall” should be interpreted as mandatory.⁹⁷

However, reading the statute as a whole, the court found that it was permissible for a subsection (k) applicant to opt out of providing information. Section 271(e)(2)(C)(ii) of the Patent Act states that it is an act of infringement to file a subsection (k) application and then fail to disclose the information discussed in paragraph (1)(2)(A).⁹⁸ Moreover, § 262(l)(9)(C) allows the RPS to bring a declaratory judgment action on a patent claim when “a subsection (k) applicant fails to provide the application and information required under paragraph (2)(A).”⁹⁹ The court found that both of these provisions establish remedies for the RPS in the event that the applicant does not provide information under paragraph (2)(A), indicating that providing the information is not mandatory.¹⁰⁰ Moreover, the court looked to § 271(e)(4), which provides the “*only* remedies which may be granted by a court for an act of infringement,” and found that failing to provide information under paragraph (1)(2)(A) was such an act of infringement.¹⁰¹ Thus, not providing the information under paragraph (1)(2)(A) is simply a different pathway contemplated by the BPCIA, rather than a violation of it.

In dissent, Judge Newman emphasized the textual arguments contemplated by the majority to find that “shall” should be interpreted to mean “must.” Unlike the majority, Judge Newman considered these statutory provisions in light of the purpose of the BPCIA. Judge Newman looked to the legislative record and found that the purpose of expediting and averting litigation “pervades” it.¹⁰² Judge Newman noted that the purpose of the BPCIA was to effectuate the “efficient resolution of patent issues” and that the information exchange triggered by paragraph (2)(A) was “fundamental” to that purpose.¹⁰³

Judge Newman then found that the remedy of a declaratory action provided by paragraph (9)(C) is not an exclusive remedy under the BPCIA. It only extends to “any patent that claims the biological product or a use of

96. *Id.* at 1355 (citing 42 U.S.C. § 262(l)(1)(B)(i)).

97. *Id.*

98. 35 U.S.C. § 271(e)(2)(C)(ii).

99. 42 U.S.C. § 262(l)(9)(C).

100. *Amgen*, 794 F.3d at 1355–56.

101. *Id.* at 1356.

102. *Id.* at 1365 (Newman, J., dissenting).

103. *Id.* at 1364 (Newman, J., dissenting).

the biological product” and not manufacturing process patents, which may be “highly material” in biosimilar infringement actions.¹⁰⁴ Instead, Judge Newman found that paragraph 9(C)’s main function is to prevent a noncompliant party from getting relief through a declaratory judgment.¹⁰⁵ As such, the provisions the majority uses as alternative pathways to initiating the patent dance are instead just “continuing prohibition[s]” on parties who fail to comply with the mandatory obligations of paragraph (2)(A).¹⁰⁶ Thus, to maintain the balance between innovation and consumer interest, the information exchange must be mandatory to protect the patent rights of innovators.

III. *AMGEN* ANALYSIS: A MANDATORY PATENT DANCE

The Federal Circuit described its task in *Amgen* as doing its best to “unravel the riddle, solve the mystery, and comprehend the enigma” of the BPCIA.¹⁰⁷ Judge Chen echoed that sentiment in dissent, writing that in deciding *Amgen*, the Federal Circuit “must choose from a series of imperfect choices.”¹⁰⁸ Indeed, as evidenced by the fractured opinion, the patent provisions in the BPCIA could reasonably be interpreted in multiple ways. However, examining the drafting decisions and statutory purpose as laid out in the statutory structure and legislative history, there is a most reasonable interpretation of the BPCIA. As a whole, the statute makes clear that Congress intended the information exchange provisions of the BPCIA to be mandatory.

A. STATUTORY LANGUAGE

“[I]n interpreting a statute a court should always turn first to one, cardinal canon before all others. . . . [C]ourts must presume that a legislature says in a statute what it means and means in a statute what it says there.”¹⁰⁹ Thus, the statutory interpretation inquiry begins with the language of the statute. As both the majority and Judge Newman agreed, the BPCIA’s language alone supports an interpretation that the patent dance is mandatory.

Namely, paragraph (1)(2)(A) (the “information disclosure provision”) states that the biosimilar maker “*shall* provide to the reference product

104. *Id.* (Newman, J., dissenting).

105. *Id.* at 1366 (Newman, J., dissenting).

106. *Id.* (Newman, J., dissenting).

107. *Id.* at 1351 n.1.

108. *Id.* at 1371 (Chen, J., dissenting).

109. *Conn. Nat’l Bank v. Germain*, 503 U.S. 249, 253–54 (1992) (citations omitted).

sponsor a copy of the application . . . and such other information that describes the process or processes used to manufacture the biological product that is the subject of such application.”¹¹⁰ As “the mandatory ‘shall’ . . . normally creates an obligation impervious to judicial discretion,”¹¹¹ the usage of shall here strongly lends itself to be interpreted as mandatory. And, in the very next paragraph, the statute goes on to state that the biosimilar applicant “*may* provide to the reference product sponsor additional information requested.”¹¹² As the Supreme Court has explained, “Congress’ use of the permissive ‘may’ . . . contrasts with the legislators’ use of a mandatory ‘shall’ in the very same section,” which supports a finding that “shall” indicates statutory obligation.¹¹³ Thus, paragraph (l)(2)(B)’s use of “may” lends even stronger support that Congress meant the initial information disclosure to be mandatory.

Such an interpretation is further reinforced by the language in other provisions of the BPCIA. Section 262(l)(1)(B)(i) states that the biosimilar applicant “shall provide . . . confidential access to the information *required to be produced* pursuant to paragraph (2) and any other information that the subsection (k) applicant determines, in its sole discretion, to be appropriate.”¹¹⁴ Not only does this section refer to the information as “required to be produced,” but it also contrasts that with other information that the applicant has “sole discretion” to deem appropriate. Sections 262(9)(A) and (9)(C) both refer to “information required under paragraph 2(A).”¹¹⁵ Finally, § 271(e)(2)(C)(ii) once again refers to “information required under section 351(l)(2)(A) of [the Public Health Service Act].”¹¹⁶

On textual analysis in isolation, the court agreed that the use of “shall” in the information disclosure provision “appears to mean that a subsection (k) applicant is *required* to disclose its [abbreviated application] and manufacturing information.”¹¹⁷

110. 42 U.S.C. § 262(l)(2)(A) (2012) (emphasis added).

111. *Lexecon, Inc. v. Milberg Weiss Bershad Hynes & Lerach*, 523 U.S. 26, 35 (1998); *accord Alabama v. Bozeman*, 533 U.S. 146, 153 (2001) (“The word ‘shall’ is ordinarily the language of command.”) (citing *Anderson v. Yungkau*, 329 U.S. 482, 485 (1947)).

112. 42 U.S.C. § 262(l)(2)(B) (emphasis added).

113. *See Lopez v. Davis*, 531 U.S. 230, 241 (2001).

114. 42 U.S.C. § 262(l)(1)(B)(i) (emphasis added).

115. *Id.* § 262(l)(9)(A), (C).

116. 35 U.S.C. § 271(e)(2)(C)(ii) (2012).

117. *Amgen Inc. v. Sandoz Inc.*, 794 F.3d 1347, 1355 (2015) (emphasis added).

B. STATUTORY STRUCTURE

The statutory structure of the BPCIA is consistent with a mandatory information disclosure provision. The *Amgen* majority, despite recognizing textual arguments, found that examination of the greater context of the statute resulted in a nonmandatory interpretation of the initial information disclosure provision. A close look at the statutory structure is a necessary exercise of statutory interpretation. Indeed, statutory construction is a “holistic endeavor” and provisions that may seem “ambiguous in isolation” can be clarified by the statutory scheme, as one interpretation may be more consistent with the substantive effect of the law.¹¹⁸ However, while the majority discerned context by looking to “the provisions of the whole law,” it neglected to consider “its object and policy.”¹¹⁹ In doing so, the court settled upon an interpretation that disregarded the very purpose behind the provisions it was construing.

The court placed great weight in the two provisions of the BPCIA that reference noncompliance of the information disclosure provision in reaching its interpretation. It reasoned that these provisions of the BPCIA set out an alternative pathway for biosimilar applicants and defined the remedies available to the patent holder. However, Congress intended neither of these provisions as exclusive remedies for a failure to disclose information under paragraph (1)(2)(A). Section 262(1)(9)(C) must be understood in the context of subsection 9 as a whole, which merely places limits on when parties can bring declaratory judgment actions. And, §§ 271(e)(2)–(4) provide remedies for infringement actions but do not provide limitations on causes of action.

1. *Section 262(1)(9)(C) Defines Limits, Not Remedies*

In order to properly understand the function of § 262(1)(9)(C), the two-phase litigation structure of the patent provisions as a whole must be understood. The first phase of patent litigation occurs after the parties have narrowed down the list of patents at issue.¹²⁰ At the latest, this litigation begins 230 days after the biosimilar applicant’s initial disclosure of information.¹²¹ Thus, the BPCIA is structured such that the parties begin

118. *United Sav. Ass’n of Texas v. Timbers of Inwood Forest Assocs.*, 484 U.S. 365, 371 (1988).

119. *See* *United States v. Heirs of Boisdoré*, 49 U.S. 113, 122 (1850).

120. *See* 42 U.S.C. § 262(1)(6) (2012).

121. After the initial information disclosure, the RPS has sixty days to respond with a list of potentially infringed patents. 42 U.S.C. § 262(1)(3)(A). Then, the biosimilar applicant has sixty days to respond to that patent list with its invalidity and noninfringement contentions. *Id.* § 262(1)(3)(B). The RPS then has another sixty days to

informed litigation on the most pertinent patent infringement issues at a relatively early stage in the biosimilar approval process.

The second phase of patent litigation is triggered by the biosimilar applicant's notice of commercial marketing, which occurs 180 days before the launch of the biosimilar product. In this stage of litigation, the RPS may seek a preliminary injunction on any patent it has previously listed but did not get to litigate in the first phase.¹²² Thus, this phase of litigation settles any lingering patent disputes that would impede the marketing of the biosimilar.

The provisions of subsection 9 of the BPCIA reinforce this two-phase litigation structure. As an initial matter, subsection 9 is titled "Limitation on declaratory judgment action."¹²³ The headings of a statute may aid the court in resolving any ambiguity of the statute's text.¹²⁴ Specifically, headings may be helpful in determining the general purview of section.¹²⁵ Here, the heading specifically states that the section will deal with "limitations" on declaratory judgment actions. This title indicates that Congress primarily viewed subsection 9 as providing limitations on when the parties could bring infringement actions and not as providing remedies.

A closer look at the individual provisions in subsection 9 supports such an understanding. As 35 U.S.C. § 271(e)(2)(C) creates an artificial act of infringement upon submission of an application seeking approval for a biosimilar, some internal limitations on when parties can bring infringement actions are necessary to enforce the two-phase litigation structure. Accordingly, paragraph (l)(9)(A) (the "declaratory judgment prohibition provision") broadly prohibits both parties from bringing declaratory judgment actions.¹²⁶ Specifically, it sets up the second phase of

respond with its own validity and infringement contentions. *Id.* § 262(l)(3)(C). After the validity and infringement contentions have been exchanged, the parties have fifteen days to agree on which patents will be part of the first phase of litigation. *Id.* § 262(l)(4)(B). If the parties do not come to an agreement, they have five days to exchange patent lists. *Id.* § 262(l)(5)(B)(i). Finally, the RPS has thirty days to bring a patent infringement suit. *Id.* § 262(l)(6).

122. *Id.* § 262(l)(8)(B).

123. *Id.* § 262(l)(9).

124. *INS v. Nat'l Ctr. for Immigrants' Rights, Inc.*, 502 U.S. 183, 189–90 (1991) (citing *Mead Corp. v. Tilley*, 490 U.S. 714, 723 (1989); *FTC v. Mandel Bros., Inc.*, 359 U.S. 385, 388–89 (1959)).

125. *See Almendarez-Torres v. United States*, 523 U.S. 224, 234 (1998) (finding a section titled "Criminal penalties for reentry of certain deported aliens" indicates that the provisions of the section were intended to discuss penalties and not create a new substantive crime).

126. *See* 42 U.S.C. § 262(l)(9)(A) (2012).

litigation by explicitly prohibiting either party from bringing suit on any patent not included in the first phase of litigation before the biosimilar applicant gives notice of commercial marketing. Then, paragraph (l)(9)(B) lifts this limitation for the RPS should the biosimilar applicant fail to give notice of commercial marketing or participate in the narrowing of patents.¹²⁷ If the biosimilar applicant neglects to comply with any of the steps after the initial disclosure of information, the RPS may bring an infringement suit on any of the patents it has listed.

Similarly, paragraph (l)(9)(C) lifts the limitation on bringing declaratory judgment actions when the biosimilar applicant fails to comply with the initial disclosure.¹²⁸ If the biosimilar applicant fails to follow the information disclosure provision, then the RPS may bring a declaratory judgment action on any product or use claims that cover the biosimilar. In context of the rest of the subsection 9, 9(C) only contemplates noncompliance for the specific purpose of these limitations on declaratory judgment. The limitations in the declaratory judgment prohibition provision are required to effectuate the two-phase litigation structure, explicitly prohibiting either party from prematurely bringing suit on any phase two litigation patent.

However, if the biosimilar applicant fails to comply with any of the patent resolution process provisions, the BPCIA recognizes that it would be inequitable to continue to bar the RPS from bringing an infringement action. As such, 9(B) and 9(C) simply lift the declaratory judgment prohibition provision. The difference between 9(B) and 9(C) is in the patents that the RPS is allowed to bring an infringement action on. In 9(B), those patents are any of the patents the RPS has previously listed. In 9(C), because the RPS will not have given a list of potentially infringed patents to the biosimilar applicant yet, those patents are any patents covering the biological product or use. Thus, 9(C) is not a unique remedy for noncompliance with the information disclosure provision; instead, such noncompliance necessitates a separate paragraph only because no patent list will have been generated yet.

Thus, the court's reading of 9(C) as primarily laying out remedies to the RPS for the biosimilar applicant's noncompliance with the information disclosure provision is misguided. The *Amgen* court found that "[a]s a direct consequence of failing to comply with paragraph (l)(2)(A), paragraph (l)(9)(C) bars the subsection (k) applicant from bringing a declaratory judgment action on patents that claim the biological product or its use."¹²⁹

127. *See id.* § 262(l)(9)(B).

128. *See id.* § 262(l)(9)(C).

129. *Amgen Inc. v. Sandoz Inc.*, 794 F.3d 1347, 1356 (2015).

However, this ignores the fact that even if a biosimilar applicant does comply with the information disclosure provision, the declaratory judgment prohibition provision still bars it from bringing a declaratory judgment action. The only difference between the two, in terms of the biosimilar applicant, is that the declaratory judgment prohibition provision refers to the list of patents produced in the BPCIA's disclosure provisions, whereas 9(C) cannot refer to that list of patents because it will not have been produced. The bar on bringing declaratory judgment actions should be understood, then, not as a specific consequence of failing to comply with the information disclosure provision but as furthering the two-phase litigation structure. None of the language in subsection 9 indicates that it is intended to grant exclusive remedies for the biosimilar applicant's failure to comply with the BPCIA's provisions.

2. *Section 271(e) Does Not Define Exclusive Remedies*

Neither does 35 U.S.C. § 271(e), the other provision the court looked to, grant exclusive remedy for such failures of compliance. Specifically, § 271(e)(2)(C) creates artificial acts of infringement when the biosimilar applicant submits its application for approval of its product. Much like paragraphs (l)(9)(B) and (l)(9)(C), § 271(e)(2)(C) is split up into two parts, depending on which patents may be subjects of the infringement actions. Accordingly, § 271(e)(2)(C)(i) allows patents listed by the RPS during the BPCIA's patent resolution process to be the subject of an infringement action.¹³⁰ And § 271(e)(2)(C)(ii) allows patents that should have been listed in accordance with the BPCIA's patent resolution process to be the subject of an infringement action when the biosimilar applicant fails to follow the information disclosure provision.¹³¹ Again, this separate provision contemplating noncompliance with the information disclosure provision is necessary because, with such an occurrence, the RPS would not have yet listed any patents. In context, this provision should not be read to uniquely provide a remedy in the case of noncompliance with information disclosure, but instead as filling the gap that such noncompliance would cause.

The court found that interpreting the information disclosure provision as mandatory would render both paragraph (l)(9)(C) and § 271(e)(2)(C)(ii) superfluous.¹³² The court offered no reasoning for this conclusion, and it is unclear why the court believed so. Regardless of whether the information disclosure provision is mandatory, the statute must provide for an infringement action when such disclosures are not made. In fact, if such

130. 35 U.S.C. § 271(e)(2)(C)(i) (2012).

131. *Id.* § 271(e)(2)(C)(ii).

132. *Amgen*, 794 F.3d at 1356.

disclosures were mandatory and neither paragraph (l)(9)(C) nor § 271(e)(2)(C)(ii) existed, then nondisclosure would lead to troubling results. The biosimilar applicant would have violated the BPCIA, but there may not be any actual patent-based remedy available to the RPS. With no identified patents, there would be no basis for the RPS to file an infringement action. Instead, these provisions clarify that when the patent lists have not yet been exchanged, failure to comply with the BPCIA's patent resolution provisions still supports the RPS bringing an infringement action.

Finally, the court's reliance on the "only remedies" language in § 271(e)(4) was misplaced. In whole, § 271(e)(4) provides injunctive and monetary relief for the artificial acts of infringement defined in § 271(e)(2), including the submission of a biosimilar application.¹³³ It describes these remedies as "the only remedies which may be granted by a court for an act of infringement."¹³⁴ The court interpreted this to mean that monetary and injunctive relief for patent infringement are the only remedies available for a failure to comply with information disclosure.¹³⁵ However, the language is open to an alternative reading. Instead, the provision may be interpreted to define the remedies available for a patent infringement action only. Such an interpretation would not preclude remedies based on other potential causes of action that the RPS may bring in response to the biosimilar applicant's failure to follow the information disclosure provision. Indeed, Amgen's unfair competition and conversion claims could be such examples of other causes of action for which § 271(e)(4) would not define the available remedies.

In conclusion, the structure of the BPCIA sets forth a two-phase litigation structure to resolve patent disputes. The provisions the court identified as providing exclusive remedies for noncompliance with the information disclosure provision can instead be read as support for the overall patent dispute resolution structure. Such an interpretation resolves the inconsistencies in the court's own reasoning that arose from its conclusions regarding textual and structural analyses.

C. LEGISLATIVE PURPOSE AND LEGISLATIVE HISTORY

In construing a statute in accordance with Congress's intent, one must look at the purpose in addition to the structure and language of the

133. See 35 U.S.C. § 271(e)(4).

134. *Id.*

135. *Amgen*, 794 F.3d at 1356.

statute.¹³⁶ Though the legislative history does not squarely address whether the patent dance should be mandatory, the BPCIA's purpose supports the mandatory nature of the biosimilar applicant's initial information disclosure. The legislative record here reveals that patent resolution provisions were important to the BPCIA's purpose: achieving a balance between the interests of innovators and the interests of consumers. Accordingly, interpreting the initial information disclosure as mandatory best reflects the balance Congress intended to strike in passing the BPCIA.

As Judge Newman noted in dissent, "[t]he BPCIA reflects an explicit balance of obligations and benefits."¹³⁷ This balance is a purpose expressed explicitly throughout the legislative record.¹³⁸ The proposed bills regulating biosimilars granted varying exclusivity terms to the RPS and allowed the biosimilar applicant to rely on the RPS's data to varying levels,¹³⁹ representing different attempts to strike this balance.

In addition to exclusivity and data reliance provisions, the patent dispute resolution provisions in the bills factored into the balancing act. The congressional hearings regarding biosimilars make clear that intellectual property insurance in the form of these patent dispute resolution provisions was an important consideration for the incentives to innovate.

In a 2007 House hearing before the Committee on Energy and Commerce, Dr. David Schenkein, Vice President of Clinical Hematology and Oncology of Genentech, argued on behalf of BIO.¹⁴⁰ He emphasized the importance that patent disputes be resolved "prior to marketing approval" and also noted that "any follow-on biologics regulatory pathway

136. *Ingersoll-Rand Co. v. McClendon*, 498 U.S. 133, 138 (1990) ("To discern Congress' intent we examine the explicit statutory language and the structure and purpose of the statute.").

137. *Amgen*, 794 F.3d at 1366 (Newman, J., dissenting).

138. See, e.g., Patient Protection and Affordable Care Act, Pub. L. No. 111-148, 124 Stat. 119 § 7001(b) ("balancing innovation and consumer interests"); *Biologics Hearings*, *supra* note 33, at 2 (statement of Representative Johnson) ("fram[ing] the intellectual property protections in a pathway for biosimilars that incentivizes the extraordinary investment required to develop new biologics but does not discourage biosimilar introduction"); Press Release, HELP Committee, Lawmakers Praise Committee Passage of Biologics Legislation (June 27, 2007), <http://www.help.senate.gov/ranking/newsroom/press/lawmakers-praise-committee-passage-of-biologics-legislation> [<http://perma.cc/CL6H-9MSA>] ("a balanced approach that enables patients to have safe, effective and affordable biological drugs, while preserving the incentives that have brought these life-saving advances to the American public").

139. Tresemer, *supra* note 24, at 17-40.

140. *Assessing the Impact of a Safe and Equitable Biosimilar Policy in the United States: Hearing Before the Subcomm. on Health of the H. Comm. on Energy and Commerce*, 110th Cong. 77 (2007).

should not create special patent litigation rules that favor follow-on biologics manufacturers.”¹⁴¹ Arguing on behalf of the Generic Pharmaceutical Association (GPhA), Bruce Downey, CEO of Barr Pharmaceuticals, a generic manufacturer, echoed the importance of early patent resolution.¹⁴² In addition to agreeing that patent disputes should be resolved prior to marketing, he emphasized the importance of quick and efficient resolution, including not being “forced to litigate every patent relating to the brand product.”¹⁴³ He also highlighted the risks associated with the RPS refusing to participate in the patent dispute resolution process. He advocated for provisions that would ensure the biosimilar maker would not be on the hook for exorbitant postmarketing damages should the RPS refuse to participate in the patent dispute resolution process.¹⁴⁴

A 2009 House hearing before the Committee on the Judiciary addressed the merits of specific patent provisions in greater specificity.¹⁴⁵ Once more, speakers expressed central concerns of efficiency and speed. Representative Eshoo, whose H.R. 1548 bill was a subject of discussion, emphasized both the time requirements the bill imposed on related patent litigation and the information exchange process.¹⁴⁶ Bruce Leicher, Senior Vice President of Momenta Pharmaceuticals, a company engaged in manufacturing generics and novel therapeutics, criticized the patent provisions of H.R. 1548 for three reasons: (1) the three years it allowed for patent litigation was not long enough for the complex litigation process it laid out, (2) the allowance of third parties unnecessarily complicated the procedure, and (3) it mandated disclosure of information that was unrelated to determining infringement.¹⁴⁷ On the other side, representatives from BIO and AIPLA praised H.R. 1548's provision requiring a biosimilar applicant to disclose information regarding its biosimilar product.¹⁴⁸ The speakers continued to stress the importance of resolving patent disputes prior to marketing.¹⁴⁹

These hearings make clear that the specifics of the patent dispute resolution provisions were important to the generic industry, the innovator

141. *Id.* at 85.

142. *Id.* at 119.

143. *Id.*

144. *Id.*

145. *Biologics Hearings, supra* note 33, at 2.

146. *See id.* at 11–12 (statement of Representative Eshoo).

147. *Id.* at 21–22 (statement of Leicher).

148. *See id.* at 66, 197 (praising the enablement of the RPS to identify relevant patents based on information provided by the biosimilar applicant as part of a “significant feature” of the bill's provisions).

149. *See id.* at 11, 200.

industry, and Congress in creating a balanced biosimilar regulatory scheme. The chief concern of all parties involved was the resolution of patent disputes before the marketing of the biosimilar product. This greater purpose of timely dispute resolution, as well as specific responses to other concerns, is reflected in the BPCIA's patent provisions.

Overall, the BPCIA provides concrete time restrictions leading up to the first phase of litigation. Within 230 days, or fewer than eight months, of submitting the biosimilar application, the parties have to agree on a narrow set of patents to litigate and share their infringement and invalidity contentions on a claim-by-claim basis.¹⁵⁰ This timeframe is similar to the six to eight month timeframe in H.R. 1548 that Representative Eshoo described as "a simple, streamlined" process.¹⁵¹

Moreover, the BPCIA's patent provisions eliminated two criticisms of H.R. 1548: the three-year limit on declaratory judgment actions and the intervention of third parties into the process. Unlike H.R. 1548, which did not allow biosimilar applicants to bring a declaratory judgment action until three years prior to the end of the reference product's exclusivity period,¹⁵² a biosimilar applicant may bring suit on the first litigation phase patents as soon as those patents are determined under the BPCIA.¹⁵³ As previously discussed, this must happen within eight months of the application submission, and the application can be submitted as early as four years into the twelve-year exclusivity period.¹⁵⁴ Thus, the parties will have up to seven and a half years to resolve patent disputes before commercial marketing. Also unlike H.R. 1548, which explicitly provides for third parties to join the litigation,¹⁵⁵ the BPCIA restricts the patent dispute resolution process to the biosimilar applicant and the RPS.¹⁵⁶ Both these differences from H.R. 1548 serve the greater purpose of ensuring that patent disputes are resolved early.

The BPCIA also addressed the generic industry's concerns about (1) RPSs declining to participate in the patent resolution process and (2)

150. See explanation of this process, *supra* note 121.

151. See *Biologics Hearings*, *supra* note 33, at 11.

152. H.R. 1548, 111th Cong. § 101(a)(2) (1st Sess. 2009) (proposed PHSA § (l)(6)(A)).

153. 42 U.S.C. § 262(l)(6) (2012).

154. *Id.* § 262(k)(7)(B).

155. H.R. 1548, 111th Cong. § 101(a)(2) (1st Sess. 2009) (proposed PHSA § 351(l)(4)(B)).

156. See 42 U.S.C. § 262(l) (referencing only "subsection (k) applicant" and "reference product sponsor"). The BPCIA makes one exception: "the owner of a patent exclusively licensed to the reference product sponsor" may be provided the applicant's information. *Id.* § 262(l)(1)(B)(3).

needing to litigate every patent relating to the reference product prior to marketing. First, the BPCIA requires the RPS to list all of its potentially infringed patents or else lose the ability to enforce them on the biosimilar applicant.¹⁵⁷ Thus, the RPS faces great consequences if it declines to participate in the patent resolution process. Second, the two-phase litigation structure restricts the patents which must be litigated before the biosimilar product gets marketed. The biosimilar applicant gets to decide which patents, or at least how many patents if the parties cannot agree, get litigated in the first phase.¹⁵⁸ Any other patent then is subject to the second phase of litigation, which does not prevent the biosimilar applicant from marketing its product unless the RPS obtains a preliminary injunction.¹⁵⁹

The provisions of the patent dispute resolution process, thus, serve to create a process that is calibrated to balance the protection of intellectual property rights and the efficient premarketing resolution of disputes. Interpreting the disclosures required by paragraph (1)(2)(A) as nonmandatory would undermine this careful calibration, as without paragraph (1)(2)(A) disclosures, nothing triggers the subsequent provisions.

In this way, every purpose served by the subsequent provisions is undercut by reading paragraph (1)(2)(A) as nonmandatory. The strict timing requirements set forth in each step of the patent dance would not be triggered, allowing the RPS to delay bringing suit. That delay risks patent disputes going unsettled, running counter to the central concern expressed in the legislative history of premarketing resolution.

Certainly, Congress showed it was capable of drafting unambiguously nonmandatory patent dispute resolution provisions. Representative Waxman's H.R. 1427,¹⁶⁰ which was debated in Congress alongside Representative Eshoo's H.R. 1548, contained a patent resolution process that was clearly nonmandatory. Though H.R. 1427 did not include a provision regarding disclosure from the biosimilar applicant, it did set forth a process for resolving patent disputes that began with the biosimilar applicant requesting a list of patents from the RPS.¹⁶¹ The bill made clear that participation in this process was up to the discretion of the applicant: an applicant "may not be compelled, by court order or otherwise" to participate in the process and "[n]othing in this paragraph requires an

157. 35 U.S.C. § 271(e)(6)(C) (2012).

158. 42 U.S.C. § 262(l)(4).

159. *Id.* § 262(l)(8)(B)–(C).

160. *See* H.R. 1427, 111th Cong. (1st Sess. 2009).

161. *Id.* § 3(a)(2) (proposed PHSA § 351(k)(18)(A)(i)).

applicant or a prospective applicant to invoke the procedures set forth in this paragraph.”¹⁶²

The inability of an RPS to obtain information from the biosimilar applicant, in part due to the nonmandatory patent provisions, was criticized before Congress. The AIPLA suggested that an appropriate statute would have “a timely and confidential information exchange” to determine whether an infringement claim should be brought¹⁶³ and criticized H.R. 1427 because it left the RPS with no ability to make such a determination.¹⁶⁴ In contrast to H.R. 1427, the BPCIA includes an information exchange provision that indicates that a biosimilar applicant “shall” provide an RPS with information. However, if the BPCIA’s information exchange provision is read to be nonmandatory, the RPS would similarly be left without any way to determine whether to bring an infringement action.

Consequently, interpreting the BPCIA’s patent dance as mandatory allows it to both better serve the general legislative purpose of resolving patent disputes prior to marketing and address criticisms of other bills in the legislative history. Combined with the statutory language and structure, this further reinforces that Congress intended the BPCIA’s information disclosure provision to be mandatory.

IV. THE SHORT- AND LONG-TERM IMPLICATIONS OF *AMGEN*

The full effects of the *Amgen* decision may not be immediately felt. For Sandoz, the immediate effect is that it can market Zarxio, which it is doing at a fifteen percent discount from Amgen’s Neupogen.¹⁶⁵ For other biosimilar makers and RPSs, the potential implications of *Amgen* will likely vary based on the reference product’s remaining patent protection.

In the short term, for the many biologics that are past the twenty-year patent protection, the decision may be beneficial. Biosimilars may get to market more quickly and with lower cost to the biosimilar maker. Unencumbered by the procedures of a mandatory patent dance, biosimilar

162. *Id.* § 3(a)(2) (proposed PHSA §351(k)(18)(F)). Other bills included provisions that, while not unambiguously nonmandatory, were more equivocal than the BPCIA. *See* S. 1505, 110th Cong. § 2(a)(2) (1st Sess. 2007) (proposed PHSA § 351(k)(8)(B)) (providing that a RPS “may” request information from the biosimilar applicant, but providing no guidance as to whether or by what means the biosimilar applicant must comply).

163. *Biologics Hearings*, *supra* note 33, at 199–200.

164. *Id.* at 208.

165. Jeff Overley, *Sandoz Launches First Biosimilar at 15% Discount*, LAW360 (Sept. 3, 2015), <http://www.law360.com/articles/698926/print?section=ip> [<http://perma.cc/BK4G-TM5H>].

makers will not need to interact with RPSs at all until they give notice of commercial marketing. As these reference products are not protected by patents, perfunctorily going through the steps of the patent dance would not actually lead to more efficient litigation. Thus, the *Amgen* decision allows biosimilar makers to forgo needless costs when there is little threat of patent infringement.

By contrast, in the long run, for reference products that may be protected by many patents, the decision may defeat all the intended benefits of the BPCIA's patent dispute resolution provisions. It will increase the uncertainty of patent protection for biologics, and patent litigation will lose the efficiency, expedience, and accuracy the BPCIA was designed to ensure.

Due to the differences between biosimilars and their reference products, it is already unclear to what extent a follow-on product may be biosimilar without infringing.¹⁶⁶ And, as a biologic drug is highly dependent upon its manufacturing process,¹⁶⁷ manufacturing patents, specifically, may play an important role in biosimilars patent litigation. However, as Judge Newman noted, manufacturing patents are not included as part of the remedy in paragraph (1)(9)(C).¹⁶⁸ Thus, should a biosimilar applicant decline to participate in the patent dance, the BPCIA does not provide for declaratory judgment actions based on manufacturing patents. Without the manufacturing information from the biosimilar maker, the RPS may not be able to even meet pleading standards to survive a motion to dismiss on a patent infringement claim for a manufacturing patent.¹⁶⁹

More generally, patent dispute resolution will lose the efficiency and timeliness afforded by the BPCIA's patent dance. When the biosimilar applicant declines to disclose its information, the RPS is less informed about which of its patents are likely to succeed in an infringement action. Additionally, the careful narrowing function of the BPCIA, in which the parties must agree on which patents to litigate, is no longer mandatory. As such, this gives the RPS the incentive to assert every potentially relevant patent at the start of litigation and use litigation to determine which claims are truly meritorious.

166. Janet Freilich, *Patent Infringement in the Context of Follow-On Biologics*, 16 STAN. TECH. L. REV. 9, 11–12 (2012); see also Yaniv Heled, *Why Primary Patents Covering Biologics Should Be Unenforceable Against Generic Applicants Under the Biologics Price Competition and Innovation Act*, 21 ANNALS HEALTH L. 211, 212 (2012).

167. Tzeng, *supra* note 4, at 138.

168. *Amgen Inc. v. Sandoz Inc.*, 794 F.3d 1347, 1364 (2015) (Newman, J., dissenting).

169. See *id.* at 1364–65 (Newman, J., dissenting).

Thus, instead of using the BPCIA's statutorily determined timeframes and provisions, parties will instead have to use discovery to sort out which patents are relevant. Unlike under the BPCIA, in litigation there is no set amount of time within which information exchange and the narrowing of patents must occur. While district court judges may limit the number of claims asserted,¹⁷⁰ they are not required to do so, and there is no standardized time by which it must happen. Thus, it may take much longer for the patent list to be narrowed and for initial infringement and invalidity contentions to be exchanged than the 230-day maximum set forth by the BPCIA. As more patents will potentially stay in a case through more advanced stages of litigation, such as claim construction or expert discovery, litigation will cost the parties and the court more resources than addressing these issues through administrative procedures. Ultimately, the efficiencies built into the BPCIA would be lost without a mandatory patent dance.

V. CONCLUSION

Patent litigation surrounding biosimilars is just beginning, and, accordingly, parties are just beginning to test the limits of what the BPCIA's patent dance requires. While some biosimilar applicants have opted to follow Sandoz's lead and skipped the initial information disclosure, at least one biosimilar applicant has proceeded through the early stages of the patent dance.¹⁷¹ These decisions to opt in or out of BPCIA's patent process have yet to play out fully in the courts, and so their implications are currently unclear.

With many more biosimilars patent disputes in the future, it is critical that a clear, streamlined, and efficient patent dispute resolution scheme be applied by courts interpreting the BPCIA. Though the Federal Circuit may see the BPCIA as an "enigma," Congress had a clear aim in creating the two-phase litigation structure of the BPCIA. Such a structure and its benefits rely upon the mandatory nature of the information disclosure provision. Thus, to faithfully effectuate Congress's will, the *Amgen* decision should be reexamined, and the patent dance should be interpreted as mandatory.

170. *In re Katz Interactive Call Processing Patent Litig.*, 639 F.3d 1303, 1311–13 (Fed. Cir. 2011).

171. Margaret E. Ives, *Apotex Sets Stage for Next Fed. Cir. BPCIA Dispute*, LAW360 (Oct. 21, 2015), <http://www.law360.com/articles/716478/apotex-sets-stage-for-next-fed-circ-bpcia-dispute> [<https://perma.cc/AB7Q-QW4P>].

WILLIAMSON V. CITRIX ONLINE:
A FUNDAMENTAL SHIFT AND RETURN TO FORM
IN MEANS-PLUS-FUNCTION INTERPRETATION

Shong Yin[†]

In an en banc opinion on July 16, 2015, the Federal Circuit sent shockwaves through the patent world by overturning a decade-long precedent that emphasized a “strong presumption” that a claim limitation lacking the word “means” is not subject to 35 U.S.C. § 112(f).¹ During its decade-long tenure, the strong presumption had facilitated an expansion of functional claiming that was unchecked by statutory constraint.² This landmark decision in *Williamson v. Citrix Online, LLC* (“*Williamson II*”) overturned a long line of cases starting from *Lighting World, Inc. v. Birchwood Lighting, Inc.*, which first established the strong presumption.³

Williamson II departed from the heightened standard established in *Flo Healthcare Solutions v. Kappos*, which required that a claim limitation invoking § 112(f) “essentially [be] devoid of anything that can be construed as structure.”⁴ In place of the strong presumption, *Williamson II* restored the pre-*Lighting World* standard for determining whether a non-“means” claim limitation invokes § 112(f): “whether the words of the claim are understood by persons of ordinary skill in the art to have a sufficiently definite meaning as the name for structure.”⁵

The bright line rule that the Federal Circuit established in *Lighting World* had the unintended consequence of spawning a plethora of functional claims with broad scope unbounded by statutory intent because of a

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1. *Williamson v. Citrix Online, LLC* (*Williamson II*), 792 F.3d 1339 (Fed. Cir. 2015) (en banc). Unless otherwise noted, pre-AIA 35 U.S.C. § 112(6) and AIA 35 U.S.C. § 112(f) will be collectively referred to as § 112(f) or 112(f).

2. *See Williamson II*, 792 F.3d at 1348.

3. 382 F.3d 1354 (Fed. Cir. 2004); *see id.*

4. *See Williamson II*, 792 F.3d at 1349 (citing *Flo Healthcare Solutions, LLC v. Kappos*, 697 F.3d 1367, 1374 (Fed. Cir. 2012)).

5. *Id.* at 1349 (citing *Greenberg v. Ethicon Endo-Surgery, Inc.*, 91 F.3d 1580, 1583 (Fed. Cir. 1996)). Claim limitations or terms lacking the word “means” are henceforth referred to as non-“means” limitations or terms.

technicality in claim drafting.⁶ Patent applicants exploited the bright line rule to draft functional claims without the term “means” to describe an invention based on what it does, without providing any detail on how it is made.⁷ Such claims are untethered to any particular implementation of the claimed invention.⁸ The *Williamson II* decision reduces the scope of some of these functional claims to disclosed embodiments by imposing the restrictions of § 112(f).⁹ The impact of *Williamson II* has been pervasive, propagating to the district courts and Patent and Trial Appeal Board (PTAB).¹⁰ For example, the PTAB has actively referenced *Williamson II* in administrative decisions *sua sponte*.¹¹

Although *Williamson II* is a step in the right direction to curb overly broad functional claims, it does not provide clarity on how to interpret the restored pre-*Lighting World* standard (whether a claim term is understood to have sufficiently definite structure) in view of common law that has developed in support of the strong presumption. This Note analyzes the development and impact of *Williamson II*. Part I explores the historical development of interpreting claim limitations under § 112(f) leading up to *Williamson II*. Part II examines the *Williamson II* decision. Part III investigates the application of *Williamson II* by the district courts and PTAB. Part IV analyzes two issues that remain unaddressed by *Williamson*

6. See *Williamson II*, 792 F.3d at 1349. The court noted that the “strong” presumption that a non-“means” claim limitation is not subject to § 112(f) had resulted in a “proliferation of functional claiming untethered to § 112, para. 6 and free of the strictures set forth in the statute.” *Id.*

7. See, e.g., Mark A. Lemley, *Software Patents and the Return of Functional Claiming* (Stanford Pub. Law, Working Paper No. 2117302, 2012), at 907, 909, 911, 919, http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2117302 [<https://perma.cc/YC6W-GTC8>]; Kyle O. Logan, *Step-Plus-Function Claims: An Analysis of Federal Circuit Law*, 24 FORDHAM INTELL. PROP. MEDIA & ENT. L.J. 907, 911 (2013).

8. See *Blackboard, Inc. v. Desire2Learn, Inc.*, 574 F.3d 1371, 1383 (Fed. Cir. 2009) (“Without so limiting a claim, we noted, ‘the patentee has not paid the price but is attempting to claim in functional terms unbounded by any reference to structure in the specification.’”) (quoting *Aristocrat Techs. Austl. v. Int’l Game Tech.*, 521 F.3d 1328, 1333 (Fed. Cir. 2008)).

9. See Michael Risch, *The Past and Future of Functional Claiming* . . . , WRITTEN DESCRIPTION BLOG (June 16, 2015), <http://writtendescription.blogspot.com/2015/06/the-past-and-future-of-functional.html> [<https://perma.cc/K7F9-DBM5>].

10. See, e.g., Order Construing the Terms of U.S. Patent Nos. 5,489,295, 5,993,481, 6,302,906, 5,676,696, *Lifepoint Scis. LLC v. Endologix, Inc.*, No. CV 12-1791-GMS, 2015 WL 4141819 at *4 n.8, (D. Del. July 9, 2015); see also Decision on Appeal, *Ex parte Sebastian*, No. 2013-006223 at 6, 2015 WL 4608191 at *3, (P.T.A.B. June 22, 2015).

11. See Decision on Institution of Inter Partes Review, *Incontact, Inc. v. Microlog Corp.*, No. IPR2015-00560, 2015 WL 4639627 at *4 n.3 (P.T.A.B. July 30, 2015); see also Decision on Appeal, *Ex parte Kermani*, 2015 WL 5317320 at *5 (P.T.A.B. Sept. 9, 2015).

It's reversal of the strong presumption in view of the common law that developed in support of the strong presumption. First, *Williamson II* has not addressed a shift from an objective standard of claim interpretation to a subjective standard, and second, *Williamson II* has not addressed how to interpret the structural character of multi-word adjectival terms. Part IV provides an overview of these issues and proposes a framework for determining whether non-“means” claims invoke § 112(f).

I. HISTORICAL DEVELOPMENT OF MEANS-PLUS-FUNCTION CLAIM INTERPRETATION

Functional claiming can be problematic for companies developing products because an “absence of clear boundaries” on functional claims fails to provide sufficient notice on whether a product infringes.¹² In order to determine whether an accused product infringes a patent claim, a company accused of infringement must engage in costly litigation, which siphons resources away from product development and innovative activity.¹³

The historical development of § 112(f) contemplated such negative implications of overly broad functional claiming and imposed statutory limits on the scope of functional claims.¹⁴ Cases decided before the establishment of the strong presumption in *Lighting World* applied reasoned objective criteria to determine whether a claim limitation invoked § 112(f).¹⁵ However, subsequent to *Lighting World*, the strong presumption facilitated a gradual departure from objective analysis toward an arbitrary

12. See, e.g., Lemley, *supra* note 7, at 906.

13. See *id.* at 931–32, 934 (“[T]rolls cost the economy \$500 billion over the last twenty years, mostly in the information technology industry.”).

14. See Brad A. Schepers, *Interpretation of Patent Process Claims in Light of the Narrowing Effect of 35 U.S.C. § 112(6)*, 31 IND. L. REV. 1133, 1134, 1139 (1998); see also *In re Donaldson Co., Inc.*, 16 F.3d 1189, 1193, 1195 (Fed. Cir. 1994) (“[O]ur holding in this case merely sets a limit on how broadly the PTO may construe means-plus-function language under the rubric of ‘reasonable interpretation.’”). The Federal Circuit clarified that the “reasonable interpretation” standard for examining § 112(f) claims in a patent application pending before the United States Patent Office (PTO) requires an evaluation of the structure disclosed within the application’s specification. *Id.*

15. See, e.g., *Greenberg v. Ethicon Endo-Surgery, Inc.*, 91 F.3d 1580, 1583 (Fed. Cir. 1996) (“Dictionary definitions make clear that the noun ‘detent’ denotes a type of device with a generally understood meaning in the mechanical arts, even though the definitions are expressed in functional terms.”).

inclination against invoking § 112(f) on non-“means” claim limitations, thereby effectively eroding statutory limits on functional claiming.¹⁶

A. OVERVIEW OF FUNCTIONAL CLAIMING

Patent applicants employ functional claiming to draft claims that describe an invention based on the functionality of the invention (e.g., what the claimed invention does), instead of the implementation of the invention (e.g., how the claimed invention operates in practice).¹⁷ As an analogy, functional claiming describes a claimed invention in terms of black boxes, without providing detail about the inner workings of the black boxes.¹⁸ Functional claiming provides broad coverage over various implementations that can carry out a same function, rather than being restricted to a specific implementation for executing the function.¹⁹

The 2011 America Invents Act (AIA) and the Patent Act of 1952 (“Patent Act”) provide for a specific case of functional claiming under § 112(f) that is limited to the embodiments “described in the specification and equivalents thereof.”²⁰ Section 112(f) covers both system claims (e.g., drafted in “means for” format), and method claims (e.g., drafted in “step for” format).²¹ The *Williamson II* decision addresses the issue of system

16. See, e.g., *Mass. Inst. of Tech. & Elecs. for Imaging, Inc. v. Abacus Software (MIT)*, 462 F.3d 1344, 1364 (Fed. Cir. 2006) (Michel, C.J., dissenting). The dissent stated:

Here, we have neither a dictionary definition to establish that ‘aesthetic correction’ is an appropriate A.Q. to suggest definite structure nor expert testimony that the accompanying description of the operation of the circuit, if any, connotes definite circuit structure—sequence of particular circuit components—to an artisan so that he could draw on paper the arrangement of the components needed. *Id.*

17. See Lemley, *supra* note 7, at 919, 923; see also Stephen Winslow, *Means for Improving Modern Functional Patent Claiming*, 98 GEO. L.J. 1891–92 (2009).

18. See Robert A. Hodges, *Black Box Biotech Inventions: When a Mere Wish or Plan Should Be Considered an Adequate Description of the Invention*, 17 GA. ST. U.L. REV. 831, 834–35 (2000).

19. See *Blackboard, Inc. v. Desire2Learn, Inc.*, 574 F.3d 1371, 1383 (Fed. Cir. 2009) (“Without so limiting a claim, we noted, ‘the patentee has not paid the price but is attempting to claim in functional terms unbounded by any reference to structure in the specification.’”) (quoting *Aristocrat Techs. Austl. v. Int’l Game Tech.*, 521 F.3d 1328, 1333 (Fed. Cir. 2008)).

20. See 35 U.S.C. § 112 (1952) (pre-AIA); 35 U.S.C. § 112 (2011) (AIA).

21. See *Masco Corp. v. United States*, 303 F.3d 1316, 1326 (Fed. Cir. 2002); Paul Devinsky, *United States: Step-Plus-Function Analysis Is the “Key” to the Proper Claim Construction*, MONDAQ (Nov. 8, 2002), <http://www.mondaq.com/unitedstates/x/18665/Patent/StepPlusFunction+Analysis+Is+the+Key+to+the+Proper+Claim+Construction> [<https://perma.cc/2J5R-7LPL>]; see also *OI Corp. v. Tekmar Co., Inc.*, 115 F.3d 1576, 1583 (Fed. Cir. 1997); Jeffery Keuster, *Means-Plus-Function Claiming: Recent*

claims drafted using placeholder “nonce” words (e.g., “mechanism,” “element,” “device”) instead of the word “means” to avoid classification as means-plus-function terms under § 112(f), but intended to cover the breadth of a functional claim.²² Because *Williamson II* removes the strong presumption against invoking § 112(f) against non-“means” claim terms, such functional system claims may now invoke § 112(f).

B. HISTORICAL DEVELOPMENT OF § 112(F)

Concerns about the potential overbreadth of functional claims played a central role in the development of § 112(f). Congress first enacted § 112(6)²³ as a legislative response to the Supreme Court decision in *Halliburton Oil Well Cementing Co. v. Walker*.²⁴ In *Halliburton*, the Court held that functional claim language was indefinite and could not be used to describe the most crucial element of a combination claim that would impart “novelty” to the claim.²⁵ The Court found that all components of the disputed claim were known in the art, and that the only new contribution over the prior art was itself a well-known device.²⁶ The Court did not dispute the validity of the claim over the prior art, but instead focused on

Developments and New Considerations (July 1995), [http://www.kuesterlaw.com/mpf.html#\[19\]](http://www.kuesterlaw.com/mpf.html#[19]) [<https://perma.cc/RHC7-4RX8>].

22. See *Williamson II*, 792 F.3d 1339, 1350–1351 (Fed. Cir. 2015).

23. 35 U.S.C. § 112(6) of the 1952 Patent Act later became 35 U.S.C. § 112(f) of the America Invents Act without substantial modification.

24. See *Halliburton Oil Well Cementing Co. v. Walker*, 329 U.S. 1 (1946); Schepers, *supra* note 14, at 1139; Kuester, *supra* note 21.

25. See *Halliburton*, 329 U.S. at 8–9, n.7. The claims at issue related to methods and systems for determining a distance to a surface of fluid within an oil well. An exemplary claim at issue in *Halliburton* is provided below with inventive aspects in italics, written in functional form:

In an apparatus for determining the location of an obstruction in a well having therein a string of assembled tubing sections interconnected with each other by coupling collars, means communicating with said well for creating a pressure impulse in said well, echo receiving means including a pressure responsive device exposed to said well for receiving pressure impulses from the well and for measuring the lapse of time between the creation of the impulse and the arrival at said receiving means of the echo from said obstruction, and *means associated with said pressure responsive device for tuning said receiving means to the frequency of echoes from the tubing collars of said tubing sections to clearly distinguish the echoes from said couplings from each other.* (emphasis added).

26. *Id.* at 6–7 (“Walker’s contribution which he claims to be invention was in effect to add to Lehr and Wyatt’s apparatus a well-known device which would make the regularly appearing shoulder echo waves more prominent on the graph and easier to count.”).

the wording of the claims.²⁷ In focusing on the claim limitations describing the novel aspect of the claim, the Court expressed concerns that the patent was in a “field crowded almost, if not completely, to the point of exhaustion.”²⁸ The Court noted that because patents in such a crowded field “consist[] of a combination of old ingredients” that are “much more numerous than any other,” it was of the greatest importance that the description of the inventive combination be “full, clear, concise and exact.”²⁹

The *Halliburton* decision, at its time of issuance, brought clarity to inconsistent treatment of functional claims at the trial courts and appellate courts.³⁰ The Court presciently pointed out that “patents on machines which join old and well-known devices with the declared object of achieving new results . . . easily lend themselves to abuse,” and accordingly required clarity of such claims.³¹

The congressional enactment of § 112(6) legitimized the practice of functional claiming and overturned *Halliburton’s* judicial precedent.³² However, the drafters of the statute, perhaps recognizing the potential for abuse of functional claiming, explicitly limited the scope of § 112(6) claims to the “corresponding structure, material, or acts described in the specification and equivalents thereof” for patentability determinations.³³

The statutory text of § 112(6) has barely changed over the last half century. It emerged with minor amendments, as § 112(f), after the recent overhaul of the patent system via the AIA.³⁴

27. *Id.* at 7–8 (“[W]e can accept without ratifying the findings of the lower court that the addition of ‘a tuned acoustical means’ performing the ‘function of a sound filter’ brought about a new patentable combination, even though it advanced only a narrow step beyond Lehr and Wyatt’s old combination.”).

28. *Id.* at 10.

29. *Id.* at 11.

30. See Schepers, *supra* note 14, at 1139.

31. *Halliburton*, 329 U.S. at 10.

32. See Schepers, *supra* note 14, at 1140 (“In response to *Halliburton* and the uncertainty surrounding functional claim language prior to this landmark decision, Congress enacted 35 U.S.C. § 112(6) authorizing the expression of a claim element in terms of a means or step for performing a specific function.”).

33. See *id.* at 1140 (“Congress’ inclusion of the second clause of paragraph six indicates that they, like the Supreme Court, had concern over the broadness and ambiguity surrounding functional language.”).

34. Compare 35 U.S.C. § 112 (1952) (Patent Act of 1952), with 35 U.S.C. § 112 (2011) (AIA). The only modifications are addition of labels and clarification of joint inventors. *Id.*

C. INVOCATION OF § 112(F)

In the two decades prior to the *Williamson II* decision, the courts often considered whether a claim limitation invokes § 112(f), based on one of four scenarios: whether (1) a “means” limitation invoked § 112(f), (2) a “means” limitation did not invoke 112(f), (3) a non-“means” limitation invoked 112(f), or (4) a non-“means” limitation did not invoke § 112(f).³⁵ Judicial precedent established at least three criteria for determining whether a claim limitation invoked § 112(f). The issue of the strong presumption against invocation of § 112(f) for non-“means” claims first emerged in *Lighting World* and was subsequently expanded in the decade leading up to *Williamson II*.³⁶

1. *Invocation of § 112(f) Before Lighting World*

In determining whether a claim limitation invoked § 112(f) prior to *Lighting World*, the courts consistently applied the following criteria: (1) whether the disputed claim term connoted any structure³⁷ by its plain meaning, (2) whether the claim limitation recited any structure,³⁸ and (3) whether the claim limitation included a function linked to a disputed term.³⁹ These criteria are similar to the three-pronged analysis set forth in the Manual of Patent Examining Procedure (MPEP) used by Patent Examiners in the PTO and could apply regardless of whether the claim limitation explicitly recited the term “means.”⁴⁰ Judicial precedent has formalized these criteria into two rebuttable presumptions: (1) that use of the word “means” invokes § 112(f), and (2) that absence of the word “means” does not invoke § 112(f).⁴¹ The analysis below focuses on the instances where non-“means” terms invokes § 112(f).

35. As referred to herein, non-“means” limitation or non-“means” term shall be understood to be a limitation or term lacking the term “means.”

36. See *Williamson II*, 792 F.3d 1339, 1348–49 (Fed. Cir. 2015) (en banc) (“[J]ust a year after *Inventio*, we raised the bar even further . . .”).

37. See *Greenberg v. Ethicon Endo-Surgery, Inc.*, 91 F.3d 1580, 1583–84 (“detent mechanism”); *Personalized Media Commc’ns v. Int’l Trade Comm’n (PMC)*, 161 F.3d 696, 698–700, 703–04 (Fed. Cir. 1998) (“digital detector”).

38. See *Rodime PLC v. Seagate Tech., Inc.*, 174 F.3d 1294, 1298–99, 1302–04 (Fed. Cir. 1999) (“positioning means . . . including: two support arms”).

39. See *York Prods., Inc. v. Cent. Tractor*, 99 F.3d 1568, 1574 (“means formed on . . . sidewall portions including . . . ridge members”).

40. See MPEP § 2181(I) (“3-prong analysis”).

41. See *Williamson II*, 792 F.3d at 1348 (citing *Personalized Media Commc’ns v. Int’l Trade Comm’n*, 161 F.3d 696, 703–704 (Fed. Cir. 1998)).

a) First Criterion: Whether the Claim Limitation Connotes Sufficient Structure

The first criterion evaluates the plain language of a disputed claim limitation, regardless of whether said limitation is written in means-plus-function format. If the limitation connotes sufficient structure to a skilled person, is not a generic structural term, and has a clear meaning, then the limitation does not invoke § 112(f).

i) Non-“Means” Terms Not Invoking § 112(f)

Courts have applied the first criterion to find that non-“means” claim limitations do not invoke § 112(f). In *Greenberg v. Ethicon Endo-Surgery, Inc.*, the Federal Circuit held that the non-“means” limitation “detent mechanism” did not invoke § 112(f).⁴² Instead, the Federal Circuit found that “detent mechanism” had “a generally understood meaning in the mechanical arts,” and cited to several dictionary definitions for “detent” to support its conclusion.⁴³

The disputed claim limitation was not written in means-plus-function form, although the plaintiff’s proposed claim construction was in functional form.⁴⁴ The court noted that the proposed construction in “functional terms” was not sufficient to convert a construed claim element into a “means for performing a specified function” that invokes § 112(f).⁴⁵ The court supported this statement by identifying two classes of devices that took names based on related functions.⁴⁶ A first class took names from functions performed (e.g., “filter,” “brake,” “clamp;” note the names are both a noun and a verb).⁴⁷ A second class took names that described their function (e.g.,

42. *Greenberg*, 91 F.3d at 1583–84.

43. *Id.*

44. *Id.* at 1581–82 (the claim limitation “detent mechanism defining the conjoint rotation of said shafts in predetermined intervals” was not written in “means for” form). *Id.* at 1583 (“[T]he definition of ‘detent mechanism’ provided by Dr. Greenberg’s expert (i.e., ‘[a]ny device for positioning and holding one mechanical part in relation to another so that the device can be released by force applied to one of the parts’) w[as] expressed in functional terms.”); see *OI Corp. v. Tekmar Co., Inc.*, 115 F.3d 1576, 1580–81 (Fed. Cir. 1997). The Federal Circuit has clarified that courts must separately evaluate each non-“means” terms within a means-plus-function claim limitation to determine whether the term invokes § 112(f). *Id.* The court held that § 112(f) did not apply to a term “passage” because it did not perform a claimed function of a means-plus-function limitation, but merely specified where the function took place. *Id.* at 1581 (“Although the passage may act upon the slug by channeling it while it is being passed, it is not the means that causes the passing. Rather, it is the place where the function occurs, not the structure that accomplishes it.”).

45. *Greenberg*, 91 F.3d at 1583.

46. *Id.*

47. *Id.*

“graspers,” “cutters,” “suture applicators;” note the names are nouns derived from verbs).⁴⁸

Although the Federal Circuit in *Greenberg* found that a non-“means” term did not invoke § 112(f), it warned against determining whether to invoke § 112(f) based only on use of the term “means,” citing to prior cases that found terms introduced by “so that” to be equivalent to “means for” terms.⁴⁹

The Federal Circuit heeded this warning in later cases. In *Personalized Media Communications v. Int’l Trade Commission* (“PMC”), it found that “a digital detector” did not invoke § 112(f), because it had “a well-known meaning to those of skill in the electrical arts connotative of structure.”⁵⁰ Even though the disputed claim limitation was written in function form (e.g., “detector for receiving”), the court still held that the claim limitation did not invoke § 112(f) because it connoted sufficient structure, was not a generic structural term, and had clear meaning based on dictionary definitions.⁵¹ *PMC* extended *Greenberg*’s reasoning from a non-“means” term not drafted in functional form to a non-“means” term drafted in functional form.⁵²

ii) Non-“Means” Terms Invoking § 112(f)

The Federal Circuit has applied the same reasoning from *Greenberg* and *PMC* to conclude that some non-“means” claim limitations lack sufficient structure and accordingly invoke § 112(f). In *Mas-Hamilton Group v. LaGard, Inc.*, the court found that “lever moving element” and “movable link member” invoked § 112(f) because said terms did not connote sufficient structure.⁵³ The court noted that the plaintiff had not shown evidence that “lever moving element” had a well-known meaning in the art.⁵⁴ No dictionary definitions were cited for these two terms.⁵⁵

48. *Id.* The court concluded that the term “detent” was similar to the terms of the first and second classes of devices “with a generally understood meaning in the mechanical arts.” *Id.*

49. *Id.* at 1584.

50. 161 F.3d 696, 704 (Fed. Cir. 1998).

51. *Id.*

52. *See supra* Section I.C.1.a)i). Recall that in *Greenberg v. Ethicon Endo-Surgery, Inc.*, the proposed construction, not the claim limitation itself, was in functional form. 91 F.3d 1580, 1583 (Fed. Cir. 1996).

53. 156 F.3d 1206, 1213–15 (Fed. Cir. 1998).

54. *Id.*

55. “[L]ever” and “link” arguably fall into the first class of *Greenberg* devices, taking names from functions performed. However, the term lever was used to describe a function instead of structure—“lever moving element”—and the term “link” might have been deemed a “general structural term” instead of structure known to one skilled in the art. *Id.*

b) Second Criterion: Whether the Claim Limitation Recites Structure

The second pre-*Lighting World* criterion for determining whether a claim limitation invokes § 112(f) asks whether the claim limitation as a whole recites sufficient structural elements understood by one of ordinary skill in the art. If the claim limitation recites sufficient structural elements, it does not invoke § 112(f).

In *Al-Site Corp. v. VSI International, Inc.*, the Federal Circuit found that a number of terms did not invoke § 112(f).⁵⁶ Instead of citing to dictionary definitions for claim terms, the court found that each disputed claim limitation as a whole recited sufficient structure.⁵⁷ In *Watts v. XL Systems*, the Federal Circuit similarly found that the claim limitation “joint . . . such that one joint may be sealingly [sic] connected . . . with another such joint” did not invoke § 112(f) because it included sufficient structure.⁵⁸

Unlike the first criterion, which has used dictionaries as an objective basis to determine whether a claim term connotes sufficient structure, the application of the second criterion has not used a clear objective basis for identifying structure. For example, the application of the second criterion to non-“means” terms in *Al-Site* and *Watts* appears to leave some ambiguity as to what constitutes sufficient structural elements. In *Al-Site*, the structural element of the “eyeglass contacting member” was an “encircling portion adapted to encircle part of a frame.”⁵⁹ Under the first criterion from *Greenberg* and *PMC*, there might be dispute as to whether “encircling portion” alone constitutes sufficient structure.

at 1213–15. If the plaintiff had argued that “link” was a well-known term with clear meaning (e.g., by citing to dictionary definitions), it might have prevailed on arguing for a non-112(f) interpretation of “link member.” *See id.*

56. 174 F.3d 1308, 1318 (Fed. Cir. 1999). The disputed terms included “eyeglass hanger member,” “eyeglass contacting member,” and “attaching portion attachable to a portion.” *Id.*

57. *See id.* at 1318 (“Moreover, although these claim elements include a function, namely, ‘mounting a pair of eyeglasses,’ the claims themselves contain sufficient structural limitations for performing those functions.”). As a first example, a claim recited structure for an “eyeglass hanger member” as “made from flat sheet material.” *Id.* at 1318. As a second example, a claim recited structure of an “eyeglass contacting member” as “having an encircling portion adapted to encircle a part of said frame.” *Id.* at 1319.

58. 232 F.3d 877, 881 (Fed. Cir. 2000) (“Specifically, the claim limitation recites ‘a second end formed with tapered external threads’ and refers to ‘a first end’ with ‘tapered internal threads.’ These terms clearly have reasonably well understood meanings in the art as names for structure.”).

59. *Al-Site*, 174 F.3d at 1318.

c) Third Criterion: Whether the Claim Limitation Includes a Function

Under the third criterion, if a claim limitation does not recite a function, it does not invoke § 112(f). In *York Products*, the Federal Circuit found that the claim limitation “means formed on the upwardly extending liner sidewall portions” did not invoke § 112(f) despite reciting the term “means”, in part, because it did not link the term “means” to a function.⁶⁰

d) The Rebuttable Presumptions Framework

Common law development has formalized the aforementioned three criteria into two rebuttable presumptions: (1) that use of the word “means” invokes § 112(f), and (2) that failure to use the word does not invoke § 112(f).⁶¹

A party can overcome the presumption that a “means” claim limitation should invoke § 112(f) if the claim limitation either (1) connotes sufficient structure (e.g., first criterion),⁶² (2) recites sufficient structure (e.g., second criterion),⁶³ or (3) does not include a function (e.g., third criterion).⁶⁴ Inversely, a party can overcome the presumption that a non-“means” claim limitation should not invoke § 112(f) if the claim limitation (1) does not connote structure when written in functional form (e.g., first and third criteria)⁶⁵ and (2) does not recite sufficient structure when written in functional form (e.g., second and third criteria).⁶⁶

60. *York Prods., Inc. v. Cent. Tractor*, 99 F.3d 1568, 1574 (Fed. Cir. 1996) (“Without an identified function, the term ‘means’ in this claim cannot invoke 35 U.S.C. § 112, ¶ 6.”).

61. *See Williamson II*, 792 F.3d 1339, 1348 (Fed. Cir. 2015) (citing *PMC*, 161 F.3d 696 (Fed. Cir. 1998)); *see also* MPEP 2181(I).

62. *Cole v. Kimberly-Clark Corp.*, 102 F.3d 524, 531 (Fed. Cir. 1996) (the disputed term, “perforation means,” was found not to invoke § 112(f)). The Federal Circuit noted that “[a]n element with such a detailed recitation of its structure, as opposed to its function, cannot meet the requirements of the statute.” *Id.*

63. *York Prods.*, 99 F.3d at 1573–74 (the disputed term was “means formed on the upwardly extending liner sidewall portions including a plurality of spaced apart, vertically extending ridge members”).

64. *See id.* (“Without an identified function, the term ‘means’ in this claim cannot invoke 35 U.S.C. § 112, ¶ 6.”).

65. *See, e.g., Mas-Hamilton Grp. v. LaGard, Inc.*, 156 F.3d 1206, 1213–14 (Fed. Cir. 1998) (the disputed non-means term was “movable link member”).

66. *See id.* at 1215 (“Further, we do not see that the remaining terms in the claim limitation other than those defining the two functions . . .”).

A rebuttable presumption, unless overcome by a challenger, will guide the interpretation of a disputed limitation.⁶⁷ For example, a claim limitation that recites “digital detector” is presumed not to invoke § 112(f) unless the rebuttable presumption is overcome.⁶⁸

2. *Invocation of § 112(f) After Lighting World and Before Williamson II*

In *Lighting World*, the Federal Circuit for the first time qualified the presumption that a non-“means” claim limitation does not invoke § 112(f) as a “strong one that is not readily overcome.”⁶⁹ The cases following *Lighting World* departed from the reasoned analysis of the three pre-*Lighting World* criteria and expanded the strong presumption. The decision in *Phillips v. AWH Corp.* may have facilitated a departure from relying upon objective extrinsic evidence (e.g., dictionaries as used in the first criterion).⁷⁰ After *Phillips*, the Federal Circuit expanded the scope of the “strong” presumption through a line of cases that related to “adjectival qualifiers” leading up to *Williamson II*.⁷¹

a) *Phillips* De-emphasizes the Importance of Extrinsic Evidence, Facilitating a Shift Towards Subjective Claim Interpretation

The *Phillips* decision, while not referencing the strong presumption in *Lighting World*, might have facilitated the expansion of the strong presumption by undermining the use of objective extrinsic evidence.⁷² In *Phillips*, the court criticized a methodology that “placed too much reliance on extrinsic sources such as dictionaries.”⁷³ Instead, it established a methodology for interpreting claim terms that starts with the context of a particular claim, and then looks at intrinsic evidence (e.g., a patent

67. See *Williamson II*, 792 F.3d at 1348 (citing *PMC*, 161 F.3d 696 (Fed. Cir. 1998)); see also MPEP 2181(I).

68. See *PMC*, 161 F.3d 696, 703–05 (Fed. Cir. 1998) (the disputed claim term was “digital detector”).

69. *Lighting World, Inc. v. Birchwood Lighting, Inc.*, 382 F.3d 1354, 1358 (Fed. Cir. 2004).

70. 415 F.3d 1303, 1320–21 (Fed. Cir. 2005) (en banc).

71. See, e.g., *Mass. Inst. of Tech. & Elecs. for Imaging, Inc. v. Abacus Software (MIT)*, 462 F.3d 1344, 1355 (Fed. Cir. 2006) (the disputed claim terms involved various “circuitry” modified by an adjectival qualifier); *Inventio AG v. Thyssenkrupp Elevator Americas Corp.*, 649 F.3d 1350, 1356, 1358 (Fed. Cir. 2011) (the disputed terms were “modernizing device” and computing unit”); *Apple, Inc. v. Motorola, Inc.*, 757 F.3d 1286, 1296–97 (Fed. Cir. 2014) (the terms under consideration were variants of the term “heuristic”).

72. See *Phillips*, 415 F.3d at 1303, 1311.

73. *Id.* at 1320–21.

specification and prosecution history).⁷⁴ Extrinsic evidence such as “expert and inventor testimony, dictionaries, and learned treatises” are “less significant than the intrinsic record in determining ‘the legally operative meaning of claim language.’”⁷⁵ Because this framework de-emphasizes extrinsic objective evidence in favor of intrinsic evidence, it might have facilitated the departure from an objective analysis of disputed § 112(f) terms towards a subjective analysis based on subjective interpretation of the intrinsic record, a shift that facilitated expansion of the strong presumption.

b) The Federal Circuit Expands the Strong Presumption from *Lighting World* Through a Line of Cases Relating to Adjectival Qualifiers

The disputed claim term in *Lighting World* was a compound term that included an adjectival qualifier and a base term.⁷⁶ A subsequent series of cases expanded use of the strong presumption to find that increasing numbers of compound terms did not invoke § 112(f) based on interpretation of the adjectival qualifier.⁷⁷

Although *Lighting World* set a precedent for the “strength of the presumption,” it still provided reasoned analysis on whether a term invoked § 112(f).⁷⁸ The Federal Circuit noted that the standard was not whether a disputed term brought to mind a particular structure, but whether the term was “one that is understood to describe structure, as opposed to a term that is simply a nonce word or a verbal construct.”⁷⁹ The court in *Lighting World*, as in prior cases, relied upon objective meanings from dictionaries to construe a disputed term.⁸⁰ However, in *Lighting World*, the court focused on defining an adjective (“connector”) of a disputed term (“connector

74. *Id.* at 1313, 1317 (“Importantly, the person of ordinary skill in the art is deemed to read the claim term not only in the context of the particular claim in which the disputed term appears, but in the context of the entire patent, including the specification. . . . In addition to consulting the specification, we have held that a court ‘should also consider the patent’s prosecution history, if it is in evidence.’”).

75. *Id.* at 1317.

76. *Lighting World*, 382 F.3d at 1358–59 (“connector assembly”).

77. *See, e.g., MIT*, 462 F.3d 1344 (Fed. Cir. 2006) (the disputed claim terms involved various “circuitry” modified by an adjectival qualifier); *Inventio AG v. Thyssenkrupp Elevator Americas Corp.*, 649 F.3d 1350, 1356, 1358 (Fed. Cir. 2011) (the disputed terms were “modernizing device” and “computing unit”); *Apple Inc. v. Motorola, Inc.*, 757 F.3d 1286, 1296–97 (Fed. Cir. 2014) (the terms under consideration were variants of the term “heuristic”).

78. *Lighting World, Inc. v. Birchwood Lighting, Inc.*, 382 F.3d 1354, 1360 (Fed. Cir. 2004).

79. *Id.*

80. *Id.* at 1360–61.

assembly).⁸¹ By focusing on the term “connector,” the court appeared to concede that the base term “assembly” might be accepted as a generic word.⁸²

In *MIT v. Abacus Software*, the Federal Circuit analyzed the base terms and adjectival modifiers of two compound terms to determine whether the compound terms invoked § 112(f).⁸³ The court found that the base term “mechanism” of a first compound term, “colorant selection mechanism,” did not have a sufficiently definite meaning.⁸⁴ The court then determined that the adjective “colorant selection” was “not defined in the specification,” had “no dictionary definition,” and did not have a “generally understood meaning in the art.”⁸⁵

In contrast to the finding that the base term “mechanism” did not have a sufficiently definite meaning, the court found that the base term “circuitry” of a second compound term, “aesthetic correction circuitry,” did connote sufficient structure based on dictionary definitions for “circuit” and “circuitry.”⁸⁶ The court also cited to precedent from an earlier case, *Apex v. Raritan*, where it concluded that the term “circuit” combined with a description of the operation of the circuit connoted sufficient structure to one of ordinary skill.⁸⁷ To respond to a dissenting opinion against the non-112(f) determination, the court reiterated the “strength of the presumption” for non-“means” claims.⁸⁸

The invocation of the strong presumption against the dissent appears to signal a shift from relying upon reasoned objective analysis toward an inclination against invoking § 112(f) on non-“means” claims. The dissent

81. *See id.*

82. Recall that in *Greenberg*, the court construed the term “detent” in “detent mechanism,” but did not consider whether the term “mechanism” was a nonce word. *See Greenberg v. Ethicon Endo-Surgery, Inc.*, 91 F.3d 1580, 1583 (Fed. Cir. 1996).

83. *See MIT*, 462 F.3d at 1355 (disputed terms “colorant selection mechanism” and “aesthetic correction circuitry”) (“In contrast to the term ‘mechanism,’ dictionary definitions establish that the term ‘circuitry,’ by itself, connotes structure.”) (“In two of our prior cases we concluded that the term ‘circuit,’ combined with a description of the function of the circuit, connoted sufficient structure to one of ordinary skill in the art to avoid 112 ¶ 6 treatment.”).

84. *Id.* at 1354.

85. *Id.* at 1354.

86. *Id.* at 1355.

87. *Id.* at 1356 (citing *Apex, Inc. v. Raritan Computer, Inc.*, 325 F.3d 1364, 1373 (Fed. Cir. 2003)).

88. *Id.* at 1356 (“In arguing to the contrary, the dissent appears to misapprehend the strength of the presumption that applies when the term ‘means’ does not appear in the claim.”).

foretells the problems that the strong presumption would create.⁸⁹ The dissent in *MIT* noted that the *Apex* decision, relied upon by the majority, concluded that “circuitry” connoted enough structure only in a limited context of certain adjectival qualifiers supported by technical dictionary definitions (e.g., interface circuit, logic circuit, etc.).⁹⁰ Critically, the dissent observed that the adjectival qualifier in the disputed claim limitation (“aesthetic correction circuitry”) did not appear to have a clear dictionary definition or known meaning in the art.⁹¹ Although the majority in *MIT* invoked the strong presumption to rebut the dissent, it did not employ a dictionary or other objective evidence to evaluate the term “aesthetic correction” that modified the term “circuitry.”⁹²

Following *MIT*, some cases led with the strong presumption as the guiding post. In *Inventio AG v. Thyssenkrupp Elevator Americas Corp.*, the Federal Circuit led with the strong presumption and then looked to the written description to construe the claim terms.⁹³ As in *MIT*, the court did not look to objective dictionary definitions for clarification on the adjectival qualifier or other disputed terms.⁹⁴ Instead, the court looked to the specification to determine whether a claim term connotes “sufficiently definite structure.”⁹⁵

In *Flo Healthcare Solutions, LLC v. Kappos*, the Federal Circuit raised the bar for the strong presumption such that the court was unwilling to invoke § 112(f) unless a limitation essentially is “devoid of anything that can

89. *Id.* at 1361–64 (Michel, C.J., dissenting).

90. *Id.* at 1361–62 (Michel, C.J., dissenting). The dissent also noted another case where the Federal Circuit extended the reasoning of *Apex* such that the use of “circuit” coupled with a description of the circuit’s operation may connote “sufficient structural meaning” when bolstered by expert testimony. *Id.* at 1363–64 (Michel, C.J., dissenting) (citing *Linear Tech. Corp. v. Impala Linear Corp.*, 379 F.3d 1311, 1320 (Fed. Cir. 2004)).

91. *Id.* at 1364 (“Here, we face a description of only the circuit’s function, not of how it operates with other circuits or devices to carry out that function.”).

92. *Id.* at 1355–56.

93. *See Inventio AG v. Thyssenkrupp Elevator Ams. Corp.*, 649 F.3d 1350, 1356, 1358 (Fed. Cir. 2011) (the disputed terms were “modernizing device” and “computing unit”).

94. *Id.* at 1356, 1358 (the disputed adjectival qualifier was “modernizing”).

95. *Id.* at 1356, 1358. The court held that the term “modernizing device” connoted sufficient structure based on the treatment of the term as an electrical circuit in the device (e.g., connected to a computing unit), and based on the written specification, which described components of the modernizing unit. *Id.* at 1358–59. The court also found that the term “computing unit” did not invoke § 112(f) based on the specification, which referred to the “computing unit” as a computer. *Id.* at 1359–60.

be construed as structure.”⁹⁶ In this case, the court found that the term “height adjustment mechanism” did not invoke § 112(f).⁹⁷

In *Apple, Inc. v. Motorola, Inc.* (“*Apple*”), the Federal Circuit extended the principles of adjectival qualifiers established in *MIT* to determine that a number of disputed terms did not invoke § 112(f).⁹⁸ The majority followed a two-step inquiry: (1) determining whether a claim limitation invoked § 112(f), and (2) construing the claim by identifying corresponding structure described in the specification.⁹⁹

The dissent in *Apple* disagreed with the majority’s reliance upon the specification to determine whether a claim limitation invoked § 112(f).¹⁰⁰ The dissent was concerned that looking to the specification for structure to determine whether a claim limitation invoked § 112(f) would “eviscerate” means-plus-function claiming, with the “absurd result” that a term could only invoke § 112(f) if it has “no corresponding structure.”¹⁰¹

These Federal Circuit cases illustrate a trend of expanding the strong presumption against invocation of § 112(f) while shifting to a more subjective construction of the disputed claims terms. The strict objective standard for invoking § 112(f) from *Greenberg*, supported by dictionary definitions (e.g., “detent”), has given way to a more lenient standard that allows patentees to include black box interpretations like those in *Apple* (e.g., inputs, outputs, and interrelations thereof) in a specification.

II. THE *WILLIAMSON II* DECISION

In *Williamson II*, the Federal Circuit overruled the strong presumption established in *Lighting World* and overruled the strict requirement established in *Flo Healthcare* that a claim limitation must be “essentially [] devoid” of structure in order to invoke § 112(f).¹⁰² The court reset the

96. *Flo Healthcare Solutions, LLC v. Kappos*, 697 F.3d 1367, 1374 (Fed. Cir. 2012) (citing *Masco Corp. v. United States*, 303 F.3d 1316, 1327 (Fed. Cir. 2002)).

97. *Id.* at 1375.

98. 757 F.3d 1286, 1296–97 (Fed. Cir. 2014) (the terms under consideration were variants of the term “heuristic”).

99. *Id.* (“The overall means-plus-function analysis is a two-step process.”). In its analysis, the majority invoked the strong presumption and found that the “heuristic” terms had sufficiently definite structure, in part based on disclosure in the specification of inputs and outputs to heuristics, and how such outputs would be achieved. *Id.* at 1300–01 (“[T]he claim language and specification disclose the heuristics’ operation within the context of the invention, including the inputs, outputs, and how certain outputs are achieved.”).

100. *Id.* at 1334–35.

101. *Id.* at 1335–36.

102. *Williamson II*, 792 F.3d at 1349.

standard for determining whether a non-“means” claim invokes § 112(f) to “whether the words of the claim are understood by persons of ordinary skill in the art to have a sufficiently definite meaning as the name for structure.”¹⁰³ If the claim term is a means-plus-function term, the court construes the term first by identifying the claimed function and second by determining what structure corresponds to the claimed function.¹⁰⁴ If the court cannot identify structure, then the claim may be held indefinite under 35 U.S.C. § 112(b).¹⁰⁵

A. FACTS AND PROCEDURAL HISTORY

The plaintiff Richard A. Williamson (“Williamson”) asserted U.S. Patent No. 6,155,840 (“840 patent”) against multiple defendants including Citrix Online, LLC, Microsoft Corporation, and Cisco Systems, alleging infringement of products that related to remote access features.¹⁰⁶ An excerpt of the disputed claim is reproduced below including the disputed limitation in italics.

8. A system for conducting distributed learning among a plurality of computer systems coupled to a network, the system comprising:

...

a distributed learning control module for receiving communications transmitted between the presenter and the audience member computer systems and for relaying the communications to an intended receiving computer system and for coordinating the operation of the streaming data module.¹⁰⁷

The district court had issued a claim construction order holding that the term “distributed learning control module” was a means-plus-function term that invoked § 112(f).¹⁰⁸ Williamson appealed to the Federal Circuit, which reversed in *Williamson v. Citrix Online, LLC* (“*Williamson I*”).¹⁰⁹ A subsequent en banc hearing vacated the *Williamson I* panel decision with

103. *Id.* at 1349 (citing *Greenberg v. Ethicon Endo-Surgery, Inc.*, 91 F.3d 1580, 1583 (Fed. Cir. 1996)).

104. *Id.* at 1351 (citing *Noah Sys., Inc. v. Intuit, Inc.*, 675 F.3d 1302, 1311–12, 1318–19 (Fed. Cir. 2012)).

105. *Id.* Unless otherwise noted, Pre-AIA 35 U.S.C. § 112(2) and AIA 35 U.S.C. § 112(b) will be collectively referred to as 35 U.S.C. § 112(b) or 112(b).

106. *See id.* at 1343.

107. *Id.* at 1344 (emphasis added).

108. *Id.* at 1345.

109. 770 F.3d 1371 (Fed. Cir. 2014).

respect to the term “distributed control module” and re-affirmed the district court holding that said term invoked § 112(f).¹¹⁰

B. THE *WILLIAMSON I* FEDERAL CIRCUIT PANEL DECISION

A two-judge majority of the Federal Circuit panel overturned the district court construction of “distributed learning control module” as a means-plus-function expression.¹¹¹ A one-judge dissent by Judge Reyna disagreed with the majority’s finding that the term “distributed learning control module” did not invoke § 112(f).¹¹²

The *Williamson I* majority reiterated the strong presumption from *Lighting World* and the heightened standard from *Flo Healthcare* that a claim limitation be “so devoid of structure that the drafter constructively engaged in means[-]plus-function claiming.”¹¹³ The majority criticized the district court for failing to “give weight to the strong presumption” based on the absence of the word “means.”¹¹⁴ The dispute focused on whether the base term “module” of the disputed term “distributed learning control module” connoted hardware or software to those skilled in the computer arts.¹¹⁵ The majority cited to a number of dictionaries to demonstrate that the term “module” would be understood to be a “software component” or “component of hardware system.”¹¹⁶

The *Williamson I* majority additionally criticized the district court for not considering the adjectival qualifier “distributed learning control” that preceded the base term “module.”¹¹⁷ In construing the adjectival qualifier, the majority cited only to the specification and not to any dictionaries as it had done for the base term “module.”¹¹⁸

The dissent in *Williamson I* contended that the term “distributed control learning module” did not connote sufficient structure because the term “module” was used as a “nonce” word in place of the term “means.”¹¹⁹ The dissent criticized the majority’s citation to dictionary definitions of “module” as either hardware or software because the definitions referred

110. *Williamson II*, 792 F.3d at 1354.

111. *Williamson I*, 770 F.3d at 1379.

112. *Id.* at 1380 (Reyna, J., dissenting).

113. *Id.* at 1378.

114. *Id.* at 1378–79.

115. *Id.*

116. *Id.*

117. *Id.* at 1380.

118. *Id.* This analysis follows *Apex* and *MIT*, which separately analyzed base terms and adjectival qualifiers. See *supra* Section I.C.2.b).

119. *Id.* at 1381–82 (Reyna, J., dissenting).

only to functional aspects of what hardware and software could do, but not to how the functions are implemented.¹²⁰ The dissent further criticized the majority's finding that the adjectival qualifier "distributed control learning" imparted structure to the claim limitation as a whole because neither the ordinary meaning of the adjectival modifiers, the specification, nor the prosecution history imparted any structural significance to said modifiers.¹²¹

C. THE *WILLIAMSON II* EN BANC FEDERAL CIRCUIT DECISION

An eleven-judge majority of the Federal Circuit overturned the *Williamson I* panel and reaffirmed the district court construction of "distributed learning control module" as a means-plus-function expression.¹²² The *Williamson II* majority overruled the strong presumption of *Lighting World* and heightened standard of *Flo Healthcare* that had formed the basis of the panel decision in *Williamson I*.¹²³ In place of the strong presumption, the court has restored the standard from *Greenberg*.¹²⁴ It noted that the "essential inquiry" for invocation of § 112(f) was "whether the words of the claim are understood by persons of ordinary skill in the art to have a sufficiently definite meaning as the name for structure."¹²⁵ When the words of a claim are insufficient to connote structure, then § 112(f) applies.¹²⁶ The majority cautioned against "blindly elevat[ing] form over substance" and presented a test that relied upon more than mere recitation of the term "means" to analyze whether a claim limitation invokes § 112(f).¹²⁷

The majority justified its departure from precedent because the bright line test of relying upon recitation of the term "means for" had resulted in "a proliferation of functional claiming untethered" to § 112(f) that were "free of the strictures set forth in the statute."¹²⁸ The issues noted here are similar to those raised earlier in the *MIT* dissent, which cautioned against

120. *Id.* at 1383 (Reyna, J., dissenting) ("The definitions disclose what software or hardware potentially do, not how it is done.").

121. *Id.* (Reyna, J., dissenting).

122. *Williamson II*, 792 F.3d 1339, 1343 (Fed. Cir. 2015) (en banc).

123. *Id.* at 1349–51.

124. *Id.* ("Henceforth, we will apply the presumption as we have done prior to *Lighting World*").

125. *Id.* at 1349 (citing *Greenberg v. Ethicon Endo-Surgery, Inc.*, 91 F.3d 1580, 1583 (Fed. Cir. 1996)).

126. *Id.* at 1348 (citing *Watts v. XL Sys., Inc.*, 232 F.3d 877, 880 (Fed. Cir. 2000)).

127. *Id.* at 1348 (citing *Cole v. Kimberly-Clark Corp.*, 102 F.3d 524, 531 (Fed. Cir. 1996)).

128. *Id.* at 1348–49.

claims that provided “a description of only the circuit’s function, not of how it operates with other circuits or devices to carry out that function.”¹²⁹

Turning to the specific facts of the case, the majority noted that the claim term under consideration was not merely the “distribution learning control module” but also the subsequent step, “for receiving communications.”¹³⁰ The majority commented that the claim was in a format “consistent with traditional means-plus-function claim limitations” and replaces the term “means” with “module,” a nonce word.¹³¹ It further described how generic terms and other nonce words may be tantamount to using “means” because they typically “do not connote sufficiently definite structure.”¹³² The adjectival qualifier merely described a function and also did not impart further structure.¹³³ Nothing in the intrinsic record indicated any additional structure.¹³⁴

The court dismissed the use of an expert declaration to provide support for structure that was not explicitly recited by the specification of a patent.¹³⁵ It reiterated that though one of ordinary skill could understand how to program a computer to perform a recited function (and therefore create a specialized computer), such knowledge “cannot create structure where none otherwise is disclosed”.¹³⁶ Having found that the claim term “distribution learning control module” invoked § 112(f), the court found the means-plus-function term indefinite under 35 U.S.C. § 112(b) because the specification did not clearly recite an algorithm necessary to provide the structure for the “means” term.¹³⁷

129. *MIT*, 462 F.3d 1344, 1364 (Fed. Cir. 2006) (Michel, J., dissenting).

130. *Williamson II*, 792 F.3d at 1350.

131. *Id.*

132. *Id.* at 1350–51 (citing *MIT*, 462 F.3d at 1344, 1354); *id.* at 1350 n.5 (citing *Ranpak Corp. v. Storopack, Inc.*, 168 F.3d 1316, No. 98-1009, 1998 WL 513598 (Fed. Cir. July 15, 1998) (unpublished)).

133. *Williamson II*, 792 F.3d at 1351.

134. *Id.*

135. *Id.*

136. *Id.* (citing *Function Media, L.L.C. v. Google, Inc.*, 708 F.3d 1310, 1319 (Fed. Cir. 2013)).

137. *Williamson II*, 792 F.3d at 1351–52, 1354 (citing *Noah Sys., Inc. v. Intuit Inc.*, 675 F.3d 1302, 1311 (Fed. Cir. 2012)). The court recalled a two-step process whereby the claimed function must be first identified, followed by the claimed structure. The court found that the claim required a special purpose computer (e.g., “a general purpose computer programmed to perform particular functions”), and that no such structure was disclosed. *Id.* Expert testimony and displays of interfaces could not satisfy these requirements. *Id.*

III. APPLICATION OF *WILLIAMSON II* BY THE DISTRICT COURTS AND PTAB

The impact of the *Williamson II* decision has been expedient and immediate across the PTO and district courts.¹³⁸ Over twenty PTAB decisions and over twenty district court decisions have cited it.¹³⁹ In both the PTAB and district courts, *Williamson II*'s elimination of *Lighting World*'s strong presumption has facilitated a shift towards invoking § 112(f) against non-“means” claims.¹⁴⁰

A. APPLICATION OF *WILLIAMSON II* BY THE DISTRICT COURTS

The majority of federal court decisions citing *Williamson II* at the time this Note was written have been claim construction orders issued by district courts.¹⁴¹ The results of an empirical survey are summarized in Table 1.¹⁴²

Table 1: Invocation of § 112(f) in District Court Decisions citing to *Lighting World*.

| | “Means” | | Non-“means” | |
|--------------------|---------|------------|-------------|------------|
| | 112(f) | Non-112(f) | 112(f) | Non-112(f) |
| Pre-Williamson II | 5 (83%) | 1 (17%) | 9 (43%) | 21 (57%) |
| Post-Williamson II | 7 (78%) | 2 (12%) | 10 (63%) | 6 (37%) |

The results show two metrics: (1) an absolute count of either first instances of an invocation of § 112(f) or a non-invocation of § 112(f) within a case, and (2) a percentage of invocation of § 112(f) and non-invocation of § 112(f), compared to an overall count. As observed from Table 1, the

138. Because the vast majority of post-*Williamson II* cases have been district court cases, the analysis here focuses on the district courts.

139. For PTAB decisions including a decision on appeal in patent application (Decision on Appeal, *Ex Parte* Sebastian, No. 2013-006223, 2015 WL 4608191 (P.T.A.B. Sept. 30, 2015)) and a decision in Inter Partes Review (Decision Denying Institution of Inter Partes Review, *Toyota Motor Corp. v. Cellport Sys., Inc.*, No. IPR2015-00634, 2015 WL 4934778 (P.T.A.B. Aug. 14, 2015)), see Appendix II. See Appendix I for district court cases considered both before and after *Williamson II*.

140. See Appendix II for a list of PTAB decisions and Appendix I for district court decisions. See also *supra* Sections III.A–III.B.

141. See, e.g., *Genband USA LLC v. Metaswitch Networks Ltd.*, No. 2:14-CV-33-JRG-RSP, 2015 WL 4722185 (E.D. Tex. Aug. 7, 2015).

142. See Theodore Eisenberg, *Empirical Methods and the Law*, 95 J. AM. STAT. ASS'N 665, 665–69 (2000). Due to the relatively small sample size of cases, caution should be exercised when drawing conclusions from this limited study. *Id.* at 668.

district courts appear more inclined to find that a non-“means” terms invokes § 112(f) after *Williamson II* than before.¹⁴³

While *Williamson II* has been widely applied, it has not provided sufficient guidance to trial courts on how to apply the pre-*Lighting World* standard to determine when a claim term invokes § 112(f). The various rationales employed by the district courts demonstrate a need for clearer guidance. First, at least one court endorsed the use of dictionaries to determine whether a non-“means” claim term included sufficient structure.¹⁴⁴ More specifically, the court cited to *Phillips* to justify the use of dictionaries, so long as the dictionary definition did not contradict a definition within a patent specification.¹⁴⁵ The court found that the disputed term connoted structure based on several dictionaries.¹⁴⁶

Second, some courts have cited to the *Greenberg* test referenced in *Williamson II*: “whether the words of the claim are understood by persons of ordinary skill in the art to have a sufficiently definite meaning as the name for structure.”¹⁴⁷ However, the test as applied in *Greenberg* was based on consistent dictionary definitions.¹⁴⁸ Although those court cases have nominally cited to *Greenberg*, they have applied tests from other cases that developed in the interim between *Lighting World* and *Williamson II* instead

143. To evaluate the impact of *Williamson II* on the district courts, a Westlaw search was performed on all district court cases citing to *Williamson II* as of November 2, 2015, and all district court cases citing to *Lighting World* within a two-year period before *Williamson II*. For list of district court decisions, see Appendix I. Each case was reviewed to find an instance of at least one of four scenarios: whether (1) a “means” term invoked § 112(f), (2) a “means” term did not invoke § 112(f), (3) a non-“means” term invoked § 112(f), and (4) a non-“means” term did not invoke § 112(f). For the first occurrence of a scenario in a case, a count of that scenario was incremented. For example, if a given case invoked § 112(f) against one “means” term, a count of the scenario of invocation of § 112(f) against “means” terms was incremented by one. If the same case did not invoke § 112(f) against three “means” term, a count of the scenario of non-invocation of § 112(f) against “means” terms was incremented only once. This reduces bias in the data from cases where a large number of “means” or non-“means” terms were evaluated. Only the first instance of a scenario has been counted to avoid bias from a variable number of terms considered in each decision.

144. *See* *Advanced Aerospace Techs., Inc. v. United States*, 122 Fed. Cl. 445, 478–79 (2015) (construing the term “sensor . . . for guidance in maneuvering”).

145. *See id.* at 479 (“[J]udges are free to consult dictionaries and technical treatises ‘at any time in order to better understand the underlying technology and may also rely on dictionary definitions when construing claim terms, so long as the dictionary definition does not contradict any definition found in or ascertained by a reading of the patent documents.’”).

146. *See id.*

147. *Williamson II*, 792 F.3d 1339, 1349 (Fed. Cir. 2015) (en banc).

148. *Greenberg v. Ethicon Endo-Surgery, Inc.*, 91 F.3d 1580, 1583 (Fed. Cir. 1996).

of the *Greenberg* test. For example, a court found several non-“means” terms to invoke § 112(f) while finding some other non-“means” terms to not invoke § 112(f).¹⁴⁹ It found that the term “telecommunications interface module” connoted structure because of the adjectival qualifier “telecommunications interface.”¹⁵⁰ This analysis, focusing on the adjectival qualifier, more closely resembles the analysis in the *MIT* case rather than the *Greenberg* case. Moreover, unlike *Greenberg*, no dictionaries were used to evaluate term “telecommunications interface.”¹⁵¹ The same court found that the terms “packetization module” and “echo cancellation module” did invoke § 112(f).¹⁵² The court noted that the terms as used in the claims could refer to any structure, but did not provide any clear reasoning to articulate why the terms could be so broad.¹⁵³ The court also found that the terms “interworking agent” and “protocol agent” did not invoke § 112(f) based on implication from the patent specification that “agents” are recognized software structure.¹⁵⁴ This test more closely resembles the analysis in *Apple*, which looked to the specification, instead of the one in *Greenberg*, which was based on objective understanding of a disputed term.

B. APPLICATION OF *WILLIAMSON II* BY THE PTAB

A similar analysis as described above was performed to compare post-*Williamson II* PTAB and federal district court decisions.¹⁵⁵ The results, tabulated in Table 2, suggest the PTAB is more inclined than district courts to invoke § 112(f) on non-“means” terms.

149. Supplemental Claim Construction Memorandum and Order, Genband USA LLC v. Metaswitch Networks Ltd., No. 2:14-CV-33-JRG-RSP, 2015 WL 4722185 at *13, *18 (E.D. Tex. Aug. 7, 2015) (finding that “packetization module[s] operable to . . . ” and “echo cancellation module[s] operable to . . . ” invoked § 112(f) and that “telecommunications interface module[s] operable to . . .”, “interworking agent”, and “a first/second protocol agent for . . . ” did not invoke § 112(f)).

150. *Id.* at *13.

151. *Id.*

152. *Id.*

153. *Id.* at *12.

154. *Id.* at *17.

155. To evaluate the impact of *Williamson II* on the PTAB, a Westlaw search was performed on all PTAB cases citing to *Williamson II* as of November 2, 2015. See Appendix II for list of cases. Each case was examined to find a determination of at least one of four scenarios enumerated for the district court cases. For the first occurrence of a scenario in a case, a count of that scenario was incremented. Only the first instance of a scenario has been counted to avoid bias of the variable number of terms under examination in each PTAB hearing. The results are summarized in the table above, showing the absolute count of first instances within a case and percentage of overall counts between § 112(f) and non-112(f) instances.

Table 2: Invocation of § 112(f) in PTAB decisions citing to *Lighting World*.

| Post-Williamson II | “Means” | | Non-“means” | |
|--------------------|----------|------------|-------------|------------|
| | 112(f) | Non-112(f) | 112(f) | Non-112(f) |
| District Court | 7 (78%) | 2 (12%) | 10 (63%) | 6 (37%) |
| PTAB | 11 (92%) | 1 (8%) | 6 (75%) | 2 (25%) |

In several of the cases, the PTAB has *sua sponte* advised patent owners and patent applicants alike against using nonce words, citing *Williamson II*.¹⁵⁶ In contrast to the PTAB decisions, the district court decisions do not appear to have engaged in this *sua sponte* analysis. However, this may be a result of procedural differences between the PTAB and district courts.

Thus far, the PTAB has determined that two non-“means” terms do not invoke § 112(f). It found that the term “protocol translator” did not invoke § 112(f) simply because an examiner failed to present evidence to overcome the rebuttable presumption that a non-“means” term does not invoke § 112(f).¹⁵⁷ It also found that the term “client dictionary” did not invoke § 112(f) based on the *Greenberg* test (reinstated by *Williamson II*).¹⁵⁸ Specifically, the base term “dictionary” connoted sufficient structure based on multiple dictionary definitions.¹⁵⁹ This analysis appears to track the methodology applied in *Greenberg*, albeit only on a base term, and not on the compound term “client dictionary.”

In the decisions that have invoked § 112(f) against non-“means” claim limitations, the PTAB has generally cited the test of whether a term conveys “sufficiently definite structure,” although it has not explicitly referenced *Greenberg* in all decisions.¹⁶⁰ It conducted a two-part analysis to find that the term “digital pick up unit” invoked § 112(f), by separately considering

156. See, e.g., Decision on Institution of Inter Partes Review, InContact, Inc. v. Microlog Corp., No. IP2015-00560, 2015 WL 4639627 at *4 n.3 (P.T.A.B. July 30, 2015).

157. See Decision on Appeal, *Ex parte* Rodriguez, No. 2012-010303 at 7, 2015 WL 5000866 at *4 (P.T.A.B. Aug. 20, 2015).

158. See Decision on Appeal, *Ex parte* Sebastian, No. 2013-006223 at 12, 2015 WL 4608191 at *6 (P.T.A.B. Sept. 30, 2015) (“[W]e conclude a person of ordinary skill in the art would understand the term ‘client dictionary’ to be the name for structure, . . .”).

159. See *id.*

160. See Decision on Institution of Inter Partes Review, Facebook, Inc., v. TLI Commc’ns, LLC, No. IPR2015-00778 at 14, 2015 WL 5139353 at *9 (P.T.A.B. Aug. 28, 2015) (noting that the “term ‘unit’ is so broad that it does not convey sufficiently definite structure,” but not citing *Greenberg v. Ethicon Endo-Surgery, Inc.*, 91 F.3d 1580 (Fed. Cir. 1996)); see also *Sebastian*, *supra* note 158, at 13, *7 (citing *Greenberg*).

the base term “unit” and adjectival qualifier “digital pick up.”¹⁶¹ It determined that the base term “unit” was so broad as not to have sufficiently definite structure, and concluded that the adjectival qualifier “digital pick up” was functional and not structural.¹⁶² However, in conducting this test, the PTAB did not appear to cite to any dictionaries.

The surveys of cases in the PTAB and district courts demonstrate that since *Williamson II* overruled the *Lighting World* strong presumption, courts have become more likely to invoke § 112(f) against non-“means” claims. However, less apparent is whether the PTAB and district courts are consistently applying the *Greenberg* test that the *Williamson II* court reinstated.

IV. ISSUES UNADDRESSED BY *WILLIAMSON II*

The *Williamson II* decision has made a clear impact on the patent world by making it easier for district courts and the PTAB to invoke § 112(f) against non-“means” claims by lowering the strength of the rebuttable presumption to its level pre-*Lighting World*.¹⁶³ However, while courts may be citing to the *Greenberg* test set by *Williamson II*, they do not appear to be uniformly applying the test.¹⁶⁴ Guidance on the proper application of the *Greenberg* test is necessary, especially for compound terms, including multi-word adjectival qualifiers to a base term (e.g., “distribution learning control module”). Such guidance is particularly necessary in view of common law developed during tenure of strong presumption.

A. STATUS OF THE COMMON LAW DEVELOPED DURING THE TENURE OF THE STRONG PRESUMPTION

A series of court cases expanded the scope of the strong presumption during its decade-long tenure in at least two aspects: 1) shifting an objective standard of interpreting claim terms to a subjective standard, and 2) expanding the application of multi-word adjectival qualifiers to impart structure to a term. Although *Williamson II* overruled the strong presumption of *Lighting World* and overruled the heightened standard of *Flo Healthcare* that a § 112(f) claim limitation be “devoid” of structure, it

161. See Decision on Institution of Inter Partes Review, Facebook, Inc., v. TLI Commc’ns, LLC, No. IPR2015-00778 at 14, 2015 WL 5139353 at *7 (P.T.A.B. Aug. 28, 2015).

162. *Id.*

163. See *supra* Part III.

164. *Id.*

has not affected the disposition of the aforementioned two aspects of the post-*Lighting World* common law.¹⁶⁵

1. *Williamson II Has Not Addressed a Shift from an Objective Standard of Interpreting Claim Terms to a Subjective Interpretation*

Williamson II has not clarified whether its reference to the *Greenberg* test also promotes a return to objective extrinsic evidence such as dictionary definitions over the intrinsic record. In view of the *Phillips* methodology of first considering intrinsic evidence before extrinsic evidence, there may be some tension regarding primary reliance upon objective extrinsic evidence.

A first set of cases shifted the focus of claim interpretation from an objective standard (e.g., from dictionaries in *Greenberg* and *PMC*) to a subjective one based on a patentee's specification. *Phillips* laid the groundwork for the shift by emphasizing the intrinsic record such as the specification and prosecution history over the extrinsic sources, such as dictionaries and other documents.¹⁶⁶ In *Inventio*, the court found that the specification can impart structure to a claim term when determining whether the claim term invokes § 112(f).¹⁶⁷ In *Apple*, the court built upon this line of reasoning to find that various "heuristic" terms connoted sufficient structure based on the description of inputs and outputs in the specification.¹⁶⁸ By this time, the Federal Circuit appeared to have departed from the once-objective standard of *Greenberg* and *PMC* that was at least grounded in objective evidence. Instead, it expanded to a standard where an applicant could draft patent specifications to include a functional description (e.g., input, output, and purported function) within a specification, and then obtain a functional claim by virtue of that inclusion. The dissent in *Apple* points out this absurdity.¹⁶⁹

Williamson II provides some guidance on the role of extrinsic evidence versus intrinsic evidence in determining whether non-"means" claim

165. *Williamson II*, 792 F.3d 1339, 1349 (Fed. Cir. 2015) (en banc).

166. *Phillips v. AWH Corp.*, 415 F.3d 1303, 1320 (Fed. Cir. 2005) (en banc). The Federal Circuit stated:

Although the concern expressed by the court in *Texas Digital* was valid, the methodology it adopted placed too much reliance on extrinsic sources such as dictionaries, treatises, and encyclopedias and too little on intrinsic sources, in particular the specification and prosecution history.

167. *Inventio AG v. Thyssenkrupp Elevator Ams. Corp.*, 649 F.3d 1350, 1356, 1358 (Fed. Cir. 2011).

168. *Apple, Inc. v. Motorola, Inc.*, 757 F.3d, 1286, 1304 (Fed. Cir. 2014).

169. *Id.* at 1335–36 (Rader, C.J., dissenting).

limitations invoke § 112(f). In support of extrinsic evidence, the *Williamson II* court found the term “module” to be a well-known nonce word based on precedent from other cases.¹⁷⁰ However, *Williamson II* also diminished the role of subjective extrinsic evidence by refusing to consider an expert declaration to create structure that is undisclosed within a patent specification.¹⁷¹

2. *Williamson II Has Not Clarified the Application of Multi-Word Adjectival Qualifiers to Impart Structure to a Term*

A second set of cases expanded the scope of multi-word adjectival qualifiers that did not invoke § 112(f). *MIT* expanded the scope of the *Apex* decision such that the base term “circuit,” considered a structural term, combined with nearly any “description of the function of the circuit” would result in a structural term.¹⁷² *Flo Healthcare* subsequently extended *MIT* to use compound adjectival qualifiers, such as “height adjustment” to impart structure to non-structural base terms such as “mechanism.”¹⁷³ Although *Flo Healthcare* might mirror *Greenberg*’s analysis at first glance,¹⁷⁴ *Flo Healthcare* only considered a portion of a multi-word adjectival qualifier (“adjustment” instead of “height adjustment”), compared to *Greenberg*, which considered a single word (“detent”).¹⁷⁵

Williamson II has not clarified how courts should evaluate adjectival qualifiers. *Williamson II* found that the compound adjectival qualifier “distributed learning control” did not impart sufficient structure to the base term “module” but did not provide clear reasoning to explain why it was insufficient.¹⁷⁶

In view of *MIT*, *Flo Healthcare*, and *Apple*, the current methodology for evaluating compound terms appears to be a two-part analysis that first considers the base term and then considers the compound adjectival qualifier. If a base term is sufficiently structural (e.g., circuit), then the compound term is deemed to be structural without further analysis of the adjectival qualifier, regardless of whether an objective definition of the

170. *Williamson II*, 792 F.3d at 1350.

171. *Id.* at 1351.

172. *MIT*, 462 F.3d, 1344, 1355–56 (Fed. Cir. 2006).

173. *Flo Healthcare Solutions, LLC v. Kappos*, 697 F.3d, 1367, 1375 (Fed. Cir. 2012).

174. The disputed term in *Flo Healthcare* was “height adjustment mechanism” while the disputed term in *Greenberg* was “detent mechanism.” *See id.*; *Greenberg*, 91 F.3d at 1583–84. The adjectival qualifiers “adjustment” and “detent” were construed using dictionaries. *Id.*

175. *Flo Healthcare*, 697 F.3d at 1374–75.

176. *Williamson II*, 792 F.3d 1339, 1351 (Fed. Cir. 2015) (en banc).

adjectival qualifier is ascertainable.¹⁷⁷ Courts may determine the structural character of a base term (e.g., “heuristic”) by examining the intrinsic record.¹⁷⁸ If a base term (e.g., a nonce word such as “mechanism”) does not connote structure, then the adjectival qualifier is considered.¹⁷⁹ If the adjectival qualifier has a portion (e.g., “adjustment” from “height adjustment”) that can be deemed to be structural, then the entire term may be deemed structural.¹⁸⁰

Accordingly, two issues that require clarification after *Williamson II* are (1) the role of extrinsic evidence versus intrinsic evidence in the construction of a base term and adjectival qualifiers, and (2) whether construction of portions of adjectival qualifiers is sufficient to determine that the whole adjectival qualifier connotes sufficient structure.

B. STANDARD OF WHAT INDICATES SUFFICIENT STRUCTURE TO ONE OF ORDINARY SKILL IN THE ART

Courts may apply the three pre-*Lighting World* criteria to provide a framework to determine whether a non-“means” claim term invokes § 112(f) in view of the common law developments discussed in Section IV.A. The three criteria are: (1) whether the disputed claim term connotes any structure¹⁸¹ by its plain meaning, (2) whether the claim limitation recites any structure,¹⁸² and (3) whether the claim limitation includes a function linked to the “means.”¹⁸³ The proposed framework provided here assumes that a disputed claim term is a compound term consisting of a base term and an adjectival qualifier. The proposed framework would also notify patent applicants on how to draft claims to use objectively understood structural terms to avoid invocation of § 112(f).

1. *Application of the First Pre-Lighting World Criterion Should Be Modified to Construe Whole Adjectival Qualifiers Based on Consistent Objective Evidence*

Courts applying the first criterion have used objective evidence in the form of consistent dictionary definitions to determine whether a claim term

177. *MIT*, 462 F.3d at 1355–56.

178. *Apple, Inc. v. Motorola, Inc.*, 757 F.3d 1286, 1296–97 (Fed. Cir. 2014).

179. *Flo Healthcare*, 697 F.3d at 1374–75.

180. *Id.*

181. *See Greenberg v. Ethicon Endo-Surgery, Inc.*, 91 F.3d 1580, 1583 (Fed. Cir. 1996) (“detect mechanism”); *PMC*, 161 F.3d 696, 704 (Fed. Cir. 1998) (“digital detector”).

182. *See Rodime PLC v. Seagate Tech., Inc.*, 174 F.3d 1294, 1298–99, 1302–04 (Fed. Cir. 1999) (“positioning means . . . including: two support arms”).

183. *See York Prods., Inc. v. Cent. Tractor*, 99 F.3d 1568, 1574 (“means formed on . . . sidewall portions including . . . ridge members”).

had a clear meaning that connoted structure to one of ordinary skill. In *Greenberg*, adjectival qualifiers could still impart structure to a disputed nonce term.¹⁸⁴ In this proposed framework, courts use objective evidence in the form of consistent dictionary definitions to construe whole compound terms (including adjectival qualifiers and base terms), unless the patent specification defines the disputed term in non-functional terms. If the patent specification includes a definition of a claim term in non-functional terms, the claim term may be construed under non-112(f) doctrine of equivalents based on the definition.

This approach is consistent with *Greenberg* because both approaches permit construction of adjectival qualifiers, although the proposed framework also requires courts to construe the entirety of an adjectival qualifier instead of portions. This requirement brings clarity to construction of long claim terms. If courts cannot find an objective definition for a claim term containing a long adjectival qualifier from objective sources, then one of ordinary skill in the art would likely not have understood what the claim term meant. Accordingly, courts should restrict such a long claim term to the definitions and embodiments disclosed within the specification. *Greenberg* was silent on this issue as it considered only single word adjectival qualifiers. The proposed framework is consistent with the *Phillips* decision because it first considers definitions from the intrinsic record (e.g., the patent specification), subject to the exclusion of functional definitions.

The construction of the entire adjectival qualifier would help curtail drafting techniques that use non-structural functional adjectives to modify structural terms (e.g., “aesthetic correction circuitry”) in attempting to avoid § 112(f) classification. It also removes bias about selectively construing portions of lengthy adjectival qualifiers. The provision for definitions with a patent specification still permits a patentee to be its own lexicographer in drafting a patent. The restriction on non-functional definitions curtails the black box claiming issues in *Apple* whereby patentees defined structure in functional form (e.g., by defining inputs and outputs for a term instead of clear implementations).

The use of objective extrinsic evidence helps to maintain a level of uniform clarity across patents. If a disputed term is not objectively understood based on public technical references, then it should not meet the *Williamson II* standard that “words of the claim are understood by

184. See *Greenberg*, 91 F.3d at 1583. The court found that “detect mechanism” did not invoke § 112(f). *Id.* But see *Williamson II*, 792 F.3d 1339, 1351 (Fed. Cir. 2015) (en banc) (classifying “mechanism” as a nonce word).

persons of ordinary skill” as “the *name* for structure.”¹⁸⁵ Moreover, the *Williamson II* court’s citation of *Greenberg* and other pre-*Lighting World* cases in the declaration of its standard might be interpreted as an endorsement of pre-*Lighting World* methodology.¹⁸⁶ The proposed framework permits some flexibility in definition consistency since a unanimous consensus for a definition may not always be possible.

i) Implementation of the Framework

Overcoming the lower post-*Williamson II* rebuttable presumption still presents a challenger with a difficult task: proving negative conditions that a claim term “*fails* to ‘recite sufficiently definite structure’” or that words of a claim are *not* understood by persons of ordinary skill in the art.¹⁸⁷ Accordingly, in order to limit functional claiming in the context of this rebuttable presumption, limits should apply to counterarguments that a patentee/applicant may present after initial arguments presented by a challenger. The proposed framework follows these steps:

1. A challenger first provides arguments to overcome the rebuttable presumption that § 112(f) does not apply to a non-“means” term.
2. The burden then shifts to the patentee to demonstrate that a non-“means” term is clearly understood by one of ordinary skill in the art. Limits would be placed on the patentee’s response according to the three criteria discussed in Sections I.C.1(a)–(c).

A challenger may provide initial arguments on a base term and an adjectival qualifier. The challenger might argue that a base term is a nonce term (e.g., “mechanism,” “element”) by citing to precedent in other cases. The challenger might also argue that the entirety of an adjectival qualifier does not connote a well-known meaning if the whole qualifier cannot be discerned consistently from objective sources such as dictionaries. After the challenger submits its initial argument, the burden shifts to the patentee/applicant to demonstrate that the disputed claim limitation does describe sufficiently definite structure.

At this procedural step, in view of the difficulty for a challenger to prove a negative condition to rebut the presumption and to provide a clear and objective standard for construing a claim term, courts may apply the modified first criterion proposed above to require construing a whole

185. See *Williamson II*, 792 F.3d at 1349 (citing *Greenberg*, 91 F.3d at 1583; *Watts*, 232 F.3d at 880; *PMC*, 161 F.3d at 703) (emphasis added).

186. *Id.*

187. *Id.* (emphasis added).

adjectival qualifier instead of portions of the claim term. As discussed above, this curtails drafting techniques that add non-structural functional modifiers to structural base terms and provides a clear objective standard for patent applicants and patent challengers to construe terms. Accordingly, patentees/applicants would not be able to selectively construe portions of an adjectival qualifier and would be on notice to draft claims accordingly. Furthermore, definitions within a patent specification may be relied upon, so long as said definitions are not in functional form. This places another restriction against using drafting techniques to cloak functional limitations as structure. Additionally, this provides a clear framework for determining whether a claim term invokes § 112(f), brings clarity to claim construction, and also puts potential infringers on notice.

2. *Application of the Second Pre-Lighting World Criterion Depends in Part on the Interpretation of the Objective Evidence Under the First Pre-Lighting World Criterion*

The second criterion is partly a variation of the first because it looks to other claim terms within the limitation to impart structure to the claim limitation as a whole, instead of examining the plain meaning of a disputed claim term.¹⁸⁸ The second criterion may ultimately reduce to an inquiry on whether other terms with a claim limitation connote sufficient structure to impart structure to the limitation as a whole. In such a case, courts should apply the proposed analysis set forth under the first criterion in order to determine whether other terms within the claim limitation are understood by one of ordinary skill to connote structure.

3. *The Third Pre-Lighting World Criterion Alone Is Not Dispositive in Overcoming a Rebuttable Presumption that a Disputed Term Does Not Invoke § 112(f)*

The third pre-*Lighting World* criterion considers whether a disputed claim term recites a function. Although the absence of a function suggests that a disputed limitation does not invoke § 112(f), the presence of a function within a disputed limitation does not necessarily indicate that the disputed limitation should invoke § 112(f). For example, courts have found that a claim limitation that recites a structural term and a function does not invoke § 112(f).¹⁸⁹ Accordingly, although the third criterion indicates that a non-“means” term that lacks a function may not invoke § 112(f), it does

188. See *Al-Site*, 174 F.3d 1308, 1318 (Fed. Cir. 1999) (finding that “eyeglass hanger member . . . made from flat sheet material” did not invoke § 112(f)).

189. See *Apex, Inc. v. Raritan Computer, Inc.*, 325 F.3d 1364, 1372 (“[A] first interface circuit for receiving keyboard and cursor control device signals from the workstation.”).

not provide sufficient information to fully rebut a presumption that § 112(f) does not apply to a disputed claim limitation.

V. CONCLUSION

Williamson II is a large step forward in addressing the problem of overly broad functional claiming. However, while *Williamson II* has overruled the strong presumption, it has not fully addressed other common law doctrines that have developed during the tenure of the common law strong presumption. Most notably, while *Williamson II* reasserts *Greenberg's* approach of determining whether a term is understood by a person of ordinary skill to have structure, *Williamson II* does not address the expansion via *MIT* and *Apple*, which used functional adjectival qualifiers to support structural determination of compound terms that are not conventional nonce words (e.g., “heuristic”). Furthermore, *Williamson II* does not address the role of objective versus intrinsic evidence in determining whether a term invokes § 112(f). A proposed framework based on pre-*Lighting World* criteria would help implement the *Greenberg* approach set by *Williamson II*.

APPENDIX I: LIST OF DISTRICT COURT CASES

Pre-Williamson II Cases (citing to Lighting World in prior 2 years)

Tentative Claim Construction Order, *Catheter Connections, Inc. v. Ivera Med. Corp.*, No. 14-CV-2208-H-RBB, 2015 WL 6511545 (S.D. Cal. May 22, 2015).

Memorandum Opinion and Order Regarding Claim Construction, *Collaborative Agreements, LLC v. Adobe Sys. Inc.*, No. A-14-CV-356-LY, 2015 WL 2250391 (W.D. Tex. May 12, 2015).

Memorandum Opinion and Order, *ACQIS LLC v. Alcatel-Lucent USA, Inc.*, No. 6:13-CV-638, 2015 WL 1737853 (E.D. Tex. Apr. 13, 2015).

Order Construction Disputed Patent Claim Terms, *Potter Voice Techs. LLC v. Google, Inc.*, No. 12-CV-01096-REB-CBS, 2015 WL 2265467 (D. Colo. May 12, 2015).

Memorandum and Order Construing Disputed Claim Terms, *Transocean Offshore Deepwater Drilling, Inc. v. Pac. Drilling, Inc.*, No. CIV.A. H-13-1088, 2015 WL 3422410 (S.D. Tex. May 27, 2015).

Memorandum Opinion and Order, *SimpleAir, Inc. v. Google, Inc.*, No. 2:13-CV-0937-JRG, 2015 WL 1906016 (E.D. Tex. Apr. 27, 2015).

Order, *ESCO Corp. v. Cashman Equip. Co.*, No. 2:12-CV-01545-RCJ, 2015 WL 2219625 (D. Nev. May 12, 2015).

Order Construing Disputed Patent Claim Terms & Resolving Motions for Summary Judgment, *Wyers Prods. Grp., Inc. v. Cequent Performance Prods., Inc.*, No. 12-CV-02640-REB-KIT, 2015 WL 1515896 (D. Colo. Mar. 30, 2015).

Claim Construction Memorandum and Order, *Mobile Telecomms. Techs., LLC v. Sprint Nextel Corp.*, No. 2:12-CV-832-JRG-RSP, 2015 WL 5314106 (E.D. Tex. May 2, 2015).

Memorandum Order, *Intellectual Ventures I, LLC v. Canon, Inc.*, No. CV 13-473-SLR, 2015 WL 1458035 (D. Del. Mar. 27, 2015).

Memorandum Opinion and Order, *E-Watch, Inc. v. Apple, Inc.*, No. 2:13-CV-1061-JRG-RSP, 2015 WL 1387947 (E.D. Tex. Mar. 25, 2015).

Memorandum Opinion and Order, *Georgetown Rail Equip. Co. v. Holland L.P.*, No. 6:13-CV-366-JDL, 2014 WL 3885956 (E.D. Tex. Aug. 7, 2014).

Memorandum Opinion and Order, *Lochner Techs., LLC v. Lenovo (United States) Inc.*, No. 2:10-CV-430-JRG, 2015 WL 293625 (E.D. Tex. Jan. 21, 2015).

Order Construing Claims of U.S. Patent No. 6,799,084, *Grobler v. Apple, Inc.*, No. 12-CV-01534-JST, 2014 WL 1867043 (N.D. Cal. May 6, 2014).

Pre-Williamson II Cases (citing to Lighting World in prior 2 years)

Memorandum Opinion and Order, *Invensys Sys., Inc. v. Emerson Elec. Co.*, 63 F. Supp. 3d 663 (E.D. Tex. Aug. 6, 2014).

Memorandum Opinion and Order, *Vantage Point Tech., Inc. v. Amazon.com, Inc.*, No. 2:13-CV-909-JRG, 2015 WL 575167 (E.D. Tex. Feb. 11, 2015).

Order Adopting Report and Recommendation of U.S. Magistrate Judge, *Smartflash LLC v. Apple Inc.*, 77 F. Supp. 3d 535 (E.D. Tex. Dec. 4, 2014).

Memorandum Opinion and Order, *Blue Spike, LLC v. Texas Instruments, Inc.*, No. 6:12-CV-499-MHSCMC, 2014 WL 5299320 (E.D. Tex. Oct. 16, 2014).

Order Following Claim Construction Hearing, *Guitar Apprentice, Inc. v. Ubisoft, Inc.*, 97 F. Supp. 3d 965 (W.D. Tenn. Feb. 26, 2015).

Opinion and Order, *Certusview Techs. LLC v. S & N Locating Servs., LLC*, No. 2:13CV346, 2014 WL 2090550 (E.D. Va. May 16, 2014).

Memorandum Opinion, *St. Jude Med. v. Volcano Corp.*, No. CV 12-441-RGA, 2014 WL 1619157 (D. Del. Apr. 22, 2014).

Claim Construction Order, *J & M Mfg. Co. v. Unverferth Mfg. Co.*, No. 1:12-CV-931, 2014 WL 6684714 (S.D. Ohio Nov. 25, 2014).

Memorandum and Order, *WhitServe LLC v. GoDaddy.com, Inc.*, 65 F. Supp. 3d 317 (D. Conn. Nov. 4, 2014).

Memorandum Opinion, *Transcend Med., Inc. v. Glaukos Corp.*, No. CV 13-830, 2015 WL 263612 (D. Del. Jan. 16, 2015).

Order Construing Claims of U.S. Patent Nos. 6,305,880; 6,524,031; 6,793,442; and 7,217,065, *TRIC Tools, Inc. v. TT Techs., Inc.*, No. 12-CV-03490-JST, 2014 WL 2880028 (N.D. Cal. June 24, 2014).

Order Following Claim Construction Hearing, *WCM Indus., Inc. v. IPS Corp.*, No. 2:13-CV-02019-JPM, 2014 WL 8508559 (W.D. Tenn. Nov. 10, 2014).

Claim Construction Order, *Eon Corp. IP Holdings v. AT & T Mobility LLC*, No. CIV. 11-1555 SCC, 2014 WL 1666441 (D.P.R. Apr. 25, 2014).

Memorandum Opinion, *Semcon Tech, LLC v. Micron Tech., Inc.*, No. CV 12-532-RGA, 2014 WL 4447017 (D. Del. Sept. 9, 2014).

Post-Williamson II Cases (citing to Williamson II)

Supplemental Claim-Construction Order, *Farstone Tech., Inc. v. Apple, Inc.*, No. 813CV1537ODWJEMX, 2015 WL 5898273 (C.D. Cal. Oct. 8, 2015).

Memorandum Order, *M2M Solutions LLC v. Sierra Wireless Am., Inc.*, No. CV 12-30-RGA, 2015 WL 5826816 (D. Del. Oct. 2, 2015).

Memorandum Opinion and Order, *Not Dead Yet Mfg., Inc. v. Pride Solutions, LLC*, No. 13 C 3418, 2015 WL 5829761 (N.D. Ill. Oct. 5, 2015).

Order and Memorandum of Decision on Claim Construction, *Voice Domain Techs., LLC v. Apple, Inc.*, No. CV 13-40138-TSH, 2015 WL 4638577 (D. Mass. Aug. 4, 2015).

Supplemental Claim Construction Memorandum and Order, *Genband USA LLC v. Metaswitch Networks Ltd.*, No. 2:14-CV-33-JRG-RSP, 2015 WL 4722185, (E.D. Tex. Aug. 7, 2015).

Memorandum Opinion and Order, *Smartflash LLC v. Apple, Inc.*, No. 6:13-CV-447-JRG-KNM, 2015 WL 4208754 (E.D. Tex. July 7, 2015).

Media Rights Techs., Inc. v. Capital One Fin. Corp., 800 F.3d 1366 (Fed. Cir. 2015).

Memorandum Opinion, *Sarif Biomedical LLC v. Brainlab, Inc.*, No. CV 13-846-LPS, 2015 WL 5072085 (D. Del. Aug. 26, 2015).

Order Construing the Terms of U.S. Patent Nos. 5,489,295; 5,993,481; 6,302,906; 5,676,696, *Lifeport Scis. LLC v. Endologix, Inc.*, No. CV 12-1791-GMS, 2015 WL 4141819 (D. Del. July 9, 2015).

Ruling on Claim Construction, *Scarborough v. Integricert, LLC*, No. CIV. 6:12-0396, 2015 WL 5099128 (W.D. La. Aug. 31, 2015).

Memorandum Opinion and Order Regarding Claim Construction, *Joao Control & Monitoring Systems, LLC v. Protect Am., Inc.*, No. 1-14-CV-134-LY, 2015 WL 4937464 (W.D. Tex. Aug. 18, 2015).

Claim Construction Memorandum and Order, *E2E Processing, Inc. v. Cabela's, Inc.*, No. 2:14-CV-36-JRG-RSP, 2015 WL 4051423 (E.D. Tex. July 2, 2015).

Memorandum Opinion and Order Construing Certain Claims of U.S. Patent Nos. 6,874,729; 7,097,137; 8,167,242; 8,517,306; 8,567,718, *Advanced Aerospace Techs., Inc. v. United States*, 122 Fed. Cl. 445 (2015).

Claim Construction Order for U.S. Patent No. 4,977,577, *Northpeak Wireless, LLC v. 3Com Corp.*, No. 09-CV-00602-SI, 2015 WL 5117020 (N.D. Cal. Aug. 28, 2015).

Memorandum Order, *StrikeForce Techs., Inc. v. PhoneFactor, Inc.*, No. 13-490-RGA, 2015 WL 5708577 (D. Del. Sept. 29, 2015).

Memorandum Opinion, *Custom Media Techs. LLC v. Comcast Cable Commc'ns, LLC*, No. CV13-1421-LPS, 2015 WL 4743671, (D. Del. Aug. 11, 2015).

Order, *Contour Hardening, Inc. v. Vanair Mfg., Inc.*, No. 1:14-CV-00026-JMS-MJD, 2015 WL 5155399 (S.D. Ind. Sept. 2, 2015).

Claim Construction Order, *Krausz Indus. Ltd. v. Smith-Blair, Inc.*, No. 5:12-CV-570-FL, 2015 WL 4948030 (E.D.N.C. Aug. 3, 2015).

Decision and Order, *Gradient Enters., Inc. v. Skype Techs. S.A.*, No. 10-CV-6712L, 2015 WL 5567926 (W.D.N.Y. Sept. 22, 2015).

Memorandum and Order, *Telinit Techs., LLC v. Alteva, Inc.*, No. 2:14-CV-369, 2015 WL 5578604 (E.D. Tex. Sept. 21, 2015).

Memorandum Opinion and Order Regarding Claims Construction, *Intellectual Ventures II, LLC v. AT & T Corp.*, No. 1:13-CV-116-LY, 2015 WL 4138590 (W.D. Tex. July 8, 2015)

APPENDIX II: LIST OF PTAB CASES CONSIDERED

PTAB Cases Considered

Decision on Appeal, *Ex parte Sebastian*, No. 2013-006223, 2015 WL 4608191 (P.T.A.B. Sept. 30, 2015).

Decision on Request for Rehearing, *Ex parte Davis*, No. 2013-001364, 2015 WL 5965089 (P.T.A.B. Sept. 14, 2015).

Decision on Institution of Inter Partes Review, *Facebook, Inc., v. TLI Commc'ns, LLC*, No. IPR2015-00778, 2015 WL 5139353 (P.T.A.B. Aug. 28, 2015).

Decision on Appeal, *Ex parte Eugene v. Gonze*, No. 2013-007388, 2015 WL 5171043 (P.T.A.B. Aug. 28, 2015).

Decision on Institution of Inter Partes Review, *J Squared, Inc. v. Saunder Mfg. Co.*, No. IPR2015-00774, 2015 WL 5169145 (P.T.A.B. Aug. 24, 2015).

Decision on Appeal, *Ex parte Rodriguez*, No. 2012-010303, 2015 WL 5000866 (P.T.A.B. Aug. 20, 2015).

Decision on Institution of Inter Partes Review, *Toyota Motor Corp. v. Cellport Sys., Inc.*, No. IPR2015-00633, 2015 WL 4934778 (P.T.A.B. Aug. 14, 2015).

Decision on Institution of Inter Partes Review, *InContact, Inc., v. Microlog-Corp.*, No. IPR2015-00560, 2015 WL 4639627 (P.T.A.B. Aug. 14, 2015).

Decision on Appeal, *Ex parte Lu*, No. 2013-006610, 2015 WL 5999287 (P.T.A.B. Oct. 13, 2015).

PTAB Cases Considered

Final Written Decision, *Gillette Co., v. Zond, LLC*, No. IPR2015-00726, 2015 WL 5781660 (P.T.A.B. Sept. 29, 2015).

Decision on Appeal, *Ex parte Lemoine*, No. 2013-008531, 2015 WL 6165130 (P.T.A.B. Sept. 29, 2015).

Final Written Decision, *Global Foundries U.S., Inc., v. Zond, LLC*, No. IPR2014-01098, 2015 WL 5719798 (P.T.A.B. Sept. 25, 2015).

Decision on Appeal, *Ex parte Kermani*, No. 2013-000409, 2015 WL 5317320 (P.T.A.B. Sept. 9, 2015).

Decision on Appeal, *Ex parte Zugenmaier*, No. 2012-012229, 2015 WL 5144129 (P.T.A.B. Aug. 31, 2015).

Decision on Appeal, *Ex parte Bissantz*, No. 2013-005636, 2015 WL 5073656 (P.T.A.B. Aug. 27, 2015).

Decision on Institution of Inter Partes Review, *WhatsApp, Inc., v. Triplay, Inc.*, No. IPR2015-00740, 2015 WL 5029261 (P.T.A.B. Aug. 21, 2015).

Decision Denying Institution of Inter Partes Review, *Hopkins Mfg. Corp., v. Cequent Performance Prods., Inc.*, No. IPR2015-00616, 2015 WL 4941778 (P.T.A.B. Aug. 17, 2015).

Decision on Institution of Inter Partes Review, *Under Armour, Inc. v. Adidas AG*, No. IPR2015-00697, 2015 WL 4934626 (P.T.A.B. Aug. 14, 2015).

Decision Denying Institution of Inter Partes Review, *Toyota Motor Corp., v. Cellport Sys., Inc.*, No. IPR2015-00634, 2015 WL 4934779 (P.T.A.B. Aug. 14, 2015).

Decision on Appeal, *Ex parte Shimizu*, No. 2013-005039, 2015 WL 4607921 (P.T.A.B. July 30, 2015).

Decision on Appeal, *Ex parte Ge*, No. 2013-006103, 2015 WL 4151294 (P.T.A.B. July 6, 2015).

Decision Denying Institution of Inter Partes Review, *Apple, Inc., v. ContentGuard Holdings, Inc.*, No. IPR2015-00455, 2015 WL 4264956 (P.T.A.B. July 6, 2015).

Final Written Decision, *Medtronic, Inc. v. Norred*, No. IPR2014-00395, 2015 WL 3957836 (P.T.A.B. June 25, 2015).

Decision on Appeal, *Ex parte Nakai*, No. 2012-007806, 2015 WL 3922025, (P.T.A.B. June 22, 2015).

Final Written Decision, *Stats LLC, Petitioner, v. Hockeyline, Inc.*, No. IPR2014-00510, 2015 WL 5461570 (P.T.A.B. Sept. 15, 2015).

OUT OF TUNE: HOW PUBLIC PERFORMANCE RIGHTS ARE FAILING TO HIT THE RIGHT NOTES

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Average music consumers are unlikely to fathom the licensing and compensation systems that underlie their ability to stream a single song on Spotify or Pandora. This is not the fault of uninformed consumers. It is the result of the licensing system's complex and fragmented structure. Since the early twentieth century, Congress has dealt with music industry developments by enacting piecemeal reforms. Consequently, music licensing takes place in a disjointed system created primarily before the Internet Age. Statutory provisions that have attempted to catch up with innovation fail to harmonize copyright law with the realities of the music industry, technology, and consumers. As a result, licensing processes differ based on type of copyrightable work, who the licensee is, and how the work is used.

Unsurprisingly, there are numerous criticisms of the present music licensing system and, in some cases, corresponding proposals to resolve those issues. These proposed solutions should be evaluated based on how they actually further an important goal of music copyright: bringing content owners and users together in the marketplace. Copyright law incentivizes creation and distribution of works by granting the owners of those works rights that enable them to make a profit from selling copies or licenses.¹ Therefore, the licensing system that sets the rules of the marketplace for music should facilitate music owners' opportunities to make a profit. In order for this theory to work in the context of musical public performance, the licensing process needs to be functional, efficient, and fair. This Note approaches the discussion of reforming music licensing from this perspective.

The following discussion explores the past, present, and potential futures for licensing the public performance rights. It subsequently argues that the most prominent proposals to alter the music licensing system continue down the historical path of piecemeal changes and fragmentation

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1. See JULIE E. COHEN, LYDIA PALLAS LOREN, RUTH L. OKEDIJI & MAUREEN A. O'ROURKE, COPYRIGHT IN A GLOBAL INFORMATION ECONOMY 7 (4th ed. 2015).

rather than create a cohesive structure that enhances participation in the music marketplace. First, Part I traces the development of the U.S. music industry and music copyright to show how the past has shaped what music licensing looks like today. Part II then surveys common criticisms of the licensing system's current features. Part III discusses proposed solutions to alleged failings of the current system based on how each proposal further incentivizes users and owners to meet in the marketplace. Part IV concludes that the most prominent proposals are insufficient because music copyright requires broader, overarching reform in order to truly improve music licensing.

I. BACKGROUND

Today, what is generally thought of as a “song” contains two separate copyrightable works: the underlying “musical work” and the “sound recording.”² The musical work, protected by federal copyright law since 1831,³ consists of the musical composition and lyrics.⁴ Songwriters, the natural copyright owners of musical works,⁵ often assign licensing rights and a portion of their copyrights to publishers.⁶ Publishers have the business resources to turn rights into revenue through promotion and administration.⁷ Sound recordings, on the other hand, consist of recorded musical and spoken sounds.⁸ It is most common for record labels, rather than recording artists, to claim copyright ownership in a sound recording.⁹

2. See U.S. COPYRIGHT OFF., COPYRIGHT AND THE MUSIC MARKETPLACE 18 (2015) [hereinafter MUSIC MARKETPLACE].

3. See Act of Feb. 3, 1831, ch. 16, § 1, 4 Stat. 436 (repealed 1909).

4. MUSIC MARKETPLACE, *supra* note 2, at 18.

5. See 17 U.S.C. § 201(a) (2012) (“Initial Ownership.—Copyright in a work protected under this title vests initially in the author or authors of the work.”).

6. MUSIC MARKETPLACE, *supra* note 2, at 19. Usually, songwriters assign about fifty percent of their copyright. *Id.*

7. See *id.*

8. U.S. COPYRIGHT OFF., 56A.0121, COPYRIGHT REGISTRATION OF MUSICAL COMPOSITIONS AND SOUND RECORDINGS 1 (2012). U.S. copyright law defines “sound recordings” as “works that result from the fixation of a series of musical, spoken, or other sounds, but not including the sounds accompanying a motion picture or other audiovisual work, regardless of the nature of the material objects, such as disks, tapes, or other phonorecords, in which they are embodied.” 17 U.S.C. § 101.

9. Most recording contracts identify sound recordings as works made for hire, in which case the hirer (here, the record label) owns the copyright from the time the recording is made. See Randy S. Frisch & Matthew J. Fortnow, *Termination of Copyrights in Sound Recordings: Is There a Leak in the Record Company Vaults?*, 17 COLUM.-VLA J.L. & ARTS 211, 217 (1992–1993). Labels maintain that they can own the rights to albums even though their artists are not “employees” because albums are collective works. See DAVID PASSMAN, ALL YOU NEED TO KNOW ABOUT THE MUSIC BUSINESS 359 (6th ed. 2008).

Digital music services must license each of the two works from their respective owners in order to make a song available on their service.¹⁰

Take the song “Single Ladies (Put a Ring on It)” as an example. The musical work copyright for that song would initially vest with Terius “The-Dream” Nash, one of the contributing writers.¹¹ However, Nash assigned a share of his copyright to publisher Warner/Chappell Music.¹² On the other hand, the song was recorded and made famous by pop-singer Beyoncé Knowles.¹³ Because the sound recording is considered a work-for-hire, the sound recording copyright is owned by Sony Music Entertainment.¹⁴ Therefore, a service such as Spotify¹⁵ must license the public performance rights from Warner and Sony in order for a Spotify user to stream the song.¹⁶ Even though the two works exist simultaneously, the systems under which those licenses are acquired differ from one another significantly.¹⁷

Three major music industry developments create identifiable phases in copyright law development. First, the advent of radio changed the music industry so significantly that it took approximately twenty years for the

10. See MUSIC MARKETPLACE, *supra* note 2, at 73–74.

11. *Single Ladies (Put A Ring On It)*, WARNER/CHAPPELL MUSIC, <http://www.warnerchappell.com/song-details/WW008909118000> [<https://perma.cc/F62R-DXFZ>]. Nash and his co-writers would actually own the musical work as a “joint work,” meaning that they created the composition together and as a result each has the ability to exercise the exclusive rights copyright law provides to owners (as long as they pay the other owners their appropriate share of any collected revenue). See PASSMAN, *supra* note 9, at 353.

12. See U.S. Copyright No. PA0001630370 (issued Feb. 18, 2009); see also Terius “The-Dream” Nash and Warner/Chappell Music Extend Worldwide Publishing Agreement, WARNER MUSIC GROUP OFFICIAL BLOG (Aug. 5, 2014), <http://www.wmg.com/news/terius-dream-nash-and-warnerchappell-music-extend-worldwide-publishing-agreement-20131> [<https://perma.cc/PFJ8-TXNV>] (explaining that Warner/Chappell has an agreement with Nash for global publishing rights).

13. See Jessica Herndon, *Inside Story: The Making of Beyoncé’s ‘Single Ladies,’* PEOPLE.COM (Jan. 1, 2010), <http://www.people.com/people/article/0,,20333961,00.html> [<https://perma.cc/4WX5-WBBS>].

14. See U.S. Copyright No. SR0000723765 (issued Mar. 8, 2013). Works made for hire are created by employees where “the employer or other person for whom the work was prepared is considered the author . . . and . . . owns all of the rights comprised in the copyright.” 17 U.S.C. § 201(b) (2012).

15. Spotify is an on-demand music streaming service that grants users total control over what they listen to. See *In re Pandora Media, Inc. (Pandora II)*, 6 F. Supp. 3d 317, 325 (S.D.N.Y. 2014). Spotify, which originated in Sweden, made its United States debut in 2011. *Hello America. Spotify Here.*, Spotify Press (July 14, 2011), <https://press.spotify.com/us/2011/07/14/hello-america-spotify-here> [<https://perma.cc/M9B4-WKPF>].

16. See MUSIC MARKETPLACE, *supra* note 2, at 73–74.

17. See *id.* at 16 (explaining that licensing transactions “represent a series of statutory and judicial mandates that came into effect at various points during the last century to address particular concerns of the day”).

licensing system to adjust.¹⁸ Second, prior to 1972, there was only one copyrightable work in music: the composition.¹⁹ Lastly, the Internet made access to music easier than ever before, enabling both piracy and innovative music services.²⁰ It is in this last phase that music industry participants are currently struggling to find stable footing.

The following overview of music licensing's evolution provides an understanding of how music use became so untenably complex.

A. SHEET MUSIC IN ITS PRIME

Although musical work copyright owners had several exclusive rights at the turn of the nineteenth century, the reproduction right was the most significant because it encompassed the making of sheet music.²¹ Sheet music was publishers' and composers' main source of revenue until the early 1920s.²² At the peak of sheet music sales, in 1919, a popular composition would commonly sell two or three million copies.²³

During this period, publishers advertised their musical works by directly paying performers in vaudeville and variety shows to use their songs.²⁴ Publishers compensated performers with cash, gifts, and even a share of the publishers' revenue attributable to the musical work the artist performed.²⁵ This practice, at the time, was known as the "payment system."²⁶ It is now known as "payola."²⁷

The Copyright Act Congress passed in 1909 reflected a changed dynamic in music, partially created by new technologies.²⁸ It extended to musical work owners two new exclusive rights that would become increasingly valuable.²⁹ The "mechanical reproduction" right³⁰ was a response to the invention of piano rolls, used by a machine to play

18. See AL KOHN & BOB KOHN, *KOHN ON MUSIC LICENSING* 7–20 (4th ed. 2010).

19. See PASSMAN, *supra* note 9, at 382–83.

20. See KOHN & KOHN, *supra* note 18, at 20, 35–36.

21. See *id.* at 5.

22. See *id.* at 5–6.

23. See *id.* at 6.

24. See RUSSELL SANJEK & DAVID SANJEK, *AMERICAN POPULAR MUSIC BUSINESS IN THE 20TH CENTURY* 7–8 (1991); see also R. H. Coase, *Payola in Radio and Television Broadcasting*, 22 *J.L. & ECON.* 269, 270–71 (1979).

25. See Coase, *supra* note 24, at 273–74. In this way, performers were tied to particular publishers. See *id.* at 277.

26. See *id.* at 277.

27. See *id.* at 269.

28. See Act of March 4, 1909, ch. 320, 35 Stat. 1075 (amended 1976).

29. See *id.* at § 1(e), 35 Stat. at 1075.

30. The mechanical license is currently found at 17 U.S.C. § 115 (2012).

compositions on pianos.³¹ With the mechanical reproduction right, publishers were able to collect statutory royalties for the piano rolls that played their works instead of losing revenue for displaced sheet music sales.³² The mechanical reproduction right extended to phonograph records as well, which became increasingly popular throughout the first half of the 1900s.³³ As sheet music prices decreased, mechanical royalties made up for lost revenue.³⁴

The second right the 1909 Copyright Act granted to musical work owners, the right of public performance, required performers to license a musical work from its owner in order to lawfully perform it in public.³⁵ However, copyright owners seeking to enforce the public performance right and police the performance of their works found it impossible to do so independently.³⁶ Infringing activity could not be detected; performances were ephemeral, and musical work owners had no way of knowing if someone was performing their work down the street, much less on the opposite side of the country.³⁷

To address this issue, the American Society of Composers, Authors and Publishers (ASCAP) was established in 1914.³⁸ ASCAP, still active and serving the same functions today, is known as a performing rights organization (PRO).³⁹ The organization pools together resources to detect infringement on behalf of its members.⁴⁰ ASCAP also supports its members by acting as an intermediary in the licensing process.⁴¹ Agents, originally

31. KOHN & KOHN, *supra* note 18, at 7.

32. *See id.* Piano rolls made sheet music unnecessary for performance of the work. *See id.*

33. KOHN & KOHN, *supra* note 18, at 7, 18–19. Even now, music publishers give record companies a mechanical reproduction license and subsequently collect royalties based on record sales. *See id.* at 7. Although they are not “mechanical” per se, this right applies to compact discs and digital music files. *Id.*

34. *See* RUSSEL SANJEK, *PENNIES FROM HEAVEN* 42 (1996) [hereinafter *PENNIES*] (updated by David Sanjek). Prices went down when economy stores like Woolworth’s began selling sheet music at a discounted price. *See id.*; *see also* SANJEK & SANJEK, *supra* note 24, at 16.

35. *See* Act of March 4, 1909, ch. 320, § 1(e), 35 Stat. 1075, 1075 (amended 1976).

36. *See* *Broad. Music, Inc. v. Columbia Broad. Sys., Inc.* (*BMI v. CBS*), 441 U.S. 1, 4–5 (1979).

37. *See id.* at 4.

38. Robert P. Merges, *Contracting Into Liability Rules: Intellectual Property Rights and Collective Rights Organizations*, 84 CALIF. L. REV. 1293, 1328–29 (1996).

39. *See* *Pandora Media, Inc. v. Am. Soc’y of Composers, Authors & Publishers* (*Pandora III*), 785 F.3d 73, 75 (2d Cir. 2015).

40. *See BMI v. CBS*, 441 U.S. at 5.

41. *See id.*; *see also* *About ASCAP*, ASCAP, <http://www.ascap.com/about> [<https://perma.cc/G7SM-48R2>].

focusing on entertainment venues, offer “blanket licenses” to music users.⁴² Blanket licenses, issued for a discrete term, give “the music user the right to perform all of the works in ASCAP’s repertory, the fee for which does not vary depending on how much of the music the user actually uses.”⁴³ Licensees pay a single fee that ASCAP divides among its members.⁴⁴ Through collective licensing, individual copyright owners and music users overcome the prohibitive transaction costs that would otherwise accompany direct licensing.⁴⁵

B. RADIO OVERTURNS AN INDUSTRY

As the 1900s moved on, radio became a powerful force in the music industry, determinatively changing the landscape for publishers.

1. *Enforcing the Musical Work Public Performance Right*

Although ASCAP initially allowed broadcasters free use of its repertory, when radio became widely popular in the 1920s and sheet music sales fell off, compensation became a growing concern.⁴⁶ Many blamed radio for worsening already rapidly declining sheet music demand by providing an alternative way to listen to music.⁴⁷ Consequently, ASCAP sought to begin collecting public performance royalties for over-the-air play.⁴⁸ When broadcasters declined to negotiate,⁴⁹ ASCAP brought suit against a radio station operator.⁵⁰ The district court held that the station required a license to legally perform musical works.⁵¹ Broadcasters began applying to ASCAP for blanket licenses, and in 1932 broadcasters agreed for the first time to

42. See SANJEK & SANJEK, *supra* note 24, at 28–29; see also KOHN & KOHN, *supra* note 18, at 1249.

43. *Pandora II*, 6 F. Supp. 3d 317, 322 (S.D.N.Y. 2014).

44. See *Merges*, *supra* note 38, at 1329.

45. See *id.* at 1328–29.

46. See SANJEK & SANJEK, *supra* note 24, at 26.

47. See KOHN & KOHN, *supra* note 18, at 10–11, 18.

48. See SANJEK & SANJEK, *supra* note 24, at 26. Although publishers and composers were concerned with collecting royalties for the performance of their works, they maintained the practice of paying musicians to perform their songs. See Coase, *supra* note 24, at 273–74.

49. See SANJEK & SANJEK, *supra* note 24, at 26.

50. See *M. Witmark & Sons v. L. Bamberger & Co.*, 291 F. 776, 776–77 (D.N.J. 1923); see also KOHN & KOHN, *supra* note 18, at 10.

51. See *M. Witmark & Sons*, 291 F. at 780.

fees calculated as a percentage of their revenue.⁵² Publisher revenue came to depend heavily on public performance royalties.⁵³

2. *Radio Begins Using Phonograph Records On-Air*

The structure of radio programming itself was also undergoing a major shift between the 1930s and 1950s. In the 1930s, radio programs transmitted live, big band performances over the air.⁵⁴ However, over time, phonograph records selected by disk jockeys began displacing live music.⁵⁵ Two decades later, the transition was complete.⁵⁶

Corresponding to broadcasters' increased use of records on-air, record sales also increased during the 1930s.⁵⁷ However, musicians and record companies were not entitled to the same public performance royalties that music publishers were because, despite the ever-growing popularity of phonograph records, sound recordings still lacked federal copyright protection.⁵⁸ Record companies relied on radio solely as a form of advertisement.⁵⁹ Despite an increase in sales, they were concerned that radio would cause their product to go the way of sheet music.⁶⁰

Record companies attempted to create quasi-copyright restrictions on the use of their works, but the legal effect of such efforts was inconsistent across jurisdictions.⁶¹ The Pennsylvania Supreme Court found that common law property principles gave sound recording owners similar protections as federal law gave the owners of copyrightable musical works, including a public performance right.⁶² In 1940, however, the Second Circuit found that labeling records for "home use only" could not extend a record manufacturer's common-law property interest in its product.⁶³ The

52. SANJEK & SANJEK, *supra* note 24, at 26. By the middle of the decade, the rate was set at five percent of revenue. KOHN & KOHN, *supra* note 18, at 18.

53. KOHN & KOHN, *supra* note 18, at 20.

54. Coase, *supra* note 24, at 270.

55. *See id.* at 286.

56. *Id.*; KOHN & KOHN, *supra* note 18, at 18–20.

57. *See* KOHN & KOHN, *supra* note 18, at 18.

58. *See id.* at 18–19.

59. *See id.* at 19.

60. *See* SANJEK & SANJEK, *supra* note 24, at 49–53.

61. *See id.* at 49. Some record companies began labeling their records as for "home use only" in an effort to avoid unrestricted use of their records on the radio. Waring v. WDAS Broad. Station, Inc., 194 A. 631, 635, 633 (1937).

62. *See id.* at 638.

63. *See* RCA Mfg. Co. v. Whiteman, 114 F.2d 86, 88–89 (2d Cir. 1940). More specifically, RCA Manufacturing Company printed language such as "Not Licensed for Radio Broadcast" and "Only For Non-Commercial Use on Phonographs in Homes" on its records and packaging. *Id.* at 87. The New York high court reached a contrary holding ten

company's interest in a particular record terminated after its first sale, and therefore, the record company could not limit the legal purchaser's use of that record, including on radio stations.⁶⁴

Without federal copyright protection, most recording artists could only rely on their contracts with record companies for income, some only being paid for single takes.⁶⁵ However, some musicians were able to share in publishers' public performance royalties through payola.⁶⁶ Although there were three separate attempts to ban payola in the 1930s, under the rationale that music should be chosen for its quality or popularity rather than because the record company was paying the performer,⁶⁷ ultimately none were successful and payola grew alongside the popularity of big bands.⁶⁸ The practice of publishers paying musicians carried over to radio when big bands became integral to broadcasts.⁶⁹

When radio programs began using records rather than live big band performances, the actors participating in payola changed as well; record companies rather than publishers made payments and disk jockeys rather than bandleaders received payments.⁷⁰ During this new era of payola, illegalization efforts were finally successful.⁷¹ Responding to widespread complaints about the use of payola, Congress amended the Communications Act in 1960.⁷² New statutory provisions required disk

years later in *Metro. Opera Ass'n v. Wagner-Nichols Recorder Corp.*, where it found that broadcasting a performance on the air "did not abandon the plaintiffs' right to this performance." 101 N.Y.S.2d 483, 493-94 (1950).

64. *RCA Mfg.*, 114 F.2d at 88-89. The Second Circuit reversed *RCA Mfg.* in 1950, holding that the creator of a record maintained an exclusive right to reproduce and sell its record even after initial distribution to the public. *Capitol Records v. Mercury Records Corp.*, 221 F.2d 657, 663 (2d Cir. 1955).

65. See SANJEK & SANJEK, *supra* note 24, at 49.

66. See *id.*

67. Or, later, the disk jockey. See Coase, *supra* note 24, at 279-86. First, the National Recovery Administration created a prohibitory regulation, but it became moot when the Supreme Court found the legislation creating the NRA unconstitutional. See *A.L.A. Schechter Poultry Corp. v. United States*, 295 U.S. 495, 537 (1935); Coase, *supra* note 24, at 279-81. The Federal Trade Commission considered and rejected adopting a similar regulation. See Coase, *supra* note 24, at 281-85. Lastly, publishers made an agreement with a publishers' employees union to stop payola practice, but failed to abide by the agreement. *Id.* at 285-86.

68. Coase, *supra* note 24, at 273-74, 279-85.

69. See *id.* at 273-74, 286.

70. *Id.* at 286-87. Payment still took a variety of forms, including royalties. *Id.* at 294.

71. *Id.* at 292, 296-99.

72. See Communications Act Amendments, P.L. 86-752 § 8, 74 Stat. 89 (1960).

jockeys or other employees to disclose to their producer when they were paid to play, and stations had to announce such payments on air.⁷³

3. DOJ Antitrust Actions Against ASCAP and BMI

As public performance licensing grew in importance and the PRO's repertory grew in size, ASCAP was able to exercise monopolistic power, increasing rates by over four hundred percent during the 1930s.⁷⁴ At the time, ASCAP held exclusive licenses from its members, meaning that only ASCAP could administer their public performance right, and all music users and broadcasters had to go through ASCAP.⁷⁵

ASCAP's anti-competitive exercises catalyzed broadcasters, who were realizing little profit in the face of ASCAP's increasing licensing fees, to form a second PRO in 1939: Broadcast Music, Inc. (BMI).⁷⁶ BMI was an ASCAP alternative with more broadcaster-friendly terms.⁷⁷ The new PRO served as an immediately successful protest to ASCAP, whose music was virtually nonexistent on radio stations for a period in 1941.⁷⁸

However, BMI was not the only consequence of ASCAP's behavior. The U.S. Department of Justice (DOJ) simultaneously brought an antitrust action against ASCAP, claiming that ASCAP's monopolistic practices unlawfully restrained trade.⁷⁹ ASCAP and the DOJ settled, entering into a consent decree that imposed new obligations on ASCAP to curb its anticompetitive practices.⁸⁰ The new limits on ASCAP's behavior led broadcasters to begin licensing from ASCAP again in late 1941, although BMI continued to operate.⁸¹ Despite the great number and importance of developments in the music industry since 1941, the consent decree has only been amended twice.⁸²

73. See Coase, *supra* note 24, at 299.

74. See Lawrence Lessig, *Laws that Choke Creativity*, TED.COM (Nov. 2007), http://www.ted.com/talks/larry_lessig_says_the_law_is_strangling_creativity/transcript?language=en#t-324722 [<https://perma.cc/4NH8-63BM>].

75. See *BMI v. CBS*, 441 U.S. 1, 10–11 (1979).

76. See KOHN & KOHN, *supra* note 18, at 1250.

77. *BMI v. CBS*, 441 U.S. at 10; see SANJEK & SANJEK, *supra* note 24, at 63–65. Not only were terms more favorable to broadcasters, but BMI's goal was to ultimately charge fees that would total only forty percent of what people paid to ASCAP. See SANJEK & SANJEK, *supra* note 24, at 63–65.

78. SANJEK & SANJEK, *supra* note 24, at 91.

79. See *United States v. Am. Soc'y of Composers, Authors & Publishers*, Civil No. 13-95, 1941 U.S. Dist. LEXIS 3944, at *2 (S.D.N.Y. 1941).

80. See PENNIES, *supra* note 34, at 255–56.

81. SANJEK & SANJEK, *supra* note 24, at 95–96.

82. See *United States v. Am. Soc'y of Composers, Authors & Publishers*, Civil Action No. 13-95, 1950 U.S. Dist. LEXIS 1900 (S.D.N.Y. 1950); *United States v. Am. Soc'y of*

In its current form, the decree includes requirements that ASCAP (1) only hold non-exclusive licenses,⁸³ (2) offer licenses other than the blanket license,⁸⁴ (3) issue a license to any applicant meeting listed requirements,⁸⁵ and (4) allow any composer with a copyrightable musical work to join ASCAP.⁸⁶ Furthermore, the decree requires ASCAP and a license applicant to attempt to negotiate voluntary rates and terms.⁸⁷ If negotiations break down, the decree designates a court in the Southern District of New York (S.D.N.Y.) as a rate court.⁸⁸ The ASCAP rate court, with attention to the monopolistic power of ASCAP, sets a rate reflecting the “fair market value of a license—what a license applicant would pay in an arm’s length transaction.”⁸⁹

Although a 1941 DOJ action against BMI also resulted in a consent decree,⁹⁰ BMI now operates under a new 1966 consent decree.⁹¹ BMI’s consent decree contains many of the same key terms as the ASCAP consent decree, including designating a BMI rate court in S.D.N.Y.⁹²

C. SOUND RECORDINGS EXTENDED FEDERAL COPYRIGHT PROTECTION

As the music licensing process adapted to radio, beginning in 1925, there were numerous efforts to bring sound recordings under federal

Composers, Authors & Publishers (*ASCAP Consent Decree*), No. 41-1395 (WCC), 2001 WL 1589999 (S.D.N.Y. 2001).

83. *ASCAP Consent Decree*, 2001 WL 1589999, § IV(A) (June 11, 2001). This means that copyright owners themselves can still directly negotiate with licensees. *See BMI v. CBS*, 441 U.S. 1, 12 (1979).

84. *ASCAP Consent Decree*, 2001 WL 1589999, § VII(A). This includes a per-program license and a per-segment license. *Id.*

85. *Id.* at § VI.

86. *See id.* at §§ XI(A)(1)–(2).

87. *See id.* at § IX(A).

88. *See id.* at § IX(F). In a rate court proceeding, each party can submit evidence supporting what they argue is a reasonable rate, but in most cases ASCAP bears the burden of proof. *See id.* at §§ IX(A)–(D).

89. *Pandora II*, 6 F. Supp. 3d 317, 353 (S.D.N.Y. 2014) (quoting Am. Soc’y of Composers, Authors & Publishers v. MobiTV, Inc., 681 F.3d 76, 82 (2d Cir. 2012)) (internal quotation marks omitted).

90. *See BMI v. CBS*, 441 U.S. 1, 11 n.20 (1979).

91. Most recently amended on November 18, 1994. *See United States v. Broad Music, Inc. (BMI Consent Decree)*, No. 64 CIV. 3787, 1994 WL 901652 (S.D.N.Y. 1994).

92. *See MUSIC MARKETPLACE*, *supra* note 2, at 36; *BMI Consent Decree*, 1994 WL 901652, § XIII.

copyright protection.⁹³ Those efforts remained fruitless until the 1950s, when Congress began to contemplate overhauling the Copyright Act of 1909 and gave sound recordings new consideration.⁹⁴ When work on the new statute slowed, Congress instead passed the narrower Sound Recordings Amendment.⁹⁵ The amendment granted a new “limited copyright” in sound recordings made on or after February 15, 1972; protection was not retroactive.⁹⁶ The copyright was limited because the amendment did not grant sound recording owners the full slate of exclusive rights that owners of other copyrightable works have.⁹⁷ Congress rejected granting a public performance right on the grounds that (1) enforcement of the right would be too difficult, and (2) the publicity of unrestricted airplay actually benefitted rights holders.⁹⁸

D. INTERNET AGE DEVELOPMENTS

Toward the end of the twentieth century, the pace of innovation rapidly increased. The compact disc surpassed vinyl records in sales only four years after its 1983 U.S. introduction.⁹⁹ The 1990s saw two new forms of radio: satellite and cable.¹⁰⁰ Important advancements in computer technology

93. U.S. COPYRIGHT OFF., FEDERAL COPYRIGHT PROTECTION FOR PRE-1972 SOUND RECORDINGS 9 (2011). These efforts included over thirty bills proposing various levels of copyright protection for sound recordings. *See id.*

94. *Id.* at 9–10.

95. *Id.* at 10; Act of Oct. 15, 1971, Pub. L. No. 92-140, 85 Stat. 391 (1971).

96. *See* Act of Oct. 15, 1971, sec. 3, 85 Stat. 391, 392. Legal protection for sound recordings made prior to 1972 is now the basis of substantial litigation. *See* Bill Donahue, *Pandora Pays Labels \$90M To Settle Pre-1972 Fight*, LAW360 (Oct. 22, 2015), http://www.law360.com/ip/articles/717696?nl_pk=e2af0c44-9331-4173-aad0-b95de28f0b7a&utm_source=newsletter&utm_medium=email&utm_campaign=ip [<https://perma.cc/KZN5-TGF7>]. The central question in this litigation is whether pre-1972 sound recordings are entitled to public performance royalties under respective state laws, since they have yet to be brought under federal copyright protection. *See id.* In California and New York, courts have ruled that state law does protect pre-1972 sound recordings and in Florida, a court ruled it does not. *See* *Flo & Eddie Inc. v. Sirius XM Radio Inc.*, No. CV 13-5693 PSG RZX, 2014 WL 4725382, at *11 (C.D. Cal. Sept. 22, 2014); *Flo & Eddie, Inc. v. Sirius XM Radio, Inc.*, 62 F. Supp. 3d 325, 339 (S.D.N.Y. 2014), *appeal granted*, No. 15-497, 2015 WL 3478159 (2d Cir. May 27, 2015); *Flo & Eddie, Inc. v. Sirius XM Radio, Inc.*, No. 13-23182-CIV, 2015 WL 3852692, at *5 (S.D. Fla. June 22, 2015). In other similar lawsuits, there have been large settlement payments rather than judicial decisions. *See* Donahue, *supra*. For a more in-depth discussion on pre-1972 sound recordings, see Christopher J. Norton, Note, *Turtle Power: The Case for Common Law Protection for Pre-1972 Sound Recordings*, 31 BERKELEY TECH. L.J. 759 (2016).

97. *See* Act of Oct. 15, 1971, sec. 1(a), § 1, 85 Stat. 391, 391.

98. *Arista Records, LLC v. Launch Media, Inc.*, 578 F.3d 148, 152 (2d Cir. 2009).

99. KOHN & KOHN, *supra* note 18, at 21.

100. *See Pandora II*, 6 F. Supp. 3d 317, 324 (S.D.N.Y. 2014).

threatened to disrupt the copyright system, creating tension between content owners and the technology industry.¹⁰¹ The Internet in particular would capsize the music industry, transforming it in a way that the music licensing world still has not resolved.¹⁰²

1. *A Crippled Industry*

The Internet fundamentally changed the music industry by making access to music easier and cheaper than ever before. While the Internet enabled new sources of revenue for copyright owners, those sources have not compensated for the revenue lost to Internet-enabled piracy.¹⁰³ Consequently, the industry is still struggling to adjust.

Since the mid-1990s, digital music piracy has posed the biggest threat to the music industry.¹⁰⁴ Napster, introduced in 1999, was thought of as the “pioneer[] file-sharing service” and was widely embraced in the U.S.¹⁰⁵ Napster enabled users to easily share digital files that could be stored on computers, including mp3s.¹⁰⁶ Record companies brought suit against Napster, claiming Napster’s facilitation of copyright infringement via peer-to-peer sharing constituted contributory and vicarious copyright infringement.¹⁰⁷ Napster claimed it was protected by the Digital Millennium Copyright Act’s (DMCA) safe harbor provisions for online service providers.¹⁰⁸ However, the Ninth Circuit upheld a preliminary injunction setting a high policing standard for Napster, and Napster shut down.¹⁰⁹ Despite the company’s short life, Napster is representative of other file sharing programs that still burden copyright owners today.¹¹⁰

101. See Peter S. Menell, *This American Copyright Life: Reflections on Re-Equilibrating Copyright for the Internet Age*, 61 J. COPYRIGHT SOC’Y U.S.A. 235, 248–50 (2013–2014).

102. KOHN & KOHN, *supra* note 18, at 24–26.

103. See MUSIC MARKETPLACE, *supra* note 2, at 74.

104. See Menell, *supra* note 101, at 252–54. However, industry players (services and content owners) now seem to accept music piracy as an unavoidable component of the music industry. See MUSIC MARKETPLACE, *supra* note 2, at 78.

105. See DANA SCHERER, CONG. RESEARCH SERV., R43984, MONEY FOR SOMETHING: MUSIC LICENSING IN THE 21ST CENTURY 25 (2015) (also noting that Napster’s introduction marked the beginning of the decline in music sales); see also Menell, *supra* note 101, at 252.

106. Menell, *supra* note 101, at 252.

107. *A&M Records, Inc. v. Napster, Inc.*, 284 F.3d 1091, 1095 (9th Cir. 2002).

108. See Menell, *supra* note 101, at 252.

109. See *id.* at 218; see also *Napster, Inc.*, 284 F.3d at 1095.

110. See SCHERER, *supra* note 105, at 25. The Napster phenomenon also convinced record companies, originally hesitant to adapt to new methods of music distribution and performance, to develop new business models. See Menell, *supra* note 101, at 292–93. Once

In spite of increasing digital purchases and a seeming decrease in illegal file sharing in the post-Napster world,¹¹¹ the total revenue artists and record companies make from music sales continues to decline.¹¹² By 2008, album sales had dropped by forty-five percent from their historical high of \$785 million in 2000, and they continued to drop another forty percent by 2015.¹¹³

2. *Statutory Structure for Digital Public Performance Licensing*

Although streaming services have not made up for lost album sales in the digital age, they represent a substantial portion of the music industry and are so favored by consumers that they are unlikely to go away any time soon.

When it became clear that public performance over the Internet would be used as a substitute for music sales,¹¹⁴ Congress finally extended sound recordings a public performance right through the Digital Performance Right in Sound Recordings Act of 1995 (DPRSRA).¹¹⁵ The public performance right for sound recordings is much more limited than that for musical works because it only applies to *digital* audio transmissions.¹¹⁶

The DPRSRA classified music services into two categories: (1) “noninteractive services,” including satellite radio and subscription services¹¹⁷ and (2) “interactive services,” or services with an on-demand model that gives users more control.¹¹⁸ Licensing by interactive services,

they recognized that ease of access was crucial for consumers, they decided to sign on with Apple’s iTunes store. *See id.*; *see also* KOHN & KOHN, *supra* note 18, at 44–45.

111. Zack O’Malley Greenburg, *Revenge of the Record Labels: How the Majors Renewed Their Grip on Music*, FORBES (Apr. 15, 2015), <http://www.forbes.com/sites/zackomalleygreenburg/2015/04/15/revenge-of-the-record-labels-how-the-majors-renewed-their-grip-on-music/2> [https://perma.cc/N256-C9KF].

112. KOHN & KOHN, *supra* note 18, at 44–45.

113. *See* Greenburg, *supra* note 111.

114. S. REP. NO. 104–128, at 15 (1995); *see also* Arista Records, LLC v. Launch Media, Inc., 578 F.3d 148, 153 (2d Cir. 2009).

115. *See* Digital Performance Right in Sound Recordings Act of 1995, Pub. L. No. 104–39, 109 Stat 336.

116. *Compare* 17 U.S.C. § 106(4) (2012) (providing musical work owners the right “to perform the copyrighted work publicly”), *with* 17 U.S.C. § 106(6) (providing sound recording owners the right “to perform the copyrighted work publicly by means of a digital audio transmission”).

117. *See* MUSIC MARKETPLACE, *supra* note 2, at 49.

118. *See* Digital Performance Right in Sound Recordings Act of 1995, sec. 3, § 114(j)(4).

which is completely voluntary and negotiated without government regulation,¹¹⁹ has not changed since the DPRSRA.¹²⁰

However, since the DPRSRA, noninteractive services are subject to a statutory licensing scheme.¹²¹ Originally under the DPRSRA, the Copyright Arbitration Royalty Panel (CARP) resolved conflicts over royalty fees on an ad hoc basis.¹²² Noninteractive services and copyright owners first had the chance to negotiate voluntarily, but if they were unable to reach an agreement, the CARP would set the sound recording public performance royalty rate.¹²³ The CARP considered four statutorily listed factors¹²⁴ and used freely negotiated transactions between comparable

119. MUSIC MARKETPLACE, *supra* note 2, at 52.

120. *See id.*; 17 U.S.C. §§ 114(d)(2)–(3). Congress's rationale for distinguishing between noninteractive and interactive services was that interactive services are more likely to be used as a substitute for record sales and, therefore, the industry should have more power over the rates set. *See* Mary LaFrance, *From Whether to How: The Challenge of Implementing a Full Public Performance Right in Sound Recordings*, 2 HARV. J. SPORTS & ENT. L. 221, 230–31 (Spring 2011). This distinction reflects Congressional consideration of the balance between efficiency and the ability of a service to disturb other markets in the Internet Age. 141 Cong. Rec. H10098-02 (1995). By only subjecting noninteractive services to the compulsory rates, Congress suggests that enabling rights holders to set their price plays a bigger role in the market for licenses by interactive services, whereas noninteractive services present less of a threat to sales, and there is more to gain from a compulsory licensing scheme. *See id.*

121. *See* Digital Performance Right in Sound Recordings Act of 1995, sec. 3, § 114(f).

122. *See id.* at sec. 3, § 114(f)(2).

123. *See id.* The DPRSRA also provided that the rates set by the CARP would be divided up a certain way—fifty percent to the copyright owner and forty-five percent to the recording artist or artists—that is still the same today. *See id.* sec. 3, (codified as amended at 17 U.S.C. § 114(g)(2)).

124. 17 U.S.C. § 801(b)(1). Section 801(b)(1) uses a four-element test that creates lower rates. The elements are:

(A) To maximize the availability of creative works to the public.

(B) To afford the copyright owner a fair return for his or her creative work and the copyright user a fair income under existing economic conditions.

(C) To reflect the relative roles of the copyright owner and the copyright user in the product made available to the public with respect to relative creative contribution, technological contribution, capital investment, cost, risk, and contribution to the opening of new markets for creative expression and media for their communication.

(D) To minimize any disruptive impact on the structure of the industries involved and on generally prevailing industry practices.

17 U.S.C. § 801(b)(1).

services as benchmarks.¹²⁵ The CARP's decision bound "all copyright owners of sound recordings and entities performing sound recordings."¹²⁶

The Digital Millennium Copyright Act of 1998 (DMCA) expanded the noninteractive category and divided it into two sub-categories¹²⁷ to create the three-category structure for sound recordings (including interactive) still in place today.¹²⁸ The first noninteractive category is "preexisting" satellite and music subscription services¹²⁹ and the second is "webcasters."¹³⁰

While both noninteractive categories generally fall under the same statutory rate-setting process, the distinction between the two is significant because each is subject to a different statutory rate.¹³¹ Preexisting services were essentially grandfathered into the four-factor standard set forth in the DPRSRA,¹³² while webcaster services are subject to a new "willing

125. See Digital Performance Right in Sound Recordings Act of 1995, sec. 3, § 114(f)(2).

126. *Id.*

127. See Digital Millennium Copyright Act, Pub. L. No. 105-304, 112 Stat 2860 sec. 405 (1998). The DMCA also expanded the definition of "interactive" services to include services "that enable[] a member of the public to receive a transmission of a program specially created for the recipient, or on request, a transmission of a particular sound recording, whether or not as part of a program, which is selected by or on behalf of the recipient." See *id.* at sec. 405(a)(4)(D) (codified as amended at 17 U.S.C. § 114(j)(7)).

128. See 17 U.S.C. § 114.

129. These services are referred to as such because they included the services that existed on July 31, 1998, when the DMCA was enacted. See Digital Performance Right in Sound Recordings Act of 1995, sec. 405(a)(4)(E), §§§ 114(j)(10)–(11). The preexisting services category now includes Sirius and Music Choice. See MUSIC MARKETPLACE, *supra* note 2, at 49.

130. Because in reality the category of eligible noninteractive, nonsubscription services and new subscription services consists of online radio services, they are more commonly referred to as "webcasters." See Terry Hart, *A Brief History of Webcaster Royalties*, COPYHYPE (Nov. 28, 2012) <http://www.copenhype.com/2012/11/a-brief-history-of-webcaster-royalties> [<https://perma.cc/R3T8-BBVP>]. The webcaster category contains both "eligible noninteractive nonsubscription services" and "new subscription services" (subscription services that did not exist as of July 31, 1998 and therefore do not fall into the preexisting category). See Digital Performance Right in Sound Recordings Act of 1995, sec. 405 (codified as amended at § 114(j)(8)). Services providing "individualized internet radio stations—the content of which can be affected by users' ratings of songs, artists, and albums," like Pandora, qualify as noninteractive services; they are not interactive because they do give users enough control "such that playlists are so predictable that users will choose to listen to the webcast in lieu of purchasing music . . ." See *Arista Records, LLC v. Launch Media, Inc.*, 578 F.3d 148, 149, 162 (2d Cir. 2009).

131. See 17 U.S.C. § 114(f).

132. See *id.* at § 114(f)(1)(B).

buyer/willing seller” standard.¹³³ The four-factor § 801(b)(1) standard produces lower rates than does the willing buyer/willing seller standard.¹³⁴

The Copyright Royalty and Distribution Reform Act of 2004 further amended the § 114 noninteractive licensing scheme by shifting rate-setting proceedings from the CARP to a new Copyright Royalty Board (CRB) that sets rates every five years rather than on an ad hoc basis.¹³⁵ Licensing of sound recording public performance rights to interactive services remains strictly voluntary.¹³⁶

3. *Webcaster Licensing for Sound Recordings*

The CRB sets statutory rates for both preexisting services and webcasters; however, the webcaster decisions are the most significant because only three services still qualify as preexisting services.¹³⁷ There have been four major webcaster rate decisions. Webcaster I, decided by the CARP, set two important precedents: (1) setting royalties as a per-performance fee and (2) concluding that the markets for sound recording rights and musical works “are distinct based upon the differences in cost and demand characteristics.”¹³⁸ Based on these two findings and a free-market benchmark,¹³⁹ the CARP set a rate that made sound recording royalties effectively much higher than those for musical works.¹⁴⁰ The CRB used the

133. “[T]he rates and terms that would have been negotiated in the marketplace between a willing buyer and a willing seller.” *Id.* at § 114(f)(2).

134. *See* MUSIC MARKETPLACE, *supra* note 2, at 142.

135. *See* 17 U.S.C. § 114(f)(1)(A)–(B). The CRB is composed of three appointed judges, each with statutory experiential requirements. The chief judge must have experience in administrative law proceedings. Each of the other two judges must have expertise, one in economics and the other in copyright. *See id.* at § 801.

136. *See id.* at § 114(d)(2)(A)(i); *see also* MUSIC MARKETPLACE, *supra* note 2, at 52.

137. *See* MUSIC MARKETPLACE, *supra* note 2, at 49.

138. Determination of Reasonable Rates and Terms for the Digital Performance of Sound Recordings and Ephemeral Recordings, 67 Fed. Reg. 45,240, 45,246 (July 8, 2002) [hereinafter Webcaster I] (codified at 37 C.F.R. pt. 261 (2002)). The CARP reasoned that percentage-of-revenue fees could not be applied universally to music users since the nature and extent of their use varied widely. *See id.* Furthermore, sound recordings owners should not be paid less because music users fail to generate more revenue. *See id.* A per-performance fee was superior because it provided royalties “directly tied to the right being licensed.” *See id.*

139. The CARP used an agreement directly negotiated between an eligible non-subscription service, Yahoo!, and a collective licensor representing five major record labels as a benchmark. *See id.* at 45,248. After review by the Librarian of Congress, the rate was set at \$0.0007 per performance. *See id.* at 45,273.

140. *See* *Broad. Music, Inc. v. Pandora Media, Inc. (BMI v. Pandora)*, Nos. 13 Civ. 4037(LLS), 64 Civ. 3787(LLS), 2015 WL 3526105, at *7 (S.D.N.Y. 2015).

per-performance approach in the following two Webcaster decisions.¹⁴¹ Although in each of these cases the CRB lacked examples of freely negotiated rates for noninteractive services, the CRB used rates negotiated by interactive services as benchmarks and then adjusted them downward for webcasters.¹⁴² Webcaster II and Webcaster III continued to set rates that were significantly higher than the rates ASCAP and BMI were able to negotiate with webcasters for musical works.¹⁴³

When webcasters were unsatisfied with the CRB rates, they lobbied Congress to pass the Webcaster Settlement Act of 2008.¹⁴⁴ The webcasters argued that their services could not afford the compulsory rate.¹⁴⁵ The act permitted webcasters to pay rates lower than those set by the CRB pursuant to independent negotiations with SoundExchange.¹⁴⁶ Therefore, before 2016, services like Pandora¹⁴⁷ did not actually pay sound recording royalties under the § 114 licensing scheme.¹⁴⁸

141. Digital Performance Right in Sound Recordings and Ephemeral Recordings, 72 Fed. Reg. 24,084 (May 1, 2007) [hereinafter Webcaster II] (codified at 37 C.F.R. pt. 380 (2007)); Digital Performance Right in Sound Recordings and Ephemeral Recordings, 76 Fed. Reg. 12,026 (Mar. 9, 2011) [hereinafter Webcaster III] (codified at 37 C.F.R. pt. 380 (2011)).

142. See Webcaster II, 72 Fed. Reg. at 24,092; see also Webcaster III, 76 Fed. Reg. at 13,031.

143. See *BMI v. Pandora*, 2015 WL 3526105, at *7–8.

144. The first act of this type was actually passed in 2002, but only applied to smaller-scale webcasters. See *MUSIC MARKETPLACE*, *supra* note 2, at 115.

145. See *MUSIC MARKETPLACE*, *supra* note 2, at 51.

146. SoundExchange is the only organization authorized to collect, distribute, and report fees for the § 114(f) statutory licenses. See *Licensing 101*, SOUNDEXCHANGE <http://www.soundexchange.com/service-provider/licensing-101> [https://perma.cc/XX3J-8FC8]; see also 17 U.S.C. § 114(e). Since SoundExchange became an independent organization in 2003, it has paid over three billion dollars in digital royalties to artists and labels. See *Our Work*, SOUNDEXCHANGE <http://www.soundexchange.com/about/our-work> [https://perma.cc/ZZ5N-WTUV]. The Webcaster Settlement Act of 2009 extended the timeframe services had to reach an agreement with SoundExchange and still be exempt from the CRB-set rates. See Webcaster Settlement Act of 2009, Pub. L. No. 111-36, 123 Stat. 1926. Rates negotiated under the Webcaster Settlement Acts of 2008 and 2009 were insulated from CRB rates until 2016. See 17 U.S.C. § 114(f)(5)(A) (2012).

147. Pandora, now the most widely used customizable radio service, was introduced in 2005. *Pandora II*, 6 F. Supp. 3d 317, 327 (S.D.N.Y. 2014). Pandora's competitors include the iHeartRadio service, Spotify radio, and iTunes Radio. *Id.* at 324–25. Pandora is the most popular noninteractive webcasting service, with approximately 70 percent of the market. *Id.* at 327. Pandora's revenue, which comes from subscription services and advertisements, reached over four hundred million dollars in 2013. *Id.* at 328.

148. Under the 2009 Pureplay Agreement, Pandora paid the greater of twenty-five percent of gross revenues or per performance rates that were significantly lower than the CRB rates. See David Oxenford, *Final Webcasting Royalty Rates Published – A Comparison of How Much Various Services Pay*, BROADCAST LAW BLOG (Mar. 14, 2011),

The CRB's Webcaster IV decision, issued on December 16, 2015, is significant because it marks the first period under which the Webcaster Settlement Act settlements are inoperative.¹⁴⁹ As in prior Webcaster decisions, the CRB set per-performance royalties that are effectively much higher than the rates paid for musical works.¹⁵⁰ Unlike in previous decisions, however, the CRB was able to use voluntary noninteractive deals made with Pandora as benchmarks.¹⁵¹ Nonetheless, the resulting rates still did not depart far from Webcaster III.¹⁵²

On the other hand, interactive services like Spotify independently negotiate with record companies and are unrestricted by governmental regulation.¹⁵³ Rather than use a percentage-of-revenue or per-performance royalty model, Spotify has paid major record labels huge advances and issued them an equity stake in the company.¹⁵⁴ Smaller independent labels, who do not have the bargaining power of legacy catalogs¹⁵⁵ to demand such favorable terms, typically get fifty percent of the revenue Spotify gets from advertisements on a pro-rata basis.¹⁵⁶ Other interactive services have also

<http://www.broadcastlawblog.com/2011/03/articles/final-webcasting-royalty-rates-published-a-comparison-of-how-much-various-services-pay> [<https://perma.cc/U5T2-9WVX>]. For example, whereas the CRB per-performance rate for 2015 was \$0.0023, the Pureplay settlement rate was \$0.0014. *Id.*

149. The present term is January 1, 2016 through December 31, 2020. The rates for noninteractive services was set at \$0.0017 per-performance and will be increased over each of the next five years according to the measure of the Consumer Price Index. *See* Copyright Royalty Board, *Current Developments*, LIBR. OF CONGRESS (Dec. 16, 2015) <http://www.loc.gov/crb> [<https://perma.cc/T23P-9BSA>].

150. *See id.*

151. These deals were made between Pandora and Merlin and Warner Music Group. Ed Christman, *Behind Closed Doors: Where the New Webcasting Rates Actually Came From*, BILLBOARD (Dec. 18, 2015), <http://www.billboard.com/articles/business/6813840/behind-closed-doors-where-the-new-webcasting-rates-actually-came-from> [<https://perma.cc/C42D-P3C5>].

152. *See* Copyright Royalty Board, *supra* note 149.

153. *See* LaFrance, *supra* note 120, at 230–31.

154. In total, Spotify paid five hundred million dollars and eighteen percent of its equity. Helienne Lindvall, *Behind the Music: The Real Reason Why the Major Labels Love Spotify*, THE GUARDIAN (Aug. 17, 2009), <http://www.theguardian.com/music/musicblog/2009/aug/17/major-labels-spotify> [<https://perma.cc/N4UG-CQRW>]; *see* Menell, *supra* note 101, at 295.

155. *See* Menell, *supra* note 101, at 295.

156. Lindvall, *supra* note 154. Spotify estimated that in 2013 it paid between \$0.006 and \$0.0084 in royalties per stream. Victor Luckerson, *Here's How Much Money Top Musicians are Making on Spotify*, TIME (Dec. 3, 2013), <http://business.time.com/2013/12/03/heres-how-much-money-top-musicians-are-making-on-spotify> [<https://perma.cc/GS6C-P85Y>].

negotiated deals that give the labels equity rather than strictly royalties.¹⁵⁷ In 2015, Forbes estimated that, in total, the largest three record companies (“the Big Three”) held about three billion dollars in equity in “digital music startups.”¹⁵⁸

As a whole, the Webcaster decisions are significant because they determine the rates for the public performance of sound recordings, one of the two copyrightable works the most prevalent contemporary music services must license as part of their business models. This structure, which differs significantly from the licensing processes used for musical works, creates rates that are much higher for sound recordings than for the compositions that underlie those recordings.

4. *Webcaster Licensing for Musical Works*

Musical works owners continue to license their works primarily through PROs; together, ASCAP and BMI “represent around over [ninety percent] of the songs available for licensing in the United States.”¹⁵⁹

Webcaster licensing deals with PROs largely follow the same models that have been used with terrestrial broadcasters since the 1930s.¹⁶⁰ Pandora, the most popular webcaster, first began licensing PRO repertoires in 2005.¹⁶¹ When negotiations with ASCAP and BMI for subsequent licenses broke down in 2012 and 2013, Pandora and BMI filed petitions with the ASCAP and BMI rate courts, respectively.¹⁶² The ASCAP court ultimately

157. In 2015, SoundCloud struck a deal with Warner in which Warner received a five percent stake in the business. See Greenburg, *supra* note 111. Critics argue this practice enables record labels to keep more revenue relative to their artists by getting income through equity rather than licensing fees that translate to artist royalties. See *id.*

158. In total, the Big Three are valued at fifteen billion dollars. *Id.*

159. See MUSIC MARKETPLACE, *supra* note 2, at 20. There are also two much smaller PROs that are not regulated by consent decrees: the Society of European Stage Authors and Composers (SESAC) and Global Music Rights. SANJEK & SANJEK, *supra* note 24, at 61; GLOBAL MUSIC RIGHTS, <http://globalmusicrights.com> [<https://perma.cc/8QJ8-QGA4>].

160. See MUSIC MARKETPLACE, *supra* note 2, at 33.

161. Pandora’s first blanket license with BMI set a percentage-of-revenue rate at 1.75% and was effective from 2005–2012. *BMI v. Pandora*, Nos. 13 Civ. 4037(LLS), 64 Civ. 3787(LLS), 2015 WL 3526105, at *5 (S.D.N.Y. 2015). Pandora’s first agreement with ASCAP, effective 2005–2010, was a blanket license with a fee that was the higher of 1.85% of its revenue, or a per-session rate. *Pandora II*, 6 F. Supp. 3d 317, 330 (S.D.N.Y. 2014).

162. *Pandora II*, 6 F. Supp. 3d at 331. Under the terms of ASCAP’s consent decree, Pandora was legally permitted to continue using the music in ASCAP’s repertory even before the parties had decided on the rate Pandora would pay. See *ASCAP Consent Decree*, No. 41-1395 (WCC), 2001 WL 1589999, § IX(E) (S.D.N.Y. 2001).

set a reasonable rate at 1.85%.¹⁶³ Following the model used since the 1930s, this means that Pandora paid ASCAP 1.85% of its annual revenue as a fee to license all the musical works contained in the ASCAP repertory.¹⁶⁴ ASCAP would then divide up this fee among its artists, using statistical sampling to approximate how often a musical work was accessed on the Pandora service.¹⁶⁵ Applying the same fair market standard the following year,¹⁶⁶ the BMI rate court set a higher rate of 2.5%.¹⁶⁷ The court noted that 2.5% was “indeed at the low end of the range of fees of recent licenses.”¹⁶⁸

When several large publishers¹⁶⁹ became unhappy with the rates PROs were securing from webcasters such as Pandora in 2010, they sought to withdraw new media licensing rights from the PROs.¹⁷⁰ Publishers wanted to continue using the collective licensing that PROs offered but not in negotiations with webcasters, which they wanted to negotiate with directly.¹⁷¹ At the publishers’ urging, the PROs changed their internal policies to permit withdrawal of new media rights, dividing up the right to license musical works in an unprecedented way.¹⁷² Some publishers subsequently reached direct licensing agreements with Pandora.¹⁷³

However, in June 2013, the ASCAP rate court found that ASCAP’s consent decree does not permit rights holders to discriminate between

163. *Pandora II*, 6 F. Supp. 3d at 372. The ASCAP court ultimately used the prior ASCAP-Pandora rate and the EMI-Pandora rate, negotiated when EMI attempted to withdraw its new media rights from ASCAP, as a benchmark. *See id.* at 355–56. The court rejected using the rates between Pandora and UMPG and Sony when they tried to withdraw their new media rights (discussed below), finding Sony and UMPG displayed anti-competitive practices in securing those rates. *See id.* at 357.

164. *See id.* at 322.

165. *See* KOHN & KOHN, *supra* note 18, at 1281.

166. *BMI v. Pandora*, 2015 WL 3526105, at *1. “[T]he rates set in (or adjusted from) contemporaneous similar transactions.” *Id.*

167. *Id.* at *26. The BMI court noted it had more discovery regarding “competitive market rates” available than did the ASCAP court. *See id.* at *15, *21, *24. Based on the additional discovery, the Court court found that Pandora’s argument in the ASCAP proceeding, that the rates negotiated were not competitive because Pandora felt obligated “to enter into direct licenses with Sony and UMPG” or risk liability for copyright infringement, was “primarily generated by lawyers.” *Id.* at *21.

168. *Id.* at *15.

169. EMI Music Publishing, Sony/ATV Music Publishing, Universal Music Publishing Group, Warner Brothers, and BMG. *In re Pandora Media, Inc. (Pandora I)*, Nos. 12 Civ. 8035(DLC), 41 Civ. 1395(DLC), 2013 WL 5211927, at *3 (S.D.N.Y. 2013).

170. *Pandora II*, 6 F. Supp. 3d 317, 320 (S.D.N.Y. 2014).

171. *See Pandora I*, 2013 WL 5211927 at *3.

172. *See Pandora III*, 785 F.3d 73, 76 (2d Cir. 2015); *see also BMI v. Pandora*, 2015 WL 3526105 at *7.

173. *See Pandora III*, 785 F.3d at 76.

licensees when granting ASCAP the rights to license their works; either the musical works were in ASCAP's repertory and available to anyone who applied for them or they were not in the repertory at all.¹⁷⁴ In 2015, the Second Circuit affirmed this finding.¹⁷⁵ The BMI rate court reached the same conclusion in its own proceeding with Pandora.¹⁷⁶

In spite of the publishers' strenuous effort to force Pandora into direct licenses, by the end of 2015, Pandora largely buried its ongoing conflicts with musical work owners. First, Pandora voluntarily agreed to direct licenses at higher rates with each of the three major publishers.¹⁷⁷ Although the agreements are confidential, it has been suggested that, under each, Pandora will pay between 8.5% and 10% of its revenue in musical work royalties, up from the approximately 4% it paid before 2016.¹⁷⁸ Pandora publicly announced that the deal secured greater rate certainty, which is important to its service model.¹⁷⁹ Furthermore, the terms will give Pandora more flexibility in how it uses music as its product continues to evolve.¹⁸⁰ Second, Pandora reached independently negotiated agreements with ASCAP and BMI for new licensing deals that began in 2016.¹⁸¹ Again, Pandora purported to secure greater rate certainty and flexibility from these deals.¹⁸²

In conclusion, the system for licensing the public performance of music's two copyrightable works has continually evolved over the last century. In the digital age, those changes are happening faster than ever before, and music copyright is unable, and unmalleable enough, to keep up. The result

174. See *Pandora I*, 2013 WL 5211927 at *7. In its determination, the court relied on the language in two specific provisions of the consent decree. See *id.* at *4. Section VI requires ASCAP to issue a blanket license that includes the entire ASCAP repertory to any entity which requests it. See *id.* Section IX(E) permits any applicant to begin playing the music their license would cover even before a final agreement is reached. See *id.*

175. *Pandora III*, 785 F.3d at 75.

176. See *BMI v. Pandora*, 2015 WL 3526105 at *11.

177. See Ed Christman, *Pandora and Warner/Chappell Sign Direct Licensing Deal*, BILLBOARD (Dec. 15, 2015), <http://www.billboard.com/biz/articles/news/digital-and-mobile/6812725/pandora-and-warnerchappell-sign-direct-licensing-deal> [<https://perma.cc/939H-46G4>].

178. See *id.*

179. *Id.*

180. *Id.*

181. Bill Donahue, *Pandora Ends Royalty Fight with ASCAP, BMI*, LAW360 (Dec. 22, 2015), <http://www.law360.com/articles/740966> [<https://perma.cc/7NAA-UWHA>].

182. *Id.*; Ed Christman, *Pandora Signs Mutually Beneficial Licensing Deals with ASCAP, BMI*, BILLBOARD (Dec. 22, 2015), <http://www.billboard.com/biz/articles/news/legal-and-management/6820730/pandora-signs-mutually-beneficial-licensing-deals> [<https://perma.cc/5U24-SMQG>].

is not only a highly complex system, but also one that does not quite square with the music and tech landscape today.

II. CRITICISMS OF THE CURRENT SYSTEM

Any analysis of criticisms of the contemporary music licensing system, and of the proposed solutions, relies on an understanding of the purpose of copyright. It is improper to assume the issues discussed are necessarily failings of the copyright law regime.

A. GOALS OF COPYRIGHT AND THE MUSIC LICENSING SYSTEM

Copyright law aims to encourage authors to “invest in the production of new ideas and works” by granting them “control over the use and distribution of their ideas.”¹⁸³ The underlying theory is utilitarian: copyright owners get rights to use their works in ways that enable them to make a profit and this ability incentivizes them to create and distribute those works in the first place.¹⁸⁴ The goal is not to automatically reward authors for their labor, but rather to enable them to introduce their products into the market and, if there is enough demand for the creative work, make a profit.¹⁸⁵

However, granting creators rights is not the end of the story; there is more complexity in selling access to copyrightable works than a single buyer and a single seller negotiating the sale of a single work. Factors such as

183. ROBERT P. MERGES, PETER S. MENELL & MARK A. LEMLEY, *INTELLECTUAL PROPERTY IN THE NEW TECHNOLOGICAL AGE* 13 (6th ed. 2012). The U.S. Constitution’s intellectual property clause grants Congress the authority “[t]o promote the progress of science and useful arts, by securing for limited time to authors and inventors the exclusive right to their respective writings and discoveries.” U.S. CONST., art. I, § 8, cl. 8. This power is important because the information conveyed by expressive works is a public good—nonrivalrous (one party’s use does intrude upon another party’s) and nonexcludable (absent legal protection, an owner cannot prevent others from enjoying the work). COHEN, ET AL., *supra* note 1, at 6–7. Therefore, in the absence of special protections, songwriters and artists would be implicitly discouraged from making expressive works because copiers could cheaply reproduce them, drive the price of the work down and effectively prevent songwriters and artists from recouping their costs. *See* MERGES ET AL., *supra*, at 12–13. The cumulative effect would be underproduction of creative works. *See id.* at 13. However, authors’ rights are not actually exclusive as they cannot control the use of their works under the 17 U.S.C. § 115 or § 114(f) compulsory licenses, which entitle authors only to statutory licensing fees when their works are used.

184. COHEN ET AL., *supra* note 1, at 6–7.

185. *See* MERGES ET AL., *supra* note 183, at 13 (explaining that copyright wants to “[ensure] . . . appropriate incentives to engage in creative activities”); *see also* James Grimmelman, *The Ethical Visions of Copyright Law*, 77 *FORDHAM L. REV.* 2005, 2015 (2009). Congress balanced incentivizing creation and ensuring dissemination of expressive works by limiting copyright protection’s duration and scope. *See* MERGES ET AL., *supra* note 183, at 14.

efficiency, fairness, and bargaining power influence the desire of either party to participate in the marketplace for music. Copyright law's ability to incentivize music owners to create and distribute works is, at least in part, based on how well the licensing system works.

B. CRITICISMS OF THE CURRENT MUSIC LICENSING FRAMEWORK

A navigable, efficient system is crucial because it defines the rules of how owners may sell access to their works. For example, it may reduce high transaction costs and thereby enhance the system's ability to bring together content owners and users. The following analysis considers criticisms of the licensing system in light of this purpose.

1. *Different Processes and Rate-Setting Standards Are Unjustified*

A common criticism is that numerous licensing processes and standards are unjustifiably inefficient.¹⁸⁶ Rather than having one or two administratively simpler processes, the licensing process differs based on the type of copyrightable work and the type of service licensing the work. On the user side, there are different sound recording licensing schemes for cable and satellite radio, noninteractive webcasting services, and interactive webcasting services, while terrestrial radio does not require a public performance license for sound recordings at all.¹⁸⁷

First, some critics argue that pre-existing radio services and webcasters should not be subject to different rate-setting standards because they are similar services.¹⁸⁸ Although the rate-setting process and institution for both services is generally the same, the proceedings are separate because each has its own standard. Pre-existing services were grandfathered into the § 801(b)(1) standard, which historically produces lower rates than the willing buyer/willing seller standard applied to webcasters.¹⁸⁹ Critics argue

186. See MUSIC MARKETPLACE, *supra* note 2, at 81–82.

187. See 17 U.S.C. § 114(d); see also MUSIC MARKETPLACE, *supra* note 2, at 52, 138, 142. There are over ten thousand terrestrial radio stations, many of which also stream their broadcasts online. *BMI v. Pandora*, Nos. 13 Civ. 4037(LLS), 64 Civ. 3787(LLS), 2015 WL 3526105, at *21 (S.D.N.Y. 2015). Radio in general has remained a critical player in the music industry since the first half of the twentieth century, composing about eighty percent of total music listening in the United States. See *Pandora II*, 6 F. Supp. 3d 317, 325 (S.D.N.Y. 2014).

188. See MUSIC MARKETPLACE, *supra* note 2, at 142–43.

189. See Lydia Pallas Loren, *The Dual Narratives in the Landscape of Music Copyright*, 52 HOUS. L. REV. 537, 576 (2014). Many point to the fact that pre-existing services secured a more favorable rate since they were the only services represented in Washington D.C. when Congress created the dual structure in 1998. See Marsha Blackburn & Jerrold Nadler, *Op-Ed: A Bipartisan Case for Fair Play Fair Pay Act*, BILLBOARD (Nov. 6, 2015),

having one standard applicable to all noninteractive services would enhance efficiency in CRB determinations.¹⁹⁰

Second, the licensing process for musical works differs from the numerous processes for sound recordings. This distinction is less commonly criticized, likely because it pertains to a different work for which there is a different market.¹⁹¹ The Copyright Office nonetheless sees this as an area to increase efficiency.¹⁹² Subjecting both works to the same rate-setting institution, most likely the CRB, would condense the information and knowledge of the market in one body.¹⁹³ Furthermore, it may enable the chosen body to consider similar factors affecting the public performance rights across works and services.¹⁹⁴ Using a single rate-setting institution would enhance efficiency and reduce transaction costs for music owners and users that participate in rate-setting proceedings.

2. *Outdated PRO Consent Decrees*

The PRO antitrust consent decrees outline a public performance licensing system for musical works that is consistent across services, unlike the system for sound recordings.¹⁹⁵

Publishers criticize the lack of differentiation among services as creating a poor fit for negotiations with platforms and technologies critical to the contemporary music industry.¹⁹⁶ The music business looks much different now than when the decrees were originally promulgated, before sound recordings were federally protected, and even since each was last amended—

<http://www.billboard.com/biz/articles/news/legal-and-management/6753914/op-ed-a-bipartisan-case-for-fair-play-fair-pay-act> [<https://perma.cc/PQX2-PBSX>].

190. See MUSIC MARKETPLACE, *supra* note 2, at 81, 142. Regardless of which rate more accurately approximates a free market rate, using a single standard would merge two proceedings into one. See *id.* at 81.

191. See Webcaster I, 67 Fed. Reg. 45,240, 45,249 (July 8, 2002) (codified at 37 C.F.R. pt. 261 (2002)); Webcaster II, 72 Fed. Reg. 24,084, 24,094-95 (May 1, 2007) (codified at 37 C.F.R. pt. 380 (2007)).

192. MUSIC MARKETPLACE, *supra* note 2, at 155.

193. See *id.* at 156-57.

194. See *id.*

195. In fact, the decrees prohibit musical owners from discriminating among the types of services they permit the PROs to license their music to, and the PROs are prohibited from denying a license to any qualifying applicant. See *ASCAP Consent Decree*, No. 41-1395 (WCC), 2001 WL 1589999, § VI (S.D.N.Y. 2001); *BMI Consent Decree*, No. 64 CIV. 3787, 1994 WL 901652, § XIV(A) (S.D.N.Y. 1994).

196. See MUSIC MARKETPLACE, *supra* note 2, at 159-60. The DOJ is currently considering amending the decrees, and already completed a public commentary period on how the decrees affect market competition. See *Antitrust Consent Decree Review – ASCAP and BMI 2014*, UNITED STATES DEPT OF JUSTICE, <http://www.justice.gov/atr/ascap-bmi-decree-review> [<https://perma.cc/36BH-T6Z3>].

before webcasting became a big industry player.¹⁹⁷ Publishers want to choose the types of services PROs can license their works to because direct licensing has enabled them to secure higher rates.¹⁹⁸ However, because under the consent decrees neither the publishers nor the PROs can refuse to license to Pandora, Pandora cannot be forced to enter direct negotiations with publishers. Importantly, however, Pandora has voluntarily entered into direct licenses with the three largest publishers.¹⁹⁹

But if direct licensing to Pandora does not continue after these expire, and the consent decrees' strict language is not amended, publishers may be encouraged to completely withdraw from PROs.²⁰⁰ This would harm the goals of copyright by creating higher transaction costs that discourage owners and users from meeting in the marketplace where they once did.

3. *Sound Recordings Lack a Complete Public Performance Right*

Congress originally declined to extend sound recordings a public performance right because sound recording owners benefitted from unrestricted airplay.²⁰¹ With the contemporary decline in music sales, though, radio no longer boosts revenue as it once did.²⁰² Instead, record companies rely more on public performance royalties.²⁰³ The DPRSRA extended a limited right to cover digital audio transmissions, but terrestrial radio still only pays royalties for underlying musical works, not sound recordings themselves.²⁰⁴

Many find the limited public performance right unjustified, arguing that a complete right would level competition across radio services, incentivize creation by providing a new sound recordings revenue source, and enable U.S. record companies and artists to get foreign public performance royalties from reciprocal treatment.²⁰⁵ The original rationale for denying a full public performance right is outdated in the Internet Age, where physical album sales comprise a smaller proportion of revenue, and public

197. The BMI consent decree was last amended in 1994. *See BMI Consent Decree*, 1994 WL 901652. The ASCAP consent decree was last amended in 2001. *See ASCAP Consent Decree*, 2001 WL 1589999.

198. *See* MUSIC MARKETPLACE, *supra* note 2, at 151.

199. Although Pandora pays higher rates under these direct licenses, it benefits from greater rate certainty and flexibility in music use. *See* Christman, *supra* note 177.

200. *See* MUSIC MARKETPLACE, *supra* note 2, at 151–52.

201. *Arista Records, LLC v. Launch Media, Inc.*, 578 F.3d 148, 152 (2d Cir. 2009).

202. *See* MUSIC MARKETPLACE, *supra* note 2, at 70.

203. *See id.*

204. *See* 17 U.S.C. § 106(6) (2012); *see also* MUSIC MARKETPLACE, *supra* note 2, at 87.

205. *See* LaFrance, *supra* note 120, at 232.

performance royalties are increasingly important.²⁰⁶ Furthermore, noninteractive digital services pay substantial licensing fees even though they provide a similar service and can be used in the same contexts as terrestrial radio.²⁰⁷ Critics argue that this is unfair and representative of special interests rather than sound copyright policy.²⁰⁸

Despite widespread support for a complete public performance right in sound recordings, the broadcaster lobby has “beaten back” the proposal because it does not want to pay royalties to a second set of rights holders.²⁰⁹ Similarly, publishers oppose a full sound recording public performance right out of concern that forcing broadcasters to pay sound recording royalties would diminish the publishers’ own royalties.²¹⁰ These criticisms focus more on each party’s own interest rather than furthering the goals of copyright.

If sound recordings are considered copyrightable works on equal footing with musical works, denying a full public performance right is contrary to copyright’s goals; it prevents owners from bringing their work to the non-digital public performance market. Giving sound recording owners a complete right would bring them in line with other copyright holders in the United States and “virtually all industrialized countries around the globe.”²¹¹

4. *Below-Market Royalties From Webcasting for Musical Works*

In the digital context, the rates set for musical work royalties is about one-twelfth of the rates set for sound recordings.²¹² Publishers and PROs

206. See MUSIC MARKETPLACE, *supra* note 2, at 70–71.

207. *But see Pandora II*, 6 F. Supp. 3d 317, 371 (S.D.N.Y. 2014) (finding that Pandora’s service had key differences from terrestrial radio in musical work rate-setting proceedings); *BMI v. Pandora*, Nos. 13 Civ. 4037(LLS), 64 Civ. 3787(LLS), 2015 WL 3526105, at *21 (S.D.N.Y. 2015).

208. See MUSIC MARKETPLACE, *supra* note 2, at 87–88.

209. Ed Christman, ‘Fair Play, Fair Pay Act’ Introduced, Seeks Cash From Radio Stations, BILLBOARD (Apr. 13, 2015), <http://www.billboard.com/articles/business/6531693/fair-play-fair-pay-act-performance-royalty-radio> [<https://perma.cc/P3B4-BVF6>].

210. See LaFrance, *supra* note 120, at 222. Furthermore, publishers worry that their new “neighboring rights holders will act as gatekeepers,” preventing publishers from lucratively exploiting licensing opportunities. *Id.* However, this argument is invalid if terrestrial radio were subject to the § 114 compulsory license, because sound recording owners would not have the ability to act as “gatekeepers.” See 17 U.S.C. § 114(f) (2012).

211. Maria A. Pallante, *The Next Great Copyright Act*, 36 COLUM. J.L. & ARTS 315, 324 (2013).

212. MUSIC MARKETPLACE, *supra* note 2, at 92. However, in 2016 Pandora began operating under direct licenses from the three biggest music publishers under which it is estimated to pay between 8.5% and 10% of revenue. See Christman, *supra* note 177. Before that, Pandora paid the majority of its revenue to record companies and only about four percent total to the PROs. *Pandora II*, 6 F. Supp. 3d at 333. It is important to note that musical works owners still receive significantly more from public performance fees in total

point to this figure as evidence that the PRO rate courts produce below-market rates.²¹³ Although musical work owners are not obligated to use PROs, the PRO rate court determinations are important because, in practice, it is hard for musical work owners to get around the PRO process; some musical work owners rely heavily on collective licensing.²¹⁴

There are several potential explanations for this rate discrepancy. First, PRO rate courts are statutorily prohibited from considering rates set by the CRB in setting a reasonable rate for musical works.²¹⁵ Second, the few direct licenses that are negotiated develop in the shadow of the rate courts, which may make it harder to move away from precedential rates. Third, as the CRB has found, the market for sound recordings may just be distinct from the market for musical works.²¹⁶

While arguments have been made in favor of each set of rights holders,²¹⁷ the question of how musical work and sound recording royalties should fare relative to one another cannot be answered unless both rights holders and licensees are subject to a unitary, free-market negotiation or proceeding.

because the public performance rights for sound recordings is still limited to digital audio transmissions. *See id.* In other words, new media services are really the only services paying sound recording public performance licenses at all. *See id.*

213. *See* MUSIC MARKETPLACE, *supra* note 2, at 12, 92.

214. *See id.* at 76, 97. However, the direct licenses Pandora negotiated with the three major publishers may indicate a shift in webcasters' position, or at least the most popular noninteractive webcaster. *See* Christman, *supra* note 177.

215. *See* 17 U.S.C. § 114(i).

216. *See* Webcaster I, 67 Fed. Reg. 45,240, 45,249 (July 8, 2002) (codified at 37 C.F.R. pt. 261 (2002)); Webcaster II, 72 Fed. Reg. 24,084, 24,094-95 (May 1, 2007) (codified at 37 C.F.R. pt. 380 (2007)).

217. Musical work owners argue that they should receive a higher relative share of royalties because their works are more valuable as creative expression and their creation is more difficult. LaFrance, *supra* note 120, at 247-48. Sound recording owners argue that consumer demand is focused on particular recordings rather than musical works, "[t]he costs and risks of producing and marketing a recording are higher," "[t]he sound recording royalty typically must be split among more people--i.e., the record company, the featured performers, and the nonfeatured performers," "[a] sound recording may be in demand for only a short period of time before its popularity fades," "[t]he career of a performer is typically shorter than the career of a composer," and that music services should pay for recorded music a percentage of gross revenue comparable to what cable firms pay for their movie programming. *Id.* at 248-51.

5. *Rates Set by the CRB for § 114 Compulsory Licenses Are Too High*

Noninteractive services complain that the rates set by the CRB are excessive and prevent them from making a profit.²¹⁸ Pandora has cited its inability to turn a profit despite lower rates negotiated under the Webcaster Settlement Acts, huge user numbers, and increased advertising.²¹⁹ However, the CRB had reasoned in the Webcaster decisions that sound recording owners should not be paid less based on a service's inability to generate revenue.²²⁰

Nonetheless, the CRB's ability to approximate free-market rates is a legitimate concern, as copyright law aims to enable creators and consumers to meet and negotiate in the marketplace. If, in the interests of efficiency and curbing anti-competitive practices, the parties are subjected to a rate-setting proceeding, those proceedings should aim to closely approximate free-market rates. Unfortunately, it is impossible to truly evaluate if the CRB is successful.

6. *Major Record Labels Wield Too Much Power in the Interactive Context*

Scholars note that record label agreements with interactive services, particularly Spotify, are structured in a way that harms smaller, independent labels.²²¹ Because the Big Three have legacy catalogs that any viable streaming service needs, they can secure very favorable terms with Spotify,

218. This argument led webcasters to seek Congressional insulation from CRB rates through the Webcaster Settlement Agreements. MUSIC MARKETPLACE, *supra* note 2, at 142–43.

219. *Pandora II*, 6 F. Supp. 3d 317, 328 (S.D.N.Y. 2014).

220. Webcaster I, 67 Fed. Reg. at 45,249; Webcaster II, 72 Fed. Reg. at 24,090. Spotify, Pandora's interactive counterpart, also has yet to show a profit while most of its revenue is paid out in public performance royalties. Spotify independently negotiates its rates directly with record companies so the CRB rates are not necessarily responsible for this problem in the noninteractive context. See MUSIC MARKETPLACE, *supra* note 2, at 52; *20 Million Reasons to Say Thanks*, SPOTIFY (June 10, 2015), <https://news.spotify.com/us/2015/06/10/20-million-reasons-to-say-thanks> [<https://perma.cc/XEV3-N679>]. Spotify continues to report annual losses despite increased revenues and an expanding user base. See Stuart Dredge, *Spotify Financial Results Show Struggle to Make Streaming Music Profitable*, THE GUARDIAN (May 11, 2015), <http://www.theguardian.com/technology/2015/may/11/spotify-financial-results-streaming-music-profitable> [<https://perma.cc/5QGM-49DJ>]. It pays approximately seventy percent of its revenue out to rights holders. Greenburg, *supra* note 111.

221. See Menell, *supra* note 101, at 295. Independent labels are those not controlled by one of the Big Three. Some bigger independent labels have been able to secure better deals than the smaller ones. See Lindvall, *supra* note 154.

including advances and equity stakes in the company.²²² But independent labels do not have the legacy catalog bargaining chip and get significantly worse terms; this subsequently hurts their artists' compensation.²²³

While the minimal fees paid to independent labels is concerning, it is important to remember that they are the result of voluntary negotiations. Because major labels control so much content and the legacy catalogs, the “product” they offer to interactive services is simply more valuable. Therefore, this criticism focuses on a problem music copyright has failed to address. If there is a market failure here, it can be seen at the artist level. Individual artists on a major label may not necessarily create sound recordings that are worth more than those on independent labels, but they can indirectly get higher licensing fees by being on a major label.²²⁴ Unfortunately, there are currently no proposed solutions to this disparity.

III. PROPOSED SOLUTIONS

Each of the solutions proposed to correct the shortcomings of the contemporary music licensing system must be evaluated against the goal of bringing content owners and creators to the marketplace.

A. MOVING MUSICAL WORK RATE-SETTING UNDER THE CRB

A 2015 Copyright Office report proposed shifting PRO rate-setting proceedings from the PRO rate courts in the S.D.N.Y. to the CRB.²²⁵ Under this proposal, the musical works rate-setting process would remain the same, but the CRB would be the decision-making institution.²²⁶ The proposal would maintain the same level of voluntary agreements, and therefore market rates, by remaining a last resort in the face of negotiation failures.²²⁷

Moving PRO rate decisions under the CRB would encourage marketplace participation by making the rate-setting process as a whole more efficient and less expensive for content owners and services. It would consolidate information, expertise, and decision making in a single institution. The CRB is particularly apt to handle these decisions because of its statutory requirements: one judge must have expertise in music and

222. See Lindvall, *supra* note 154.

223. See *id.*

224. See *id.*

225. See MUSIC MARKETPLACE, *supra* note 2, at 155.

226. See *id.* at 156. Antitrust issues would be addressed on an “as-needed basis” by the Department of Justice. See *id.*

227. See MUSIC MARKETPLACE, *supra* note 2, at 156.

another must have expertise in economics.²²⁸ Also, using one institution for all proceedings would facilitate the application of consistent reasoning across decisions, producing more predictable results.²²⁹ These benefits overall would make it easier for owners and users to meet in the marketplace and license works.

However, this proposal is also relatively narrow in what it intends to resolve. A more comprehensive solution would also apply one free-market standard to all rate-setting proceedings, and thereby increase the likelihood of consistent reasoning across rate-setting proceedings. Additionally, the system could be more efficient if rate proceedings were consolidated. This approach is discussed separately in alternative proposals.

B. SONGWRITER EQUITY ACT

The Songwriter Equity Act was originally introduced in both houses of Congress in 2014,²³⁰ and was re-introduced in 2015.²³¹ The heart of the act amends 17 U.S.C. § 114(i), the provision which currently prohibits PRO rate courts from considering the rates services paid for sound recording public performance royalties when setting a “reasonable rate” for musical works.²³² The new § 114(i) would eliminate the prohibitory language and provide that “[i]t is the intent of Congress that royalties payable to copyright owners of musical works for the public performance of their works shall not be diminished in any respect as a result of the rights granted in section 106(6).”²³³

Supporters of this legislation argue that musical work owners are currently receiving below-market rates for the public performance of their works.²³⁴ They believe that if PRO rate courts can consider sound recording

228. See 17 U.S.C. § 802(a)(1) (2012).

229. Not to suggest that this would necessarily make the rates paid for sound recordings and musical works more even, but the rates would be based on the same market standard.

230. Songwriter Equity Act of 2014, H.R. 4079, 113th Cong. (2014); Songwriter Equity Act of 2014, S. 2321, 113th Cong. (2014).

231. Songwriter Equity Act of 2015, H.R. 1283, 114th Cong. (2015); Songwriter Equity Act of 2015, S. 662, 114th Cong. (2015).

232. See H.R. 1283; S. 662; 17 U.S.C. § 114(i). The original intent behind § 114(i) was to protect publishers, because legislators thought that sound recordings would get much lower rates. See MUSIC MARKETPLACE, *supra* note 2, at 157. However, the provision has seemingly done the exact opposite because sound recordings have received much higher rates. See *id.* at 92, 157. The Songwriter Equity Act also would amend § 115(c)(3)(D), applicable to mechanical reproductions, to change the standard applied by the CRB in rate proceedings to a willing buyer/willing seller standard. See H.R. 1283 § 5; S. 662 § 5.

233. See H.R. 1283; S. 662.

234. See MUSIC MARKETPLACE, *supra* note 2, at 93.

royalties, those courts will increase the rates paid to the PROs to close the gap between the two.²³⁵

While digital services are generally ambivalent about how the royalties they pay are divided among rights holders, they do care about what they pay in royalties as the bottom line.²³⁶ Digital services oppose this bill for the same reason publishers support it; it may lead rate courts to find higher fees “reasonable” for musical works.²³⁷ Whether or not the rate courts would take the change in § 114(i) as a signal to adjust rates upward for musical works remains to be seen.

Eliminating § 114(i)’s prohibitory language might be seen as moving musical work licensing closer to a true free-market, and fairer, standard because in a free market musical work owners and users would consider the price of sound recordings in their negotiations. However, the PRO rate courts already implicitly consider this externality because they rely on freely negotiated rates as benchmarks and are only used after voluntary negotiations fail. Enabling the PRO rate courts to consider the higher rates paid for sound recordings might encourage them to impose their own ideas of what a fair rate is rather than emulate free market rates. Doing so may deter music services from participating in the musical public performance realm.

Alternatively, if this bill passed in conjunction with the designation of the CRB as the decision maker for both musical works and sound recordings, the CRB may be able to balance the interest of all three parties—publishers, record labels, and services—to reach a reasonable bottom line. This outcome would be more efficient and representative of a free market where buyers and sellers would not be prohibited from considering externalities that affect their negotiations. Therefore, combining solutions may provide a broader reform that incentivizes more overall marketplace activity.

C. FAIR PLAY FAIR PAY ACT

A second piece of legislation that would result in more extensive changes to the music licensing system is the Fair Play Fair Pay Act (FPFP).²³⁸ The FPFP contains three main proposals.

235. The gap is currently approximately twelve-to-one. *See id.* at 92 n.461, 104.

236. *See id.* at 76–77.

237. *See id.* at 104.

238. Fair Play Fair Pay Act of 2015, H.R. 1733, 114th Cong. (2015). The FPFP was introduced in the House of Representatives in 2015. *See id.*

First, the FPPF extends a full public performance right to sound recordings based on the ideas that copyright law should subject similar services to the same royalty requirements and that sound recording owners should have a complete public performance right.²³⁹ The FPPF requires terrestrial radio to pay sound recording royalties as webcasters, cable radio, and satellite radio currently do, enabling sound recording owners to exploit their copyrights in a new market.²⁴⁰

Second, like the Songwriter Equity Act, the FPPF amends the language of § 114(i) to permit the PRO rate courts to consider sound recording royalties in musical work proceedings.²⁴¹ However, the language of the FPPF limits the rate courts' ability to consider sound recording royalties and still prohibits such considerations if they are used to reduce musical work fees.²⁴²

Third, the FPPF brings pre-existing satellite and subscription services, as well as terrestrial radio, under the same licensing schema that now covers webcasters, making all noninteractive radio services subject to the same CRB willing buyer/willing seller standard.²⁴³ The willing buyer/willing seller standard is perceived to produce higher rates than the § 801(b)(1) standard.²⁴⁴ This proposal would end the distinct and less efficient licensing schemes that exist for similar services, enhancing competition by putting those comparable services on a level playing field.

The FPPF offers the most comprehensive reforms to the current music licensing system. It promotes efficiency by consolidating rate-setting proceedings and applying more consistent standards. In addition, by granting sound recordings a full public performance right, it invites sound recording owners to participate in a market that is currently limited to musical works.

However, like the Songwriter Equity Act, the FPPF leaves open the possibility that PRO rate courts will adjust upward the rates they set for

239. See H.R. 1733, § 2(b). The bill would amend 17 U.S.C. § 106(6) to eliminate the word "digital" such that the right "to perform the copyrighted work publicly" extends to all audio transmissions. See *id.*

240. See Blackburn, *supra* note 189. The act looks out for smaller and public broadcasters by putting a relatively low cap on their licensing fees. See H.R. 1733, § 5.

241. See H.R. 1733, § 8(a)(1).

242. See *id.*

243. H.R. 1733, § 4(a)(1).

244. See Loren, *supra* note 189, at 576. The Act would also aim to give some protection to music producers, who are only brought into the copyright licensing scheme via private contract. H.R. 1733, § 9. The bill would also end the pre-1972 sound recordings controversy by extending copyright right protection to these works. See H.R. 1733, § 7; MUSIC MARKETPLACE, *supra* note 2, at 82.

musical works based on the fact that sound recordings receive much higher royalties. The licensing system should instead ensure a fair rate for each class of rights owners in light of how services might actually negotiate with copyright owners in a completely free market.

D. REVISING THE PRO CONSENT DECREES

In response to the recent ASCAP and BMI cases, there has been a push to amend the PRO antitrust consent decrees and permit publishers to withdraw new media rights.²⁴⁵ Enabling musical work owners to withdraw particular licensing rights from the PROs would enable these owners to force music services into direct negotiations.²⁴⁶ Publishers argue this would enable music owners to negotiate in a way better suited to the modern music industry.²⁴⁷

Although large music publishers would be the real beneficiaries of revising the consent decrees because they have the catalogs that would lead services into direct negotiations, the smaller publishers and individual artists that license to new media services through ASCAP may still benefit from the large publishers' withdrawals.²⁴⁸ ASCAP and BMI could use the higher rates agreed to in the direct licenses as benchmarks of free-market rates in subsequent rate court proceedings.²⁴⁹

This solution is complicated because the consent decrees were imposed in response to antitrust concerns. Aside from that, how these decree amendments might affect the incentives of owners and users to meet in the marketplace is unclear. As Pandora's ultimate independent negotiations with publishers in late 2015 demonstrate, rights owners and webcasters are willing and able to reach independent licensing agreements. And, if the transaction costs of direct licensing become prohibitive in the future, publishers could still return to the PROs. In conclusion, enabling publishers

245. See MUSIC MARKETPLACE, *supra* note 2, at 96–100. It is unclear if support subsided after the three major publishers negotiated direct deals with Pandora and secured higher rates despite the court decisions. See Christman, *supra* note 177.

246. See *BMI v. Pandora*, Nos. 13 Civ. 4037(LLS), 64 Civ. 3787(LLS), 2015 WL 3526105, at *7 (S.D.N.Y. 2015).

247. See MUSIC MARKETPLACE, *supra* note 2, at 99.

248. See *id.*

249. See *id.* On the other hand, many songwriters with large publisher contracts actually prefer licensing through PROs because the PROs have organizational terms that clearly indicate how collected royalties are divided among writers, publishers, and the PRO. See MUSIC MARKETPLACE, *supra* note 2, at 99–100. For example, ASCAP rules indicate that all royalties paid out fifty-fifty to the writers and the publishers. See PASSMAN, *supra* note 9, at 1261–62. Songwriters argue that they will not get the same level of transparency in how royalties are divided up if their publishers license directly. See MUSIC MARKETPLACE, *supra* note 2, at 99–100.

to divide up the right to license may actually enhance participation in the market. Unfortunately, this solution only addresses the interests of musical work owners and fails to offer a comprehensive approach that improves efficiency and rate-setting standards across services and works.

Although several of the proposed solutions provide a step in the right direction, they are under-inclusive. These solutions fail to consider issues such as the anticompetitive behavior of major record labels. They also fall short of providing a way for webcasters to use their bargaining power as major industry players in a unitary proceeding that simultaneously considers service revenue, musical work royalties, and sound recording royalties. Such clear fragmentation of the licensing system broadly underlies the criticisms discussed in Part II and, consequently, should also be addressed by more comprehensive reforms.

Congress should implement a broader music copyright reform that adequately addresses copyright policy's major goals, thereby benefitting all music industry players. The reform should focus on setting royalties that reflect market demand, increasing efficiency, and, most importantly, supporting copyright owners' ability to bring their works to the marketplace.

IV. CONCLUSION

The history of music licensing is as complex and nuanced as the resulting system that exists today. Licensing by webcasting services serves as a prominent example of how disconnected music copyright can be from the realities of the contemporary music industry. Although many agree the music copyright system is unnecessarily complicated, most proposed solutions only continue down the historical path of piecemeal changes to narrow issues. However, as demonstrated in Part I, it is such incremental amendments to copyright law that led to the present fragmented licensing structure. It will take extensive reform to create a system that makes sense and reduces the transaction costs of participating in the music licensing.

This can only be accomplished by evaluating solutions from the perspective that copyright law aims to bring owners and potential licensees together in the marketplace. If this goal drives the development of new legislation, the resulting licensing system will encourage owners of creative works to bring their works to the marketplace.

TURTLE POWER: THE CASE FOR COMMON LAW PROTECTION FOR PRE-1972 SOUND RECORDINGS

Christopher J. Norton[†]

A tangled mess of state statutes and common law governs ownership rights in sound recordings fixed in a tangible medium prior to February 15, 1972. This has been the case ever since Congress declined to make retroactive the Sound Recording Amendment of 1971, which brought sound recordings fixed after that date under the aegis of the federal Copyright Act. Two ex-members of the popular 1960s band the Turtles and their business entity Flo & Eddie, Inc. sued Internet and satellite radio services such as Pandora and Sirius XM over alleged unpaid public performance royalties based on this tangle of rights, with predictably inconsistent and confusing results. Federal district courts in New York¹ and California² have found public performance rights in pre-1972 recordings based on common law and statutory theories of state copyright, respectively, while a district court in Florida³ has rejected both theories. These rulings are now each on appeal to the Second, Ninth, and Eleventh Circuits. Additionally, Pandora and Sirius XM have each paid out multi-million dollar settlements to the three major record labels to resolve potential claims over rights to perform the labels' deep back catalogs of pre-1972 recordings.⁴

This Note outlines a middle way between the warring perspectives of the artist/rights holder versus the user/distributor in these cases. The only legitimate way for pre-1972 sound recording owners such as Flo & Eddie to assert the full bundle of rights that traditionally attach to copyright protection would be for Congress, not the courts, to bring those recordings

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1. Flo & Eddie Inc. v. Sirius XM Radio Inc., 62 F. Supp. 3d 325 (S.D.N.Y. 2014).

2. Flo & Eddie Inc. v. Sirius XM Radio Inc., No. CV 13-5693 PSG (RZx), 2014 WL 4725382 (C.D. Cal. Sept. 22, 2014).

3. Flo & Eddie Inc. v. Sirius XM Radio Inc., No. 13-23182-CIV, 2015 WL 3852692 (S.D. Fla. June 22, 2015).

4. See Bill Donahue, *Sirius XM Pays Labels \$210M to Settle Pre-1972 Fight*, LAW360 (June 26, 2015), <http://www.law360.com/articles/672913/sirius-xm-pays-labels-210m-to-settle-pre-1972-fight> [<https://perma.cc/9H5B-6T8D>]; Bill Donahue, *Pandora Pays Labels \$90M To Settle Pre-1972 Fight*, LAW360 (Oct. 22, 2015), <http://www.law360.com/articles/717696/pandora-pays-labels-90m-to-settle-pre-1972-fight> [<https://perma.cc/7XQY-ULRQ>].

under the wing of federal copyright protection. While this would be the ideal solution to the pre-1972 issue, the possibility of a legislative fix at the federal level remains unlikely in the immediate future. But this should not mean that zero rights attach to ownership of pre-1972 sound recordings—that they are in the public domain by default—or that there are no remedies available for artists to be compensated for unauthorized use of those recordings. The courts considering the current cases will have to act in the absence of any federal legislative action that may come down the line. Accordingly, this Note articulates a common law solution, tailored in its remedies but broadly applicable across state lines, that can serve to compensate owners of pre-1972 recordings while Congress sorts out the underlying statutory copyright issues. The common law doctrines of unfair competition, misappropriation, and conversion have been raised in all three jurisdictions at the district court level, with varying degrees of success.

These torts could offer a sufficiently analogous remedy for owners of pre-1972 sound recordings, assuming affected artists can assert an ownership right giving rise to liability for some portion of an unauthorized user's profits from performing the recordings for their commercial value. Courts have not been shy about fixing rates for compensation of this type in the past, from the ASCAP and BMI consent decrees to the Copyright Royalty Board. In the absence of federal statutory copyright protection, courts considering how to deal with protection for pre-1972 sound recordings should rely on the well-developed common law tradition that penalizes unauthorized use of another's property for commercial gain. This may afford pre-1972 sound recording owners only limited remedies, but would be preferable to the inconsistency and uncertainty that is already creeping between conflicting state law copyright traditions (where they exist at all) while Congress considers how best to harmonize protection for pre- and post-1972 recordings.

Part I of this Note surveys the history of state law protection for sound recordings, both preceding and following the Sound Recording Amendment of 1971. Part II examines the three cases the Turtles have brought against Sirius XM that are currently on appeal, and uses them as a means to evaluate the pros and cons of state statutory protection and common law copyright protection. Part III evaluates recent congressional efforts to address the pre-1972 problem. Part IV outlines a flexible common law solution that relies on neither state statutes nor common law copyright. Part V concludes by stressing both the importance and unlikelihood of federal action on this issue, and affirms the necessity of affording some type of state law protection to pre-1972 recordings that can work as consistently as possible across state lines.

I. HISTORICAL STATE LAW PROTECTION BEFORE AND AFTER 1972

State law bases for protection remain valid and highly relevant to the current cases on appeal. Sound recordings have never been protected as consistently as musical compositions under federal law, and to this day sound recordings still have only a limited federal statutory public performance right. Courts historically drew on both unfair competition/misappropriation law and federally rooted copyright doctrine in figuring out what to do with disputes over unauthorized uses of sound recordings not covered by the Copyright Act, both before and after sound recordings gained federal protection. The Sound Recording Amendment of 1971 changed the landscape of protection, and the compromise solution Congress ultimately devised was due more to powerful industry lobbying than any good legal or philosophical reasons.

A. RECORDINGS VS. COMPOSITIONS

At the outset of considering the evolution of protection for sound recordings at the state level, it is necessary to briefly address the historical differences in copyright protection for recordings as compared to musical compositions. While federal law has protected compositions since the nineteenth century, it took Congress decades longer to federalize copyright protection for sound recordings in the Sound Recording Amendment of 1971.⁵ In doing so, Congress elected not to make protection retroactive, and federal copyright protection has accordingly only extended to sound recordings fixed in a tangible medium after February 15, 1972.⁶ Additionally, Congress did not establish a public performance right in sound recordings until 1995, when it passed the Digital Performance Right in Sound Recordings Act.⁷ Even that amendment to the Copyright Act solely covered digital audio transmissions, not traditional broadcasts or other long-established types of performances. Thus, while musical compositions have long enjoyed the full bundle of rights that attach to federal statutory copyright protection, sound recordings have only had such rights vested in them for less than half a century, and those rights have been strictly limited.

This disparity is partially because the recording industry did not come into its own as a major commercial force until the middle of the twentieth

5. See MELVILLE B. NIMMER & DAVID NIMMER, 1 NIMMER ON COPYRIGHT §§ 2.05, 2.10 (Matthew Bender, rev. ed. 2015).

6. See *id.* at § 2.10.

7. See *id.* at § 8.14.

century. While the earliest known sound recording device was patented in 1857 in France⁸ (Thomas Edison invented the phonograph in 1877 and the wax-cylinder record a decade later⁹), mass-producing sound recordings on a meaningful commercial scale would not become possible until the rise of 78 RPM discs and, later, vinyl records in the early twentieth century.¹⁰ By the time Columbia Records introduced the 33 1/3 RPM long-playing vinyl record in 1948, which would become the industry standard format for the next several decades, the production of sound recordings had matured into a major industry.¹¹ In the post-World War II years this industry grew spectacularly, thanks in part to improved technology, inexpensive vinyl, expanded spending power in the ascendant middle class, and the rise of youth culture. As the industry developed, market forces contributed to extensive piracy and unauthorized use of sound recordings, which had become extremely valuable where popular music was concerned. Throughout this period, courts were often at odds with each other as they reckoned with the legal challenges posed by these developments.

B. EARLY UNAUTHORIZED BROADCAST AND PIRACY CASES

Once technology made it feasible to mass-produce sound recordings, courts grappled with whether and how to apply common law notions of property or federally-derived copyright principles to this newly ascendant type of creative work. In 1937, the Pennsylvania Supreme Court held that a broadcaster's commercial use of phonograph recordings of an orchestra's concert performances (which were stamped with the phrase "Not licensed for Radio Broadcast") constituted a violation of the orchestra's ownership rights in its recorded performances.¹² The court held that even though the orchestra's recordings were not subject to federal copyright protection, the orchestra's property rights in the recordings as artistic works subsisted under common law on substantially the same basis as title to any other type of property.¹³ The court asserted that this common law tradition predates even the first copyright statute ever enacted: England's 1709 Statute of Anne.¹⁴

The Pennsylvania court further held that the broadcaster was liable for unfair competition, and the orchestra was accordingly entitled to equitable

8. GARETH MURPHY, *COWBOYS AND INDIES: THE EPIC HISTORY OF THE RECORD INDUSTRY* 1 (2014).

9. *Id.* at 7.

10. *See id.* at 12–28.

11. *See id.* at 83–84.

12. *Waring v. WDAS Broad. Station, Inc.*, 327 Pa. 433 (1937).

13. *Id.* at 439.

14. *Id.*

relief.¹⁵ The court looked to the landmark case *International News Service v. Associated Press*,¹⁶ in which the U.S. Supreme Court upheld the tort of misappropriation to provide a remedy for violation of the AP's ownership rights in the breaking news it gathered.¹⁷ The Pennsylvania court ruled:

[W]hile, generally speaking the doctrine of unfair competition rests upon the practice of fraud or deception, the presence of such elements is not an indispensable condition for equitable relief, but, under certain circumstances, equity will protect an unfair appropriation of the product of another's labor or talent. In the present case, while defendant did not obtain the property of plaintiff in a fraudulent or surreptitious manner, it did appropriate and utilize for its own profit the musical genius and artistry of plaintiff's orchestra in commercial competition with the orchestra itself.¹⁸

The Pennsylvania court's ruling was not widely followed by other states, some of which enacted statutes in the wake of the ruling to expressly state that the type of protections Pennsylvania had afforded to sound recordings did not exist in their jurisdictions.¹⁹ A few years after *Waring*, the Second Circuit (in an opinion authored by the great copyright jurist Judge Learned Hand) addressed the same issue and declined to follow Pennsylvania's example.²⁰ The court ruled that the orchestra's common law property rights in the recordings were extinguished upon the sale of the recordings to the broadcaster.²¹ The court ruled: "Any relief which justice demands must be found in extending statutory copyright to such works, not in recognizing perpetual monopolies, however limited their scope."²² The court stated that the *International News Service* case "cannot be used as a cover to prevent competitors from ever appropriating the results of the industry, skill, and expense of others."²³ On the claim of unfair competition, the court held that if the plaintiffs could not bring themselves within common law copyright, there was no reason to justify granting them any continuing control over the activities of the public to whom they had dedicated their recordings.²⁴

15. *Id.* at 455–56.

16. 248 U.S. 215 (1918).

17. *Waring*, 327 Pa. at 449–52.

18. *Id.* at 452–53.

19. *See, e.g.*, N.C. GEN. STAT. c. 66 §§ c.–28 (1943); S.C. CODE § 6641 (1942); FLA. STAT. ANN. §§ 543.02, 543.03 (1943).

20. *RCA Mfg. Co. v. Whiteman*, 114 F.2d 86 (2d Cir. 1940).

21. *Id.* at 88.

22. *Id.* at 89.

23. *Id.* at 90.

24. *Id.*

The Second Circuit overruled its own *RCA v. Whiteman* decision fifteen years after it was handed down, in a case involving the unauthorized reproduction and sale of phonograph records.²⁵ The court in that case, *Capitol Records v. Mercury Records Corp.*, found that the plaintiff's act of putting its records on sale did not destroy its exclusive right to reproduce and sell the records under New York law.²⁶ The court cited as justification an intervening case between *RCA v. Whiteman* and the dispute at bar, *Metropolitan Opera Ass'n v. Wagner-Nichols Recorder Corp.*²⁷ In that case, a lower New York court held that an opera association had sufficiently pled an unfair competition cause of action in relation to the defendant's recording and reselling of radio broadcasts of an opera performance.²⁸ The defendants, without paying anything to the opera association for the benefit of its "extremely expensive" performances, and without any cost comparable to that incurred by the association's record label in making its records, were selling recordings of the opera broadcast performances to the public.²⁹ This constituted unfair competition, the Metropolitan Opera court ruled, stating:

The New York courts have applied the rule in the International News Service case in such a wide variety of circumstances as to leave no doubt of their recognition that the effort to profit from the labor, skill, expenditures, name and reputation of others which appears in this case constitutes unfair competition which will be enjoined.³⁰

Judge Learned Hand unsurprisingly dissented from the majority's ruling in the 1955 *Capitol Records v. Mercury Records* case, arguing that sound recordings should clearly be under the purview of the federal Copyright Act, but since they are not, there could be no infringement-style recovery from the defendants.³¹ Judge Hand also stated that the majority's grant of rights in the recordings threatened to create a perpetual monopoly in those recordings, contrary to the intentions and purposes of the Copyright Act and the intellectual property clause of the Constitution itself.³² Finally, Judge Hand asserted that national uniformity was one of the goals the framers of the Constitution had in mind in enacting the intellectual

25. *Capitol Records v. Mercury Records Corp.*, 221 F.2d 657 (2d Cir. 1955).

26. *Id.* at 663.

27. 101 N.Y.S.2d 483 (N.Y. Sup. Ct. 1950).

28. *Id.* at 492.

29. *Id.*

30. *Id.*

31. 221 F.2d at 664.

32. *Id.* at 667.

property clause, and the majority's decision to allow New York law to govern the plaintiff's rights in the recordings ran contrary to that goal, opening the door to massively inconsistent results across state jurisdictions.³³

In 1955, the same year as the *Capitol Records v. Mercury Records* decision, Congress instructed the U.S. Copyright Office to conduct studies in preparation for a comprehensive revision of federal copyright law, which would ultimately result in the Copyright Act of 1976.³⁴ Along the way, the Sound Recording Amendment of 1971 brought sound recordings under the umbrella of federal copyright protection for the first time.

C. THE SOUND RECORDING AMENDMENT OF 1971

In a 1957 study conducted pursuant to Congress's request, the U.S. Copyright Office's Barbara Ringer³⁵ described the state of common law protection for sound recordings in the context of unauthorized duplication.³⁶ While she found that there was "essentially no statutory protection for sound recordings in the United States" at that time, Ringer articulated potential state law bases for protection (described in Section I.B above) by drawing the very distinction between common law copyright and unfair competition that would play out decades later in the Turtles cases.³⁷ She noted that both theories provided for potentially unlimited duration of protection for the sound recording owner,³⁸ echoing the concerns Judge Learned Hand articulated in his *Capitol Records v. Mercury Records* dissent.

By the mid-1960s, much of the copyright revision had been ironed out, with the notable exception of how to handle jukebox operators. Sound recordings lay at the crux of this dilemma, with powerful broadcasting interests weighing against the enthusiastic advocacy of the Recording Industry Association of America, each focusing their fire primarily on whether or not to grant a public performance right in recordings.³⁹ The Register of Copyrights at that time, Abraham Kaminstein, offered a

33. *Id.*

34. WILLIAM F. PATRY, 1 PATRY ON COPYRIGHT § 1:72 (Mar. 2016 update).

35. Ringer was a major contributor to the development of the 1976 Act, and would later become the first woman to serve as the Register of Copyrights in the U.S. Copyright Office. *See* Barbara Ringer, U.S. COPYRIGHT OFFICE, <http://www.copyright.gov/about/registers/ringer/ringer.html> [<https://perma.cc/UWT5-VMMY>].

36. BARBARA RINGER, STUDY NO. 26, THE UNAUTHORIZED DUPLICATION OF SOUND RECORDINGS (1957), *reprinted in* 2 OMNIBUS COPYRIGHT REVISION LEGISLATIVE HISTORY, at ix (George S. Grossman ed., 2001).

37. *Id.* at 20.

38. *Id.*

39. *See, e.g.,* Dorothy Schraeder, *Sound Recordings: Protection under State Law and under the Recent Amendment to the Copyright Code*, 14 ARIZ. L. REV. 689, at 704–05 (1972).

statement during the September 1965 hearings on the copyright revision process, which sheds light upon the state of this contentious debate as it was playing out at that point.⁴⁰ He asserted that sound recordings should receive copyright protection, with rights of reproduction and distribution, but should not receive public performance rights. He viewed this as a necessary compromise. Kaminstein believed that the chances of enacting a new U.S. copyright law recognizing any right of public performance in sound recordings was “so remote as to be nonexistent.”⁴¹ He continued:

You have seen no towering wave of opposition to these proposals simply because there is a general feeling that they will not get anywhere; but, if genuine fears were to be aroused on this score, I am sure you would see a wave of protest that would be likely to tear this bill apart.⁴²

Kaminstein’s oracular pronouncement finds support in the contemporaneous testimony before Congress of powerful entities like the National Broadcasting Company, Inc. In a 1967 hearing on the copyright revision, NBC said of the potential public performance right in recordings: “Such a grant would be at the expense of all those entities, including broadcasting stations, that use sound recordings; and it would be to the great detriment of the public.”⁴³ In a 1966 House report on a proposed copyright revision bill, the Committee on the Judiciary said it was clear that any serious effort to amend the bill to recognize even a qualified right of public performance in sound recordings would be met with concerted opposition.⁴⁴ The committee wrote: “This conclusion in no way disparages the creativity and value of the contributions of performers and record producers to sound recordings, or forecloses the possibility of a full consideration of the question by a future Congress.”⁴⁵

Ultimately, the urgency of addressing the problem of rampant record piracy in the music industry convinced Congress to act faster to extend

40. *Copyright Law Revision: Hearing on H.R. 4347, H.R. 5680, H.R. 6831, H.R. 6835 Before the Subcomm. No. 3 of the Comm. on the Judiciary* (Sept. 2, 1965), reprinted in 7 OMNIBUS COPYRIGHT REVISION LEGISLATIVE HISTORY, at 1851 (George S. Grossman ed., 2001).

41. *Id.* at 1863.

42. *Id.*

43. *Copyright Law Revision: Hearing on S. 597 Before the Subcomm. on Patents, Trademarks, and Copyrights of the Comm. on the Judiciary* (1967), reprinted in 9 OMNIBUS COPYRIGHT REVISION LEGISLATIVE HISTORY, at 868 (George S. Grossman ed., 2001).

44. H.R. NO. 89-2237, reprinted in 11 OMNIBUS COPYRIGHT REVISION LEGISLATIVE HISTORY, at 94 (George S. Grossman ed., 2001).

45. *Id.*

federal protection to sound recordings.⁴⁶ This took place at the behest of the record industry, which was content to live without a public performance right because radio airplay provided such valuable promotion for record sales, the essence of the recording industry at that time.⁴⁷ The Sound Recording Amendment of 1971 extended a limited federal copyright to sound recordings going forward, and changed section 301 of the federal Copyright Act to read:

With respect to sound recordings fixed before February 15, 1972, any rights or remedies under the common law or statutes of any State shall not be annulled or limited by this title until February 15, 2067. The preemptive provisions of subsection (a) shall apply to any such rights and remedies pertaining to any cause of action arising from undertakings commenced on and after February 15, 2067. Notwithstanding the provisions of section 303, no sound recording fixed before February 15, 1972, shall be subject to copyright under this title before, on, or after February 15, 2067.⁴⁸

The House of Representatives report on the amendment contains little to no information about why Congress decided not to extend protection retroactively, apart from a single comment from Deputy Attorney General Richard G. Kleindienst, recognizing the ambiguity created by making the amendment solely forward-looking.⁴⁹ Some commentators have suggested that the exemption of preemption in § 301(c) was rooted in Department of Justice concerns that “preemption would abrogate state antipiracy laws, aggravating the growing piracy problem.”⁵⁰ Others have attributed this exemption primarily to intense lobbying efforts on the part of various music industry players with conflicting interests, especially broadcasters.⁵¹

46. See PATRY, *supra* note 34, at § 1.70.

47. See Steve Gordon & Anjana Puri, *The Current State of Pre-1972 Sound Recordings: Recent Federal Court Decisions in California and New York Against Sirius XM Have Broader Implications than Just Whether Satellite and Internet Radio Stations Must Pay for Pre-1972 Sound Recordings*, 4 N.Y.U. J. INTELL. PROP. & ENT. L. 336, 340–42 (2015).

48. 17 U.S.C. § 301(c) (2012).

49. Statement of the Office of the Deputy Attorney General (June 29, 1971), House Report on the Sound Recording Amendment of 1971, *reprinted in* MELVILLE B. NIMMER & DAVID NIMMER, 9 NIMMER ON COPYRIGHT Appendix 18 (Matthew Bender, rev. ed. 2015).

50. Elizabeth Townsend Gard & Erin Anapol, *Federalizing Pre-1972 Sound Recordings: An Analysis of the Current Debate*, 15 TUL. J. TECH. & INTELL. PROP. 123, 132 (2012).

51. See Schraeder, *supra* note 39, at 705 (“The recording industry wisely refrained from providing any significant target to possible opposition, and effectively isolated the admittedly unauthorized duplicators as the sole opposition.”); *see also* Gordon & Puri, *supra* note 47, at 341–42. *But see* Michael Erlinger Jr., *An Analog Solution in a Digital World*:

The amendment included various strict limitations on and exceptions to the newly created copyright in sound recordings. These included the conscious omission of any public performance right notwithstanding the grant of reproduction and distribution rights, and an allowance for broadcasters to make copies of copyrighted sound recordings for transmission.⁵²

In its 1973 *Goldstein v. California* decision, the U.S. Supreme Court affirmed the amendment's principle of state protection, ruling that absent further Congressional action on pre-1972 recordings, a California state law designed to combat record piracy could be enforced against acts of piracy that occurred prior to February 15, 1972.⁵³ The Court explicitly declined to apply the limits it laid out in a pair of landmark 1964 cases⁵⁴ on the preemption of state misappropriation and unfair competition law by the federal intellectual property statutory regime (via the Constitution's Supremacy Clause).⁵⁵

Congressional hearings following the 1971 amendment and the *Goldstein* case, in the immediate moment leading up to the enactment of the 1976 Act, reveal consternation about the dilemma created by the amendment's failure to extend federal protection retroactively. The Department of Justice offered testimony at a May 1975 hearing on the copyright revision on how to amend § 301 to preserve state law protection for pre-1972 recordings, expressing concern about the possibility that the revision would make it impossible to enforce existing record piracy statutes.⁵⁶ In a December 1975 hearing, Barbara Ringer (who was by then serving as the Register of Copyrights) acknowledged the Department of Justice's concerns and suggested that a date of preemption should be set in

Providing Federal Copyright Protection for Pre-1972 Sound Recordings, 16 UCLA ENT. L. REV. 45, 58 (2009) ("Tradition' and 'mistake' are the two strongest theories for the creation and survival of the pre-1972 distinction.").

52. See Schraeder, *supra* note 39, at 706–07.

53. 412 U.S. 546, 571 (1973).

54. See *Compco Corp. v. Day-Brite Lighting, Inc.*, 376 U.S. 234 (1964); *Sears, Roebuck & Co. v. Stiffel Co.*, 376 U.S. 225 (1964). These two cases concerned patent protection, but while the Court made clear in both that it intended its holdings on preemption to apply to federal copyright law as well, the *Goldstein* Court disclaimed the applicability of those decisions to creative works not covered by the federal copyright statute.

55. *Goldstein*, 412 U.S. at 569–70.

56. *Copyright Law Revision: Hearing on H.R. 2223 Before the H. Subcomm. on Courts, Civil Liberties, and the Admin. of Justice of the Comm. of the Judiciary* (May 8, 1975), reprinted in 14 OMNIBUS COPYRIGHT REVISION LEGISLATIVE HISTORY 119, at 138 (George S. Grossman ed., 2001).

2047 for the expiration of all protection for pre-1972 recordings, to avoid the possibility of a perpetual monopoly.⁵⁷

In the wake of the 1971 amendment, some states, like California, enacted statutes to explicitly protect pre-1972 recordings, while others, like New York, relied on existing common law doctrine.⁵⁸ The merits of—and problems with—each of these approaches can be seen clearly in the context of the current cases on appeal.

II. THE TURTLES CASES ON APPEAL

The three Turtles-related federal district court decisions that are currently on appeal to their respective circuits provide a useful vantage point on the pros and cons of the varying approaches to state law sound recording protection. These approaches are now more relevant than ever, thanks to changing economic and technological forces that have freshly unearthed the issue of pre-1972 recording rights decades after the recordings were made. The California court's decision in favor of Flo & Eddie correctly found liability for use of the Turtles' recordings based on unfair competition, misappropriation, and conversion.⁵⁹ However, the state statutory framework that exists in California is an insufficient solution to the issue, especially where other states and nationwide use of recordings are concerned. The New York court was similarly correct in its decision in favor of Flo & Eddie, but nevertheless, common law copyright is also an insufficient ground to establish broad-based, consistent protection for pre-1972 recordings.⁶⁰ Finally, the Florida court incorrectly threw out Flo & Eddie's unfair competition, misappropriation, and conversion claims on the basis of the vacuum of precedent in Florida law, which recognizes neither statutory ownership rights nor common law copyright in pre-1972 recordings.⁶¹

A. THE CURRENT CASES HAVE ARISEN FROM ECONOMIC AND TECHNOLOGICAL CHANGES IN THE INDUSTRY

The gap of over forty years between the enactment of the Sound Recording Amendment of 1971 and the rash of lawsuits Flo & Eddie have

57. *Copyright Law Revision: Hearing Before the H. Subcomm. on Courts, Civil Liberties, and the Admin. of Justice of the Comm. of the Judiciary* (Dec. 4, 1975), reprinted in 16 OMNIBUS COPYRIGHT REVISION LEGISLATIVE HISTORY 1901, at 1901 (George S. Grossman ed., 2001). This date of expiration was ultimately set to 2067 in the final version of the statute that passed into law. See 17 U.S.C. §301(c) (2012).

58. See, e.g., Cal. Civ. Code § 980(a)(2).

59. See *infra* Section II.B.

60. See *infra* Section II.C.

61. See *infra* Section II.D.

filed in the last few years begs the question: Why has it taken so long for the courts to take up the issue of state law protection for pre-1972 recordings? Have pre-1972 sound recording owners simply been sleeping on their rights for decades, only to awaken in a drastically changed musical landscape like a litigious Rip Van Winkle, their long-dormant rights surging from the grave like “zombie copyrights,” as Pandora has labeled them?⁶² The answer lies in examining: (1) who owns pre-1972 recordings; (2) who stands to benefit from their use; and (3) what ultimately makes these (or any) recordings valuable in the Internet era.

First, in terms of ownership, Flo & Eddie represent the rare example of pre-1972 recording artists who actually own their master recordings. The Turtles’ career was emblematic of the dishonest practices endemic in the recording industry in the mid-twentieth century, with the band losing out in unfavorable recording and management agreements many times over.⁶³ However, they later made the prescient decision to obtain the rights to their own masters, as few artists of that era have managed to do.⁶⁴ The vast majority of pre-1972 sound recordings are owned by the three major record labels, which have by and large opted to settle their potential claims over the performance of those recordings rather than litigate over murky rights that may or may not exist.⁶⁵

Second, the parties who benefit from using pre-1972 recordings without restriction include both digital and traditional broadcasters.⁶⁶ Traditional broadcasters have not been hit with lawsuits like those against Pandora and Sirius XM because the public performance right in sound recordings has historically applied only to digital audio transmissions, and not terrestrial radio.⁶⁷ But the recent rulings in favor of Flo & Eddie open up the possibility that state law, at least in artist-friendly jurisdictions like California and New York, could provide for a general public performance right in pre-1972 recordings that does not exist in federal law (or at least not yet). This has raised the stakes significantly for many of the parties involved, on both the rights holder and distributor sides of the equation:

62. Brief for Appellant at 2, *Flo & Eddie, Inc. v. Pandora Media, Inc.*, No. 15-55287 (9th Cir. Sept. 2, 2015) [hereinafter Brief for Pandora].

63. See Chris Casady, *Turtles*, YOUTUBE (June 12, 2006), <https://www.youtube.com/watch?v=5JHN5HaUg28> [<https://perma.cc/28BG-VCQV>].

64. See Flo & Eddie, *supra* note 1, at 330–31; see also Flo & Eddie, *supra* note 2, at *11.

65. See, e.g., Donahue, *supra* note 4.

66. While libraries and archives seeking to preserve such recordings for posterity also figure into the overall pre-1972 calculus, their activities have little or no bearing on the disputes on appeal.

67. See Gordon & Puri, *supra* note 47, at 341–42.

broadcast radio has historically never had to pay for the use of sound recordings at all, whether pre- or post-1972.⁶⁸

Third, and most importantly, the landscape of media consumption in the Internet era has dramatically changed the relative values of the exclusive rights in the copyright bundle. The reproduction and distribution rights once reigned paramount in a world where the sale of physical copies of recordings formed the backbone of the music industry. In the wake of the cataclysmic collapse of record sales over the last fifteen years—thanks to Napster and its progeny, and the even more recent rise of streaming services as the fastest-growing mode of music consumption (which many see as the future of the industry)—the public performance right has become the most valuable right in the domain of music copyright.⁶⁹ Record companies were once content to live without a public performance right, given that they viewed broadcast radio primarily as a deeply valuable means of promotion to encourage record sales.⁷⁰ Today, however, steam is building in Congress and elsewhere to implement a full public performance right in sound recordings that would sweep in traditional broadcasters as well as digital-only services.⁷¹ The stage has thus been set for a proxy war in a greater restructuring of the music industry to account for the ways the Internet has changed music consumption (or for a paroxysm of an emaciated business model in its death throes, depending on who you ask).

B. THE CALIFORNIA CASE AND THE PROS AND CONS OF STATE STATUTORY PROTECTION

In 1982 California amended its state statute protecting artistic and literary works to provide:

The author of an original work of authorship consisting of a sound recording initially fixed prior to February 15, 1972, has an exclusive ownership therein until February 15, 2047, as against all persons except one who independently makes or duplicates another sound recording that does not directly or indirectly recapture the actual sounds fixed in such prior sound recording, but consists entirely of an independent fixation of other sounds,

68. *Id.*

69. *See, e.g.*, STEPHEN WITT, HOW MUSIC GOT FREE: THE END OF AN INDUSTRY, THE TURN OF THE CENTURY, AND THE PATIENT ZERO OF PIRACY 260–61 (2015); *see also* MURPHY, *supra* note 8, at 342–47.

70. Indeed, as the mid-twentieth century payola scandals vividly demonstrated, record labels were once so desperate for radio airplay for their songs that they were willing to pay broadcasters handsomely to obtain it. *See* Gordon & Puri, *supra* note 47, at 340–41.

71. *See infra* Part III.

even though such sounds imitate or simulate the sounds contained in the prior sound recording.⁷²

Prior to the 1982 amendment, California courts protected against the unauthorized reproduction and distribution of sound recordings primarily on the basis of conversion.⁷³ In one representative case applying section 980(a)(2), a California federal court found a website owner liable to Capitol Records, LLC for misappropriation, unfair competition, and conversion in reproducing and selling pre-1972 sound recordings.⁷⁴ BlueBeat, the website owner, did not dispute that it reproduced, sold, and publicly performed the pre-1972 recordings (as well as post-1972 recordings covered by the federal act) without proper authorization, and those actions sufficed to find BlueBeat liable for all three state law tort claims, with the misappropriation claim directly based on its violation of section 980(a)(2), the court ruled.⁷⁵

The Central District of California found in favor of the Turtles' business entity Flo & Eddie in its case against Sirius XM in September 2014 based on ownership rights established under section 980(a)(2).⁷⁶ The court indicated that the crucial point of statutory interpretation for the case was whether exclusive ownership of a sound recording under California law implies an exclusive public performance right akin to that enshrined in the federal Copyright Act.⁷⁷ The court found that the California legislature intended via section 980(a)(2) to have ownership of a pre-1972 sound recording in California "include all rights that can attach to intellectual property," except for a single statutory exception for recording covers of such a sound recording.⁷⁸ The court ruled that this bundle of rights necessarily includes the exclusive right to public performance, despite the federal act's lack of a full public performance right for sound recordings.⁷⁹ Accordingly, the court granted summary judgment to Flo & Eddie on its copyright infringement claim as to public performance of the recordings at issue.⁸⁰

72. Cal. Civ. Code § 980(a)(2).

73. MELVILLE B. NIMMER & DAVID NIMMER, 2 NIMMER ON COPYRIGHT § 8C.03[C] (Matthew Bender, rev. ed. 2015).

74. Capitol Records, LLC v. BlueBeat, Inc., 765 F. Supp. 2d 1198 (C.D. Cal. 2010).

75. *Id.* at 1205–06.

76. Flo & Eddie Inc. v. Sirius XM Radio Inc., No. CV 13-5693 PSG (RZx), 2014 WL 4725382, at *4 (C.D. Cal. 2014).

77. *Id.*

78. *Id.* at *5.

79. *Id.* at *6.

80. *Id.* at *9.

The court denied Flo & Eddie summary judgment on its claim that Sirius XM violated its reproduction right in the sound recordings.⁸¹ However, the court also found in favor of Flo & Eddie on its claims for violations of California's Unfair Competition Law (UCL), conversion, and misappropriation.⁸² Borrowing from the finding of a violation of section 980(a)(2), the court found that Sirius XM's unlawful conduct also constituted a violation of the UCL.⁸³ The court also found that Sirius XM's unauthorized performances alone establish conversion damages in the form of license fees that Sirius XM should have paid Flo & Eddie in order to publicly perform its recordings.⁸⁴ The court noted that the federal Copyright Act preempts much of California misappropriation law in the realm of intellectual property, but found that preemption is not at issue here because the act explicitly leaves protection of pre-1972 sound recordings entirely up to the states until 2067.⁸⁵ Accordingly, the court ruled that the same grounds justifying Flo & Eddie's unfair competition and conversion claims give rise to a valid misappropriation claim, since at a minimum, Flo & Eddie was injured by Sirius XM's conduct in the form of licensing or royalty payments that Sirius XM should have paid for publicly performing Flo & Eddie's recordings.⁸⁶

The advantages of state statutory protection include clear guidance and notice to users of pre-1972 recordings, based on Congress's express authorization in the 1971 amendment. Disadvantages, however, include the paucity of actual statutes on the books in other states, giving rise to potential inconsistency in decisions involving the same recordings across state lines. Additionally, the text of section 980(a)(2) makes no reference to copyright, referring instead to "exclusive ownership" in recordings, leaving ambiguity as to the scope of the purported ownership rights.⁸⁷ The absence of the term "copyright" in the statute may also lead to conflicts with states like New York that protect pre-1972 recordings on the basis of a common law copyright.

81. *Id.* at *10.

82. *Id.* at *11.

83. *Id.*

84. *Id.*

85. *Id.*

86. *Id.*

87. Cal. Civ. Code § 980(a)(2).

C. THE NEW YORK CASE AND THE PROS AND CONS OF STATE
COMMON LAW COPYRIGHT PROTECTION

In 2005 the Court of Appeals of New York issued a lengthy opinion on the history of state common law copyright in New York for works not protected under the federal statute, specifically in the context of sound recordings.⁸⁸ The court found that musical recordings created before 1972 were entitled to copyright protection under New York common law until the 2067 effective date of federal preemption outlined in § 301 of the federal act.⁸⁹ The court also held that the causes of action Capitol Records asserted for copyright infringement and unfair competition can coexist under New York law.⁹⁰ Accordingly, the defendant Naxos of America could not escape Capitol's claim for infringement of common law copyright in the pre-1972 recordings at issue, the court said.⁹¹ Naxos has become enormously influential in the current Turtles disputes. As Professor Nimmer wrote, "This decision, the first in decades in which a state's high court canvasses the terrain of continuing protection within its borders for sound recordings, robustly reaffirms protection. Other state courts can be anticipated to think long and hard before rejecting such protection within their own domains."⁹²

In the Turtles' current New York case, the Southern District of New York found in favor of Flo & Eddie against Sirius XM in rulings in November 2014⁹³ and January 2015.⁹⁴ The district court based its analysis on a common law copyright theory rather than an explicit state statute like the one on the books in California.⁹⁵ The district court extensively cited the seminal 2005 Naxos decision and strongly reaffirmed the right to common law copyright in New York.⁹⁶ The district court rejected a range of public policy arguments Sirius advanced in support of its position. The court stated:

Sirius may well be correct that a legislative solution would be best. But the common law, while a creature of the courts, exists to protect the property rights of the citizenry. And courts are hardly

88. Capitol Records, Inc. v. Naxos of Am., Inc., 830 N.E.2d 250, 263–64 (N.Y. 2005).

89. *Id.*

90. *Id.* at 266.

91. *Id.* at 267.

92. NIMMER, *supra* note 73, § 8C.03[D].

93. Flo & Eddie Inc. v. Sirius XM Radio Inc., 62 F. Supp. 3d 325 (S.D.N.Y. 2014).

94. Flo & Eddie Inc. v. Sirius XM Radio Inc., 80 F. Supp. 3d 535 (S.D.N.Y. 2015).

95. *Flo & Eddie*, 62 F. Supp. 3d at 338–40.

96. *See id.*

powerless to craft the sort of exceptions and limitations Congress has created, or to create a mechanism for administering royalties.⁹⁷

The court pointed to the ASCAP and BMI consent decrees that govern musical composition licensing as an example of a judicially fashioned royalty scheme.⁹⁸

The court made a strong case for the existence of common law copyright in New York absent any statute comparable to California Civil Code § 980(a)(2). The court said:

In short, general principles of common law copyright dictate that public performance rights in pre-1972 sound recordings do exist. New York has always protected public performance rights in works other than sound recordings that enjoy the protection of common law copyright. Sirius suggests no reason why New York—a state traditionally protective of performers and performance rights—would treat sound recordings differently.⁹⁹

The court also found for Flo & Eddie on their common law claim of unfair competition based on misappropriation.¹⁰⁰ The court ruled that public performance is a form of distribution of the recordings that can give rise to a misappropriation claim, and the existence of actual competition between the parties is no longer required to sustain a misappropriation claim.¹⁰¹

In February 2015 the district court certified an interlocutory appeal on the common law copyright issue to the Second Circuit, which agreed in April 2015 to take the appeal.¹⁰² The question certified was whether, under New York law, the holders of common law copyrights in pre-1972 sound recordings have, as part of the bundle of rights attached to that common law copyright, the right to exclusive public performance of the recordings.¹⁰³

97. *Id.* at 344.

98. *Id.*

99. *Id.*

100. *Id.* at 349.

101. *Id.*

102. *Flo & Eddie Inc. v. Sirius XM Radio Inc.*, No. 15-1164 (2d Cir. 2015).

103. *Flo & Eddie Inc. v. Sirius XM Radio Inc.*, No. 13 Civ. 5784 (CM), 2015 WL 585641 (S.D.N.Y. 2015). In April 2016, as this Note was going to press, the Second Circuit itself in turn certified the district court's question to the New York Court of Appeals, stating "[T]his question is important, its answer is unclear, and its resolution controls the present appeal . . ." *Flo & Eddie, Inc. v. Sirius XM Radio, Inc.*, No. 15-1164, 2016 WL 1445100 (2d Cir. 2016) at *1.

D. THE FLORIDA CASE

Meanwhile, despite Flo & Eddie's previous wins in California and New York, the Southern District of Florida in June 2015 granted summary judgment to Sirius XM on the Turtles' claims, ruling that there is no common law copyright in Florida.¹⁰⁴ The court found that whereas California and New York have statutes or well-developed case law addressing property rights in artistic creations, Florida does not.¹⁰⁵ The district court found that neither Florida legislation nor case law could answer whether there is a common law copyright in the state that includes an exclusive right of public performance.¹⁰⁶ The court stated that finding in favor of Flo & Eddie would create a new property right in Florida as opposed to interpreting the law.¹⁰⁷ The court said the issue of whether copyright protection for pre-1972 recordings should include the exclusive right to public performance would be more properly addressed to the Florida legislature.¹⁰⁸ The court further ruled that Flo & Eddie's claims for unfair competition, conversion, and civil theft were all based on its alleged common law copyright, and because Sirius did not infringe any of Flo & Eddie's nonexistent copyrights, those claims were necessarily without merit.¹⁰⁹ Flo & Eddie appealed the district court's decision to the Eleventh Circuit in July 2015.¹¹⁰

As these three divergent cases illustrate, the question of what to do about pre-1972 sound recordings has understandably generated much hand-wringing as well as some well-meaning but as yet unrealized congressional attempts to harmonize the sound recording copyright regime.

III. POTENTIAL LEGISLATIVE SOLUTIONS

Congress and the U.S. Copyright Office both believe that federalizing pre-1972 recording protection should be made a priority, and several bills have been advanced in recent years that would have dealt with the situation. These efforts, if successful, would be the best solution to the pre-1972 issue, but the failure of both recent bills and the lack of motion in the current

104. Flo & Eddie, Inc. v. Sirius XM Radio, Inc., No. 13-23182-CIV, 2015 WL 3852692 (S.D. Fla. 2015).

105. *Id.* at 4.

106. *Id.*

107. *Id.* at 5.

108. *Id.*

109. *Id.* at 6.

110. Flo & Eddie Inc. v. Sirius XM Radio Inc., No. 15-13100 (11th Cir. 2015).

Congress are strong evidence that no federal solution will be forthcoming in the near future.

A. THE COPYRIGHT OFFICE REPORT AND RECOMMENDATIONS OF DECEMBER 2011

In 2011 the Copyright Office issued a report on federal protection for pre-1972 sound recordings at the request of Congress and ultimately recommended that Congress should bring these recordings under the federal Copyright Act.¹¹¹ The report stated that federalization would also be in the best interests of libraries and archives “in preserving old sound recordings and in increasing the availability to the public of old sound recordings.”¹¹²

Bringing pre-1972 recordings under the federal act has thus become an administrative and legislative priority, sparking two notable Congressional efforts in the last few years to provide some measure of federal protection.

B. RECENT PROPOSED FEDERAL LEGISLATION

The 2014 Respecting Senior Performers as Essential Cultural Treasures Act bill (RESPECT Act), which did not pass into law, would have required that royalties be paid for public performances of pre-1972 recordings under all existing statutory licenses as well as for reproductions of the same, and limited the civil remedy for not doing so to payment of royalties owed.¹¹³ The bill would have barred infringement actions for any alleged public performance right violations that occurred in the context of a statutory licensing scheme (applying the same standards and schemes that govern post-1972 recording licensing to pre-1972 recordings) in which royalties were in fact paid.¹¹⁴ However, the bill would not have extended the full suite of copyright protection to such recordings. It contained an explicit clause stating:

This subparagraph does not confer copyright protection under this title upon sound recordings that were fixed before February 15, 1972. Such sound recordings are subject to the protection available under the laws of the States, and except as provided in clause (iii),

111. U.S. COPYRIGHT OFFICE, FEDERAL COPYRIGHT PROTECTION FOR PRE-1972 SOUND RECORDINGS (2011) [hereinafter COPYRIGHT OFFICE REPORT].

112. *Id.* at viii. The recommendations also included numerous provisions to address copyright ownership, terms of protection, termination of transfers, and copyright registration, but those provisions are not as central to the concerns of this Note.

113. H.R. 4772, 113th Cong. (2014).

114. *Id.* at § 2(iii).

are not subject to any limitation of rights or remedies, or any defense, provided under this title.¹¹⁵

The 2015 sound recording copyright reform bill, introduced in the House of Representatives as the Fair Play Fair Pay Act, takes a more complex and expansive approach than the RESPECT Act did to both the issue of federalization for pre-1972 recordings and the sound recording public performance right at large.¹¹⁶ Section 7 of the Fair Play Fair Pay Act essentially co-opts the entirety of the language of the 2014 RESPECT Act's section 2, requiring payment of performance royalties for sound recordings fixed before 1972 in the same manner as royalties for sound recordings fixed after that date.¹¹⁷ The Copyright Royalty Board would be tasked with ensuring parity in licensing rates and terms across all music distribution platforms, while retaining distinctions between the different types of distribution services currently in operation.

Most notably, though, the Fair Play Fair Pay Act would extend a sound recording copyright owner's rights to include an exclusive public performance right by means of any audio transmission.¹¹⁸ This would (for the first time in the history of recorded music) require terrestrial AM/FM broadcast radio stations that play copyrighted sound recordings to pay royalties for their non-digital audio transmissions of the recordings.

Unfortunately, the lack of any productive motion or initiative in the current Congress on any issues, let alone on copyright and sound recordings, renders unrealistic any expectation that a reform effort specifically targeted at sound recordings could pass into law anytime soon. The prospects for a comprehensive copyright reform effort are even bleaker. In the meantime, courts must figure out how to address this thorny issue.

IV. TOWARD A COMMON LAW SOLUTION

Unfair competition and misappropriation law are the best ways to protect owners of pre-1972 sound recordings from unauthorized use of those recordings, in the absence of federal action. The International News Service case provides a valuable set of first principles for the legal and philosophical structure of this doctrine. The historical unauthorized broadcast and record piracy cases demonstrate the utility of this doctrine in practical terms. The key underlying goal of using this tort doctrine to protect pre-1972 recordings is to compensate recording owners, not exclude

115. *Id.* at § 2(iv).

116. H.R. 1733, 114th Cong. (2015).

117. *Id.* at § 7.

118. *Id.* at §§ 2(b), (c).

others from using those recordings entirely. Using unfair competition and misappropriation law to solve the problem of what to do with pre-1972 sound recordings is not a perfect solution, but remains the best of a far-from-ideal set of judicial options.

A. THE RELEVANCE OF *INTERNATIONAL NEWS SERVICE V. ASSOCIATED PRESS* IN THE TWENTY-FIRST CENTURY

The International News Service misappropriation case remains a vital touchstone in understanding how to manage rights in intangible products of human creativity and industriousness that are not covered by the federal statutory intellectual property regime.¹¹⁹ While the decision itself is no longer good law in the wake of *Erie Railroad Co. v. Tompkins*,¹²⁰ which dismantled the general federal common law, it was nevertheless massively influential on state courts' development of state misappropriation common law well beyond Erie. International News Service can thus provide a set of first principles for how states can apply misappropriation law in realms that are not (as of yet) preempted by the federal Copyright Act.

The International News Service court considered the news material at issue to be both the plaintiff and the defendants' "stock in trade, to be gathered at the cost of enterprise, organization, skill, labor, and money, and to be distributed and sold to those who will pay money for it, as for any other merchandise."¹²¹ The court ruled:

[I]f that which complainant has acquired fairly at substantial cost may be sold fairly at substantial profit, a competitor who is misappropriating it for the purpose of disposing of it to his own profit and to the disadvantage of complainant cannot be heard to say that it is too fugitive or evanescent to be regarded as property. It has all the attributes of property necessary for determining that a misappropriation of it by a competitor is unfair competition¹²²

Similarly here, in the context of sound recordings, the digital radio defendants in the Flo & Eddie cases have been appropriating the fruits of the Turtles' labor, skill, time, and money to their own economic advantage, at the disadvantage of the sound recording creators/owners. This type of conduct has been the core of the tort of unfair competition and misappropriation for nearly one hundred years, and the doctrine remains both robust enough at the state level and flexible enough in practice to provide a remedy for the unauthorized use of pre-1972 sound recordings.

119. 248 U.S. 215 (1918).

120. 304 U.S. 64 (1938).

121. *International News Service*, 248 U.S. at 236.

122. *Id.* at 240.

B. REVISITING THE RECORD PIRACY AND UNAUTHORIZED BROADCAST CASES

Cases such as the *Waring v. WDAS* unauthorized broadcast decision in Pennsylvania preceding the Sound Recording Amendment of 1971 and the Supreme Court's *Goldstein v. California* record piracy decision immediately following the enactment of the amendment should provide important guideposts to the circuit courts currently tackling the issue of pre-1972 recordings. The recent district court decisions in the Flo & Eddie cases in California and New York rely too heavily on the framework of the federal copyright bundle of rights in recordings, judicially creating a previously nonexistent public performance right allowing infringement claims that can only really be enshrined in law by legislative action. The unauthorized broadcast and record piracy cases, on the other hand, offer a path forward based on traditional common law doctrine that is more limited than copyright infringement but, for that very reason, would be superior to judicially extending the full suite of copyright benefits to pre-1972 recordings.

The continuing relevance and usefulness of state unfair competition and misappropriation law in the realm of sound recordings becomes even clearer in post-Sound Recording Amendment cases such as *A & M Records, Inc. v. Heilman*.¹²³ In that case, the defendant freely admitted that he duplicated performances owned by the plaintiff without authorization in order to resell them for profit.¹²⁴ The court found that this conduct was inarguably unfair competition, saying: "This conduct presents a classic example of the unfair business practice of misappropriation of the valuable efforts of another."¹²⁵

In the more recent *Capitol Records, LLC v. BlueBeat, Inc.* case,¹²⁶ the court laid out a three-factor test for a successful California state law misappropriation claim: the plaintiff must have invested substantial time and money in development of its property, the defendant must have appropriated that property at little or no cost, and the plaintiff must have been injured by the defendant's conduct.¹²⁷ The court similarly defined the essence of an unfair competition claim under the California Business and Professions Code (as opposed to relying solely on the section 980(a)(2) pre-1972 recording ownership statute) as including any "unlawful, unfair or

123. 75 Cal. App. 3d 554 (1977).

124. *Id.* at 564.

125. *Id.*

126. 765 F. Supp. 2d 1198 (C.D. Cal. 2010).

127. *Id.* at 1205.

fraudulent business act or practice.”¹²⁸ Finally, the court stated that to succeed on a state law conversion claim, a plaintiff must show “ownership or right to possession of property, wrongful disposition of the property right and damages.”¹²⁹ These definitions carried the day for the sound recording owner plaintiffs in this case, and will continue to serve as valuable touchstones for courts in California and elsewhere considering unfair competition, misappropriation, and conversion claims regarding pre-1972 recordings.

C. LIABILITY RULES VERSUS PROPERTY RULES

Courts seeking to resolve these disputes should look to liability rules rather than property rules; the right to be compensated must trump the right to exclude. Misappropriation, unfair competition, and conversion law offer a potential liability rule more limited in its possible remedies than infringement (which is based on the right to exclude), and this is a good thing. Remedies under these doctrines for unauthorized use of recordings can be more appropriately tailored to the specific circumstances of each case, depending on what the unauthorized use of the recording may be and whether it is done for profit. The variances in state laws would also be easier for all parties to navigate if liability was based on common law misappropriation rather than common law copyright infringement, because nearly every state recognizes the related torts of misappropriation and unfair competition.¹³⁰ These tort doctrines are applied far more consistently across the different states than state law copyright.

The Copyright Office’s 2011 report on pre-1972 recordings offers valuable insight into how courts across many jurisdictions have adapted unfair competition and misappropriation to provide protection for these recordings without directly implicating copyright law.¹³¹ Historically, the tort of unfair competition involved three elements: the parties had to act in competition with each other, the defendant must have “appropriated a business asset that plaintiff had acquired by the investment of skill, money, time and effort,” and the defendant must have falsely “passed off” its product as the plaintiff’s.¹³² Over time, though, drawing in large part on the logic of the International News Service case, courts considering the tort in the context of sound recordings generally rolled back the requirement of passing

128. *Id.*

129. *Id.*

130. COPYRIGHT OFFICE REPORT, *supra* note 111, at 40.

131. *Id.* at 35.

132. *Id.* at 35–36.

off, and some also eliminated the requirement of actual competition between the parties, leaving misappropriation as the core of the tort.¹³³ Accordingly, some courts refer to the tort as unfair competition, and some simply as misappropriation, while some states recognize both as distinct independent torts. The Copyright Office ultimately concluded: “Not all states have civil statutes or reported cases dealing specifically with the unauthorized use of sound recordings, but states generally recognize unfair competition torts, so presumably a cause of action could lie in appropriate circumstances.”¹³⁴

Potential drawbacks of applying this tort doctrine include the unpredictability of a purely tort-based regime, the potential for increased litigation compared to a statutory licensing scheme, and persistent problematic differences in the laws of different states. All of these issues, however, are less damaging to long-held expectations and new business models than having courts extend new state-by-state versions of formal copyright protection in the absence of legislative action.

V. CONCLUSION

The federal Copyright Act provides: “With respect to sound recordings fixed before February 15, 1972, any rights or remedies under the common law or statutes of any State shall not be annulled or limited by this title until February 15, 2067.”¹³⁵ This wording explicitly leaves the door open for theories such as those that succeeded in the Turtles’ California and New York cases, while imposing a hard cutoff date to avoid the potential for perpetual monopoly. If the decisions in favor of Flo & Eddie are upheld on appeal, two scholars wrote, they could ignite “a revolution in music licensing in the United States by resulting in terrestrial radio stations paying for the performance of any sound recording for the first time in the history of the U.S.”¹³⁶

Beyond terrestrial radio, any venue that plays sound recordings, such as a nightclub, could be potentially affected by the expansion of this public performance right.¹³⁷ Federalizing protection for pre-1972 recordings could also potentially raise constitutional due process and Fifth Amendment

133. *Id.* at 36.

134. *Id.* at 40.

135. 17 U.S.C. § 301(c) (2012).

136. Gordon & Puri, *supra* note 47, at 358.

137. *Id.*

takings issues.¹³⁸ The assertion of public performance rights based on a mishmash of state statutes and common law theories, meanwhile, threatens to create a regime of “zombie copyrights” that could result in an industry-crushing awakening of hundreds of millions of dollars in potential unpaid royalties for rights that were previously thought to have been extinguished, as Pandora has argued in its opening brief in the Ninth Circuit.¹³⁹ Historically, a pre-1972 sound recording lost its California copyright protection when it was “published,” meaning distributed in commerce with the rights holder’s permission, according to Pandora.¹⁴⁰

In the current cases, the questions of how to proceed in the here and now, under existing state law, remain paramount above the possibility of the extension of federal protection. Accordingly, the three appellate courts considering the issue of whether state statutory or common law copyright protection extends to pre-1972 sound recordings should find that absent such federal protection, applying the traditional framework of copyright law on a state-by-state basis is inadequate to manage the ownership rights that should still be recognized in such recordings. Courts historically expanded the torts of misappropriation, unfair competition, and conversion in the context of sound recordings to provide a way of dealing with record piracy in the absence of copyright protection, in the years both before and after the Sound Recording Amendment of 1971 passed.¹⁴¹ Courts have long used these doctrines to address unauthorized use of pre-1972 recordings, and they remain a vital, flexible tool in the judicial arsenal. Utilizing these three tort doctrines offers a sensible judicial solution while federal protection is considered in Congress.¹⁴² Beyond that, cases relying on this tort doctrine could even provide a potential framework for repurposing familiar principles of liability rules as a supplement to copyright law in general, given the difficulty of applying the traditional bundle of copyright rights to both recordings and other types of works in the context of the Internet.

138. See generally Eva Subotnik & June Besek, *Constitutional Obstacles? Reconsidering Copyright Protection for Pre-1972 Sound Recordings*, 37 COLUM. J.L. & ARTS 327 (2014).

139. Brief for Pandora, *supra* note 62, at 2.

140. *Id.* at 1.

141. See generally NIMMER, *supra* note 73, § 8C.03[B]; *Goldstein v. California*, 412 U.S. 546 (1973); Donald Marcucci, *Sound Recordings’ Copyright: The Disc Dilemma*, 36 U. PITT. L. REV. 887 (1975); Schrader, *supra* note 39.

142. See Fair Play Fair Pay Act of 2015, H.R. 1733, 114th Cong. (2015) (introduced April 13, 2015); see also Respecting Senior Performers as Essential Cultural Treasures Act, H.R. 4772, 113th Cong. (2014) (introduced May 29, 2014).

GARCIA V. GOOGLE: AUTHORSHIP IN COPYRIGHT

Diana C. Obradovich[†]

While so many people contribute creatively to a film, only a small portion can legally claim a copyright in their work, and an even smaller portion can claim a copyright in the finished film. If every single actor, director, and set designer had an independent copyright in his or her contribution to a film, the film industry could be left in disarray. By default, each film would be made up of dozens, if not hundreds, of copyright owners.¹ And each individual copyright owner could halt distribution of an entire film, no matter how small of role he or she plays in creating the final work.

This Note focuses on the implications of the Ninth Circuit's recent decision in *Garcia v. Google*, and in particular which contributors to an integrated work can claim copyright in that work. While *Garcia*, and a Second Circuit opinion that relies on it, expand copyright ownership jurisprudence to new factual situations, the decisions do not substantially change copyright ownership doctrine.² In *Garcia v. Google*, the Ninth Circuit held that an actress who appeared for only five seconds in a film had no copyright interest in her performance within the film.³ The Second Circuit quickly followed *Garcia* in *16 Casa Duse v. Merkin*,⁴ finding that a director could not claim a copyright in his direction separate and apart from the film itself.⁵

Part I of this Note reviews copyright jurisprudence and introduces case law relevant to copyright ownership. Part II discusses the *Garcia v. Google*

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1. Anthony Dreyer et al., *Garcia v. Google: Implications of the Ninth Circuit's Proposal That Actors Have Independent Copyrights in Their Own Performances*, BLOOMBERG L. (Apr. 9, 2014), <http://www.bna.com/garcia-google-implications-n17179889476> [<https://perma.cc/X6X8-7F5E>].

2. The *Garcia v. Google* decision also had a strong impact on (and spawned controversy over) First Amendment implications of granting or denying the preliminary injunction, but this Note will not address those implications.

3. *Garcia v. Google, Inc.*, 786 F.3d 733 (9th Cir. 2015) (en banc).

4. 791 F.3d 247 (2d Cir. 2015). *16 Casa Duse, LLC v. Merkin* was released on June 29, 2015. The *Garcia* opinion was released on May 18, 2015.

5. *Casa Duse*, 791 F.3d at 254.

decision, as well as the Second Circuit's *16 Casa Duse v. Merkin* decision, which relied heavily on *Garcia*. In Part III, this Note examines the effects of these recent decisions on copyright ownership jurisprudence. Finally, Part IV examines the practical implications of these decisions on the entertainment industry.

I. COPYRIGHT OWNERSHIP JURISPRUDENCE BEFORE *GARCIA*

Copyright protection originated as a right granted in the United States Constitution, which Congress codified in the Copyright Act.⁶ Since then, Congress has amended the Copyright Act numerous times to account for changing technologies and the novel opportunities and challenges they pose to authors.⁷ In particular, the movie industry has had its own impact on copyright law as it exists today.

A. HISTORY AND DEVELOPMENT OF COPYRIGHT

The United States Constitution grants Congress the power “[t]o promote the Progress of Science and useful Arts, by securing for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries.”⁸ Under that grant of power, Congress implemented the Copyright Act of 1790.⁹ At that time, the Act granted copyright protection to only maps, charts, and books printed in the United States.¹⁰ Authors were accorded the “sole right and liberty of printing, reprinting, publishing and vending” of their works for a period of fourteen years, with the ability to renew for another fourteen years.¹¹

The first key revision to the Copyright Act came in 1831, when Congress extended the term of copyright protection to twenty-eight years, with the opportunity to renew that protection for another fourteen years.¹² Between 1831 and 1865, Congress added musical compositions,¹³ dramatic

6. Act of May 31, 1790, ch. 15, 1 Stat. 124.

7. See 1-OV MELVILLE B. NIMMER & DAVID NIMMER, NIMMER ON COPYRIGHT (2015).

8. U.S. CONST. art. I, § 8, cl. 8.

9. Act of May 31, 1790, ch. 15, 1 Stat. 124. For a history of the beginnings of copyright law in the United States, see SIVA VAIDHYANATHAN, COPYRIGHTS AND COPYWRONGS: THE RISE OF INTELLECTUAL PROPERTY AND HOW IT THREATENS CREATIVITY 43–47 (2001).

10. Act of May 31, 1790, ch. 15, 1 Stat. 124.

11. *Id.*

12. Copyright Act of 1831, 4 Stat. 436.

13. *Id.*

compositions,¹⁴ and photographs and their negatives¹⁵ to the list of copyrightable materials. In 1870, the Copyright Act redefined “writings” to include “any book, map, chart, dramatic or musical composition, engraving, cut, print, or photograph or negative thereof, or of a painting, drawing, chromo, statue, statuary, and of models or designs intended to be perfected as works of the fine arts.”¹⁶

The Copyright Act received a major overhaul in 1909. This time Congress chose not to specifically define what constituted a copyrightable work; instead it stated that all “writings of an author” are copyrightable works.¹⁷ Congress did include a list of “classes” of acceptable copyrightable works, but this list did not “limit the subject-matter of copyright.”¹⁸ Congress also further extended the term of copyright protection to twenty-eight years, with the opportunity to renew for another twenty-eight years.¹⁹

B. THE COPYRIGHT ACT OF 1976

The 1976 Act is the most recent revision to the Copyright Act, governing all works created on or after January 1, 1978.²⁰ This revision updated the scope and subject matter of copyrightable works, fair use and other defenses to copyright infringement, and copyright notice requirements.²¹ Congress also extended the term of copyright protection to the life of the author plus fifty years, or seventy-five years after creation for a work-for-hire.²² A later amendment extended protection for an additional twenty years.²³

14. Act of Aug. 18, 1856, 11 Stat. 139.

15. Act of Mar. 3, 1865, 13 Stat. 540.

16. Act of July 8, 1870, § 86, 16 Stat. 212.

17. Copyright Act of 1909, § 4, 35 Stat. 1075.

18. *Id.* at § 5.

19. *Id.* at § 23.

20. 17 U.S.C. § 302 (2012); *see also* VAIDHYANATHAN, *supra* note 9, at 25 (“All works created since 1978 fell under the 1976 revision [of the Copyright Act].”). Works created before January 1, 1978 but still protected as of January 1, 1978 follow the terms set out in 17 U.S.C. § 304 (2012).

21. 17 U.S.C. § 107.

22. 17 U.S.C. § 302 (1994).

23. In 1998, the Sonny Bono Copyright Term Extension Act extended the term of copyright protection by another twenty years. Under this extension, copyright protection under the 1976 Act exists for the life of the author plus seventy years. However, if the author is a corporation, copyright protection exists for either ninety-five years from the date of publication or 120 years from the date of creation, whichever is shorter. Sonny Bono Copyright Term Extension Act, Pub. L. No. 105-298, 112 Stat. 2827 (1998).

Under the 1976 Act, “[c]opyright protection subsists . . . in original works of authorship fixed in any tangible medium of expression.”²⁴ Thus, to obtain copyright protection a work must satisfy three requirements: the work must be (1) original, (2) a work of authorship, and (3) fixed. The first major change to note is that Congress broadened the scope of copyrightable works to include all “works of authorship,” not just “writings.”²⁵ Although the Act does not define “works of authorship,”²⁶ it does include a list of categories that Congress deemed “works of authorship.”²⁷ The categories include “literary works,” “musical works, including any accompanying words,” “dramatic works, including any accompanying music,” “pantomimes and choreographic works,” “pictorial, graphic, and sculptural works,” “motion pictures and other audiovisual works,” “sound recordings,” and “architectural works.”²⁸ This list, however, is not exhaustive.²⁹ Even with a broad scope of copyrightable works, “not every piece of writing is subject to protection under copyright.”³⁰

Congress also no longer requires registration with the Copyright Office to obtain copyright protection under the 1976 Act.³¹ Copyright protection is instead established at the moment of creation.³² However, copyright registration is required for an author to pursue an infringement action.³³

24. 17 U.S.C. § 102(a) (2012).

25. *See id.*

26. H.R. REP. NO. 94-1476, at 51 (1976), *reprinted in* 1976 U.S.C.C.A.N. 5659 (“The phrase ‘original works of authorship,’ . . . [wa]s purposely left undefined” with the intent “to incorporate without change the standard of originality established by the courts under the present copyright statute.”). Congress intended to leave the term undefined in order to accommodate the constantly changing technological developments in our society that lead to “new forms of creative expression that have never existed before. . . . Authors are continually finding new ways of expressing themselves, but it is impossible to foresee the forms that these new expressive methods will take.” However, subject matter is not unlimited under this undefined term. *Id.*

27. *See* 17 U.S.C. §§ 102(a)(1)–(8).

28. *Id.*

29. *See id.* (“include, but are not limited to”).

30. Daniel Miranda Facó, Copyright Extension and the Motion Picture Industry – The Rationality Behind the Bono Act (1999) (unpublished manuscript), http://hottopos.com/harvard3/daniel.htm#_ftnref16 [<https://perma.cc/8TS7-7C69>].

31. U.S. COPYRIGHT OFFICE, COPYRIGHT NOTICE, CIRCULAR 3, at 1 (Feb. 2013).

32. 17 U.S.C. § 302(a) (2012) (“Copyright in a work . . . subsists from its creation.”); *see* VAIDHYANATHAN, *supra* note 9, at 24 (“[A] work is protected . . . as soon as it is fixed in a tangible medium of expression.”).

33. 17 U.S.C. § 411 (2012); VAIDHYANATHAN, *supra* note 9, at 25.

1. Originality

Copyright protection requires originality.³⁴ However, under *Feist Publications, Inc. v. Rural Telephone Service Co.*, a work easily satisfies that requirement: it need only be an independent creation that exhibits a mere “modicum of creativity.”³⁵ A work is generally considered original unless its “creative spark is utterly lacking or so trivial as to be virtually nonexistent.”³⁶ In *Feist*, the Court also rejected the “sweat of the brow” doctrine, requiring more than just hard work in creating something in order to get copyright protection.³⁷

2. Work of Authorship

Copyright “vests initially in the author or authors of the work.”³⁸ Thus, not only must an author be identified, but the work must fall under the appropriate subject matter of copyright to qualify as a “work of authorship.”³⁹ Under early copyright doctrine, the author was merely the work’s creator.⁴⁰ However, as copyright doctrine has evolved, the work-for-hire doctrine and concepts of joint authorship have complicated the notions of authorship.⁴¹

The leading case on authorship is *Burrow-Giles Lithographic Co. v. Sarony*,⁴² where the Supreme Court considered whether a photographer owned the copyright in his photograph of Oscar Wilde.⁴³ The Supreme Court held that the photographer owned the copyright, as he was the “author.”⁴⁴ In making this determination, the Court found that an author is the person who “superintended” the work—the “master mind” of the

34. See *Feist Publ’ns, Inc. v. Rural Tel. Serv. Co.*, 499 U.S. 340, 346 (1991).

35. *Id.* at 345–46 (citing 1 MELVILLE B. NIMMER & DAVID NIMMER, NIMMER ON COPYRIGHT § 2.01[A], [B] (1990)).

36. *Id.* at 359 (citing 1 MELVILLE B. NIMMER & DAVID NIMMER, NIMMER ON COPYRIGHT § 1.08[C][1] (1990)).

37. *Id.* at 359–60 (rejecting the “sweat of the brow” doctrine from *Jeweler’s Circular Publishing Co. v. Keystone Publ’g Co.*, 281 F. 83, 88 (2d Cir. 1922)); see 1 NIMMER & NIMMER, *supra* note 7, at § 3.04.

38. 17 U.S.C. § 201(a) (2012).

39. See *id.* at § 102(a).

40. *Cnty. for Creative Non-Violence v. Reid*, 490 U.S. 730, 737 (1989); *Burrow-Giles Lithographic Co. v. Sarony*, 111 U.S. 53, 58 (1884).

41. See *infra* Section I.B.2.a).

42. 11 U.S. 53 (1884).

43. *Id.* at 56.

44. *Id.* at 61.

piece.⁴⁵ It is the author “who really represents, creates, or gives effect to the idea, fancy, or imagination.”⁴⁶

a) “Work Made for Hire” Doctrine

Although the author of a work will frequently be the creator of the work, like the photographer in *Burrow Giles*, there are times when someone *other than* the work’s creator is considered the “author” for purposes of federal copyright law. This can occur under the “work made for hire” doctrine (a.k.a. work-for-hire doctrine), where “the employer or other person for whom the work was prepared is considered the author.”⁴⁷ This doctrine applies if a work is created within the scope of employment or if a work is specifically commissioned as a work made for hire.⁴⁸ In the latter context, a “work made for hire” is “a work specially ordered or commissioned for use” in one of a limited number of specified works “if the parties expressly agree in a written instrument signed by [both parties].”⁴⁹ Motion pictures are included among the limited list of works.⁵⁰ Thus, unless an express written agreement states otherwise, employers own “all of the rights comprised in the copyright,”⁵¹ making the term “author” simply a term of art.⁵²

b) Joint Works and Joint Authorship

Because a film consists of numerous contributions by many different “authors,” it is typically considered a “joint work.”⁵³ Under the 1976 Act, a “joint work” is “a work prepared by two or more authors with the *intention* that their contributions be merged into inseparable or interdependent parts

45. *Id.*

46. *Id.*

47. 17 U.S.C. § 201(b) (2012).

48. The work-for-hire doctrine only applies to a narrow list of works: a contribution to a collective work, a part of a motion picture or other audiovisual work, a translation, a supplementary work, a compilation, an instructional text, a test, answer materials for a test, or an atlas. 17 U.S.C. § 101 (2012); *see* 1 NIMMER & NIMMER, *supra* note 7, at § 5.03.

49. 17 U.S.C. § 101.

50. 17 U.S.C. § 101. Legislative history shows that “movie tycoons” pushed Congress to include motion pictures in this part of the provision. MICHAEL C. DONALDSON & LISA A. CALLIF, *CLEARANCE & COPYRIGHT* 166 (4th ed. 2014).

51. 17 U.S.C. § 201(b).

52. Catherine L. Fisk, *Authors at Work: The Origins of the Work-for-Hire Doctrine*, 15 YALE J. L. & HUMAN. 1, 5 (2003).

53. 1 NIMMER & NIMMER, *supra* note 7, at § 6.05; *see also* Makoa Kawabata, *Building Character: How to Grant Actors Limited Copyright Protection for Performances Without Creating a New Species of Copyrighted Work*, 16 TEX. REV. ENT. & SPORTS L. 1, 15 (2014).

of a unitary whole.”⁵⁴ Not all contributors to a joint work, however, are considered “joint authors.”⁵⁵

If an individual claims joint authorship, courts in different circuits analyze the facts under differing, yet similar, tests. For example, the Second Circuit follows the test set forth under *Childress v. Taylor*, where each party’s contribution must be independently copyrightable and the parties must intend to be joint authors at the time of creation.⁵⁶ The Ninth Circuit, on the other hand, has an added requirement that each party be an “author” within the meaning of the Copyright Act.⁵⁷ This means that each party must “superintend[] the work by exercising control” while demonstrating an “objective manifestation[] of a shared intent to be coauthors.”⁵⁸ The primary focus under both of these tests, however, is the intent of the parties to be joint authors.

Congress has provided some guidance by noting that “a work is ‘joint’ if the authors collaborated with each other, or if each of the authors prepared his or her contribution with the knowledge and intention that it would be merged with the contributions of other authors as ‘inseparable or interdependent parts of a unitary whole.’”⁵⁹ The emphasis here is on the intent of the parties: At the time the work was created, did the parties intend for their contributions to be “absorbed or combined into an integrated unit”?⁶⁰

c) Copyrightable Work

Moreover, the work created must be a “work of authorship.”⁶¹ As discussed above, Congress purposely left the term “work of authorship” undefined, thus leaving for the courts to answer the question of whether the author had produced something copyrightable.⁶² In the film context, many

54. 17 U.S.C. § 101 (emphasis added).

55. See *Aalmuhammed v. Lee*, 202 F.3d 1227, 1233 (9th Cir. 2000) (“[C]ontribution of independently copyrightable material to a work intended to be an inseparable whole will not suffice to establish authorship of a joint work.”).

56. *Childress v. Taylor*, 945 F.2d 500 (2d Cir. 1991).

57. *Aalmuhammed*, 202 F.3d at 1232.

58. *Id.* at 1234 (internal quotations omitted).

59. H.R. REP. NO. 94-1476, at 120 (1976), reprinted in 1976 U.S.C.C.A.N. 5659, 5756.

60. Seth F. Gorman, *Who Owns the Movies? Joint Authorship under the Copyright Act of 1976 after Childress v. Taylor and Thomson v. Larson*, 7 UCLA ENT. L. REV. 1, 4–5 (1999).

61. 17 U.S.C. § 102 (2012).

62. See R. Anthony Reese, *Copyrightable Subject Matter in the “Next Great Copyright Act,”* 29 BERKELEY TECH. L.J. 1489, 1500–02 (2014) (discussing how “things that have not traditionally been thought of as copyrightable works” could constitute a “work of authorship” “even if the creation does not fall within one of the statute’s expressly enumerated categories of protected works”); Trotter Hardy, *The Copyrightability of New*

people contribute to a motion picture, but “those contributions ultimately merge to create a unitary whole.”⁶³ Therefore, copyright protects the “totality of the contributions . . . as a complete work and not a single performance taken out of the context of the whole.”⁶⁴ Further, because “a motion picture would normally be a joint rather than collective work with respect to those authors who actually work on the film” and contributors to the production of a film generally hold the status of “employees for hire,” the question of authorship or coownership rarely arises.⁶⁵ As discussed by the *Burrow-Giles* Court, not every “copyrightable contribution to a motion picture” can be a “work” that is “separately copyrightable from the motion picture itself, any more than Oscar Wilde’s ‘substantial copyrightable creative contribution’ of appearing in a photograph or the lithographer’s similarly copyrightable efforts were ‘works’ separate from the photograph itself.”⁶⁶

3. Fixation

Finally, in order to gain copyright protection, a work must be fixed “by or under the authority of the author.”⁶⁷ While the “act of fixation is not what makes someone an author,”⁶⁸ a work is not entitled to copyright protection unless the work is fixed in a “tangible medium of expression.”⁶⁹

C. DEVELOPMENT OF THE AUTHORSHIP DOCTRINE IN THE FILM INDUSTRY

The film industry has had an impact on the development of the authorship doctrine due to the fact that many individuals are involved in the making of a film.

Under the Copyright Act, “motion pictures” are defined as “audiovisual works consisting of a series of related images which, when shown in

Works of Authorship: “XML Schemas” as an Example, 38 HOUS. L. REV. 855, 860 (2001) (discussing how courts struggle to find copyrightability in new technologies such as software).

63. *Richlin v. Metro-Goldwyn-Mayer Pictures, Inc.*, 531 F.3d 962, 975 (9th Cir. 2008).

64. Brief of Volunteer Lawyers for the Arts, Inc. as Amici Curiae in Support of Defendants-Appellees at 7, *Garcia v. Google, Inc.*, 743 F.3d 1258 (9th Cir. 2014) (No. 12-57302).

65. H.R. REP. NO. 94-1476, at 120 (1976), *reprinted in* 1976 U.S.C.C.A.N. 5659.

66. *Kawabata*, *supra* note 53, at 15 (discussing *Burrow-Giles Lithographic Co. v. Sarony*, 111 U.S. 53, 61 (1884)).

67. 17 U.S.C. § 101 (2012).

68. Russ VerSteeg, *Defining “Author” For Purposes of Copyright*, 45 AM. U. L. REV. 1323, 1336 (1996).

69. 17 U.S.C. § 102(a).

succession, impart an impression of motion.”⁷⁰ Because motion pictures are generally a collaborative effort, with many individuals contributing various creative efforts,⁷¹ they are typically deemed “joint works.”⁷²

In the absence of correctly worded written agreements defining the issue, the number of people involved in creating a motion picture can make authorship a “difficult question.”⁷³ This problem is typically solved through the “work-for-hire provisions of § 101 and the assignment provisions of § 204.”⁷⁴ While the work-for-hire provision initially emerged in the 1909 Act (for the benefit of employers) “to aid the publishers of encyclopedias and periodicals,”⁷⁵ the effects of the provision became “much more powerful in other industries,” including the film industry.⁷⁶ The issue of authorship or co-authorship rarely arises because contributors to the production of a film generally hold the status of “employee for hire.”⁷⁷

Contributions to a motion picture “ultimately merge to create a unitary whole.”⁷⁸ Therefore, the intent to collaborate and merge with others results in an intent to create an inseparable unitary work. Furthermore, “a performer’s appearance in a motion picture is not a discrete or separate motion picture incorporated into the motion picture.”⁷⁹ It is generally impossible to remove just one actor’s contribution from a scene because the actor speaks the words of the script, wears the costume designed by the costume designer, is heard because of the sound technician, and gives a performance under the direction of the director.

II. THE NINTH AND SECOND CIRCUIT DECISIONS

Garcia v. Google was the first case to question whether a contributor to an integrated work has an independent copyright in his or her contribution when that contribution was intended to merge with other contributions into

70. 17 U.S.C. § 101.

71. See Gorman, *supra* note 60, at 4.

72. H.R. REP. NO. 94-1476, at 120 (1976); accord S. REP. NO. 94-473, at 103–04 (1975) (including “motion pictures” as an example of joint works under the statute).

73. See Gorman, *supra* note 60, at 4.

74. *Id.*

75. VAIDHYANATHAN, *supra* note 9, at 102.

76. *Id.*

77. H.R. REP. NO. 94-1476, at 121 (1976) (“The presumption [sic] that initial ownership rights vest in the employer for hire is well established in American copyright law.”); VAIDHYANATHAN, *supra* note 9, at 102 (noting that contributors to a film “whom could philosophically claim ‘authorship’ . . . regularly sign away control of their work to a studio”).

78. *Richlin v. Metro-Goldwyn-Mayer Pictures, Inc.*, 531 F.3d 962, 975 (9th Cir. 2008).

79. *Kawabata*, *supra* note 53, at 14 (citation omitted).

an inseparable whole. In this case, the Ninth Circuit ultimately held that an actress did not have a copyright in her five-second performance within a film. Shortly after the release of the *Garcia* opinion, the Second Circuit followed *Garcia* in finding that a director did not have a separate copyright in his direction of a film.⁸⁰

A. THE NINTH CIRCUIT: *GARCIA V. GOOGLE*

Garcia v. Google spent over fifteen months in the Ninth Circuit in order to determine whether an actress, in her five-second performance within a film, can have an independent copyright in her own performance, separate and apart from the film itself. Initially, a Ninth Circuit panel found that *Garcia*, the actress whose performance was at issue, likely did have a copyright interest in her performance.⁸¹ The decision sparked a flood of criticism from the legal community as well as content producers and providers.⁸² This holding was, however, reversed by an en banc panel, leading that same community to find copyright law restored.⁸³

80. 16 Casa Duse v. Merkin, 791 F.3d 247 (2d Cir. 2015).

81. *Garcia v. Google, Inc.*, 766 F.3d 929, 940 (9th Cir. 2014).

82. See, e.g., Venkat Balasubramani, *In Its "Innocence of Muslims" Ruling, the Ninth Circuit is Guilty of Judicial Activism—Garcia v. Google*, TECH. & MKTG. L. BLOG (Feb. 27, 2014), <http://blog.ericgoldman.org/archives/2014/02/in-its-innocence-of-muslims-ruling-the-ninth-circuit-is-guilty-of-judicial-activism-garcia-v-google.htm> [https://perma.cc/Z29Q-2GYU]; Mike Masnick, *Horrific Appeals Court Ruling Says Actress Has Copyright Interest in 'Innocence of Muslims,' Orders YouTube to Delete Every Copy*, TECHDIRT (Feb. 26, 2014), <https://www.techdirt.com/articles/20140226/12103626359/horrific-appeals-court-ruling-says-actress-has-copyright-interest-innocence-muslims-orders-youtube-to-delete-every-copy.shtml> [https://perma.cc/4GZV-TYVT]; Anandashankar Mazumdar, *Commenters Criticize Garcia Ruling on Constitutional and Practical Concerns*, BLOOMBERG BNA (Mar. 5, 2014), <http://www.bna.com/commenters-criticize-garcia-n17179882601> [https://perma.cc/JK79-3P3X]; Corynne McSherry, *Bad Facts, Really Bad Law: Court Orders Google to Censor Controversial Video Based on Spurious Copyright Claim*, ELEC. FRONTIER FOUND. (Feb. 26, 2014), <https://www.eff.org/deeplinks/2014/02/bad-facts-really-bad-law-court-orders-google-censor-controversial-video-based> [https://perma.cc/33WB-N4WM]; Jesse Woo, *Garcia v. Google: Copyright Is Not Always the Answer*, WASH. LAWYERS FOR THE ARTS BLOG (Apr. 18, 2014), <http://thewla.org/garcia-v-google-copyright-is-not-always-the-answer> [https://perma.cc/8BTA-G2TQ].

83. See David Kluff, *"Hollywood Circuit" Court Issues En Banc Decision in Garcia v. Google: No Copyright Protection for Fleeting Dramatic Performance*, TRADEMARK & COPYRIGHT L. BLOG (May 18, 2015), <http://www.trademarkandcopyrightlawblog.com/2015/05/hollywood-circuit-court-issues-en-banc-decision-in-garcia-v-google-no-protection-for-fleeting-dramatic-performance> [https://perma.cc/H6PT-6W57] (“reaffirm[ing] a more traditional view of film authorship for copyright purposes”).

1. Background

This case began in July 2011, when Cindy Lee Garcia (“Garcia”) auditioned for and landed a minor role in a low-budget film entitled *Desert Warrior*.⁸⁴ Garcia, along with the rest of the cast, believed that *Desert Warrior* was going to be an “action-adventure thriller set in ancient Arabia.”⁸⁵ Garcia was given only the four pages of the script in which her character appeared.⁸⁶ Filming her scene took three and a half days,⁸⁷ for which she was paid a total of \$500.⁸⁸ However, nothing ever came of *Desert Warrior*.⁸⁹ Instead, Garcia later encountered her scene on YouTube as part of an anti-Islamic film entitled *Innocence of Muslims*, which depicted the Prophet Mohammed as “a murderer, pedophile, and homosexual.”⁹⁰ Mark Basseley Youseff,⁹¹ the writer-producer of the film, used the footage he shot for *Desert Warrior* and transformed it to create an extremely controversial “trailer” lasting thirteen minutes and fifty-one seconds.⁹² Specifically, Youseff partially dubbed Garcia’s short performance.⁹³ Where she once asked, “Is George crazy? Our daughter is but a child,” her character now appeared to ask, “Is your Mohammed a child molester?”⁹⁴

The film spurred “protests that generated worldwide news coverage.”⁹⁵ The Obama administration even mentioned the film as a “possible cause for

84. *Garcia v. Google, Inc.*, 786 F.3d 733, 737 (9th Cir. 2015) (en banc).

85. *Id.*

86. *Garcia v. Google, Inc.*, 766 F.3d 929, 932 (9th Cir. 2014).

87. *Id.*

88. *Garcia*, 786 F.3d at 737. There was disputed evidence regarding whether Garcia signed a release, releasing her rights in the film. Youssef brought forward a signed document, but Garcia claimed that the signature on the release was forged. This fact was never addressed at this stage of the proceedings. Instead, it was assumed that no such release was signed. *Garcia*, 766 F.3d at 936 n.5 (“Neither party claim[ed] that Garcia signed a work for hire agreement.”).

89. *Garcia*, 786 F.3d at 737.

90. *Id.*

91. Mark Basseley Youssef also goes by other names, including Nakoula Basseley Nakoula and Sam Bacile. *Garcia v. Google, Inc.*, 743 F.3d 1258, 1261 (9th Cir. 2014).

92. *Garcia*, 786 F.3d at 737. The film at issue is continuously referred to as a “trailer” although there is no evidence that a longer feature was ever made, or intended to be made.

93. *Id.*

94. *Id.*

95. *Garcia*, 743 F.3d at 1262; see also *Fatwa Issued Against ‘Innocence of Muslims’ Film Producer*, TELEGRAPH (Sept. 18, 2012), <http://www.telegraph.co.uk/news/worldnews/middleeast/lebanon/9549664/Fatwa-issued-against-Innocence-of-Muslims-film-producer.html> [<https://perma.cc/2B55-Z7QG>] (“Nasrallah, whose Lebanese movement is blacklisted in the United States as a terrorist group, has called for a week of protests across the country over the film, describing it as the ‘worst attack ever on Islam.’”).

the 2012 attack on the U.S. Consulate in Benghazi, Libya.”⁹⁶ After being aired in Egypt, an Egyptian cleric issued a fatwa against any person involved in making the film.⁹⁷ The order triggered a stream of death threats against Garcia’s life.⁹⁸ Fearing for her life, Garcia took multiple security precautions, including moving her home and business.⁹⁹ She also filed a total of five takedown notices under the Digital Millennium Copyright Act (DMCA), requesting that Google remove the film from YouTube.¹⁰⁰ Google denied each and every request.¹⁰¹

Garcia initially filed multiple tort claims in Los Angeles Superior Court on September 19, 2012 against the filmmaker, Youssef, and Google including invasion of privacy, false light, intentional infliction of emotional distress, and right of publicity violations.¹⁰² However, Garcia ultimately voluntarily dismissed these claims after the state court determined that Garcia had “not shown a likelihood of success on the merits.”¹⁰³ On September 26, 2012, one day after her voluntary dismissal, Garcia filed suit against Google and Youssef in the United States District Court for the Central District of California, alleging copyright infringement.¹⁰⁴ While Garcia did not claim copyright ownership in the entire film, she alleged that

96. Mark Litwak, *Do Your Actors Own Your Film?*, ENTMT L. RES. (Mar. 1, 2014), <http://www.marklitwak.com/blog/do-your-actors-own-your-film> [<https://perma.cc/3MFN-AMLW>]; see *Garcia*, 786 F.3d at 737–38; Amicus Curiae Brief by News Organizations in Support of Google’s Petition for Rehearing En Banc at 3, *Garcia v. Google, Inc.*, 743 F.3d 1258 (9th Cir. 2014) (No. 12-57302).

97. *Garcia*, 786 F.3d at 738.

98. *Id.* Garcia allegedly received thousands of death threats as a result of her connection to the film. Brief of Appellant-Petitioner in Response to Sua Sponte Briefing Order Re: Stay at 22, *Garcia v. Google, Inc.*, 743 F.3d 1258 (9th Cir. 2014) (No. 12-57302).

99. *Garcia v. Google, Inc.*, 766 F.3d 929, 938 (9th Cir. 2014).

100. *Garcia*, 786 F.3d at 738. The original panel decision stated that Garcia filed eight takedown notices under the DMCA. *Garcia v. Google, Inc.*, 743 F.3d 1258, 1262 (9th Cir. 2014). Garcia’s brief stated that she filed twelve takedown notices. Brief of Appellant-Petitioner in Response to Sua Sponte Briefing Order Re: Stay at 8, *Garcia v. Google, Inc.*, 743 F.3d 1258 (9th Cir. 2014) (No. 12-57302).

101. *Garcia*, 786 F.3d at 738. In at least one instance, Google denied Garcia’s requests on First Amendment freedom of speech grounds. Brief of Appellant-Petitioner in Response to Sua Sponte Briefing Order Re: Stay at 8, *Garcia v. Google, Inc.*, 743 F.3d 1258 (9th Cir. 2014) (No. 12-57302) (“Eric Schmidt, Google’s chairman responded to requests to remove the video: ‘We believe the answer to bad speech is more speech . . . it will stay up.’”).

102. *Garcia*, 786 F.3d at 738.

103. *Id.*

104. *Id.* Garcia also “revived her state law claims against Youssef for fraud, unfair business practices, libel, and intentional infliction of emotional distress” in federal court. *Id.*

her performance was independently copyrightable and that she retained an interest in that copyright.¹⁰⁵

2. *District Court Opinion*

The present action commenced when Garcia “moved for a temporary restraining order and for an order to show cause on a preliminary injunction”¹⁰⁶ in district court, “claiming that the posting of the video infringed her copyright in her performance.”¹⁰⁷ Although “Garcia sued under a slew of legal theories,” she moved for the preliminary injunction on only the copyright claim.¹⁰⁸

The district court denied Garcia’s motion for a preliminary injunction,¹⁰⁹ finding that she did not satisfy the four-factor *Winter* test.¹¹⁰ The injunction was “subject to heightened scrutiny” because it “require[d] affirmative conduct by Defendants.”¹¹¹ First, the court found an insufficient showing of irreparable harm because Garcia delayed in bringing the action.¹¹² She did not file her motion until five months after the film was uploaded to YouTube.¹¹³ Second, Garcia did not demonstrate that she was likely to succeed on the merits of her claim. Since the film, not an actor’s individual performance, is generally considered the “work,”¹¹⁴ and since Garcia did not claim to be a joint author of the film,¹¹⁵ it was unlikely the law would favor her argument of copyright infringement.¹¹⁶ Because the first two *Winter* factors weighed against Garcia, the court did not analyze the facts under the final two factors.¹¹⁷

105. *See* Litwak, *supra* note 96.

106. *Garcia*, 786 F.3d at 739.

107. *Garcia*, 766 F.3d at 932.

108. *Garcia*, 786 F.3d at 739.

109. *Garcia v. Nakoula*, 2:12-cv-08315-MWF-VBK, 2012 BL 334702, *1 (C.D. Cal. Nov. 30, 2012).

110. *Id.*; *see* *Winter v. Nat’l Res. Def. Council*, 555 U.S. 7, 24 (2008). “A plaintiff seeking a preliminary injunction must show that: (1) she is likely to succeed on the merits, (2) she is likely to suffer irreparable harm in the absence of preliminary relief, (3) the balance of equities tips in her favor, and (4) an injunction is in the public interest.” *Farris v. Seabrook*, 677 F.3d 858, 864 (9th Cir. 2012) (citing *Winter*, 555 U.S. at 20).

111. *Garcia*, 2012 BL 334702, at *1.

112. *Id.*

113. *Id.*

114. *Id.* at *1–2.

115. *Id.* at *2.

116. *Id.*

117. *Id.*

3. *Ninth Circuit Opinion*

Garcia appealed to the Ninth Circuit and a split panel reversed the district court's decision, finding that the district court abused its discretion in denying the preliminary injunction.¹¹⁸ The court stated that it would “err on the side of life”¹¹⁹ and require Google to remove *Innocence of Muslims* from YouTube immediately.¹²⁰

In granting the preliminary injunction, the majority found that an individual contribution to an integrated work could be independently copyrightable.¹²¹ Thus, Garcia, as the author of her performance, likely retained a copyright interest in her performance, “even when the work ha[d] been contributed to a joint work.”¹²² This is a rarely litigated issue because the “vast majority of films are covered by contract, the work-for-hire doctrine, or implied licenses.”¹²³

The court held that Garcia was likely to succeed on the merits of her claim because her performance was “sufficiently creative to be protectable,” and it was fixed.¹²⁴ Although her contributions were minor, they were not *de minimis*.¹²⁵ The court focused on the actor's process, stating that “an actor does far more than speak words on a page; he must ‘live his part inwardly, and then . . . give to his experience an external embodiment.’”¹²⁶ Thus, the actor is sufficiently creative through the use of his or her body language, facial expressions, and reactions.¹²⁷

118. *Garcia v. Google, Inc.*, 743 F.3d 1258, 1269 (9th Cir. 2014).

119. *Id.* at 1268.

120. *Id.* at 1269. Google was actually sent a secret order twenty-four hours before the official order was submitted to ensure that the video would be taken down before the public knew that it was being forced to be taken down. That way, people would not be able to copy the video before it could be officially removed from YouTube. *Garcia v. Google, Inc.*, 786 F.3d 733, 739 (9th Cir. 2015) (en banc). “The panel later amended the order to allow YouTube to post any version of the film that did not include Garcia's performance.” *Id.*

121. *Garcia*, 743 F.3d at 1263.

122. Paul M. Azzi, *Two Wrongs Don't Make a Copyright: The Dangerous Implication of Granting a Copyright in Performance Per Se*, 83 U. CIN. L. REV. 529, 543 (2014) (citing *Garcia*, 743 F.3d at 1263).

123. *Garcia*, 743 F.3d at 1265 (citing F. Jay Dougherty, *Not a Spike Lee Joint? Issues in the Authority of Motion Pictures under U.S. Copyright Law*, 49 UCLA L. REV. 225, 327–33 (2001)).

124. *Garcia*, 743 F.3d at 1263.

125. *Id.* at 1265.

126. *Id.* at 1263 (quoting CONSTANTIN STANISLAVSKI, AN ACTOR PREPARES 15, 219 (Elizabeth Reynolds Hapgood trans., 1936)).

127. *Id.*

The court also addressed the nature of derivative works.¹²⁸ Since “an actor’s performance is based on a script,” the performance would be considered a “derivative of the script.”¹²⁹ However, Garcia did not infringe on the script because, “by hiring Garcia, giving her the script and turning a camera on her, Youssef implicitly granted her a license to perform his screenplay.”¹³⁰

The court found that the case did not fall under the work-for-hire doctrine because Garcia was not an employee of Youssef and she did not sign a written work-for-hire agreement.¹³¹ Garcia could not be categorized as a “conventional” employee because she was hired for only a very small role, where she was only required to be on set for three and one-half days of filming, and she did not receive any “traditional employment benefits.”¹³² Therefore, any copyright in Garcia’s performance did not vest with Youssef.¹³³

The majority conceded that Garcia granted Youssef an implied license to use her performance but explained that Youssef exceeded the scope of that license by using her performance in a film that “differ[ed] so radically from anything Garcia could have imagined.”¹³⁴ While these kinds of implied licenses are construed broadly, they are not unlimited.¹³⁵ Here, Youssef lied to Garcia about the kind of film he intended to make so that she would agree to participate.¹³⁶ If she, or likely any other actor, knew what was going to become of her performance, she never would have agreed to participate in the first place.

Even though Garcia did not seek a preliminary injunction until a few months after the video was uploaded to YouTube, the court found that she “took legal action as soon as . . . there was a ‘need for speedy action.’”¹³⁷ Garcia made a showing of “real and immediate harm” through evidence of death threats and the security precautions she had to undertake as soon as the fatwa was issued.¹³⁸ Removing the film from YouTube would curb the

128. *Id.* at 1264.

129. *Id.*

130. *Id.*

131. *Id.* at 1265.

132. *Id.* (citing *Cnty. for Creative Non-Violence v. Reid*, 490 U.S. 730, 751–52 (1989)).

133. *Id.*

134. *Id.* at 1266–67. The court did note, however, that the situations in which a filmmaker exceeds the scope of an actor’s implied license are “extraordinarily rare.” *Id.*

135. *Id.* at 1266 (citing *Oddo v. Ries*, 743 F.2d 630, 634 (9th Cir. 1984)).

136. *Id.* at 1267.

137. *Id.*

138. *Id.*

threats by helping to disassociate her from the film.¹³⁹ Although the court appeared strong in its assertion, it ended its inquiry by stating that “[t]o the extent the irreparable harm inquiry is at all a *close question*, we think it best to err on the side of life.”¹⁴⁰

Finally, the court chose to address the final two *Winter* factors not addressed by the district court: the balance of the equities and public interest.¹⁴¹ The court found that the balance of the equities “clearly favor[ed]” Garcia because she “demonstrated a likelihood of success on her claim” and Google’s prior restraint of speech argument failed.¹⁴² A First Amendment claim cannot protect copyright infringement.¹⁴³ As for the public interest, the court found it “tip[ped] in Garcia’s direction.”¹⁴⁴

Judge Norman Randy Smith wrote the dissent, observing that the district court did not abuse its discretion in denying Garcia’s request for a preliminary injunction.¹⁴⁵ Garcia was not likely to succeed on the merits of her copyright claim because “(1) her acting performance is not a work, (2) she is not an author, and (3) her acting performance is too personal to be fixed.”¹⁴⁶

4. *Amended Ninth Circuit Opinion*

Many groups and corporations soon filed amicus briefs, which led the panel to issue an amended opinion on July 11, 2014, four months after its original opinion was released.¹⁴⁷ The court did not change its final decision but merely supplemented the opinion with a couple of extra paragraphs to address some arguments and criticisms raised by the amici.¹⁴⁸

First, the majority addressed an argument raised by the dissent: that “Garcia’s interest in her acting performance may best be analyzed as a joint

139. *Id.* at 1268.

140. *Id.* (emphasis added).

141. *Id.* at 1268–69.

142. *Id.*

143. *Id.* at 1268.

144. *Id.* at 1269.

145. *Id.* at 1269–70.

146. *Id.* at 1270.

147. *Garcia v. Google, Inc.*, 766 F.3d 929 (9th Cir. 2014). It is rare for a court to amend an opinion in this way. Alison Frankel, *Kozinski Amends Opinion in 9th Circuit ‘Innocence’ Case v. Google*, REUTERS (July 15, 2015), <http://blogs.reuters.com/alison-frankel/2014/07/15/kozinski-amends-opinion-in-9th-circuit-innocence-case-v-google> [<https://perma.cc/4UAX-JB29>]. Here, the majority panel merely added two paragraphs to its original opinion. The minor additions did not change or affect the court’s holding.

148. Frankel, *supra* note 147.

work with Youssef.”¹⁴⁹ Here, the majority focused on the intent of the parties and added that there was “no basis for finding a joint intent” in the creation of the work because “Garcia expressly disclaim[ed] such intent and there is no evidence that Youssef intended to create a joint work.”¹⁵⁰

In response to other criticisms, the majority noted Garcia’s denial from the United States Copyright Office after she attempted to “register a copyright in her performance.”¹⁵¹ The majority, however, refused to address the contents of the Copyright Office’s letter because the case was not an appeal of the denial of registration.¹⁵² Thus, the “Copyright Office’s refusal to register d[id]n’t ‘preclude[] a determination’ that Garcia’s performance ‘[wa]s indeed copyrightable.’”¹⁵³ Finally, the majority added that Google was not precluded from raising certain defenses before the district court, including a fair use defense.¹⁵⁴ It did not address those defenses here because Google did not raise them on appeal.¹⁵⁵

5. *En Banc Opinion*

After the Ninth Circuit filed the amended opinion, Google filed a motion for rehearing en banc, which was ultimately granted on November 12, 2014.¹⁵⁶ A total of thirteen amicus briefs were filed with the court, and the motion was heard on December 15, 2014.¹⁵⁷ After reviewing the district court’s denial of Garcia’s motion for preliminary injunction, the en banc panel reversed the amended panel decision, finding that the district court did not abuse its discretion in denying Garcia’s request for a preliminary injunction.¹⁵⁸

Using the four-factor *Winter* test, the court agreed that Garcia had not met her burden on even the first factor: “likelihood of success on the merits.”¹⁵⁹ Her burden was “doubly demanding” in seeking a mandatory injunction and Garcia needed to show “that the law and facts *clearly favor*

149. *Garcia*, 766 F.3d at 933.

150. *Id.*

151. *Id.* at 935.

152. *Id.*

153. *Id.* (quoting *OddzOn Prods., Inc. v. Oman*, 924 F.2d 346, 347 (D.C. Cir. 1991)).

154. *Id.* at 936, 939.

155. *Id.*

156. *Garcia v. Google, Inc.*, 771 F.3d 647 (9th Cir. 2014) (order granting motion for rehearing en banc).

157. *Garcia v. Google, Inc.*, 786 F.3d 733, 739 n.3 (9th Cir. 2015) (en banc).

158. *Id.* at 739.

159. *Id.* The court additionally addressed the irreparable harm issue, but because Garcia did not prevail on either of these first two *Winter* factors, the court did not address the final two *Winter* factors – the balance of the equities and public interest.

her position, not simply that she [wa]s likely to succeed.”¹⁶⁰ Garcia did not meet that high burden.¹⁶¹ While the en banc court was sympathetic to Garcia’s situation, it emphasized that “a weak copyright claim cannot justify censorship in the guise of authorship.”¹⁶²

In analyzing the copyright question, the court found that Garcia’s performance was not a copyrightable work.¹⁶³ The court credited the Copyright Office’s opinion and its rejection of Garcia’s request for registration.¹⁶⁴ Moreover, the court turned to *Aalmuhammed v. Lee*¹⁶⁵ for guidance.¹⁶⁶ In *Aalmuhammed*, the Ninth Circuit began its analysis of joint authorship by defining the term “work.”¹⁶⁷ Because so many individuals may qualify as an “author” of an integrated work, especially a film, there must be something more to the analysis than merely whether the individual “made a substantial creative contribution.”¹⁶⁸ Proceeding with this theory of copyright law would “make Swiss cheese of copyrights.”¹⁶⁹ Thus, the only qualifying work can be the film itself.¹⁷⁰

The court noted that even though Hollywood is generally governed by contracts and the work-for-hire doctrine, “low-budget films rarely use licenses,” and even if they do, they are not necessarily “panacea.”¹⁷¹ Still, the district court’s finding that Garcia granted Youssef an implied license to use her performance was not “clearly erroneous.”¹⁷² However, even this finding does not clear up the copyright issue because even with licensing there can be disputes over such things as the scope of the terms of the license or termination of transfers.¹⁷³

Further, Garcia did not “fix” her acting performance as required under the Copyright Act.¹⁷⁴ First, Garcia did not personally fix her performance; Youssef and his crew did that.¹⁷⁵ Second, Garcia did not authorize the

160. *Id.* (emphasis in original).

161. *Id.*

162. *Id.* at 736.

163. *Id.* at 741. Thus, the district court did not err in its copyright analysis. *Id.* at 744.

164. *Id.* at 741.

165. 202 F.3d 1227 (9th Cir. 2000).

166. *Garcia*, 786 F.3d at 742.

167. *Id.*

168. *Id.* (quoting *Aalmuhammed*, 202 F.3d at 1233).

169. *Id.*

170. *Id.*

171. *Id.* at 743.

172. *Id.* at 743 n.12.

173. *Id.* at 743.

174. *Id.*; see 17 U.S.C. § 101 (2012).

175. *Garcia*, 786 F.3d at 744.

fixation of her performance.¹⁷⁶ Although she agreed to be filmed, she did not agree to the ultimate rendition of the film and her role in it.¹⁷⁷ Therefore, the court held she could not argue that her performance was “fixed by or under [her] authority.”¹⁷⁸

Turning to the irreparable harm prong of the *Winter* test, the court found that Garcia did not make a “clear showing” of irreparable harm.¹⁷⁹ First, the harms Garcia faced from the film did not stem from copyright law.¹⁸⁰ She sought the preliminary injunction because the film harmed her personally.¹⁸¹ Moreover, Garcia did not file this action until months after the film was released on YouTube.¹⁸² Instead, the court suggested that privacy laws, and not copyright law, may provide Garcia with the appropriate remedies for the harms she has suffered.¹⁸³

Finally, the court chose not to address the balance of equities and public interest prongs of the *Winter* test since Garcia’s copyright claim was “doubtful,” and she did not make a showing of irreparable harm.¹⁸⁴ Thus, because Garcia could not satisfy the *Winter* factors, “[t]he takedown order was unwarranted and incorrect as a matter of law.”¹⁸⁵ Moreover, the takedown censored and suppressed speech.¹⁸⁶

As the sole dissenter, Judge Kozinski did not veer from his original panel decision and reasoning.¹⁸⁷ According to him, “Garcia’s dramatic performance met all of the requirements for copyright protection” and by denying Garcia a copyright in her performance, the majority “makes a total mess of copyright law, right here in the Hollywood Circuit.”¹⁸⁸ Judge Kozinski focused on the fact that actors provide “some minimal degree of creativity” in their performance.¹⁸⁹ Judge Kozinski further argued that a

176. *Id.*

177. *Id.*

178. *Id.*

179. *Id.* at 746.

180. *Id.* (“Garcia’s harms are too attenuated from the purpose of copyright.”).

181. *Id.* at 745.

182. *Id.* at 746.

183. *Id.* at 745. The United States does not recognize a “right to be forgotten” or “moral rights” in motion pictures. *Id.* at 745–46.

184. *Id.* at 746.

185. *Id.* at 747.

186. *Id.*

187. *Id.* at 749 (Kozinski, J., dissenting).

188. *Id.* at 749.

189. *Id.* at 751. Judge Kozinski simply assumes that Garcia’s performance is a copyrightable work without providing any reasoning. He merely states that her performance was sufficiently original and ultimately fixed.

work becomes “fixed” at the moment it is captured on film by the camera.¹⁹⁰ Thus, as soon as Garcia’s five-second performance was captured on film, it was sufficiently fixed as a “work.”¹⁹¹ Simply by being an actor in the film, Garcia authorized the fixation.¹⁹²

Following the release of the en banc opinion, Garcia chose not to seek an appeal to the United States Supreme Court. She formally ended the case on June 26, 2015 by “filing a stipulated motion to dismiss the case.”¹⁹³

B. THE SECOND CIRCUIT: *16 CASA DUSE V. MERKIN*

That same year, the Second Circuit expanded the holding of *Garcia v. Google* in *16 Casa Duse v. Merkin*.¹⁹⁴ Following the reasoning in *Garcia*, the Second Circuit held that the director of a film did not have copyright protection of his direction in a film, separate and apart from the film itself.

1. Background

16 Casa Duse was a production company owned and operated by Robert Krakovski.¹⁹⁵ In September 2010, Krakovski purchased the rights to a screenplay entitled *Heads Up* from its author, with the intent of making it into a short film also called *Heads Up*.¹⁹⁶ Krakovski subsequently asked Alex Merkin to direct the short film, and he agreed.¹⁹⁷ After securing Merkin as the director, Krakovski began “assembl[ing]” a cast and crew.¹⁹⁸ While Merkin made some recommendations as to who to hire, Krakovski made the ultimate decisions.¹⁹⁹ Each member of the cast and crew, except for Merkin, signed an “Independent Contractor [] Agreement” with 16 Casa Duse, explicitly stating that their contributions were works made for hire.²⁰⁰ The agreement further stated that 16 Casa Duse “would retain ‘complete

190. *Id.* Following this argument, Judge Kozinski stated that each scene in a film is a copyrightable work. *Id.* at 750.

191. *Id.* at 751.

192. *Id.* Judge Kozinski relied on an international treaty, and not U.S. law, to make this determination. The Beijing Treaty on Audiovisual Performances provides “performers” with the “exclusive right of authorizing . . . the fixation of their unfixed performances.” *Id.*

193. Bill Donahue, *Actress Ends High-Profile ‘Muslims’ Case Against Google*, LAW360 (June 29, 2015), <http://www.law360.com/articles/673778/actress-ends-high-profile-muslims-case-against-google> [https://perma.cc/D2PF-7S8Q].

194. *16 Casa Duse LLC v. Merkin*, 791 F.3d 247 (2d Cir. 2015).

195. *Id.* at 251.

196. *Id.*

197. *Id.*

198. *Id.*

199. *Id.*

200. *Id.*

control’ of the film’s production and ‘own all of the results and proceeds of [the cast and crew’s] services in connection with the [film] . . . including . . . copyright.’”²⁰¹

Krakovski tried to get Merkin to sign the work-for-hire agreement multiple times throughout the planning, production, and post-production process, but Merkin never did.²⁰² However, even without a completed work-for-hire agreement, production began on the short film with Merkin serving as director.²⁰³ After filming was completed, Krakovski gave Merkin a hard drive of the raw footage of the film to edit, despite the fact that an agreement had still not been signed.²⁰⁴ The parties did, however, enter into a “Media Agreement,” “under which Merkin would edit but not license, sell, or copy the footage for any purpose without the permission of [16] Casa Duse.”²⁰⁵

Krakovski and Merkin continued to negotiate the terms of the Media Agreement as well as the work-for-hire agreement.²⁰⁶ Unfortunately, these negotiations ultimately collapsed and Merkin refused to return the hard drive of raw footage of *Heads Up*.²⁰⁷ In January 2012, unbeknownst to Krakovski, Merkin registered the raw footage of *Heads Up* for copyright with the U.S. Copyright Office, asserting he was the sole author of the raw footage.²⁰⁸

Krakovski later scheduled a special screening at the New York Film Academy (NYFA) on April 18, 2012, with a reception to follow.²⁰⁹ Krakovski paid a non-refundable deposit of \$1,956.58 for the event.²¹⁰ The screening, however, was cancelled after NYFA received a cease-and-desist order from Merkin.²¹¹

2. *District Court Opinion*

Krakovski filed a claim on behalf of 16 Casa Duse in the Southern District of New York²¹² first “seeking, *inter alia*, a temporary restraining

201. *Id.*

202. *Id.*

203. *Id.*

204. *Id.* at 251–52.

205. *Id.* at 252.

206. *Id.*

207. *Id.*

208. *Id.* at 252–53.

209. *Id.* at 253.

210. *Id.*

211. *Id.* It was disputed whether it was Merkin or Merkin’s attorney who contacted NYFA with the cease-and-desist order. *Id.*

212. *Id.* at 250.

order and injunction enjoining Merkin from interfering with its use of the film.”²¹³ The district court granted the restraining order and later issued a preliminary injunction.²¹⁴ 16 Casa Duse’s amended complaint alleged that it had not infringed, that Merkin did not own a copyright interest in the film, and that Merkin’s copyright registration was invalid.²¹⁵ Moreover, 16 Casa Duse alleged other breach of contract claims, tortious interference with business relations, and conversion.²¹⁶ The district court granted the plaintiff’s motion for summary judgment on his copyright and state law claims.²¹⁷

3. *Second Circuit Opinion*

The Second Circuit affirmed the district court, holding that a contributor to a creative work whose contribution is inseparable from, and integrated into, a work does not maintain a copyright interest in his or her contribution alone.²¹⁸ As such, Merkin’s claims that he held a copyright interest in his creative contributions to the film and that he had copyright ownership in the raw film footage failed.²¹⁹

a) *A Director Does Not Have an Independent Copyright in His Direction*

The court held that a contribution to a creative work, although not de minimis, with the intent of becoming inseparable from and integrated into a work, is not eligible for separate copyright protection because the contribution does not “fall within the subject matter of copyright.”²²⁰

The court began by analyzing the relevant provisions of the Copyright Act in order to define the term “works of authorship.”²²¹ First, the court noted that the Copyright Act lists types of copyrightable works, including “motion pictures.”²²² However, while motion pictures are “expected to contain contributions from multiple individuals,” the Act does not list the “constituent parts” of a motion picture as a copyrightable work.²²³ Nor does

213. *Id.* at 253.

214. *Id.*

215. *Id.*

216. *Id.*

217. *Id.*

218. *Id.* at 254.

219. *Id.* at 255.

220. *Id.* at 256.

221. *Id.*

222. *Id.*

223. *Id.* at 257.

it list the constituent parts of any other integrated work.²²⁴ This exclusion “suggests that non-freestanding contributions to works of authorship are not ordinarily themselves works of authorship.”²²⁵

Further, the court looked to the Copyright Act’s definition of a “joint work” for guidance.²²⁶ The definition of joint work “suggests that such inseparable contributions are not themselves ‘works of authorship.’”²²⁷ The fact that collective works are copyrightable “only when such contributions constitute ‘separate and independent’ works” further implies that inseparable contributions are not.²²⁸ The “separate and independent” requirement “indicates that inseparable contributions integrated into a single work cannot separately obtain [copyright] protection.”²²⁹

The court also drew support from the legislative history of the Copyright Act.²³⁰ The House Report stated that a motion picture was generally considered a “joint rather than a collective work with respect to those authors who actually work on the film.”²³¹ It also noted that the question of authorship rarely comes up because those who work on a film are typically “employees for hire.”²³² It is only those authors who “clearly” create a work of “separate and independent” authorship who can retain a copyright interest in their contribution separate and apart from the integrated work.²³³

Finally, the court agreed with the Ninth Circuit’s en banc opinion in *Garcia v. Google*.²³⁴ While each contributor makes an original artistic expression, and the contribution is “arguably fixed in the medium of film footage,” that is not “alone sufficient.”²³⁵ The contribution itself must be a “work of authorship.”²³⁶ Allowing each contributor to claim a separate copyright in his or her contribution would be impractical, especially in a film where a large number of people make artistic contributions.²³⁷ It would hinder the production of new films, for any contributor could request an

224. *Id.*

225. *Id.*

226. *Id.*

227. *Id.*

228. *Id.* (citing 17 U.S.C. § 101 (2012)).

229. *Id.*

230. *Id.*

231. *Id.* (quoting H.R. REP. NO. 94-1476, at 120 (1976)).

232. *Id.*

233. *Id.*

234. *Id.* at 258.

235. *Id.*

236. *Id.*

237. *Id.*

injunction. The court doubted that Congress aimed to fill films with “thousands of standalone copyrights,” a plainly absurd result.²³⁸

The Second Circuit reasoned that various contributors *could* “achieve copyright protection for their creative efforts” as sole or joint authors of a film, or of their independent contribution as long as that contribution is a freestanding, independent work.²³⁹ However, in this case, the court stated that a director’s contribution “is not *itself* a ‘work of authorship’ subject to its own copyright protection.”²⁴⁰ Essentially, a director could attempt to claim sole or joint authorship of a film, but cannot claim a separate copyright interest in the direction alone.²⁴¹

b) Merkin Is Not the Author of the Raw Footage of the Film²⁴²

The parties agreed that Merkin was neither a “joint author” nor a “co-author” of the film.²⁴³ Moreover, Merkin’s services were not a “work made for hire” since Merkin was not an employee of 16 Casa Duse and never signed a written work-for-hire agreement for his work on the film.²⁴⁴ Instead, Merkin claimed sole copyright ownership in the raw footage of the film.²⁴⁵

The court disagreed with Merkin and determined that 16 Casa Duse was the dominant author of the film based on “factual indicia of ownership and authorship” relevant to the joint-author inquiry.²⁴⁶ Merkin did not rise to the level of “author” because the producer had the most control over the project—from initiating the project to executing all agreements with cast, crew, and third parties.²⁴⁷ While Merkin had a significant amount of control as to the direction and creative elements of the film, the producer had the final say.²⁴⁸

238. *Id.* at 259.

239. *Id.* at 258–59.

240. *Id.* at 259.

241. *See id.* at 258–59.

242. This part of the Second Circuit decision is not directly related to *Garcia v. Google*, as *Garcia* never claimed sole or even joint authorship of *Innocence of Muslims*. However, this is an interesting finding, as a director has a strong argument for authorship of a film.

243. *Id.* at 255.

244. *Id.* at 256.

245. *Id.* at 259. Merkin claimed copyright in the raw footage because it reflected his creative vision. *Id.*

246. *Id.* at 260 (quoting *Thomson v. Larson*, 147 F.3d 195, 202 (2d Cir. 1998)).

247. *Id.*

248. *Id.*

III. THE EFFECTS OF THESE DECISIONS ON COPYRIGHT OWNERSHIP JURISPRUDENCE

Although *Garcia* added something new to copyright law, its holding, along with the *Casa Duse* decision, is consistent with current copyright doctrine. This new case law formally describes limits of copyright authorship within an integrated work. Neither case, however, creates any sweeping precedent, as both courts were careful to limit their holdings to the particular facts presented. The Ninth Circuit explains that actors cannot claim an independent copyright in their performances in motion pictures and the Second Circuit explains that directors cannot claim such a copyright in their direction. Both of these creative contributions just do not fall within the subject matter of copyright under the Copyright Act.

Even though this question of first impression under copyright law articulated new copyright precedent, it falls squarely within existing copyright doctrine and current Hollywood norms. The reasoning behind both circuits' decisions works within the statutory language of the Copyright Act. Neither *Garcia* nor *Casa Duse* read a new type of "work of authorship" into the statute.²⁴⁹ Although the list of copyrightable works provided by the Act is not exhaustive, it explicitly lists "motion pictures" as a work of authorship. It does not, however, list a performance within a film or anything strikingly similar. As the Second Circuit noted, motion pictures have been around for a long time, but in all of that time, the Act was never amended to add "constituent parts" of a motion picture as a separately protectable work.²⁵⁰

Of course, even though the *Garcia* and *Casa Duse* courts do not discuss them, there are circumstances in which a contributor to an integrated work might have a copyright in his or her own contribution, or in the entire work.²⁵¹ First, a creator may have a copyright interest in his or her separate contribution if that contribution is also a "separate and independent" work.²⁵² Of course, this assumes that there is no written agreement stating otherwise. In this type of situation, a contributor typically creates a work that later becomes part of an integrated work. These works are "conceived and independently fixed by their contributors prior to their incorporation

249. See 17 U.S.C. § 102(a) (2012).

250. See *Casa Duse*, 791 F.3d at 257.

251. See *Garcia v. Google, Inc.*, 786 F.3d 733, 739 (9th Cir. 2015) (en banc); *Casa Duse*, 791 F.3d at 258–59.

252. See 17 U.S.C. § 201(c) (2012).

into the film.”²⁵³ Thus, these original works of authorship secure copyright protection at the moment they are fixed.²⁵⁴ These types of works must then have clearance to be used in an integrated work, or else their use could be infringing. For example, many motion pictures include songs written and performed long before the film was created or even imagined. Those songs’ authors hold separate copyrights, even though the songs were later integrated into the larger works.

Alternatively, if the contribution can stand alone from the integrated work, then its creator can claim separate copyright protection. The contribution could have been created during the filmmaking process with the sole intent of it being integrated into the film. However, as long as the contribution can stand on its own as a “work,” as defined by the Copyright Act, it is likely entitled to separate copyright protection.²⁵⁵

Second, a creative contributor may be able to claim sole or joint authorship of the entire integrated work. When there are multiple contributors to a single work, more than one may maintain copyright ownership in the work as joint authors. While joint authorship allows more than one individual to claim copyright, the determinative question is whether the contributors intended their contributions to be part of an inseparable whole at the time of creation.²⁵⁶ The intent, along with the extent of the contributors’ creative contributions, will determine whether they have a valid claim to joint authorship.

However, if the parties do not agree to joint authorship (proving lack of intent of joint authorship), then there can only be a single author to the integrated work. While a written agreement is not necessary to prove intent, there must at least be implied intent of joint authorship.²⁵⁷ Although sole authorship of an integrated work, such as a film, is generally settled by contract, in the absence of a formal agreement, sole authorship is determined by the factual circumstances, by looking at who is the “dominant

253. Brief of Amici Curiae Professors of Intellectual Property Law in Support of Google, Inc. and YouTube, LLC at 5, *Garcia v. Google*, 743 F.3d 1258 (9th Cir. 2014) (No. 12-57302).

254. *See id.*

255. A work must be (1) original, (2) a “work of authorship,” and (3) “fixed in any tangible medium of expression.” 17 U.S.C. § 102(a) (2012).

256. *See* 17 U.S.C. § 101 (“joint work”).

257. *See* F. Jay Dougherty, *Not a Spike Lee Joint? Issues in the Authorship of Motion Pictures Under U.S. Copyright Law*, 49 UCLA L. REV. 225, 257 (2001).

author.”²⁵⁸ Here, the court looks to the individual’s decision-making authority and relative control over the work, billing and credits, and how agreements are executed with third parties.²⁵⁹ In the Ninth Circuit, the court looks to who “superintended” the work.²⁶⁰ In that analysis, control seems to be the most important factor.²⁶¹

IV. THE PRACTICAL RESULT OF THESE DECISIONS ON THE ENTERTAINMENT INDUSTRY

Although the decisions in *Garcia* and *Casa Duse* do not change much in terms of the practices of the entertainment industry, they do reinforce the importance of obtaining a written agreement for copyright interests in advance of filming. As the *Garcia* court pointed out, “[t]he reality is that contracts and the work-made-for-hire doctrine govern much of the big-budget Hollywood performance and production world.”²⁶² Therefore, the outcomes of *Garcia* and *Casa Duse* will not likely affect the big players and major Hollywood studios because those entities are already so careful to protect themselves from contributors’ copyright claims with well-executed contracts.²⁶³

However, films can be made without a full contracting scheme, making it possible for another *Garcia* issue to arise again. In this day and age, it is easy for anyone to pick up a camera (or a smartphone) and start filming. Also, the number of low-budget films and shorts by aspiring filmmakers continually grows. These videos can then be posted instantaneously to online platforms, such as YouTube, for the entire world to see. Typically, these low-budget projects do not have licenses, and if contracts are executed,

258. See *16 Casa Duse LLC v. Merkin*, 791 F.3d 247, 260 (2d Cir. 2015); *Childress v. Taylor*, 945 F.2d 500, 508 (2d Cir. 1991) (introducing the concept of the “dominant author”).

259. See *Thomson v. Larson*, 147 F.3d 195, 202–04 (2d Cir. 1998) (addressing factors relevant to the dominant-author inquiry); see also *Aalmuhammed v. Lee*, 202 F.3d 1227, 1234 (9th Cir. 2000) (Ninth Circuit analysis of the *Thomson* factors).

260. *Aalmuhammed*, 202 F.3d at 1234 (finding that the individual who is the “master mind” of the work, who “creates, or gives effect to the idea,” is the one who superintended the work).

261. *Id.*

262. *Garcia v. Google, Inc.*, 786 F.3d 733, 743 (9th Cir. 2015) (en banc); see 1 NIMMER & NIMMER, *supra* note 7, § 6.07[B][2].

263. However, if the *Garcia* en banc court had affirmed the Ninth Circuit panel decision holding that *Garcia* could hold an individual copyright in her contribution, then some of those contracts might not have been able to ensure copyright ownership to the contracted “author.” Many issues could have been raised, including the termination of transfers of individuals who had made a creative contribution to the film. This result could have caused an upheaval in the industry. See 17 U.S.C. § 203(a)(3) (2012).

they are not necessarily as “all-encompassing” as those drafted by major movie studios.²⁶⁴

Moreover, even without the recommended contracts, “courts have looked to implied licenses.”²⁶⁵ The decisions appear to follow what is already considered practice in the industry. Thus, it seems that the only reason the *Garcia* and *Casa Duse* suits were possible was because typical contracts were not executed. The “legal niceties” of contracts, work-for-hire agreements, and implied licenses “do not necessarily dictate whether something is protected by copyright, and licensing has its limitations.”²⁶⁶

While the *Garcia* and *Casa Duse* decisions may imply that contracts are no longer needed to ensure a particular individual’s copyright in an integrated work, that is not necessarily the case. *Garcia* has actually been viewed as a reminder of the importance of “obtaining a valid assignment of an actress’s copyright interest in her performance.”²⁶⁷ Any individual intending to secure a copyright in a film or other integrated work must be sure they have a signed work-for-hire agreement that explicitly signs away any and all contributors’ potential copyright interests, or that individual risks contributors making copyright claims.

For example, ideal contract language to include in an actor’s agreement, ensuring that the producer of the work retains all copyright interest, would state: “Producer shall own all rights of every kind in the results and proceeds of Actor’s services hereunder. Producer shall have the unlimited right throughout the universe and in perpetuity to exhibit the Motion Picture in all media, now or hereafter known. Actor’s services are a work for hire.”²⁶⁸ The agreement needs to explicitly specify that the producer owns any and all copyright interests that an actor, or any creative contributor, may acquire during the production process.

Moreover, the agreement could specify that the job is a work made for hire by stating: “All results and proceeds of Performer’s services, including, without limitation, all literary and musical material, designs and inventions of Performer shall be deemed to be a work made for hire for Producer within the meaning of the copyright laws of the United States” and “Producer shall be the sole and exclusive owner for all purposes.”²⁶⁹

264. *Garcia*, 786 F.3d at 743.

265. *Id.* (citing *Effects Assocs., Inc. v. Cohen*, 908 F.2d 555, 558–59 (9th Cir. 1990)).

266. *Id.*

267. DONALDSON & CALLIF, *supra* note 50, at 260.

268. *Id.*

269. 5 NIMMER & NIMMER, *supra* note 7, at § 23.06[E][1].

The bottom line is to make sure everyone involved in a production signs a proper agreement before production begins.²⁷⁰ Even though not every contributor to the integrated work has a valid claim to a copyright interest, it is better to preemptively settle the issue by contract than risk spending a lot of money in legal fees to determine the issue later.

V. CONCLUSION

The Ninth and Second Circuits, which are considered this nation's entertainment circuits, have stated that an individual contributing to one aspect of a film does not necessarily hold a separate copyright in that contribution. Although this issue had not arisen previously, it has become an important question in this day and age. Now, it is much easier to make a film because costs are lower, and recording technology is more widely available. Therefore, aspiring and new filmmakers are more likely to not execute the work-for-hire agreements that major motion picture studios have carefully crafted.

Garcia v. Google started a fresh discussion in the courts and among copyright experts regarding authorship of contributors to an integrated work. The Ninth Circuit resolved this issue by applying the language of the federal copyright statute and copyright jurisprudence. This solution appears to be a promising course, especially with the Second Circuit following suit. However, it is likely that this issue will again come before the courts.

270. See 16 Casa Duse, LLC v. Merkin, 791 F.3d 247, 255–61 (2d Cir. 2015).

STANDING THE TEST OF TIME: LIKELIHOOD OF CONFUSION IN *MULTI TIME MACHINE V. AMAZON*

Andrea M. Hall[†]

In *Multi Time Machine v. Amazon*,¹ a three-judge panel from the Ninth Circuit struggled once again to apply the brick-and-mortar doctrines of trademark law to an online context.² This time, the court's *bête noire* reappeared in questions about the multifactor, so-called *Sleekcraft* test.³ Amazon displayed watches with a similar trade dress in response to a search for the trademarked brand of military watches not sold on the site.⁴ First, the Ninth Circuit reversed the district court's holding that none of the four relevant factors from the *Sleekcraft* test suggested that Amazon's search results page was likely to confuse a reasonably prudent consumer.⁵ A few months later, in an unusual move, the same three-judge panel withdrew its opinion in response to Amazon's petition for rehearing and affirmed the lower court.⁶ In a rejoinder to its previous opinion and the inclusion of intent among the *Sleekcraft* factors, the Ninth Circuit found that the multifactor test was "not particularly apt" to assess consumer confusion that was not between two competing brands.⁷ Instead, all that mattered was what a reasonably prudent consumer would believe based on Amazon's search

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1. *Multi Time Mach., Inc. v. Amazon.com, Inc. (MTM III)*, 804 F.3d 930 (9th Cir. 2015).

2. Confusion on the Internet is a perennially popular law and technology topic. Six of the last seven Berkeley Technology Law Journal Annual Reviews have addressed how courts assess likelihood of confusion on the Internet. See *Annual Review*, BERKELEY TECH. L.J., <http://btlj.org/category/annual-review> [<https://perma.cc/ED33-VWQR>].

3. See *AMF, Inc. v. Sleekcraft Boats*, 599 F.2d 341, 348815–49 (9th Cir. 1979).

4. *MTM III*, 804 F.3d at 935.

5. *Multi Time Mach., Inc. v. Amazon.com, Inc. (MTM I)*, 926 F. Supp. 2d 1130, 1132 (C.D. Cal. 2013), *rev'd and remanded sub nom. Multi Time Mach., Inc. v. Amazon.com, Inc. (MTM II)*, 792 F.3d 1070 (9th Cir. 2015), *opinion withdrawn and superseded on reh'g*, 804 F.3d 930 (9th Cir. 2015), *and aff'd sub nom. Multi Time Mach., Inc. v. Amazon.com, Inc. (MTM III)*, 804 F.3d 930 (9th Cir. 2015).

6. *MTM III*, 804 F.3d at 933.

7. *Id.* at 936.

results.⁸ To assess those beliefs, the court turned to a prior application of the *Sleekcraft* factors to search results.⁹

The court's desire to revise the likelihood of confusion analysis for Internet commerce and shifting consumer expectations in its second opinion is understandable. Buying a watch on Amazon in 2015 resembles buying a speedboat in the 1970s,¹⁰ the context in which the circuit originally fashioned its test, in that it requires an exchange of money for goods. However, the way consumers learn about, pay for, and even physically receive goods has changed dramatically.¹¹ Marketing channels, for instance, assume much less importance in the analysis of consumer confusion on the Internet.¹² Although replacing the long-standing *Sleekcraft* test with the fast and frugal heuristic of a reasonable consumer might serve the aims of judicial economy,¹³ it does not necessarily better serve the aims of trademark law, which are the avoidance of consumer confusion and enforcement of market morality.

Part I of this Note tracks the development of intent and the tort of palming off in trademark law and judicial rhetoric. Part II explains how Amazon's business model creates negative externalities for competitors and consumers akin to those that trademark law traditionally aims to deter. Part III discusses the Ninth Circuit's analysis, using the *Sleekcraft* factors and the court's more recent, reasonably-prudent-consumer formulation. Part IV argues that a multifactor likelihood of confusion test preserves deliberation and the historical construct of trademark infringement as a tort. Using the early-twentieth-century trade morals that motivated the Lanham Act, courts can craft the correct incentives for new technologies.

8. *Id.* at 937.

9. The court's use of the same four factors is somewhat strange considering that in the prior paragraph the court claimed that those factors were not particularly apt. *Id.* (citing *Network Automation, Inc. v. Advanced Sys. Concepts, Inc.*, 638 F.3d 1137, 1152 (9th Cir. 2011) (using four of the *Sleekcraft* factors as a proxy for what a reasonably prudent consumer believes)).

10. The Ninth Circuit developed its *Sleekcraft* test for confusion in this context. *See Sleekcraft*, 599 F.2d at 346.

11. On the growth of Internet commerce, see Brief for Google, Inc. et al. as Amici Curiae Supporting Defendant-Appellee Amazon.com at 6–7, *MTM III*, 804 F.3d 930 (9th Cir. 2015) (No. 13-55575).

12. *See Network Automation*, 638 F.3d at 1151 (“[T]he shared use of a ubiquitous marketing channel does not shed much light on the likelihood of consumer confusion.”).

13. Some studies suggest that heuristics of two or three elements produce more accurate decisions than those that attempt to consider a situation more comprehensively. On “stampeding” factors in the analysis of trademark infringement, see Barton Beebe, *An Empirical Study of the Multifactor Tests for Trademark Infringement*, 94 CALIF. L. REV. 1581, 1586 n.25 (2006).

I. TRADEMARK LAW

To understand why the factors encompassed by the *Sleekcraft* likelihood of confusion test should continue to matter in analyzing trademark infringement on the Internet, it is important to understand why they ever mattered at all.

A. THE COMMON LAW OF PALMING OFF

The origins of and justifications for trademark law are murky. The first action for a fraudulent use of another's mark occurred in the sixteenth century.¹⁴ Yet scholars of trademark law still debate why laws should limit competition and speech to protect signs, which have no intrinsic value.¹⁵

One justification is that trademarks are not empty signs.¹⁶ Instead, they are potent symbols that perform the valuable work of identification in the market.¹⁷ Trademarks allow consumers to locate goods and services that they prefer, based on their past experiences or on advertising.¹⁸ Because of trademarks, once consumers have decided that they prefer goods from one mark, they can be confident that the product sold under that mark comes from the same source every time.¹⁹ Trademarks also assure their owners that their investments in the quality and consistency of their products will not go unnoticed by consumers.²⁰ Consumers will reward trademark owners for their efforts with continued business.²¹ According to this economic view,

14. *J.G. v. Samford (Samford's Case)*, (1584) (unpublished case), in *SOURCES OF ENGLISH LEGAL HISTORY—PRIVATE LAW TO 1750* 615 (J.H. Baker & S.F.C. Milsom eds., 1986). Frank Schechter, the pioneering trademark scholar who first formulated the concept of trademark dilution, however, dismissed the case because of its varied reporting history. See, e.g., FRANK I. SCHECHTER, *THE HISTORICAL FOUNDATIONS OF THE LAW RELATING TO TRADE-MARKS* 6 (1925); Keith M. Stolte, *How Early Did Anglo-American Trademark Law Begin? An Answer to Schechter's Conundrum*, 88 *TRADEMARK REP.* 564 (1998).

15. Robert G. Bone, *Taking the Confusion out of Likelihood of Confusion*, 106 *NW. U. L. REV.* 1307, 1320 n.83 (2012) (describing how trademark doctrines can limit competition and free speech, especially as commerce has moved onto the Internet). On the value or lack thereof of signs, see Barton Beebe, *The Semiotic Analysis of Trademark Law*, 51 *UCLA L. REV.* 621, 638 (2004).

16. See Beebe, *supra* note 14, at 624.

17. *Id.* at 657.

18. 1 J. THOMAS MCCARTHY, *MCCARTHY ON TRADEMARKS AND UNFAIR COMPETITION* § 2:3 (4th ed. 2009).

19. See *id.* at § 2.5.

20. See *id.* at § 2.4.

21. See *id.*

trademark law “can best be explained on the hypothesis that the law is trying to promote economic efficiency.”²²

Others argue that trademark law originally enforced an honor code of market morality among merchants.²³ While courts in early trademark cases balanced the competing interests of merchants and consumers, merchants invariably brought their claims as torts for fraud that hindered fair competition.²⁴ In one early case in which the defendant had applied the plaintiff’s label to bolts of competing ticking, the court emphasized that trademark law should not restrain free trade. Rather, trademark law’s “direct tendency is to produce and encourage a competition, by which the interests of the public are sure to be promoted; a competition that stimulates effort and leads to excellence, from the certainty of an adequate reward.”²⁵ Like any other tort, early trademark law sought not only to make injured parties whole but also to penalize the tortfeasors who used fraud to injure the public’s interest in free, informed competition.²⁶

In *William R. Warner v. Eli Lilly*, the Supreme Court identified palming off as a species of the tort of unfair competition.²⁷ It held that Warner, who made a cheaper, chocolate-flavored quinine solution with a similar name and appearance to Eli Lilly’s quinine solution, was liable for encouraging retail druggists to palm it off in place of the plaintiff’s product.²⁸ The similar name and appearance of the defendant’s product did not in themselves infringe the plaintiff’s trademark. The small, individual retailers ultimately deceived consumers when they presented the defendant’s product in response to requests for the plaintiff’s mark.²⁹ Nevertheless, the Court reasoned that “[o]ne who induces another to commit a fraud and furnishes

22. William M. Landes & Richard A. Posner, *Trademark Law: An Economic Perspective*, 30 J.L. & ECON. 265, 266 (1987). This economic explanation of trademark’s purpose has gained ground as a correction to dilution laws that seem to grant pseudo-property rights to trademark owners without regard to their effects on consumers or competition. See Stacey L. Dogan & Mark A. Lemley, *Search-Costs Theory of Limiting Doctrines in Trademark Law*, 97 TRADEMARK REP. 1223, 1251 (2007).

23. See, e.g., Jeremy N. Sheff, *Marks, Morals, and Markets*, 65 STAN. L. REV. 761, 787 (2013).

24. César Ramirez-Montes, *Re-examination of the Original Foundations of Anglo-American Trademark Law*, 14 MARQ. INTELL. PROP. L. REV. 91, 135 (2010).

25. *Amoskeag Mfg. Co. v. Spear*, 2 Sand. Ch. 599, 605 (N.Y. 1849).

26. Ramirez-Montes, *supra* note 24, at 135.

27. 265 U.S. 526, 532 (1924).

28. *Id.*

29. *Id.* (“The legal wrong does not consist in the mere use of chocolate as an ingredient, but in the unfair and fraudulent advantage which is taken of such use to pass off the product as that of respondent.”).

the means of consummating it is equally guilty and liable for the injury.”³⁰ While there is some question over whether this holding survived the passage of the Lanham Act (“Act”),³¹ federal courts continued to hear claims for contributory trademark infringement before Congress passed the Act in 1946.³²

B. LANHAM ACT

The Lanham Act provides for the registration of trademarks and creates a federal cause of action for their infringement. Tort law once sufficed to ensure fair competition, protect merchants and consumers, and punish fraud from both direct and contributory infringers. However, by 1900, the risk of fraudulent, unfair competition to a producer’s investment in their brand appeared greater than before.³³ Technology and advertising allowed a mark to reach distant consumers more quickly and to build its reputation even among those who never bought the product.³⁴ The expanded reach of brands made their protection by state laws impractical, so Congress enacted the first federal trademark registration statute in 1905.³⁵

30. *Id.* at 530–31.

31. *Erie R.R. v. Tompkins*, 304 U.S. 64, 78 (1938), famously held that there is no general federal common law. On its implications for trademark law, see John T. Cross, *Contributory Infringement and Related Theories of Secondary Liability for Trademark Infringement*, 80 IOWA L. REV. 101, 121–25 (1994); Note, *Central Bank and Intellectual Property*, 123 HARV. L. REV. 730, 746–50 (2010) (discussing the Lanham Act’s vague incorporation of previous common law doctrines, such as a contributory infringement, into its statutory scheme).

32. See Sarah Wells Orrick, Note, *Deciphering Rosetta Stone*, 28 BERKELEY TECH. L.J. 805, 808 n.26 (2013).

33. On the history of trademark law as trade morals, see Louis D. Brandeis, *Cuttthroat Prices: Competition that Kills*, HARPER’S WEEKLY, Nov. 15, 1913, at 10.

34. On the relationship between investment in advertising and moves to protect it through trademark law, see Mark Bartholomew, *Advertising and the Transformation of Trademark Law*, 38 N.M. L. REV. 1 (2008).

35. On the history of federal trademark protection before the Lanham Act, see Virginia E. Scholtes, Note, *The Lexmark Test for False Advertising: When Two Prongs Don’t Make a Right*, 30 BERKELEY TECH. L.J. 1023, 1029 (2015).

When this original statute proved inadequate to protect trademark owners,³⁶ Congress passed the Lanham Act on July 5, 1946.³⁷ It created a cause of action against “[a]ny person who shall, without the consent of the registrant, use in commerce any reproduction . . . of a registered mark in connection with the sale . . . of any goods or services on or in connection with which such use is likely to cause confusion.”³⁸ The law never mentions those who merely facilitate the use in commerce of a mark, nor how a court might determine if a defendant has facilitated a use.³⁹ The bill, nevertheless, “preserves the things which have demonstrated their usefulness.”⁴⁰ Courts have looked to federal common law that preceded the Lanham Act to interpret its terms.⁴¹

The Supreme Court affirmed the continued existence of the tort of palming off for trademarks in *Inwood Laboratories v. Ives Laboratories* in 1982.⁴² There, Inwood made a generic version of an expensive pill from Ives.⁴³ The two versions of the pill appeared identical, and pharmacists substituted the cheaper Inwood version for Ives’s.⁴⁴ Rather than hold the individual pharmacists accountable for palming off the cheap pill, Ives sued Inwood for both direct and contributory infringement.⁴⁵ Inwood, Ives

36. In 1938, *Erie* threw the validity of federal common laws, such as trademark doctrines that held both retailer and manufacturer accountable for palming off, into question. See Cross, *supra* note 31, at 121; see also S. REP. NO. 1333, 79th Cong., 2d Sess. 3 (1946), reprinted in 1946 U.S. Code Cong. Serv. 1274, 1275. The Senate Report stated:

The theory once prevailed that protection of trademarks was entirely a State matter and that the right to a mark was a common law right. This theory was the basis of previous national trademark statutes. Many years ago the Supreme Court held and has recently repeated that there is no Federal common law. It is obvious that the States can change the common law with respect to trademarks and many of them have, with the possible result that there may be as many different varieties of common law as there are States. A man’s rights in his trademark in one State may differ widely from the rights which he enjoys in another.

37. MCCARTHY, *supra* note 17, at § 5:4.

38. 15 U.S.C. § 1114.

39. These omissions, coupled with the increased rights and remedies available to trademark holders under the Act, make its relationship to previous common-law rules problematic. See Cross, *supra* note 31, at 111 n.35.

40. See S. REP. 1333, *supra* note 36, at 1275.

41. See Stacey L. Dogan & Mark A. Lemley, *Grounding Trademark Law Through Trademark Use*, 92 IOWA L. REV. 1669, 1686 n.69 (2007); Orrick, *supra* note 32, at 810 n.33.

42. 456 U.S. 844, 861 (1982).

43. *Id.* at 846.

44. *Id.* at 850.

45. *Id.* at 846.

argued, directly infringed its trade dress when it copied the appearance of the pill.⁴⁶ It contributed to the pharmacists' infringement by creating an opportunity for them to mislabel its identical pill with Ives's mark.⁴⁷

The Court confirmed the tort of palming off survived the Lanham Act's federalization of trademark law.⁴⁸ It reiterated the holding from *Warner* that a distributor who knowingly continues to supply a product that a retailer uses to confuse consumers is likewise responsible for the retailer's palming off.⁴⁹ Because Inwood imitated the color and size of Ives's pills, it had reason to know that pharmacists could mislabel the products and infringe Ives's mark, even if the color and size had a functional basis that prevented Inwood from directly infringing Ives's trade dress.⁵⁰

The Court's analysis of Inwood's behavior was simple: Inwood continued making a cheaper, identical-looking pill, even as it knew pharmacists would palm the pill off as a genuine Ives product and even as a lengthy supply chain stood between the drug maker and retailer.⁵¹ The emergence of the Internet in that supply chain, however, has complicated courts' more recent decisions about palming off.

C. THE INTERNET AS BILLBOARD: ADAPTING BRICK-AND-MORTAR DOCTRINES TO THE INTERNET

Over the last twenty years, courts have grappled with how to apply these trademark doctrines, designed to punish the fraudulent and confusing application of marks to inferior bolts of ticking or vials of quinine, to the more complex commercial landscape of the Internet. Consumers no longer see and feel the bolts of ticking or vials of quinine before their purchase. On the Internet, consumers interact with products only through their signs and descriptions.⁵² Generally, courts have eschewed creating new doctrines to

46. *Id.*

47. *Id.* at 854.

48. *Id.* at 858.

49. *Id.* at 854 (citing *William R. Warner v. Eli Lilly*, 265 U.S. 526, 530 (1924)) ("The wrong was in designedly enabling the dealers to palm off the preparation as that of the respondent.").

50. *Id.*

51. *Id.* at 861–62.

52. As semiotician Paul J. Thibault claimed, "The sign imposes digital order on the analogue flux of perceptual experience." PAUL J. THIBAUT, *RE-READING SAUSSURE: THE DYNAMICS OF SIGNS IN SOCIAL LIFE* 215 (1997). On the application of Thibault's semiotics to trademark law, see Beebe, *supra* note 15, at 635 n.72.

suit new technologies and instead stretch the limits of precedent and brick-and-mortar doctrines, such as palming off, through metaphor.⁵³

1. *Early Development: Brookfield Communications and the Information Superhighway*

In *Brookfield Communications v. West Coast Entertainment*,⁵⁴ the Ninth Circuit first addressed the application of the trademark law to Internet domain names and metatags that early search engines used to find relevant information.⁵⁵ During its “venture into cyberspace,”⁵⁶ the court spent more than five hundred words explaining the mechanics of the Internet.⁵⁷ Internet users, the court claimed, found information by hazarding domain names and crossing their fingers that relevant information might appear.⁵⁸ West Coast had purchased the moviebuff.com domain to market video rental stores.⁵⁹ The site included a database of movie trivia, licensed from a competitor of Brookfield.⁶⁰ Brookfield marketed a database of entertainment information, targeted at professionals, under the mark “MovieBuff.”⁶¹ The district court refused to grant an injunction against West Coast’s use because, as a video rental service, West Coast did not seem to compete with Brookfield, an information aggregator.⁶²

To determine if West Coast’s site infringed Brookfield’s mark, the Ninth Circuit looked to the vernacular of the 1990s, which christened the Internet an “information superhighway.”⁶³ Meta tags were billboards along

53. The Ninth Circuit has not been shy about citing Internet-specific precedent from other circuits to support its findings on likelihood of confusion. The final case discussed in this history, *Network Automation, Inc. v. Advanced Sys. Concepts, Inc.*, 638 F.3d 1137 (9th Cir. 2011). Thus, this otherwise Ninth-Circuit-focused history includes *Rosetta Stone v. Google*, 676 F.3d 144 (4th Cir. 2012).

54. 174 F.3d 1036 (9th Cir. 1999).

55. *Id.* at 1041.

56. *Id.*

57. *Id.* at 1044.

58. *Id.* at 1044–45.

59. *Id.* at 1042.

60. *Id.* at 1056.

61. *Id.* at 1051.

62. *Id.* at 1056.

63. According to Google’s Ngram Viewer, “information superhighway” reached its peak usage in 1995. It was roughly eight times more prevalent in the mid-1990s than today. See “*information superhighway*,” GOOGLE BOOKS NGRAM VIEWER, <https://books.google.com/ngrams> [<https://perma.cc/MSD6-ENH2>] (search for “information superhighway,” case-insensitive, between 1980 and 2008) [hereinafter GOOGLE NGRAM]. The term has now waned to roughly 1992 levels, and its last use in the Oxford English Dictionary dates from 2001. The metaphor is often attributed to former Vice President Al Gore, who coined

that highway.⁶⁴ Including a competitor's trademark in those meta tags, the court argued, was just like posting a sign with a false trademark along a highway.⁶⁵ Consumers, looking for the trusted, marked product, would pull off the highway, only to find the infringing product in the trademark's place.⁶⁶ By that time, the court theorized, they had invested time and effort in their search and might settle for an infringing product rather than continue their search.⁶⁷ The court carefully crafted its highway metaphor to apply initial-interest confusion to a new context with drastically different dynamics and stakes, despite a lack of actual evidence that West Coast's use of the mark and free movie trivia to promote its rentals diverted any potential purchaser of Brookfield's detailed entertainment industry information.⁶⁸ The court used only three factors from the *Sleekcraft* analysis—similarity of the marks, relatedness of goods, and use of the Internet as a marketing channel—to infer likelihood of confusion.⁶⁹ Despite the court's warning that “emerging technologies require a flexible approach,”⁷⁰ courts in the Ninth Circuit enshrined these three factors as the “Internet troika,” the definitive test for infringement on the Internet.

2. Rosetta Stone and the Internet as a Commons

Although “information highway” eventually lost its cachet as a euphemism for the Internet,⁷¹ the billboard remained a potent metaphor for finding and supplying information on the Internet.⁷² By 2012, in *Rosetta Stone v. Google*, the Internet had become a commons.⁷³ As it considered the

it to emphasize the need for the country to invest in information technology infrastructure as it had once invested in the interstate highway system. See “information superhighway, n.” OED ONLINE, December 2015, Oxford University Press, <http://www.oed.com/view/Entry/95568?redirectedFrom=information+superhighway> [<https://perma.cc/JK7T-RWHC>].

64. *Brookfield*, 174 F.3d at 1064.

65. *Id.*

66. *Id.*

67. *Id.*

68. *Id.* at 1062. On the lowered search costs of the Internet and their implications for common-law trademark doctrines such as initial interest confusion, see Stacey L. Dogan & Mark A. Lemley, *Trademarks and Consumer Search Costs on the Internet*, 41 HOUS. L. REV. 777 (2004).

69. *Id.* at 1053–54.

70. *Id.* at 1054.

71. See GOOGLE NGRAM, *supra* note 63.

72. See *Rosetta Stone Ltd. v. Google, Inc.*, 730 F. Supp. 2d 531, 549–50 (E.D. Va. 2010), *aff'd in part*, 676 F.3d 144 (4th Cir. 2012).

73. See *id.* The metaphor of the Internet as a commons where users both contributed and took information and content appears to date from the late 1990s. See LAWRENCE LESSIG, *THE FUTURE OF IDEAS: THE FATE OF THE COMMONS IN A CONNECTED WORLD* (2001) 23 n.11.

language-learning software maker's claims for direct, contributory, and vicarious trademark infringement, the district court compared the Internet to Times Square.⁷⁴ Ads on search engines like Google were like billboards.⁷⁵ The search engine, the court found, was no different from the owner of the building.⁷⁶ The building might supply the space for the billboard, but it does not exert control over the content of the displayed advertisements, and thus cannot be directly liable for infringement.⁷⁷

On appeal, the Fourth Circuit affirmed the district court's finding of vicarious liability.⁷⁸ Nevertheless, the court overturned the lower court's grant of summary judgment on Rosetta Stone's claims for direct and contributory infringement.⁷⁹ Google knew its search results and embedded advertisements could confuse consumers.⁸⁰ Before 2004, the search engine had not allowed unauthorized advertisers to purchase ads triggered by trademarked keywords.⁸¹ In 2009, Google loosened its policies to allow *any* advertiser to purchase trademarked keyword ads and include the trademark in advertisements for competing products.⁸² Although expert reports and Google's internal studies showed that users found both of these practices confusing,⁸³ Google argued that the allegedly confusing ads provided "users with more choice and greater access to relevant information."⁸⁴ Google derived seven percent of its total revenue from trademarked terms when it began to loosen its restrictions in 2004.⁸⁵ Its internal studies showed that loosening those restrictions would boost its revenue although fewer restrictions also risked consumer confusion and thus lawsuits from trademark holders.⁸⁶

Because Google derived revenue only from ads, not from the sale of goods, the Fourth Circuit found, the search engine lacked the incentive to

74. *Rosetta Stone*, 730 F. Supp. 2d at 549–50.

75. *Id.*

76. *Id.*

77. On the problems of comparing targeted, keyword-generated advertisements to large billboards directed to the public at large, see Orrick, *supra* note 31, at 817.

78. *Rosetta Stone Ltd. v. Google, Inc.*, 676 F.3d 144, 149 (4th Cir. 2012).

79. *Id.* at 150.

80. *Id.* at 151.

81. *Id.*

82. *Id.* at 151–52.

83. *Id.* at 156, 158.

84. *Id.* at 155.

85. *Id.* at 156.

86. *Id.*

police confusing ads.⁸⁷ Using the circuit’s multifactor confusion test⁸⁸ and the *Inwood* standard, the court found that Google had reason to know that vendors of counterfeit software purchased advertising on the results page for searches of Rosetta Stone’s mark.⁸⁹ Like the drugmaker in *Inwood*, Google had created the opportunity for infringement.⁹⁰ Although Google had committed only one act—selling advertising space to likely infringers—the search company could be both directly and contributorily liable for the harm to Rosetta Stone, for it had known that there was a risk of confusing consumers.⁹¹

3. Network Automation and the Internet as a Department Store

By 2011, in *Network Automation v. Advanced System Concepts*, in which the court examined whether purchasing advertisements keyed to a competitor’s trademark infringed that mark,⁹² the novelty of the Internet had evaporated for the Ninth Circuit.⁹³ Internet commerce had become commonplace.⁹⁴ Using the Internet was no longer the exciting road trip on the information superhighway it had been in *Brookfield*. Now using the Internet was more akin to buying shirts at a windowless, fluorescent-lit department store, filled with racks of mass-produced, but hardly generic garments.⁹⁵ The Internet had become a necessity, a chore even, that “we all use.”⁹⁶ Thus, the troika of factors the circuit had used to analyze Internet confusion in *Brookfield* was no longer relevant to assess consumers’ confusion.⁹⁷ Rather than hew strictly to Internet-specific precedent, such as the troika, the circuit decided that the same eight-factor *Sleekcraft* test for confusion ought to apply equally to confusion on the Internet as anywhere

87. *Id.* at 163.

88. Although the Fourth Circuit cited to *Playboy Enterprises, Inc. v. Netscape Communications Corp.*, 354 F.3d 1020 (9th Cir. 2004), in its decision, the Fourth Circuit’s multifactor, likelihood of confusion test differs slightly from the Ninth Circuit *Sleekcraft* test. The Fourth Circuit’s test considers the quality of the defendant’s product. *See Sara Lee Corp. v. Kayser-Roth Corp.*, 81 F.3d 455, 463 (4th Cir. 1996).

89. *Rosetta Stone Ltd. v. Google, Inc.*, 676 F.3d 144, 164 (4th Cir. 2012).

90. *Id.*

91. *Id.*

92. 638 F.3d 1137, 1142 (9th Cir. 2011).

93. *Id.* at 1152.

94. *Id.*

95. *Id.* at 1147–48 (citing Judge Berzon’s concurrence to *Playboy Enters., Inc. v. Netscape Commc’ns Corp.*, 354 F.3d 1020, 1035 (9th Cir. 2004) (Berzon, J. concurring)).

96. *Id.* at 1148.

97. This was especially true in *Network Automation* where the consumer in question was buying expensive enterprise software. *Id.* at 1152.

else.⁹⁸ The circuit warned courts against adhering to the *Sleekcraft* test too closely in the Internet context.⁹⁹ The multifactor test was not exhaustive, and in some circumstances, confusion and infringement might require the analysis of additional factors, such as the design of a website as a whole.¹⁰⁰

II. AMAZON: HIGHWAY, BILLBOARD, DEPARTMENT STORE, BARTENDER, DINER, MONOPOLY?

Amazon, to be sure, aspires to be many things. However, unlike the defendants in many online trademark infringement cases, Amazon does not make much money from advertising.¹⁰¹ Thus, its incentives differ from brick-and-mortar defendants' incentives. Those incentives and the online retailer's business model elucidate the Ninth Circuit's conflicting decisions. They also demonstrate why the many factors of the *Sleekcraft* test remain useful to analyzing likelihood of confusion on the Internet.

A. AMAZON'S ORIGINS

Founded as an online bookseller by Jeff Bezos in 1995, Amazon always aimed to leverage the advantages of technology to sell goods.¹⁰² However,

98. *Id.* at 1148–49.

99. *Id.* at 1153.

100. *Id.* at 1154.

101. Amazon's earnings report does not break out exactly how much revenue advertising on the site generates. It lumps advertising revenue into the category of "Other" along with all non-retail revenues, such as co-branded credit cards. The "Other" category declined 6 percent in the last quarter of 2015 in North America. See *Amazon.com Announces Fourth Quarter Sales up 22% to \$35.7 Billion*, AMAZON.COM (Jan. 28, 2016), <http://phx.corporate-ir.net/phoenix.zhtml?c=97664&p=irol-newsArticle&ID=2133281> [<https://perma.cc/PWK2-KPTP>]. Other estimates put the retailer's advertising revenue around \$580 million in 2015. See Alexandra Bruell, *The Next Big Ad Platform: Retailer Sites?*, ADVERTISING AGE, Nov. 9, 2015.

102. *Quill v. North Dakota*, 504 U.S. 298 (1992), in which the Supreme Court held that an out-of-state, mail-order merchant need not collect state sales tax, is often credited with focusing Bezos's attention on the advantages of online retail. In a 1996 interview, Bezos confirmed the importance of avoiding state sales tax to his vision: "[I]t had to be in a small state. In the mail-order business, you have to charge sales tax to customers who live in any state where you have a business presence. It made no sense for us to be in California or New York." William C. Taylor, *Who's Writing the Book on Web Business?*, FAST COMPANY (Oct. 31, 1996), <http://www.fastcompany.com/27309/whos-writing-book-web-business> [<https://perma.cc/T47Y-SD3V>]. On the continued importance of tax evasion to Amazon, see Peter Elkind & Doris Burke, *Amazon's (Not So) Secret War on Taxes*, FORTUNE, June 10, 2013, at 76. On the general motivations behind founding Amazon, David E. Shaw remarked in 1999: "The idea was always that someone would be allowed to make a profit as an intermediary. The key question is, [w]ho will get to be that middleman?" Peter de Jonge, *Riding the Wild, Perilous Waters of Amazon.com*, N.Y. TIMES MAG., Mar. 14, 1999, at 36, 54.

even from its earliest days, Bezos recognized that virtually anyone could sell goods on the Internet.¹⁰³ The key was its customers, the trust that they placed in Amazon, and the community created by that trust.¹⁰⁴ Amazon's marketing materials continue to tout its business as "customer-centric" and based on "customer obsession rather than competition focus."¹⁰⁵ The retailer lists "customer reviews, 1-click shopping, [and] personalized recommendations" first among its signature, pioneering services.¹⁰⁶ To attract and retain customers, Amazon offered quick shipping, responsive customer service, and generous return policies.¹⁰⁷

B. CONSUMER-CENTRIC MISSION

Amazon also had to learn what each of its customers liked.¹⁰⁸ From the earliest business plans, Jeff Bezos told investors that Amazon would offer more than just an online version of a mail-order catalog.¹⁰⁹ It would customize the site and its offerings to each customer.¹¹⁰ At first, Amazon simply asked its customers what they liked.¹¹¹ Its Bookmatch program asked

103. de Jonge, *supra* note 102, at 38 ("While it is true that if all you want to do is to put up something for sale, the barriers of entry are extremely low on the Internet. If you actually want to sell a lot of that stuff, they're quite high and getting higher all the time . . .").

104. In 1998, online retailers like Amazon spent twenty-six dollars per sale in advertising and marketing to attract customers. *See id.* Bezos was apparently candid about the importance of customer data from the start. He reportedly told another bookseller in 1995 that "Amazon intended to sell books as a way of gathering data on affluent, educated shoppers. The books would be priced close to cost, in order to increase sales volume. After collecting data on millions of customers, Amazon could figure out how to sell everything else dirt cheap on the Internet." George Packer, *Cheap Words*, *NEW YORKER*, Feb. 17, 2014, at 66. In 1999, David Shaw confirmed, "Making money on books was almost irrelevant, compared with establishing Amazon as the most trusted brand in this new space." *See de Jonge, supra* note 102, at 40.

105. *Amazon.com Announces Third Quarter Sales up 23% to \$25.4 Billion*, *AMAZON* (Oct. 22, 2015), <http://phx.corporate-ir.net/phoenix.zhtml?c=97664&p=irol-newsArticle&ID=2100418> [<https://perma.cc/4JPJ-VDMU>].

106. *Id.*

107. BRAD STONE, *THE EVERYTHING STORE: JEFF BEZOS AND THE AGE OF AMAZON* 41 (2013) (describing the ambitious, but difficult to fulfill, return policy).

108. *See id.* (describing Bezos's early pitch to investors, which included personalization as the company's chief advantage over brick-and-mortar retailers).

109. *Id.* at 41, 51–52.

110. Bezos had long sought to capitalize on technology's promise as a way to learn about individuals and offer customized products and services. In the late 1980s, he started a company that faxed customized newsletters to customers based on their characteristics and preferences. *Id.* at 20. In a 1998 speech, he cited customization as online retailing's chief advantage over its brick-and-mortar competitors: "Great merchants have never had the opportunity to understand their customers in a truly individualized way. E-commerce is going to make that possible." *Id.* at 52 n.13.

111. *Id.* at 51.

customers to rate a dozen books.¹¹² Based on those preferences and the preferences of similar users, it would recommend other books. However, the software was slow.¹¹³ Worst of all for consumer-centric Amazon, customers found rating books tedious and seldom took the extra effort necessary to produce the recommendations.¹¹⁴ Still eager to capitalize on technology's nascent ability to engage customers through customized recommendations, which were essentially advertisements, Amazon needed a simpler way to learn what its customers wanted. So, it looked at what they had already purchased.¹¹⁵ Customization based on purchase history, a feature known as Similarities, avoided the extra rating step that customers disliked and led to an increase in sales of recommended products.¹¹⁶ Its success proved the predictive and thus monetary value of that information to Amazon and its advertisers.¹¹⁷

C. SEARCH AS AN ASSET

Amazon continued to lean heavily on consumer information to sell products.¹¹⁸ After Similarities's initial success, Amazon eliminated the editorial staff that wrote descriptions of products and targeted e-mails.¹¹⁹ Amabot, a recommendation system, replaced the writers.¹²⁰ Around the

112. Firefly, subsequently purchased and shut down by Microsoft, designed the Bookmatch software. For a description of Firefly's collaborative filtering technology, see Scott Kirsner, *Firefly: From the Media Lab to Microsoft*, WIRED NEWS (Apr. 9, 1998), <http://www.wired.com/news/news/business/story/11585.html> [<https://perma.cc/F7UA-P9VP>].

113. STONE, *supra* note 107, at 51.

114. *Id.*

115. *Id.*

116. *Id.*

117. When negotiating with publishers, Amazon threatened to banish their catalogs from the personalization and recommendation algorithms. Acting on this threat has made some publishers' sales drop as much as 40 percent, according to one of Amazon's senior book buyers. *Id.* at 243. For an argument that Amazon's massive market power in digital books violates or at least should violate antitrust laws, see Franklin Foer, *If You Like Amazon, You May Also Like*, THE NEW REPUBLIC, Oct. 27, 2014, at 18–20. One proposal to reform Great Depression era trade morals to curb the excesses of large retailers today appears in John B. Kirkwood, *Reforming the Robinson-Patman Act to Serve Consumers and Control Powerful Buyers*, 60 ANTITRUST BULL. 358 (2015).

118. At one point, Amazon attributed thirty percent of its sales to recommendations. *See Building with Big Data*, THE ECONOMIST (May 26, 2011), <http://www.economist.com/node/18741392> [<https://perma.cc/7ANM-J6ZY>].

119. On the gradual decline of the editorial unit, of which Bezos had initially been a strong proponent, and the consequent rise of the personalization unit at Amazon, see generally JAMES MARCUS, AMAZONIA (2004).

120. *See id.* at 246 (“The editors, you see, still spent a disgraceful amount of time fiddling with content. That was a proven time sink and a money pit. The obvious solution: automate the category pages, add a host of personalization widgets . . .”). Amazon

time that Amazon introduced Similarities, the retailer also realized that its search engine, licensed from Alta Vista, was inadequate to help customers locate goods in its vast catalog.¹²¹ Amazon replaced the licensed search with a proprietary search engine that identified which products customers clicked on most often for a given search term.¹²² Subsequent search results ranked those products more highly.¹²³ However, as its catalog continued to grow and Google became synonymous with online search in the vernacular, Amazon worried that it would lose valuable information about its customers if it did not improve its search engine.¹²⁴

To that end, the company launched A9 in 2003.¹²⁵ It pioneered using consumer behavior not just to rank matches, but also to understand the customer's original search query.¹²⁶ The A9 site currently touts that its search can tell whether a customer's search for "Timbaland" seeks music by that artist or boots from the similarly named outfitter.¹²⁷ It also designed the "Search Inside the Book" feature that allows consumers to look at snippets of text.¹²⁸ The same feature allows Amazon's product search to return books whose text contains customer search terms. Because A9's algorithms rely on previous consumer behavior, they are just as likely to return similar products that do not explicitly contain the search term as they are products that do. The search results page does not differentiate between those products found using behavior-based search and those found with a more traditional

similarly uses data about its employees to manage them, leading one employee to remark, "If you're a good Amazonian, you become an Amabot," in an exposé of the company's corporate culture. See Jodi Kantor & David Streitfeld, *Amazon's Bruising, Thrilling Workplace*, N.Y. TIMES, Aug. 15, 2015, at A1.

121. STONE, *supra* note 105, at 198.

122. On the pitfalls of early behavioral-based searches in Amazon's expanding catalog, see MARCUS, *supra* note 117, at 181–82. ("If you came to the site in search of Frederick M. Lawrence's *Punishing Hate: Bias Crime Under American Law*, we steered you toward a Z-Force Stun Gun. Visitors seeking a copy of Philip Pullman's *The Subtle Knife* . . . were urged to bid on an assortment of switchblades.")

123. STONE, *supra* note 105, at 198–99.

124. Amazon had reason for concern. In 1998, it purchased Jungle, a search engine that could compare prices across sites, in an effort to improve its search. Jungle's founders left Amazon within a year, one of them to advise Google. See STONE, *supra* note 105, at 83; MARCUS, *supra* note 117, at 145–46.

125. Its name reflects its focus on customized, algorithmic search. A9 is a numeronym for the word algorithm. See *About Us: History*, A9, <http://www.a9.com/about-us/history> [<https://perma.cc/9YQ3-YVPV>].

126. See *What We Do: Product Search*, A9, <http://www.a9.com/whatwedo/product-search> [<https://perma.cc/KJ2E-M3DQ>]; Brief of Defendant-Appellee at 6, *MTM II*, 792 F.3d 1070 (9th Cir. 2015) (No. 13-55575).

127. A9, *supra* note 126.

128. STONE, *supra* note 105, at 197.

keyword search. A9's innovations improved the Product Search on Amazon's website and the search function that Amazon licenses to other online retailers through its Web Services.¹²⁹

Most defendants accused of palming off have lacked a Web Services division to subsidize their main retailing business. They sell things. To the extent that that sales price exceeds their costs, they profit. Amazon's improved search function and their Web Services are a boon to consumers who enjoy lower prices and increased selection in exchange for their information. However, Amazon's reliance on Web Services for profitability complicates its incentives and consequently the likelihood of confusion analysis.

III. *MULTI TIME MACHINE V. AMAZON*

Multi Time Machine (MTM) is less enthusiastic about Amazon and A9's innovations in product search.¹³⁰ Customers who search Amazon for its trademark, it believes, should not see similar goods.¹³¹ Thus, in 2013, after e-mailing Amazon about its search algorithm, MTM filed a lawsuit for trademark infringement in the Central District of California and began a nearly three-year saga.¹³²

A. MULTI TIME MACHINE

MTM manufactures and sells high-end, yet rugged, watches for the military and law enforcement in difficult conditions.¹³³ They are niche products and the company's sales average around four million dollars annually.¹³⁴ It owns the registered trademarks for MTM Special Ops and MTM Military Ops and carefully cultivates the rugged, martial imagery

129. The importance of Amazon Web Services, including A9, to the company's bottom line is difficult to overstate. In its quarterly earnings statement issued on October 22, 2015, Amazon Web Services logged a profit of \$687 million on cloud services sales of \$2.4 billion. *See* AMAZON, *supra* note 104. Amazon Web Services controls twenty-nine percent of the cloud computing market. Barb Darrow, *In the Cloud, Google Jockeys for Position*, FORTUNE, March 1, 2016, at 42–43.

130. Brief for the Plaintiff-Appellant at 2–3, *MTM II*, 792 F.3d 1070 (9th Cir. 2015) (No. 13-55575).

131. *MTM III*, 804 F.3d at 932.

132. The Supreme Court rejected MTM's Petition for Writ of Certiorari, in February 2016. *MTM III*, (U.S. Jan. 19, 2016) (No. 15-936).

133. *About Us*, MULTI TIME MACHINE, INC., <http://www.specialopswatch.com/about-us> [<https://perma.cc/ADD4-26MT>].

134. Avicasis Deposition, 178:15-180:2, Sep. 24, 2012, *MTM I*, 926 F. Supp. 2d 1130 (C.D. Cal. 2013) (No. 2:11-cv-09076-DDP-MAN).

that surrounds its watches.¹³⁵ Its website displays testimonials from soldiers about wearing the watches during their tours in Iraq, alongside screenshots of celebrities, such as Jason Statham, sporting the watches in action films.¹³⁶

As part of this marketing strategy and to maintain its close association with the military elite and those who play them on TV, MTM limits the retailers who sell its watches.¹³⁷ It does not allow Amazon.com to sell them, nor does it allow its authorized distributors to sell through Amazon.¹³⁸ Nevertheless, when a consumer enters “mtm special ops” into Amazon’s search, the site returns results that include competitor watches from Luminox, Chase-Durer, and Modus beneath the phrase “mtm special ops,” in quotation marks.¹³⁹ Images and large text labels indicate the brands of the competing products.¹⁴⁰

B. THE DISPUTED SEARCH RESULTS

Despite the individual labels, MTM contended that the results page confused potential purchasers of its watch.¹⁴¹ Amazon, MTM claimed, was no better than the bar in the Topaz Casino from *Coca-Cola v. Overland*, where bartenders passed off a presumably vile concoction of rum and Pepsi for orders of rum and Coke.¹⁴² MTM claimed that displaying competing watches under a search bar with MTM’s mark potentially implied a relationship between the brands and could divert sales away from its products to competing products with a similar trade dress.¹⁴³ To support its contentions, MTM’s expert compared Amazon to other online retailers, such as Overstock and Buy.com, whose search engines returned no results for its trademark.¹⁴⁴ The watchmaker also submitted an expert report stating

135. Brief for the Plaintiff, *supra* note 128, at 5; Plaintiff’s Complaint ¶8, *MTMI*, 926 F. Supp. 2d 1130 (C.D. Cal. 2013) (No. 2:11-cv-09076-DDP-MAN).

136. MTM’s president testified that these product placements cost the company \$70,000 to \$80,000 per film. Avicasis Deposition 269:6-7, Sep. 24, 2012, *MTMI*, 926 F. Supp. 2d 1130 (C.D. Cal. 2013) (No. 2:11-cv-09076-DDP-MAN).

137. Brief for the Plaintiff-Appellant, *supra* note 130, at 6.

138. *Id.*

139. *Id.* at 7.

140. *See infra* Appendix.

141. Complaint, *supra* note 135, at ¶ 25.

142. Plaintiff’s Memorandum in Opposition to Summary Judgment, at 12–13, *MTM I*, 926 F. Supp. 2d 1130 (C.D. Cal. 2013) (No. 2:11-cv-09076-DDP-MAN) (citing *Coca-Cola v. Overland*, 692 F.2d 1250, 1253 (9th Cir. 1982)).

143. Complaint, *supra* note 135, at ¶ 25.

144. Plaintiff’s Memorandum, *supra* note 142, at 23 (citing the expert report of William A. Markson, Complaint, Exhibit 1, ¶ 2).

that the search results on Amazon were “very confusing, unclear, and at times very misleading to users.”¹⁴⁵

Amazon countered that showing competing products with similar trade dress in the search results for a trademarked term did not confuse consumers.¹⁴⁶ Rather, it served them better.¹⁴⁷ Consumers who search for a trademark, Amazon claimed, do not necessarily want to see only products associated with that trademark.¹⁴⁸ Amazon argued it was not so much like the casino bar from *Coca-Cola*. Instead, Amazon, in its view, was more like the maker of expensive enterprise software from *Network Automation* who had not infringed its rival’s trademark when it purchased keyword ads for that trademark to allow informed consumers to comparison-shop.¹⁴⁹ As a search term, a trademark could indicate that the consumer wants to see compatible products or broad categories of products. Consumers who searched for the “mtm” mark seldom ultimately buy expensive watches.¹⁵⁰

Amazon further argued that the repetition of the trademarked search phrase above the search results did not necessarily label those results.¹⁵¹ It was only a “breadcrumb,”¹⁵² included for consumers’ reference to allow them to revise their search.¹⁵³ A thick gray bar “visually partitioned” the trademarked search term from the product results, obviating any risk of consumer confusion.¹⁵⁴ Amazon argued that this breadcrumb was not “use in commerce” under the Lanham Act.¹⁵⁵ Unlike search engines that sold

145. *Id.*

146. Defendant’s Motion for Summary Judgment, at 1, 14, *MTMI*, 926 F. Supp. 2d 1130 (C.D. Cal. 2013) (No. 2:11-cv-09076-DDP-MAN).

147. Defendant’s Motion, *supra* note 146, at 6–7.

148. *Id.*

149. *Network Automation, Inc. v. Advanced Sys. Concepts, Inc.*, 638 F.3d 1137, 1145 (9th Cir. 2011).

150. Amazon’s search algorithm takes these different search motives into account by modifying search results based on prior searches and purchases. Its results page displays these results alongside more traditional keyword matches. *See* Defendant’s Motion, *supra* note 146, at 21.

151. *Id.* at 22.

152. “Breadcrumbs” are elements that aid navigation in user interfaces by allowing users to keep track of their locations within programs, documents, or websites. The term comes from the trail of breadcrumbs left by Hansel and Gretel in the eponymous fairytale. *See* MARK LEVENE, AN INTRODUCTION TO SEARCH ENGINES AND WEB NAVIGATION 221 (2011).

153. Defendant’s Motion, *supra* note 146, at 6–7.

154. *Id.* at 22.

155. *Id.* at 11.

keywords to others, Amazon only used them in its own proprietary search.¹⁵⁶ MTM's expert countered that Amazon's proprietary search was nothing more than a glorified "behavior tracking platform that facilitates generating targeted advertising."¹⁵⁷ Amazon, according to MTM's expert, could easily make its results less confusing, but it had no incentive to do so.¹⁵⁸ The product listings included source labels next to the images and titles of the products.¹⁵⁹ The question was whether the application of MTM's mark to Amazon's search results labeled those search results and thus created confusion about the source of the products included therein.

C. DISTRICT COURT'S GRANT OF SUMMARY JUDGMENT

The district court agreed with Amazon, holding that the online retailer's search results did not confuse consumers or infringe MTM's trademark.¹⁶⁰ Like many courts tasked with applying trademark law to the Internet, the district court began its analysis of Amazon's motion for summary judgment on MTM's claims with a metaphor.¹⁶¹ The court stuck with the department store metaphor that first appeared in the concurrence of *Playboy*.¹⁶² There, Judge Berzon presciently doubted that Amazon, like a department store, could infringe a trademark by presenting competing goods to consumers.¹⁶³

Like Judge Berzon, the district court in *MTM I* doubted that Amazon's search results infringed MTM's trademark.¹⁶⁴ Although it agreed that Amazon had used the mark in commerce because it provided a search engine for the purpose of selling goods, it held that the search results did not create a likelihood of confusion.¹⁶⁵ To analyze likelihood of confusion, the court looked to *Network Automation* and its flexible application of the

156. This argument echoes concerns about expanding direct liability for infringement to even uses that do not compete with the mark holder. See Dogan & Lemley, *supra* note 41, at 1686.

157. Complaint, *supra* note 135, at Exhibit 1, 7, ¶ B.

158. *Id.* at 17, ¶ C.

159. Defendant's Motion, *supra* note 146, at 21.

160. *Multi Time Machine, Inc. v. Amazon.com, Inc. (MTM I)*, 926 F. Supp. 2d 1130, 1142 (C.D. Cal. 2013).

161. *Id.* at 1135.

162. *Playboy Enters., Inc. v. Netscape Commc'ns Corp.*, 354 F.3d 1020, 1035 (9th Cir. 2004) (Berzon, J., concurring).

163. *Id.* (quoted in *MTM I*, 926 F. Supp. 2d at 1135 ("If I went to Macy's website and did a search for a Calvin Klein shirt, would Macy's violate Calvin Klein's trademark if it responded (as does Amazon.com, for example) with the requested shirt and pictures of other shirts I might like to consider as well? I very much doubt it.")).

164. *MTM I*, 926 F. Supp. 2d at 1142.

165. *Id.*

Sleekcraft factors to search results on the Internet.¹⁶⁶ The court applied the same factors as the Ninth Circuit had in *Network Automation*—mark strength, actual confusion, consumers’ degree of care, and labeling.¹⁶⁷ None of these, in the court’s view, created a likelihood of confusion.¹⁶⁸ The court seized on MTM’s evocation of *Overland* and compared Amazon to a bartender.¹⁶⁹ As a bartender, according to the court, Amazon had bizarrely presented its customer with “a tray with unopened, labeled, authentic cans of Pepsi-Cola, RC Cola, Blue Sky Cola, Dr. Pepper, and Sprecher Root Beer, and a copy of *Coca Kola: The Baddest Chick*, by Nisa Santiago.”¹⁷⁰ Although Amazon does not resemble a casino bar by most measures, the court reasoned that this tray of substitutions would not confuse the bar’s patrons because each substitution bears a clear, individual label.¹⁷¹ Consumers on Amazon might be confused about why the site’s search algorithm presented them with certain results, but the Lanham Act protects only against confusion about the origin or affiliation of individual products.¹⁷²

D. FIRST NINTH CIRCUIT DECISION

Reviewing de novo, the Ninth Circuit reversed the district court’s grant of summary judgment to Amazon and held that the search results could confuse consumers.¹⁷³ Like the district court, it relied on *Network Automation* and its flexible application of the *Sleekcraft* factors to ground its analysis.¹⁷⁴ The court decided that labeling, previously one of the *Sleekcraft* factors, should be analyzed separately, rather than weighed against the others.¹⁷⁵ While the labeling of the individual results adequately identified the source of goods to consumers, Amazon’s labeling of the search page overall and repetition of the user’s search term presented a question of fact for the jury.¹⁷⁶ When combined with Amazon’s failure to notify users that it did not carry the trademarked products that the users initially searched

166. *Id.* at 1138.

167. *Id.*

168. *Id.* at 1142.

169. *Id.* at 1138 n.3.

170. *Id.*

171. *Id.* The court ignored that this violation of customers’ expectations arguably could confuse some customers. The court never considered if that confusion about the retailer and their business model satisfies the Lanham Act’s source confusion.

172. *Id.* at 22 n.10.

173. *MTM II*, 792 F.3d 1070, 1073 (9th Cir. 2015).

174. *Id.* at 1074.

175. *Id.* at 1075.

176. *Id.* at 1076.

for, the court found that a jury could infer initial-interest confusion from that repetition.¹⁷⁷

The court continued its likelihood of confusion analysis with the first of the *Sleekcraft* factors, mark strength.¹⁷⁸ Because the MTM mark could be “suggestive and conceptually strong because it does not obviously refer to watches, or . . . merely descriptive because the watches are made in a military style,” the court found that only a jury could decide the mark’s strength.¹⁷⁹

The court also found that the second factor, similarity of goods, could favor confusion.¹⁸⁰ Both Amazon and MTM sell high-end watches.¹⁸¹ Although MTM had presented only evidence that consumers were confused about Amazon’s search algorithm and not the brands of the items that it retrieved, the Ninth Circuit maintained that the Lanham Act protected against all types of consumer confusion.¹⁸² It chided the district court for making assumptions about the sophistication of would-be purchasers on summary judgment.¹⁸³ Further, because Amazon claimed to offer the “Earth’s Biggest Selection of Products,”¹⁸⁴ it had a heightened responsibility to differentiate between the goods.¹⁸⁵ Amazon had not informed users that its algorithm would return more than just items with matching keywords, and thus a jury might find that Amazon had confused consumers, not merely informed them of other options.¹⁸⁶

The third factor, the defendant’s intent, similarly favored confusion.¹⁸⁷ Amazon, according to its briefings, aspires to be the “Earth’s most customer-centric company.”¹⁸⁸ While Amazon had taken affirmative action to clarify the source of its watches to customers, it had done nothing to clarify the source of its search results.¹⁸⁹ It admittedly avoided explaining its search algorithm to consumers and ignored MTM’s requests to explain why

177. *Id.*

178. *Id.* at 1077.

179. *Id.*

180. *Id.* at 1077–78.

181. *Id.* at 1077.

182. *Id.* at 1078.

183. *Id.*

184. Defendant-Appellee Amazon.com’s Answering Brief at 2, *MTM II*, 792 F.3d 1070 (9th Cir. 2015) (No. 13-55575).

185. *MTM II*, 792 F.3d 1070, 1078 (9th Cir. 2015).

186. *Id.* at 1073.

187. *Id.* at 1079.

188. Defendant-Appellee Amazon.com’s Answering Brief at 3, *MTM II*, 792 F.3d 1070 (9th Cir. 2015) (No. 13-55575).

189. *MTM II*, 792 F.3d at 1079.

its search engine produced competing products in response to searches for the watchmaker's trademark.¹⁹⁰ From this avoidance, the Ninth Circuit found that a jury could infer intent to confuse consumers.¹⁹¹

The court reasoned that a jury could also infer some evidence of the fourth factor, actual confusion, even though MTM presented no colorable evidence of it.¹⁹² Instead, the court looked at Amazon's search records, which showed that occasionally a customer who searched for MTM's trademark purchased a competing watch the same day.¹⁹³ A jury might find that "their interest in a Luminox watch was piqued because they were uncertain whether or how Luminox is affiliated with or approved by MTM," and thus could favor confusion.¹⁹⁴

For the fifth factor, degree of care, the court again looked to the search and purchase patterns Amazon presented.¹⁹⁵ Although MTM's watches were relatively expensive, priced between several hundred and two thousand dollars, some Amazon customers who searched for MTM or its competitors did buy watches the same day as their search.¹⁹⁶ The court found that a jury could infer that at least some buyers purchased their high-end watches quickly without careful consideration, even though it was not clear from Amazon's records if those users who purchased on the same day as their search were, in fact, searching for the first time.¹⁹⁷ To analyze this factor, the court also considered Amazon's sophistication and relative resources. Amazon could have easily provided a caveat to its search results. Thus, for the court, Amazon's failure to notify customers that it did not carry MTM's watches had created genuine issues of material fact only a jury could resolve.¹⁹⁸

The court decided that, on balance, the *Sleekcraft* factors could cut either for or against likelihood of confusion.¹⁹⁹ The label on Amazon's search results page as a whole was not necessarily clear.²⁰⁰ Only a jury could resolve

190. *Id.*

191. *Id.*

192. *Id.*

193. *Id.* at 1079–80.

194. *Id.* at 1079 n.8.

195. *Id.* at 1080.

196. *Id.*

197. *Id.*

198. *Id.*

199. *See id.*

200. *See id.*

the issues of fact necessary to determine if the earth's largest retailer had violated MTM's mark.²⁰¹

Rather than earth's largest retailer, the dissent compared Amazon to a greasy spoon.²⁰² This humble greasy spoon did not serve Coke, but Pepsi, and it told any customer who asked for Coke, "No Coke. Pepsi."²⁰³ This could confuse no one, the dissent countered.²⁰⁴ The Lanham Act aimed not to protect consumers from any and all confusion, but to shield reasonably prudent consumers from confusion "about the source of products."²⁰⁵ Confusion about the source of the products, the dissent argued, was not at all likely, and the district court's grant of summary judgment was appropriate.²⁰⁶ Amazon, the dissent continued, had no obligation to inform its shoppers that it did not carry the trademark brand.²⁰⁷ The retailer met its legal obligation with the clear, individual labels on products that it did sell.²⁰⁸ Further, the dissent questioned whether the *Sleekcraft* factors were even appropriate to the case.²⁰⁹

E. SUPERSEDING NINTH CIRCUIT DECISION

Three months after issuing the initial opinion, the Ninth Circuit granted Amazon's petition for a rehearing.²¹⁰ In a rare move, the court withdrew its previous opinion and issued a superseding opinion.²¹¹ Now the

201. *See id.*

202. The dissent actually compared Amazon to a fictional greasy spoon in Chicago, the Olympia Restaurant, from a *Saturday Night Live* sketch that aired in January 1978. *See id.* at 1080 (Silverman, J. dissenting). The majority opinion mocked this comparison, observing that Amazon had failed to provide the caveat of "No MTM," that the sketch included. *Id.* at 1076 n.6.

203. *Id.* at 1080.

204. *Id.* at 1081.

205. *Id.* at 1083 (citing *E. & J. Gallo Winery v. Gallo Cattle Co.*, 967 F.2d 1280, 1290 (9th Cir. 1992)).

206. *Id.* at 1082–83.

207. *Id.*

208. *Id.* at 1086.

209. *Id.* at 1084.

210. *MTM III*, 804 F.3d 930 (9th Cir. 2015).

211. *Id.* Withdrawing an opinion without the presentation of new facts or arguments is so rare that there are no statistics about exactly how rare it is. Some have observed that "few applications in our procedural system are so often made and so seldom granted as petitions for rehearing." David W. Louisell & Ronan E. Degan, *Rehearing in American Appellate Courts*, 44 CALIF. L. REV. 627 (1956). Some have suggested that the anomaly occurred here because one of the three judges on the panel sat by designation. *See* Noah Feldman, *Judges Will Travel, Overturn Decisions*, BLOOMBERGVIEW (Oct. 23, 2015), <http://www.bloomberglaw.com/articles/2015-10-23/judges-will-travel-overturn-decisions> [<https://perma.cc/AA9Q-MJ8V>]. Sitting by designation has long presented concerns about judicial consistency and familiarity with circuit precedent. *See* Richard B. Saphire &

same three-judge panel held that the retailer's search results could not have confused a reasonably prudent consumer and affirmed the district court's grant of summary judgment for Amazon.²¹² Abandoning the greasy-spoon metaphor, it otherwise reiterated the reasoning of the dissent from its original opinion.²¹³ In its analysis, the court rejected the application of *Sleekcraft* to Amazon's search results.²¹⁴ *Sleekcraft* was designed to address whether competing marks likely confused consumers, not whether the presentation of those marks on a page of search results was likely to do the same.²¹⁵ The proper standard was instead "whether a 'reasonably prudent consumer' in the marketplace is likely to be confused as to the origin of the goods."²¹⁶ The only relevant questions were, first, the identity of the relevant consumer and, second, what that consumer would reasonably believe when he looked at Amazon's search results screen.²¹⁷

The court spent about fifty words on the first question, holding that relevant consumers are likely to be careful.²¹⁸ Unlike the original Ninth Circuit opinion that mused that the prospective consumer was as likely to be MTM's rugged target audience as their sisters,²¹⁹ here the court tersely inferred that because the watches were expensive, potential buyers were careful.²²⁰

The dissent to the new opinion again took the "Earth's most customer-centric company" to task for its inability to provide the same level of candor that the Lanham Act demands of Overstock.com, fictional diners in Chicago, or casino bars on the outskirts of South Lake Tahoe.²²¹ The disparity between Amazon and the niche watchmaker seemed to trouble the dissent.²²² It noted that the majority showed deference for Amazon's testimony and clear labels as evidence of its intent not to confuse.

Michael E. Solimine, *Diluting Justice on Appeal: An Examination of the Use of District Court Judges Sitting by Designation on the United States Courts of Appeals*, 28 U. MICH. J.L. REFORM 351, 374 (1994).

212. *MTM III*, 804 F.3d at 932.

213. *Id.* at 936–38.

214. *Id.* at 936.

215. *Id.*

216. *Id.* at 937 (citing *Dreamwerks Prod. Grp. v. SKG Studio*, 142 F.3d 1127, 1129 (9th Cir. 1998)).

217. *Id.*

218. *Id.*

219. *MTM II*, 792 F.3d 1070, 1071 ("If her brother mentioned MTM Special Ops watches, a frequent Amazon shopper might try to purchase one for him through Amazon.").

220. *MTM III*, 804 F.3d at 937.

221. *Id.* at 941 (Bea, J., dissenting).

222. *Id.* at 945–46.

Nevertheless, the majority still expected MTM to proffer evidence of actual confusion.²²³ Given the flexibility and fact-sensitivity of the *Sleekcraft* analysis, the dissent argued, only a jury could decide if Amazon should be accountable for the possible confusion its silence created among consumers.²²⁴

IV. MULTIFACTOR TESTS ENSURE JUDICIAL UNIFORMITY AND EFFICIENCY

Amazon petitioned for a rehearing for two reasons.²²⁵ First, it argued that the original Ninth Circuit decision failed to ground its likelihood of confusion analysis against the backdrop of a reasonably prudent consumer in the marketplace.²²⁶ The court dismissed all questions of confusion as entirely factual questions for the jury.²²⁷ Second, clear labeling, Amazon argued, might obviate any risk of confusion on the Internet.²²⁸ Because the original Ninth Circuit opinion admitted that the individual products were clearly labeled,²²⁹ Amazon argued, the likelihood of confusion analysis for the search results page as a whole was superfluous.²³⁰

In withdrawing its original opinion, the Ninth Circuit agreed with Amazon's arguments. On the Internet, the court held, courts must consider only what a consumer sees and believes to assess likelihood of confusion and trademark infringement.²³¹ However, by substituting a "reasonably prudent consumer" test for the Ninth Circuit's full likelihood of confusion test, the court misinterpreted its holding in *Network Automation*, misunderstood the history of multifactor tests, and risked substituting its own opinions and experiences for those of most consumers. Further, substituting the question of whether there are clear labels for the full analysis of the multifactor likelihood of confusion test risks allowing palming off to run rampant on the Internet so long as goods are "clearly labeled" at some point in the transaction.

223. *Id.* at 946.

224. *Id.* at 946.

225. Defendant-Appellee Amazon.com's Petition for Rehearing En Banc at 2, *MTM III*, 804 F.3d 930 (9th Cir. 2015) (No. 13-55575).

226. *Id.* at 6-7.

227. *Id.*

228. *Id.* at 9 (citing *Network Automation, Inc. v. Advanced Sys. Concepts, Inc.*, 638 F.3d 1137, 1147-48 (9th Cir. 2011)).

229. *Id.* (citing slip op. at 13).

230. *Id.*

231. *MTM III*, 804 F.3d 930, 937 (9th Cir. 2015).

A. COURTS SHOULD EXAMINE CONSUMER CONFUSION IN CONTEXT

Replacing the multifactor test with the judge's view of the reasonably prudent consumer limits liability for the kinds of behavior trademark law has always sought to deter. As the dissent to *MTM III* worried,²³² it puts a burden on consumers and smaller competitors to show confusion where large corporations, such as Amazon, need only show "clear labels." The multifactor *Sleekcraft* test accounts for that context, the discrepancy in resources, and thus is preferable to the second opinion's fast and frugal heuristic.

1. *The Multifactor Likelihood of Confusion Test Prompts Deliberation*

In *MTM III*, the multifactor test for likelihood of confusion threatens to undermine justice with its many confusing factors where a single reasonable consumer will do.²³³ The second opinion reflects a certain frustration with the multifactor test for the likelihood of confusion.²³⁴ Courts struggle to apply the factors to the Internet, a context the writers of the 1938 *Restatement* and the *Sleekcraft* opinion likely never anticipated.²³⁵ Fearful of being overturned, courts only apply the same factors as similar precedent, despite factual differences and explicit warnings against applying the test inflexibly.²³⁶ Applied too rigidly, the factors become a checklist rather than judicial analysis.²³⁷ Further, empirical studies show that judges might not even consider all of the factors that they claim to consider.²³⁸ Judges tend to determine whether they think the defendant was liable for infringement based on a single factor and then read the other factors to support that liability.²³⁹ Some individual factors, such as the defendant's

232. *Id.* at 941 (Bea, J., dissenting).

233. Many commentators have voiced similar concerns about the multifactor likelihood of confusion test. See Bone, *supra* note 14, at 1347.

234. *MTM III*, 804 F.3d at 936–37. See also Rebecca Tushnet, *Back to the Future: 9th Cir. Reverses Itself in Multi Time Machine*, (Oct. 22, 2015) <http://tushnet.com/2015/10/22/back-to-the-future-9th-cir-reverses-itself-in-multi-time-machine> [https://perma.cc/TPP6-A5JF] (criticizing the multifactor test for likelihood of confusion and suggesting the test's fraught relationship with actual confusion led to the withdrawal and superseding opinion).

235. *Id.* at 937.

236. For a history of courts' enthusiastic embrace of Brookfield's internet troika, see Connie David Nichols, *Initial Interest Confusion Internet Troika Abandoned: A Critical Look at Initial Interest Confusion as Applied Online*, 17 VAND. J. ENT. & TECH. L. 883, 911–12 (2015).

237. Chris Guthrie, Jeffrey J. Rachlinski, & Andrew J. Wistrich, *Blinking on the Bench: How Judges Decide Cases*, 93 CORNELL L. REV. 1, 41 (2007).

238. See Beebe, *supra* note 13, at 1614–15.

239. *Id.*

intent, prove to be particularly persuasive. In a study of the Second Circuit, one of the most active for trademark cases, a defendant's culpable intent led to a finding of infringement nearly ninety percent of the time.²⁴⁰ The multifactor tests then ultimately reproduce intuitive decisions. However, they are arguably worse for hiding their lack of analytic rigor beneath a veneer of rationality.²⁴¹

Stampeding factors behind a handful of critical ones does not necessarily make decisions less accurate or deliberative.²⁴² Rather, it supports a cognitive coherence model of decision-making.²⁴³ Faced with a complex situation and tight deadlines, judges, like most people, tend to ignore all but the most urgent facts.²⁴⁴ Intuitively, these snap decisions must be worse than those made after a long, careful process. However, several studies prove that quick decisions can be just as accurate.²⁴⁵ The presence of a multifactor test, such as that for likelihood of confusion, can make these snap decisions even more accurate. They remind judges that they should depart from their gut instincts about the defendant or plaintiff's relative guilt or innocence to consider a range of factors.²⁴⁶ Although the multifactor test might seem to complicate the ultimate question of consumer confusion that the Lanham Act poses, its complexity forces judges to slow down and make more careful, deliberative decisions.

2. *The Multifactor Confusion Test Reflects the Aims of Trademark Law*

Although the Lanham Act directs courts to consider only likelihood of consumer confusion, historically, courts, like the *Inwood* court, have considered much more, especially for palming off, in which the harm of the

240. *Id.* at 1628–29. *But see* Kevin Blum, Ariel Fox, Christina J. Hayes, & James Xu, *Consistency of Confusion? A Fifteen-Year Revisiting of Barton Beebe's Empirical Analysis of Multifactor Tests for Trademark Infringement*, 2010 STAN. TECH. L. REV. 3, 32 (finding, in a separate study of Second Circuit opinions over fifteen years, that defendant's intent had a much less dramatic effect on outcomes).

241. *See* Bone, *supra* note 15, at 1347.

242. *See* Beebe, *supra* note 13, at 1614.

243. Dan Simon, *A Third View of the Black Box: Cognitive Coherence in Legal Decision Making*, 71 U. CHI. L. REV. 511, 512–13 (2004) (proposing an alternate approach to classifying legal decision making as "coherence-based reasoning").

244. Guthrie, et al., *supra* note 237, at 10.

245. *See* Beebe, *supra* note 13, at 1602 n.93.

246. *See* Guthrie, et al., *supra* note 237, at 41; Chip Heath, Richard P. Larrick & Joshua Klayman, *Cognitive Repairs: How Organizational Practices Can Compensate for Individual Shortcomings*, 20 REV. ORGANIZATIONAL BEHAV. 1, 15 (1998) ("[I]ndividuals attend to and process information more comprehensively when they have a mental schema that tells them what information is needed in a given situation and where to find it.").

activity to the markholder is obvious. Because Inwood was removed from the actual confusion, the drug maker's intent played a much larger role in the court's analysis of trademark infringement. The Court considered only fleetingly whether the consumer ultimately realized that the goods came from Inwood.²⁴⁷

Amazon's search engine is similarly removed from the final purchase. This gulf between what an infringer hopes a reasonable consumer thinks and what that consumer actually thinks loomed large in both Ninth Circuit analyses of Amazon's search results. Amazon seemed to intend to conceal the technology that produced its search results from consumers, yet some or even most consumers knew that its search engine returned products based on more than just keyword matches. Here, considering the defendant's intent does not necessarily speak to consumer confusion. However, considering intent allows the test to account for a set of incentives that are in line with trademark law's historical goals, such as deterring freeriding by forcing infringers to pay for the costs. This latitude is particularly important when courts encounter innovative businesses with novel incentives, such as Amazon. Without some latitude, courts tend to stretch the bounds of precedent with strained metaphors.

B. TRADEMARK LAW AS MARKET MORALITY

Under the Lanham Act, trademark infringement turns on the question of whether the defendant's use of the plaintiff's mark is likely to confuse a reasonably prudent purchaser.²⁴⁸ However, even twentieth-century proponents of trademark reform aimed for trademark law to do much more than protect consumers from confusion.²⁴⁹ They hoped it could also prevent monopolies and protect small businesses.²⁵⁰ Trademark law should continue to protect market morality.

247. *Inwood Labs., Inc. v. Ives Labs., Inc.*, 456 U.S. 844, 853 (1982) (“[T]he District Court concluded that such incidents occurred too infrequently to justify the inference that the petitioners’ catalogs and use of imitative colors had ‘impliedly invited’ druggists to mislabel.”).

248. 1 J. THOMAS MCCARTHY, *MCCARTHY ON TRADEMARKS AND UNFAIR COMPETITION* § 2:8 (4th ed., 2009) (identifying likelihood of confusion of the keystone of trademark law).

249. *See* Brandeis, *supra* note 33, at 10.

250. *Id.*

1. *Trademark Infringement Should Consider Harms Beyond Confusion as It Has Historically*

The structure of a multifactor test gives judges both guidance and latitude to determine when harms in addition to confusion result from the unauthorized use of a trademark. More than its structure, however, the content of the multifactor test allows judges to consider elements that, though external to confusion, have deterred unfair competition and thus should be preserved despite the statute's focus on confusion per se.²⁵¹ The Lanham Act never meant to abandon the traditional aims of trademark. Infringers should not avoid punishment simply because their attempts to palm off inferior goods were not convincing and thus produced little consumer confusion.²⁵²

Trademark infringement should consider a defendant's state of mind and place blame on the party in the best position to avoid an activity's harmful effects.²⁵³ Courts should not abandon the goal of ensuring fair competition because a defendant sells its goods through a search results page rather than over a counter. As Amazon's business model demonstrates, retailers can now make money from consumers by doing more than just selling goods.²⁵⁴ They should similarly be held accountable for the harm that might result from those activities. The multifactor likelihood of confusion test, which accounts for product quality and intent alongside consumer confusion, does this better than an abbreviated reasonable consumer test.

Amazon touts itself as the "Everything Store," and yet its retail business routinely loses money.²⁵⁵ Despite many courts' vivid metaphors, Amazon has no clear analog in the brick-and-mortar world in which trademark law originated. Most of Amazon's value resides in its Web Services where its trove of consumer data allows it to design better software to license to other

251. See S. REP. 1333, *supra* note 35.

252. *Id.*

253. Guido Calabresi & A. Douglas Melamed, *Property Rules, Liability Rules, and Inalienability: One View of the Cathedral*, 85 HARV. L. REV. 1089, 1097 (1972).

254. On the mixed motives of Internet intermediaries, such as Amazon, in trademark infringement, see Ronald C. Goodstein, Gary J. Bamossy, Basil G. Englis, & Howard S. Hogan, *Using Trademarks as Keywords: Empirical Evidence of Confusion*, 105 TRADEMARK REP. 732, 741-42 (2015); M. Ryan Calo, *Digital Market Manipulation*, 82 GEO. WASH. L. REV. 995, 1027 (2014).

255. In the third quarter of 2015, Amazon's North American retail operations finally eked out an operating margin of 3.5%, an "inflection point" after twenty years of losses. Amazon's operating margin on its Web Services was 25%. See *AMAZON*, *supra* note 103. *But see* Farhad Manjoo, *Long Game at Amazon Produces Juggernaut*, N.Y. TIMES, Nov. 19, 2015, at B1 (arguing that the latest quarterly earnings statement is an "inflection point" from which Amazon's investments in retail infrastructure will grow exponentially).

online retailers.²⁵⁶ Rather than simply selling goods of brick-and-mortar retailers, Amazon sells convenience to consumers and information about those consumers to other retailers and advertisers. Amazon is not the pharmaceutical maker failing to label its identical product to allow others to palm it off, nor is it a traditional retail pharmacist actively mislabeling cheaper vials of quinine as the more expensive brand. The drug makers from *Warner* or *Inwood* did not stand to benefit from collecting data about the consumers to whom they helped palm off cheaper substitutes.²⁵⁷

Amazon, by contrast, has an incentive not to label its search results page clearly, so that it can show the consumer other goods, learn more about what they do eventually buy, and bolster its claims to offer “Earth’s Biggest Selection of Products.”²⁵⁸ The question is which standard should apply to a retailer who does not make money exclusively from retailing—whether courts should continue to analogize traditional standards to a new context or craft new standards to address new harms. The multifactor tests guide a court’s analysis of these new incentives rather than forcing them to compare the expectations of a reasonable consumer from brick-and-mortar precedent through strained analogy.

2. *Amazon Can Best Prevent Harm to Markholders and Thus Should Be Responsible for Those Harms*

As Part I, *supra*, discusses, harm to the merchant’s intellectual property or increased consumer search costs did not preoccupy early trademark cases.²⁵⁹ Instead, the tort of unfair competition punished the party who could best avoid the economic inefficiencies of unfair competition.²⁶⁰ Here, that party is Amazon.

Amazon, as it likes to note,²⁶¹ is the earth’s largest retailer. For twenty years, it has been on a mission to be “the world’s most consumer-centric company.”²⁶² As MTM’s expert observed, it nevertheless lags behind competitors Overstock and Buy.com in informing consumers that it does

256. See AMAZON, *supra* note 105. On the possibly more nefarious consequences of Amazon’s constant consumer surveillance, see Sachil Singh & David Lyon, *Surveilling Consumers: the Social Consequences of Data Processing on Amazon.com*, ROUTLEDGE COMPANION TO DIGITAL CONSUMPTION 326 (2013). But see Paul Ford, *Does the Data Speak for Itself?*, THE NEW REPUBLIC, Mar. 2016, at 4–5 (questioning the utility of Amazon’s data to glean valuable predictions or insights, at least by an essayist).

257. See Part I.A, *supra*.

258. Defendant’s Motion, *supra* note 146, at 2.

259. See Sheff, *supra* note 22, at 772.

260. See Calabresi & Melamed, *supra* note 239.

261. Defendant’s Motion, *supra* note 146, at 2.

262. *Id.*

not carry certain trademarked goods.²⁶³ Their search engines readily reveal that they do not carry the trademarked product.²⁶⁴

Despite A9's accomplishments in other areas,²⁶⁵ Amazon has claimed that including a similar disclaimer in its search results would be technically difficult. Many details of Amazon's search technology were redacted from their employees' depositions, so assessing this claim is difficult.²⁶⁶ In a similar, recent case in the United Kingdom over the use of the mark "Lush" to sell cosmetics, however, Amazon made the same claim about the impossibility of excluding trademarked terms from its behavioral-based search.²⁶⁷ There, the court was "satisfied that Amazon has the expertise to do what is required if it wished, and that any shortcoming is because of its perception that the profitability of its site is the predominant criterion which should drive its efforts."²⁶⁸ After the verdict, Amazon apparently overcame these technical difficulties. A recent search for "lush" on amazon.co.uk returns a list of items prefaced with the disclaimer, "Amazon doesn't sell Lush cosmetics."²⁶⁹

Nothing seems to prevent earth's largest retailer from including a similar warning on its North American site. As the British court noted,²⁷⁰ Amazon's reasons for not including a disclaimer that it does not carry a trademarked product are more about profitability than technical limitations. The more consumers use Amazon, the more data Amazon has to sell. Admitting that it does not sell the brand of good for which a user has searched could drive users and their valuable data away from the site. Not only would Amazon be less likely to sell them something, but fewer users on the site would deprive Amazon's search engine and the algorithms that drive it of their data. Consequently, they would become less predictive and thus less valuable. The multifactor test allows courts to consider these incentives and balance them against the low costs of truly clear labeling to large, sophisticated defendants, such as Amazon.

263. Plaintiff's Memorandum, *supra* note 142, at 23 (citing the expert report of William A. Markson, Complaint, Exhibit 1, ¶ 2).

264. *Id.*

265. See Section II.C, *supra*.

266. *MTM I*, 926 F. Supp. 2d at 1130 n.1.

267. In *Cosmetics Warriors Ltd. v. Amazon.co.uk*, [2014] EWHC 181 (Ch), and its subsequent injunction at EWHC 1316 (Ch), ¶ 13–14, Amazon argued that it could not prevent its "breadcrumbs" from reproducing the term that the customer had entered.

268. *Id.*

269. General Category Page for Cosmetics, AMAZON.CO.UK, <http://www.amazon.co.uk> [<https://perma.cc/53HA-AJ5N>] (search for keyword "lush").

270. *Cosmetics Warriors*, [2014] EWHC 1316 (Ch), ¶ 13–14.

Even if the costs of providing a disclaimer for searches of each and every registered mark are too high, Amazon already has measures in place to ward against consumer confusion for some trademark holders. As part of a settlement with another trademark holder with a similar complaint, Amazon supplied the trademark holder with an internal contact and a phone number for outside counsel.²⁷¹ The trademark holder could contact Amazon and outside counsel about third-party sellers using its trademark on the site.²⁷² Amazon could provide a similar take down notice process for other small rights holders, such as MTM.²⁷³

3. *Trademark Law Should Protect Competition*

The costs of providing a disclaimer and avoiding confusion seem relatively low for Amazon. The *MTM III* opinion, however, maintains that there is no risk of confusion “at all.”²⁷⁴ Thus, if trademark law only protects against confusion as the language of the Lanham Act might suggest, Amazon should not have to incur costs to guard against something of which there is no risk.²⁷⁵ Far from confusing and harming consumers, Amazon’s search arguably benefits them. Keeping them on Amazon.com and collecting their data improves its search algorithms and Web Services. As its earnings reports show,²⁷⁶ these subsidize the costs of its retail infrastructure to consumers. However, the Lanham Act strives not just to prevent consumer confusion, but also to codify the tort of unfair competition and “preserve[] the things which have demonstrated their usefulness.”²⁷⁷

Early advocates for trade morals recognized the dangers posed even by price cutting.²⁷⁸ Like the court in *Warner*, which held the drug maker

271. Settlement Memorandum of Understanding, No. 3:12-cv-02878 (S.D. Cal. Dec. 4, 2012), ¶ 7.

272. *Id.*

273. In its complaint, MTM found wanting Amazon’s terse responses to its inquiries about why competing watches were returned for searches for its trademark. *See* Complaint, *supra* note 133, ¶¶ 30–33.

274. “[C]onfusion on the part of the buyer is not at all likely.” *MTM III*, 804 F.3d 930, 936 (9th Cir. 2015).

275. *See* Calabresi & Melamed, *supra* note 239.

276. *See supra* note 101.

277. *See* S. REP. 1333, *supra* note 35.

278. Writing on the dangers of price cutting, Justice Brandeis compared consumers who cared only about prices to short-sighted Esau: “Thoughtless or weak, he yields to the temptation of trifling immediate gain, and, selling his birthright for a mess of pottage, becomes himself an instrument of monopoly.” Brandeis, *supra* note 32, at 12. More recently, some economics scholars have warned about the danger of platform business, such as Amazon, to smaller third-party business. *See* Feng Zhu & Qihong Liu, *Competing with*

accountable for creating “the unfair and fraudulent advantage which is taken of such use to pass off the product as that of respondent,”²⁷⁹ the Ninth Circuit was correct in *MTM II*. There, it used the *Sleekcraft* factors to hold Amazon accountable for all negative externalities, not just those that resulted in higher costs for the consumer. Although MTM could not point to actual confusion, it could point to the “visual similarity” of Luminox’s watches to its own.²⁸⁰ Further, the watchmaker’s sales dipped slightly from a peak of \$4.4 million in 2007 to \$3.9 million in 2009.²⁸¹ MTM could not connect this dip to Amazon because the watchmaker lacked access to data about searches on the site.²⁸² Even in the vague statistics Amazon was willing to disclose, a few customers had bought a competing watch after searching for MTM’s mark.²⁸³ Expecting a small plaintiff like MTM to provide something more, to provide evidence of actual consumer harm as though Amazon were a small jeweler selling knock-off watches, puts smaller plaintiffs at a distinct disadvantage against large, online vendors.²⁸⁴ Like the trade moral law it has always been, trademark law should continue to protect the market against harm from all unfair competition, not just harms that result from consumers’ confusion and increased search costs.

V. CONCLUSION

For decades now, courts have struggled to adapt brick-and-mortar doctrines to confusion on the Internet. They have sought an analog to online retailers in highway rest areas,²⁸⁵ in the billboards of Times Square,²⁸⁶

Complementors: An Empirical Look at Amazon.com 17–19 (Harv. Bus. Sch. Working Paper No. 15-044, 2016).

279. *William R. Warner & Co. v. Eli Lilly & Co.*, 265 U.S. 526, 532 (1924).

280. Avicasis Deposition, 96:20-23, Sep. 24, 2012, *MTM I*, 926 F. Supp. 2d 1130 (C.D. Cal. 2013) (No. 2:11-cv-09076-DDP-MAN).

281. *Id.* at 178:15–180:2.

282. *Id.*; see also Plaintiff’s Memorandum in Opposition to Summary Judgment, at 16–18, *MTM I*, 926 F. Supp. 2d 1130 (C.D. Cal. 2013) (No. 2:11-cv-09076-DDP-MAN) (discussing and demonstrating “the inherent flaws and limitations” in the evidence Amazon presented through its heavy redaction).

283. *MTM II*, 792 F.3d 1070, 1079 (9th Cir. 2015).

284. Amazon’s possible monopoly power has been most often discussed in e-books and in its negotiations with publishers. See Lina Khan, *What Everyone’s Getting Wrong About Amazon*, QUARTZ (Oct. 17, 2014) <http://qz.com/282971/what-everyones-getting-wrong-about-amazon> [https://perma.cc/3SLM-YEYX] (citing Foer, *supra* note 115, and Packer, *supra* note 102, among others).

285. *Brookfield Commc’ns, Inc. v. W. Coast Entm’t Corp.*, 174 F.3d 1036, 1064 (9th Cir. 1999).

286. *Rosetta Stone Ltd. v. Google, Inc.*, 730 F. Supp. 2d 531, 550 (E.D. Va. 2010), *aff’d in part, vacated in part and remanded*, 676 F.3d 144 (4th Cir. 2012).

and in the department stores of suburban malls.²⁸⁷ Amazon, however, is not there. It never wanted to be there.²⁸⁸ Amazon makes money in a different way than those offline retailers.²⁸⁹ Using metaphors to compare Amazon's advertising or retail segments to its offline counterparts misses the forest for the trees. It misses Amazon's incentives and their wider effects on competition.

Courts in *Warner* and *Ives* did not need to compare the drug makers to apothecaries to see the effects of the drug makers' deceptive labels.²⁹⁰ Thus, to avoid consumer confusion and enforce market morality, courts should consider the incentives and effects of activity as they actually are. The multifactor test for likelihood of confusion prompts courts to consider fully these wider consequences of an alleged infringer's behavior. Using an abbreviated "reasonably prudent consumer" or "clear label" test will not.

287. *Network Automation*, 638 F.3d 1137, 1148 (citing *Playboy Enterprises, Inc. v. Netscape Commc'ns Corp.*, 354 F.3d 1020, 1034–35 (9th Cir. 2004)).

288. If anywhere, Amazon can be found in a loophole. Bezos explained in 1996, "I'm not interested in retrofitting the physical bookstore experience in the virtual world." See Tyler, *supra* note 102. This contrasts markedly with the language used in Amazon's motion for summary judgment at the district court, in which the retailer claimed it "opened its virtual doors . . . in 1995." See Defendant's Motion for Summary Judgment, *supra* note 146, at 2.

289. See *supra* note 255 (comparing the operating margins on its retail and Web Services segments).

290. See *William R. Warner & Co. v. Eli Lilly & Co.*, 265 U.S. 526 (1924); *Inwood Labs., Inc. v. Ives Labs., Inc.*, 456 U.S. 844 (1982).

APPENDIX

Figure 1: The Results of a Search for “mtm special ops” on Amazon.com

The screenshot shows the Amazon.com search results for the query "mtm special ops". The page layout includes the Amazon logo, navigation links, and a search bar. The search results are displayed in a grid format, showing product images, titles, prices, and shipping information. The results include several Luminox watches, a survival handbook, a novel, and a sport watch. A sponsored link is also visible at the bottom of the results.

amazon [Your Amazon.com](#) [Today's Deals](#) [Gift Cards](#) [Help](#) **FREE Two-Day Shipping** with Amazon Prime, Today

Shop by Department **mtm special ops** [Hello, Sign in](#) [Your Account](#) [Cart](#) [Wish List](#)

Department: **Watches**
 Great Watches
 parts & Outdoors
 Sport Watches

See All 3 Departments

Shipping Option: **FREE Super Saver Shipping**

Listmania!
 Survival Diver Bags & 1st Bo
 L. Diver (page 112)

Cool, inexpensive watches for active & fit by Scott B. See "SURVIVOR'S KIT SURVIVAL KIT" by Scott B.

Create a Listmania list

Search:

Creative Writing
 MASTER'S GUIDE

Learn to: **Survival Writing**
 Storytelling
 Character Development

FULL SAIL UNIVERSITY

Advertisement

"mtm special ops"
 Revised search: [www.amazon.com/s?k=mtm+special+ops](#)

Showing 13 Results

Luminox Men's 8401 Black Ops Watch by Luminox
 \$299.00
 Order in the next 18 hours and get it by Monday, Sep 24
 FREE Super Saver Shipping & Free Returns See Details
 Sports & Outdoors: See all 6 items
 See Usually Similar Items

Chase-Duror Men's 246.48B7-XL-BR Special Forces 1000XL Black Ionic-Plated Underwater Demolition Team Watch by Chase-Duror
 \$687.73
 Order in the next 18 hours and get it by Monday, Sep 24
 FREE One-Day Shipping & Free Returns See Details
 Watches: See all 8 items
 See Usually Similar Items

Luminox Rubber Strap Black Dial Men's Watch - 3081.BO by Luminox
 \$320.00
 Order in the next 18 hours and get it by Monday, Sep 24
 Eligible for FREE Super Saver Shipping
 Watches: See all 8 items
 See Usually Similar Items

Luminox Men's 8802 Carbon-Reinforced PC Analog Plastic Bezel Watch by Luminox (Aug 20 2011)
 \$196.33
 Order in the next 18 hours and get it by Monday, Sep 24
 Eligible for FREE Super Saver Shipping
 Watches: See all 8 items
 See Usually Similar Items

Luminox Men's 3402 F-117 Nighthawk Watch by Luminox
 \$385.00
 Order in the next 18 hours and get it by Monday, Sep 24
 Eligible for FREE Super Saver Shipping
 Sports & Outdoors: See all 6 items
 See Usually Similar Items

Survival: The Disaster, Crisis and Emergency Handbook by Jerry Ahen (Apr 14 2010)
 \$13.90 Paperback
 Order in the next 18 hours and get it by Monday, Sep 24
 Eligible for FREE Super Saver Shipping
 Exception: Page 20 ... See also bookpack in the LITF Special One price special approach ... See a random page in this book.
 Books: See all 2 items

Luminox Men's 6402 EVO F-117 Nighthawk Watch by Luminox
 \$524.00
 Order in the next 18 hours and get it by Monday, Sep 24
 FREE One-Day Shipping & Free Returns See Details
 Watches: See all 8 items
 See Usually Similar Items

TAIWATEC E.O.Diver TWT.43.B1.11T by TAIWATEC
 \$295.00
 Watches: See all 8 items

Modus GA458.1005.54Q Gentlemen's Sport Watch Stainless Steel - Chronograph by Modus
 \$145.00
 Watches: See all 2 items

The Moses Expedition: A Novel by Juan Gómez-Jurado (Aug 3 2010)
 \$18.99 Hardcover
 Order in the next 18 hours and get it by Tuesday, Sep 25
 Only 2 left in stock - order soon.
 Eligible for FREE Super Saver Shipping
 Page 100 ... Show an alert from a rough black LITF Special One price with a bonus ... See a random page in the book.
 Books: See all 2 items

Sponsored Links

1. **Tactical Watches by MTM** **MTM Tactical Watches Worn By Military, Police, Sportmen.** [www.spedalepswatch.com](#)

AUTONOMOUS VEHICLE REGULATION: HOW AN UNCERTAIN LEGAL LANDSCAPE MAY HIT THE BRAKES ON SELF-DRIVING CARS

Jessica S. Brodsky[†]

The automobile was an undeniably transformative invention. It revolutionized nearly every level of modern society, including personal and commercial transportation, national infrastructure, urban design and planning, and even warfare. Cars are arguably responsible for the shape and character of modern industrialized societies. But the enormous social utility of automobiles comes with a surprisingly large societal cost. Every year, more than 30,000 people in the United States die in car accidents.¹ Vehicle emissions take a huge toll on our environment.² Our cities are, to a large extent, far less walkable.³ Americans now spend an average of forty-two hours stuck in traffic every year.⁴ A 2010 report found that traffic accidents

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1. *General Statistics*, INS. INST. FOR HIGHWAY SAFETY: HIGHWAY LOSS DATA INST., <http://www.iihs.org/iihs/topics/t/general-statistics/fatalityfacts/state-by-state-overview> [<https://perma.cc/2MTC-KNF8>]; see also *Safer, Cleaner Transport Crucial for Improving Global Health, Report Shows*, WORLD BANK (Mar. 31, 2014), <http://www.worldbank.org/en/news/press-release/2014/03/31/safer-cleaner-transport-global-health> [<https://perma.cc/TP6F-Z4D9>] (finding that worldwide, road crashes result in “1.3 million deaths annually and 78.2 million nonfatal road injuries warranting medical care”).

2. See *Sources of Greenhouse Gas Emissions*, U.S. ENVTL. PROTECTION AGENCY (Dec. 11, 2015), <http://www3.epa.gov/climatechange/ghgemissions/sources/transportation.html> [<https://perma.cc/8U35-DRSZ>].

3. See Charles L. Marohn, Jr., *Cities for People—Or Cars?*, AM. CONSERVATIVE (Apr. 22, 2015), <http://www.theamericanconservative.com/articles/cities-for-people-or-cars> [<https://perma.cc/YU3G-H657>] (“[A] national consensus took shape in support of auto-based suburban expansion.”).

4. *Traffic Gridlock Sets New Records for Traveler Misery*, TEX. A&M TRANSP. INST. (Aug. 26, 2015), <http://mobility.tamu.edu/ums/media-information/press-release> [<https://perma.cc/Z4EE-92PV>].

cost American households \$836 billion every year,⁵ and traffic jams alone cost \$124 billion.⁶

Now, however, autonomous vehicles⁷ are right on the horizon. These vehicles, capable of navigating with little or no human intervention, may be the solution to many of the problems caused by traditional automobiles and provide some unexpected benefits. For example, ninety percent of car accidents are caused by human error.⁸ But once autonomous cars are commercially available, many predict accidents rates will decrease rapidly.⁹ Autonomous vehicles will also improve the flow of traffic, saving time and infrastructure spending.¹⁰ Interstate transport will become much cheaper and safer.¹¹ And the introduction of autonomous taxis may decrease the total amount of cars on the road, benefitting both our cities¹² and the environment.¹³

5. NAT'L HIGHWAY SAFETY ADMIN., THE ECONOMIC AND SOCIETAL IMPACT OF MOTOR VEHICLE CRASHES (2010, rev'd May 2015), <http://www-nrd.nhtsa.dot.gov/Pubs/812013.pdf> [<https://perma.cc/PRR5-YE2M>].

6. CTR. FOR ECON. & BUS. RES., THE FUTURE ECONOMIC AND ENVIRONMENTAL COSTS OF GRIDLOCK IN 2030 (2015), http://www.cebr.com/wp-content/uploads/2015/08/INRIX_costs-of-congestion_Cebr-report_v5_FINAL.pdf [<https://perma.cc/5PGS-4YTB>].

7. This Note uses the terms “autonomous vehicle” and “self-driving car” interchangeably. Additionally, this Note takes an optimistic view of autonomous vehicles—it assumes that they will work as predicted, and the analysis that follows is grounded in that assumption.

8. Bryant Walker Smith, *Human Error as a Cause of Vehicle Crashes*, CTR. FOR INTERNET & SOC'Y (Dec. 18, 2013), <http://cyberlaw.stanford.edu/blog/2013/12/human-error-cause-vehicle-crashes> [<https://perma.cc/ZZC4-3KG8>].

9. See, e.g., *Automobile Insurance in the Age of Autonomous Vehicles*, KPMG (June 2015), <https://www.kpmg.com/US/en/IssuesAndInsights/ArticlesPublications/Documents/automobile-insurance-in-the-era-of-autonomous-vehicles-survey-results-june-2015.pdf> [<https://perma.cc/Q45G-2F9X>] (“Accident frequency could drop by 80 [sic] percent.”).

10. Peter Cheney, *How Self-Driving Cars Will Ease Traffic Congestion*, GLOBE & MAIL (Dec. 12, 2013), <http://www.theglobeandmail.com/globe-drive/culture/commuting/how-self-driving-cars-will-ease-traffic-congestion/article15876882> [<https://perma.cc/DPB3-6NXB>].

11. See Scott Santens, *Self-Driving Trucks Are Going to Hit Us Like a Human-Driven Truck*, MEDIUM (May 14, 2015), <https://medium.com/basic-income/self-driving-trucks-are-going-to-hit-us-like-a-human-driven-truck-b8507d9c5961> [<https://perma.cc/357E-B5FR>].

12. See Nick Bilton, *Disruptions: How Driverless Cars Could Reshape Cities*, N.Y. TIMES (July 7, 2013), <http://bits.blogs.nytimes.com/2013/07/07/disruptions-how-driverless-cars-could-reshape-cities> [<https://perma.cc/9H6W-LAPF>]; Clive Thompson, *No Parking Here*, MOTHER JONES (Jan. 2016), <http://www.motherjones.com/environment/2016/01/future-parking-self-driving-cars> [<https://perma.cc/L6CQ-LFLY>].

13. Susan A. Shaheen & Timothy E. Lipman, *Reducing Greenhouse Emissions and Fuel Consumption*, 31 INTELLIGENT TRANSP. SOC'Y AM. 6 (2007), <http://www.itsa.org/files/pdf/ReducingGHGFuelConsump.pdf> [<https://perma.cc/U5KV-TLNE>].

But the transition from human-driven to autonomous cars will not be seamless because it remains unclear how they fit into existing legal and regulatory frameworks. Scholars have speculated about how exactly the law should and will handle the introduction of autonomous vehicles, reaching differing and often contradictory conclusions and suggestions. Some believe that existing legal frameworks will adequately address any issues, while others believe that new, comprehensive federal laws are necessary. This Note concludes that federal regulatory changes are probably necessary to address a variety of real and potential barriers to the successful nationwide introduction of autonomous vehicles. For the immediate future, Congress should at least consider a uniform, nationwide set of vehicle laws for autonomous vehicles. At most, the government should establish a new agency to handle novel issues surrounding artificial intelligence and robotics. Other scholars, however, have advocated for more moderate and sometimes unorthodox solutions that could solve the issues raised by autonomous vehicles without enacting new laws.

In Part I, this Note summarizes the history of autonomous vehicles. Part II discusses legal scholarship finding that autonomous vehicles are probably legal, then discusses the problems with using a traditional tort and contract law framework to assess autonomous vehicle liability, with a focus on products liability, assumption of risk, and varied state vehicle laws. Part III provides an overview of the current and pending state autonomous vehicle legislation, along with several scholars' proposed regulatory frameworks for the future. Finally, Part IV concludes that a uniform set of vehicle laws may be the best solution for the time being and discusses how inconsistent state laws may create obstacles for the design and release of autonomous vehicles.

I. THE HISTORY OF AUTONOMOUS VEHICLES

The world has been intrigued by the idea of a car that can drive itself since the early twentieth century.¹⁴ In 1939, General Motors (GM) displayed its *Futurama* exhibit,¹⁵ which consisted of a large model of a futuristic city where cars drove themselves seamlessly across automated highway tracks.¹⁶ Manual, human-driven automobiles at that time were incredibly dangerous, partly because of narrow, ill-paved roads that had

14. Marc Weber, *Where To? A History of Autonomous Vehicles*, COMPUTER HIST. MUSEUM, <http://www.computerhistory.org/atcm/where-to-a-history-of-autonomous-vehicles> [https://perma.cc/AU7X-PGZ6].

15. Tom Vanderbilt, *Autonomous Cars Through the Ages*, WIRED (Feb. 6, 2012), <http://www.wired.com/2012/02/autonomous-vehicle-history> [https://perma.cc/8T3D-GA64].

16. Weber, *supra* note 14.

initially been used for horse-drawn carriages.¹⁷ To early designers, automated highways seemed to solve the problem of dangerous roads and unsafe automobiles, and those designers envisioned new infrastructures where magnetic fields or rails kept cars moving safely in contained lanes.¹⁸ Two decades later, GM and RCA, a major electronics company at the time, began experimenting with scale models of automated highway systems that featured coils that could detect “the alternating current of a wire embedded in the road and . . . adjust the steering wheel accordingly.”¹⁹ GM also developed the Firebirds, a series of concept cars that were used to promote automated driving but were actually not automated at all.²⁰ By the late 1950s, GM had developed additional models that used wire currents with some success and were able to detect obstacles in the road.²¹

GM’s concept cars were initially popular with the public, but once it became clear that the designers had reached the technological limits of the time period, research and development quickly waned.²² Additionally, Congress began passing a series of federal safety and emission standards, and research shifted to finding more fuel-efficient ways of designing cars.²³

Across the ocean in Japan, a team of engineers was working to develop its own version of an autonomous vehicle. In 1977, S. Tsugawa and his colleagues at the Tsubuka Mechanical Engineering Laboratory displayed the first truly autonomous car, which featured two cameras that could process images of the road and used white street markers to track its direction.²⁴

Then, beginning in the 1980s, universities began teaming up with transportation agencies and automotive companies to research and design new concepts for autonomous vehicles.²⁵ These concept vehicles tended to fall into two categories: automated highway systems that would guide automated vehicles on some sort of grid; and autonomous and semi-autonomous vehicles that could function independently of the highway

17. *Id.*

18. *Id.*

19. John Wetmore, *Driving the Dream*, AUTOMOTIVE HIST. REV., Summer 2003, at 7.

20. *Id.*

21. *Id.* at 9.

22. *Id.* at 10.

23. *Id.*

24. Alex Forrest & Mustafa Konca, *Autonomous Cars and Society*, WORCHESTER POLYTECHNIC INST. 8 (May 1, 2007), <https://www.wpi.edu/Pubs/E-project/Available/E-project-043007-205701/unrestricted/IQPOVP06B1.pdf> [<https://perma.cc/VJ4L-74ZV>].

25. JAMES M. ANDERSON ET AL., RAND, AUTONOMOUS VEHICLE TECHNOLOGY: A GUIDE FOR POLICYMAKERS 56 (2014).

infrastructure.²⁶ Research into these concepts resulted in promising demonstrations and products.²⁷ In 1997, the California Partners for Advanced Transit and Highways (PATH) demoed their project “DEMO 97,” which consisted of eight autonomous vehicles moving down 7.6 miles of the I-15 Highway embedded with magnets.²⁸ An example of an early independent autonomous vehicle was the vehicle developed by notable German aerospace engineer Ernst Dickmanns and his team in the early 1980s that managed to travel at one hundred kilometers per hour on an empty highway, guided by cameras.²⁹ The success of this project earned Dickmanns the nickname “the pioneer of the autonomous car.”³⁰ In 1995, Carnegie Mellon researchers demoed their NavLab series of autonomous vehicles, and the fifth model of the series drove across the country and was ninety-eight percent autonomous.³¹ However, the car was only able to drive about seventy miles without human intervention.³²

In the early to mid-2000s, researchers and automobile companies began to seriously consider autonomous vehicles within reach. The U.S. Defense Advanced Research Projects (DARPA) held a series of “Grand Challenges” to see who could develop the best autonomous vehicles and drive them through a race course, with a prize of one million dollars.³³ The first challenge, held in 2004, met with limited success: the winner, the Carnegie Mellon team, only managed to get its car 7.3 out of 150 miles before it got stuck on a turn.³⁴ The following year, the prize money increased to two million dollars and there were twice as many entries.³⁵ Stanford’s vehicle took first place, completing the course with an autonomous Volkswagen Touareg.³⁶ In 2007, DARPA staged an urban racecourse that featured four miles of congested traffic, and several of the vehicles completed the course.³⁷

These contests brought significant popularity to autonomous vehicles, and companies such as GM and Volkswagen teamed up with leading university research centers to develop more advanced autonomous

26. *Id.*

27. *Id.*

28. *Id.*

29. *Id.*

30. Vanderbilt, *supra* note 15.

31. ANDERSON, *supra* note 25, at 56.

32. Vanderbilt, *supra* note 15.

33. *Id.*

34. *Id.*

35. *Id.*

36. *Id.*

37. *Id.*

vehicles.³⁸ Notably, Google also established a Driverless Cars initiative, hiring some of the best engineering talent in the field and providing them with access to Google's substantial resources.³⁹ As of late 2015, Google's efforts appear to have paid off: Google's autonomous vehicle crossed the million-mile mark in June, having driven a total of one million miles on public roads, through congested traffic areas, and on challenging streets such as San Francisco's famously curved Lombard Street.⁴⁰ Google's cars have only been involved in sixteen minor accidents in six years, all of which are allegedly the fault of other drivers.⁴¹

Several other companies are trying their hand at autonomous vehicles. Uber opened up its own self-driving car lab in early 2015 with the vision of creating driverless taxis.⁴² Tesla has been working on self-driving cars for several years, rolled out an autopilot mode to its existing cars beginning in October 2015, and hopes to commercially release a line of fully autonomous vehicles by 2018.⁴³ BMW,⁴⁴ Mercedes-Benz,⁴⁵ and now Apple⁴⁶ have decided to develop their own versions of self-driving cars. The Obama administration has even proposed a four-billion-dollar, ten-year plan to spur the development of these vehicles.⁴⁷ But with imminent public release

38. ANDERSON, *supra* note 25, at 57.

39. *Id.*

40. *Google Self-Driving Car Project*, GOOGLE (June 3, 2015), <https://plus.google.com/+SelfDrivingCar/posts/iMHEMH9crJb> [<https://perma.cc/NLB4-N4SY>].

41. *Google Self-Driving Car Monthly Report*, GOOGLE (Aug. 2015), <http://static.googleusercontent.com/media/www.google.com/en/us/selfdrivingcar/files/reports/report-0815.pdf> [<https://perma.cc/7EY2-TKF7>].

42. Jemima Kiss, *Uber: 'We'll Ease the Transition to Self-driving Cars'*, GUARDIAN (Sept. 16, 2015), <http://www.theguardian.com/technology/2015/sep/17/uber-well-ease-the-transition-to-self-driving-cars> [<https://perma.cc/7WP2-MKK9>].

43. Cadie Thompson, *Elon Musk Says Tesla's Fully Autonomous Cars Will Hit the Road in 3 Years*, TECH INSIDER (Sept. 25, 2015), <http://www.techinsider.io/elon-musk-on-teslas-autonomous-cars-2015-9> [<https://perma.cc/L4HL-YPB5>].

44. Tim Adams, *Self-driving Cars: From 2020 You Will Become a Permanent Backseat Driver*, GUARDIAN (Sept. 13, 2015), <http://www.theguardian.com/technology/2015/sep/13/self-driving-cars-bmw-google-2020-driving> [<https://perma.cc/EU7D-NU9H>].

45. Hannah Jane Parkinson, *Mercedes-Benz Announces Plans to Develop Luxury Driverless Cars*, GUARDIAN (Sept. 15, 2015), <http://www.theguardian.com/technology/2015/sep/15/mercedes-benz-eyes-luxury-driverless-cars-uber-self-driving-autonomous-vehicles> [<https://perma.cc/48GL-VJTJ>].

46. Lauren Helper, *Apple, Google, Tesla and the Race to Electric Self-Driving Cars*, GREENBIZ (Sept. 22, 2015), <http://www.greenbiz.com/article/apple-google-tesla-and-race-electric-self-driving-cars> [<https://perma.cc/AB7Y-M3UD>].

47. Brent Snively & Nathan Bomey, *Obama Administration Ready to Put \$4 Billion Toward Self-Driving Cars*, USA TODAY (Jan. 14, 2016), <http://www.usatoday.com/story/money/cars/2016/01/14/nhtsa-detroit-auto-show-autonomous-vehicles/78792868> [<https://perma.cc/3P26-RRZX>].

comes a series of important questions: how should these cars be regulated, and who should be liable when something goes wrong?⁴⁸

II. CURRENT CONCEPTIONS OF THE LAW APPLICABLE TO AUTONOMOUS VEHICLES

As the reality of commercially available self-driving cars becomes more imminent, concerns about how the law—specifically tort law—will treat liability for autonomous vehicles has risen considerably.⁴⁹ Recently, Volvo’s CEO Håkan Samuelsson announced in a press release that he believes that regulatory rather than technological hurdles are the biggest barriers to moving forward with self-driving tech, and as such, he has promised that Volvo “will accept full responsibility whenever one of its cars is in autonomous mode.”⁵⁰ This could be a huge step towards smoothing out and simplifying the laws of self-driving, but not all car manufacturers share Samuelsson’s view. Tesla, for example, may be designing its semi-autonomous vehicles specifically so that the human driver will be liable in the event of an accident.⁵¹ The electric car manufacturer plans to equip newer Model S sedans with semi-autonomous features, “including the capability to pass other cars without driver intervention.”⁵² That feature will be activated by hitting the turn signal, ensuring that “the driver has given thought to whether the maneuver is safe.”⁵³ Although not exactly the same situation, this serves as an example of how car manufacturers are approaching the issue of tort liability for autonomous vehicles in different ways. But before addressing the question of tort liability, it is important to

48. See Andrew Del-Colle, *The 12 Most Important Questions About Self-Driving Cars*, POPULAR MECHANICS (Oct. 8, 2013), <http://www.popularmechanics.com/cars/a9541/the-12-most-important-questions-about-self-driving-cars-160164180> [<https://perma.cc/6F33-E6PX>].

49. See, e.g., Chris Nichols, *Liability Could Be Roadblock for Driverless Cars*, SAN DIEGO TRIBUNE (Oct. 30, 2013), <http://www.sandiegouniontribune.com/news/2013/Oct/30/liability-driverless-car-transovation-google> [<https://perma.cc/78XY-5TD3>].

50. Chris Ziegler, *Volvo Says It Will Take the Blame If One of Its Self-Driving Cars Crashes*, THE VERGE (Oct. 7, 2015), <http://www.theverge.com/2015/10/7/9470551/volvo-self-driving-car-liability> [<https://perma.cc/NAG2-JATV>]. But note that the CEO hints that Volvo would not be responsible if the car’s software was hacked, and it would treat that as a criminal offense.

51. Mike Ramsey, *Who’s Responsible When a Driverless Car Crashes? Tesla’s Got an Idea*, WALL ST. J. (May 13, 2015), <http://www.wsj.com/articles/tesla-electric-cars-soon-to-sport-autopilot-functions-such-as-passing-other-vehicles-1431532720> [<https://perma.cc/YFF8-K32Y>] (“Hitting the turn signal not only tells the car it can pass, but also ensures the driver has given thought to whether the maneuver is safe.”)

52. *Id.*

53. *Id.*

address an equally important question: namely, are autonomous vehicles even legal under current law?

A. AUTONOMOUS VEHICLES ARE PROBABLY LEGAL

Legal scholar Bryant Walker Smith has written extensively on the subject of autonomous vehicles, and he concludes that under the current statutory and regulatory framework, self-driving cars “are probably legal in the United States.”⁵⁴ He comes to this conclusion after reviewing international agreements, federal regulations, and state vehicle codes.⁵⁵ Smith argues that the Geneva Convention, the 1949 multi-country agreement that promotes road safety by establishing certain common rules for automobile and other vehicles, “does not categorically prohibit automated driving.”⁵⁶ He notes further that under the Geneva Convention, the term “driver” is flexible enough that it may include non-human drivers, especially because international law recognizes the legal fiction of personhood that corporations can hold.⁵⁷ Smith concludes that the Geneva Convention creates an obligation that vehicles be controlled, but such control requirements may be satisfied “if a human is able to intervene in operation of a vehicle” or “if that vehicle operates within the bounds of human judgment.”⁵⁸ At most, Smith argues, the Geneva Convention requires people to take control and intervene if necessary,⁵⁹ but it may also allow a car that is loosely and more generally controlled by human decisions.⁶⁰

Smith next turns to the National Highway Traffic Safety Administration’s (NHTSA) regulations and similarly concludes that “federal motor vehicle safety standards do not categorically prohibit automated driving.”⁶¹ Although these rules tend to assume the presence of a driver behind the steering wheel, such a driver is not specifically mandated.⁶² Smith also looks to state vehicle codes and finds that on the whole, “state vehicle codes do not categorically prohibit automated

54. Bryant Walker Smith, *Autonomous Vehicles Are Probably Legal in the United States*, 1 TEX. A&M L. REV. 411 (2014).

55. *Id.*

56. *Id.* at 424.

57. *Id.* at 434. But note that acknowledging the personhood of a corporation is not the same as giving personhood to a vehicle.

58. *Id.* at 435.

59. *Id.* at 440.

60. *Id.*

61. *Id.* at 458.

62. *Id.* at 458–59. This is most likely because when these laws were written, no one even contemplated that autonomous vehicles could one day be a reality.

driving.”⁶³ He surveys regulations in every state as well as the Uniform Vehicle Code and concludes that even if automated vehicles are not prohibited, the regulations probably require a human driver, and there are numerous and various state obligations that might restrict the level of independence and complicate the operation of autonomous vehicles.⁶⁴ Smith also finds that under some states’ laws, vehicles themselves cannot be drivers under the existing law, but he also highlights an early draft of Nevada’s autonomous vehicle legislation that would have granted personhood and rights to autonomous vehicles if human drivers were not required.⁶⁵ Assuming that Smith’s analyses and conclusions are correct, autonomous vehicles may already have a place in existing law, but not without some uncertainties.

B. AUTONOMOUS VEHICLES AND CURRENT TORT AND CONTRACT LAW

There has been much debate and discussion about whether existing laws are already sufficient to handle autonomous vehicle liability. John Villasenor, a professor of electrical engineering and public policy at UCLA, writes that “existing tort and contract law frameworks are generally very well equipped to address” questions of liability in the context of autonomous vehicles.⁶⁶ He draws on existing legal scholarship in the area and argues that “[p]roducts liability law offers a time-tested framework that has proven to be adaptive to technology-driven liability issues in . . . other contexts,”⁶⁷ and he believes that the same framework “will be equally capable of doing so when applied to autonomous vehicles.”⁶⁸

Villasenor then discusses how existing law could be applied to the following theories of liability: negligence, strict liability, misrepresentation, and breach of warranty.⁶⁹ Under each of these theories, he posits a hypothetical where the theory would be applicable and gives examples of what the plaintiff could potentially argue.⁷⁰ He concludes by acknowledging that his analysis is not a comprehensive treatment of products liability law

63. *Id.* at 463.

64. *Id.*

65. *Id.* at 479.

66. JOHN VILLASENOR, BROOKINGS INST., PRODUCTS LIABILITY AND DRIVERLESS CARS: ISSUES AND GUIDING PRINCIPLES FOR LEGISLATION (2014), http://www.brookings.edu/~media/research/files/papers/2014/04/products-liability-driverless-cars-villasenor/products_liability_and_driverless_cars.pdf [<https://perma.cc/UNZ3-GDE2>].

67. *Id.*

68. *Id.*

69. *Id.* at 7.

70. *Id.* at 7–13.

in relation to self-driving cars, but he remains confident that the current tort and contract framework will adequately address liability.⁷¹ He uses the various examples in his paper to rebut the fear that many scholars and critics have recently articulated: namely, that legal liability will prove to be an impediment to innovation and may even prevent autonomous vehicles from becoming commercially available at all.⁷² He provides several guidelines and suggestions for policymakers moving forward, specifically that liability issues need not be preemptively resolved before autonomous vehicles are released⁷³ and that Congress “should not preempt state tort remedies with respect to autonomous vehicle liability.”⁷⁴ He does suggest that federal safety standards for autonomous vehicles should be enacted,⁷⁵ and that there should be some level of liability at the federal level for commercial autonomous vehicles, such as trucks or buses.⁷⁶

Other legal scholars share Villasenor’s view that current laws are sufficient to address autonomous vehicles. Andrew Garza writes that “[p]roducts liability law is capable of handling the advent of autonomous vehicles just as it handled seatbelts, air bags, and cruise control.”⁷⁷ He looks to the way the courts have historically handled these three technologies and suggests that, while complex, autonomous vehicles function similarly to technologies such as cruise control, and the use of cameras and record-keeping devices in the vehicles will lead to cheaper and speedier trials.⁷⁸ Another scholar, Kyle Graham, also takes an optimistic view regarding how tort law will impact autonomous vehicles.⁷⁹ He predicts that “[e]arly claims likely will resemble contemporary lawsuits that allege negligent vehicle use,”⁸⁰ and that new causes of action will emerge over time as the courts establish basic ground rules.⁸¹ He predicts that the early lawsuits will mostly argue under a failure-to-warn theory rather than alleging a design defect, mostly because it will be difficult for plaintiffs to sift through code to find

71. *Id.* at 13.

72. *Id.* at 14; *see* Nichols, *supra* note 49.

73. Villasenor, *supra* note 66, at 15.

74. *Id.*

75. *Id.* at 17.

76. *Id.*

77. Andrew P. Garza, “Look Ma, No Hands!”: Wrinkles and Wrecks in the Age of Autonomous Vehicles, 46 NEW ENG. L. REV. 581, 595 (2012).

78. *Id.* at 616.

79. Kyle Graham, *Of Frightened Horses and Autonomous Vehicles: Tort Law and Its Assimilation of Inventions*, 51 SANTA CLARA L. REV. 1241, 1270 (2012).

80. *Id.* at 1269.

81. *Id.* at 1270.

errors in the car's programming.⁸² On the whole, he doubts that tort litigation will prove too problematic for the autonomous vehicle industry.⁸³

While these scholars provide thoughtful, detailed analysis, the hypotheticals and examples they use to illustrate how existing tort and contract law can address potential problems with autonomous vehicles are fairly basic, and they do not account for many of the added complexities that arise when artificial intelligence is introduced. Regular, non-autonomous vehicles can suffer from the same brake failures and various manufacturing and design defects that Villasenor describes, or the failure-to-warn issues that Graham suggests. These examples may work well when applied to semi-autonomous and autonomous features of regular cars, but they break down when applied to fully autonomous vehicles with artificial intelligence, which may have to make decisions about how to react to circumstances. This is exactly the issue that scholars such as Ryan Calo are concerned about.⁸⁴ Even if courts are comfortable applying existing tort and contract law to autonomous vehicles, there are numerous concerns and complications that can and probably will prove problematic to both manufacturers and consumers. Furthermore, state law, especially with regard to automobile regulations, can vary wildly, and this could become a practical impediment to the implementation of autonomous vehicles.⁸⁵

C. AUTONOMOUS VEHICLES DO NOT FIT WITHIN EXISTING LEGAL FRAMEWORKS

Broadly speaking, if society applies existing tort and contract law to autonomous vehicles, liability for accidents will rest either with the manufacturer of the vehicle or with the driver. Experts and scholars have generally suggested that either products liability or assumption of risk may be the best solutions to the problem of assessing liability in this context.

1. *Products Liability*

The use of artificial intelligence and neural networks in autonomous vehicles may create surprising and unexpected complications in determining liability, and courts may not know exactly how to approach these problems. In the context of autonomous vehicles, where the vehicle, as opposed to the driver, is presumed to be in control, products liability theoretically fits.⁸⁶

82. *Id.* at 1270.

83. *Id.*

84. See Ryan Calo, *Robotics and the Lessons of Cyberlaw*, 103 CALIF. L. REV. 513 (2015).

85. See *infra* Section II.D.

86. See Villasenor, *supra* note 66.

After all, the car is a product, manufactured and designed by a third party, and if that product has a flaw that results in an accident, it seems logical to hold the manufacturer liable. And indeed, this is exactly what Volvo plans to do with their vehicles.⁸⁷ But autonomous vehicles will likely not all be fully autonomous, and it may be difficult to determine the exact cause of an accident when a human actor assumes control. Furthermore, the kinds of products liability issues that self-driving cars are likely to face may stump the courts. Autonomous vehicles can be more or less thought of as robots that look like cars;⁸⁸ they are complex systems of sensors and hardware controlled by a dizzying variety of software systems, some of which may even be nondeterministic.⁸⁹ Essentially, the car itself will need to detect problems and make decisions in a variety of situations that cannot be specifically predicted by the software manufacturer, and scholars are worried about how the courts will handle this.⁹⁰

Ryan Calo, one of the preeminent authorities on artificial intelligence and the law, has written on this very issue.⁹¹ Drawing analogies to how the rise of the Internet led to tension in the law that disrupted existing legal frameworks, Calo writes that the rise of robotics will “muddy anew the waters, . . . posing distinct challenges for law and legal institutions.”⁹² He discusses how robotics is rapidly becoming the next big thing—Google has purchased several robotics companies for billions of dollars and released their driverless cars,⁹³ Amazon.com has been experimenting with using drones to deliver packages,⁹⁴ and venture capital firms typically associated with software companies are diverting capital to hardware, funding

87. Ziegler, *supra* note 50.

88. This Note uses the term “AI” here to generally describe complex software systems that independently evaluate incoming data and make decisions based on that data.

89. See Lyle N. Long et al., *A Review of Intelligent Systems Software for Autonomous Vehicles*, Proceedings of the 2007 IEEE Symposium on Constitutional Intelligence in Security and Defense Applications. The term “nondeterministic” in the programming context refers to systems that, given a certain input, give an unexpected and unpredictable output.

90. See Calo, *Robotics and the Lessons of Cyberlaw*, *supra* note 84 (arguing that courts may struggle to determine liability in autonomous vehicle accidents); Gary E. Marchant & Rachel A. Lindor, *The Coming Collision Between Autonomous Vehicles and the Liability System*, 52 SANTA CLARA L. REV. 1321 (2012) (analyzing possible ways that courts may assign liability and how that could have a deterrent effect on the industry). *But see* Villasenor, *supra* note 66 (arguing that courts will be able to adequately handle autonomous vehicles).

91. Calo, *Robotics and the Lessons of Cyberlaw*, *supra* note 84.

92. *Id.* at 516.

93. *Id.* at 527.

94. *Id.*

numerous robotics startups.⁹⁵ Even law firms are taking notice of this rise, with entirely new practice groups devoted to robotics and AI.⁹⁶ But the courts may have trouble keeping up with these new emerging technologies.

Calo argues that what differentiates robotics from other technologies is what he terms the “sense-think-act paradigm.”⁹⁷ Robots can be described as “artificial objects or systems that sense, process, and act upon the world to at least some degree,”⁹⁸ which leads to “unpredictably useful behavior.”⁹⁹ The problem that courts will have to face, especially when it comes to liability, is who is actually responsible when something bad happens. Robots depend to a large extent on software programming, which can be so extraordinarily complex that it is impossible to predict a robot’s behavior.¹⁰⁰ “[A]nticipating and accounting for robot behavior” may be an extraordinarily difficult task.¹⁰¹ Scholars and journalists are concerned about exactly this issue—“should an autonomous vehicle sacrifice its occupant by swerving off a cliff to avoid killing a school bus full of children?”¹⁰² The car’s code may determine how it approaches these kinds of decisions, but the exact reasoning and circumstances behind the result (and therefore the level of negligence) may not be so clear, especially when dealing with neural networks, where the robot learns how to react rather than being explicitly told what to do.¹⁰³

Calo succinctly identifies the problem with applying products liability to robotics generally: “products as understood by contemporary product liability law are by definition tangible—intangible products do not generally give rise to product liability actions.”¹⁰⁴ Calo argues that the software code conveyed to a consumer necessarily cannot be defective for purposes of product liability because by definition, “it is not even a product.”¹⁰⁵ To resolve this issue, courts have used the economic loss doctrine to limit

95. *Id.*

96. *Id.*

97. *Id.* at 529.

98. *Id.* at 531.

99. *Id.* at 532.

100. *Id.*

101. *Id.* at 534.

102. Keith Naughton, *Should a Driverless Car Decide Who Lives or Dies?*, BLOOMBERG BUS. (June 25, 2015), <http://www.bloomberg.com/news/articles/2015-06-25/should-a-driverless-car-decide-who-lives-or-dies-in-an-accident-> [https://perma.cc/P3QJ-RCEQ].

103. See, e.g., Dean Al Pomerleau, *Neural Network Vision for Robotic Driving*, in THE HANDBOOK OF BRAIN THEORY AND NEURAL NETWORKS 161 (Michael A. Arbib ed., 1995).

104. Calo, *Robotics and the Lessons of Cyberlaw*, *supra* note 84, at 535.

105. *Id.* at 536.

liability when an economic loss is suffered due to software failure¹⁰⁶ but have also allowed tort actions to proceed when software glitches lead to actual physical harm.¹⁰⁷ Moving forward, Calo believes the law will often face and struggle with the issue of how to approach these kinds of problems, which may result in either “soften[ing] or strengthen[ing] existing doctrines, import[ing] doctrines across subject matter, or resurrect[ing] doctrines long forgotten.”¹⁰⁸ Either way, it could be very difficult.

Practically speaking, if courts apply products liability law to autonomous vehicles, the various manufacturers will potentially face enormous liability. Plaintiffs in tort actions generally sue parties with money, and if there is an accident involving an autonomous vehicle, they will likely try to recover damages from big name players such as Google, Tesla, and other manufacturers. An upswing in lawsuits immediately after autonomous vehicles become commercially available is also likely. One scholar, Kyle Colonna, notes that this is usually the case when new technologies emerge; he predicts that autonomous vehicles will be no exception.¹⁰⁹ Tort claims for accidents caused by human error (such as drunkenness or distraction) will quickly be replaced by products liability for software or other mechanical failure, and manufacturers “will incur more liability than they are currently accustomed.”¹¹⁰ If not mitigated, this increase in litigation has the potential to halt the innovation and public sale of autonomous vehicles.

In fact, this exact problem has been observed in other contexts. In the United States biotechnology industry, which produces vaccines and other pharmaceuticals, lawsuits for products liability increased by 813% between 1980 and 1988.¹¹¹ The average jury verdict in these cases also dramatically increased, jumping from \$400,000 in 1975 to \$1.8 million in 1986.¹¹² Colonna argues that this correlates with the twenty-five percent decrease in the number of public U.S. biotechnology companies between 2007 and 2010.¹¹³ The International Trade Administration has identified that “products liability law is a ‘severe’ barrier for innovation in the biotechnology

106. *Id.* at 537.

107. *Id.*

108. *Id.*

109. Kyle Colonna, *Autonomous Cars and Tort Liability*, 4 J.L. TECH. & INTERNET 81, 115 (2012) (“When a new technology emerges, there is usually an increase in general negligence claims and liability.”).

110. *Id.* at 117.

111. *Id.* at 110.

112. *Id.*

113. *Id.* However, this is not to say that the size of the pharmaceutical industry itself decreased.

industry.”¹¹⁴ Many drug companies are hesitant to produce new vaccines and potentially safer vaccines because of the sheer number of lawsuits that erupt when those new products are released.¹¹⁵ And this is not part of a constructive process—vaccines and other drugs have enormous social utility. They “prevent disease, lower healthcare costs, and generally advance humanity.”¹¹⁶ But despite this utility, biotechnology companies are so concerned with the unpredictable and excessive liability damages that innovation in the field is stifled.¹¹⁷

If the same thing happens in the autonomous vehicles industry, the field may see innovation similarly chilled. Undoubtedly there will be some problems with autonomous vehicles, especially the earlier iterations.¹¹⁸ But like vaccines, autonomous vehicles have enormous social utility. They are projected to save thousands of lives by reducing accidents due to human error,¹¹⁹ increase fuel and time efficiency for commutes,¹²⁰ and provide numerous other predicted benefits. But these benefits may never be realized if an overwhelming number of initial lawsuits makes it financially unrealistic to produce autonomous vehicles. If courts use a strict products liability regime, we may disincentivize manufacturers from innovating and taking risks that may pay off for society later. But if the social utility of autonomous vehicles outweighs the danger, society may not want manufacturers to be chilled by expensive product liabilities lawsuits.

2. *Assumption of Risk*

Another option for dealing with autonomous vehicle torts under existing law is to ask consumers to sign waivers that accept the risks of autonomous vehicles and take personal responsibility for accidents. If consumers waive their right to sue the manufacturers (at least up to a certain point), a large percentage of initial products liability lawsuits may be reduced or mitigated. Without the fear of crippling lawsuits, these manufacturers may be more encouraged to innovate freely and more quickly develop and release improved autonomous vehicles. But such a system would transfer all of the risk from the manufacturer to the consumer—and it may not be fair or even desirable to ask the less powerful parties in an agreement to shoulder potentially tremendous liability. Additionally, it is

114. *Id.*

115. *Id.*

116. *Id.*

117. *Id.* at 111.

118. *See* Marchant & Lindor, *supra* note 90, at 1339.

119. Colonna, *supra* note 109, at 111.

120. *Id.* at 112–13.

possible that manufacturers may not take as great care in designing their vehicles if they know they will not be held liable for problems later.

An additional problem with the assumption of risk approach is that it would require the manufacturers to “fully disclose the potential risks of the vehicle, including the likely failure modes and some approximate sense of their probability.”¹²¹ Considering the unpredictable nature of artificial intelligence, manufacturers may not be able to foresee all of the potential risks, and if anything happened that was not previously disclosed, liability would likely revert to the manufacturer.¹²² And even if the manufacturer is able to discover and disclose all potential risks, consumers might be driven away by a long list of scary risks that are possible in an already uncertain technology, and this could hinder growth in the industry before it has the chance to fully emerge.

One potential way of dealing with this problem may be to let insurance companies mitigate much of this risk. Insurance companies can assess the safety and risks of autonomous vehicles, and then adjust consumer insurance rates accordingly.¹²³ In theory, the safer the vehicle, the less expensive the insurance premiums will be.¹²⁴ In fact, the insurance industry has already done some preliminary assessments on autonomous vehicles, finding that the rate of accidents may drop by up to eighty percent, but the costs of future accidents may double both due to the severity of those accidents and the high price of the component parts of autonomous vehicles.¹²⁵ Fundamentally, “lower losses lead to [a] lower premium,” and if manufacturers of autonomous vehicles can achieve lower accident rates, insurance premiums should decrease, and consumers will happily pay lower costs.¹²⁶ Insurance companies often have the most up-to-date information about vehicle safety and accident probability in the market, and they can most accurately assess the risks associated with different brands of autonomous vehicle, as they currently do with human-driven automobiles.¹²⁷ They can then use that data to charge a premium on cars that are unsafe, which would push customers away from those cars and towards safer cars.¹²⁸ Because customers will likely try to purchase cars with cheaper insurance, manufacturers may be incentivized to produce safer and

121. Marchant & Lindor, *supra* note 90, at 1336.

122. *Id.*

123. *See* KPMG, *supra* note 9.

124. *See* ANDERSON, *supra* note 25, at 115.

125. KPMG, *supra* note 9.

126. *Id.*

127. *See* ANDERSON, *supra* note 25, at 115.

128. *See id.*

thus cheaper cars—unsafe cars might have expensive insurance premiums and in theory, consumers will avoid them.¹²⁹

D. STATES CURRENTLY DO NOT HAVE UNIFORM VEHICLE LAWS

Another issue that impacts the question of tort liability is how varying state law will impact autonomous vehicle regulation. The current laws pertaining to automobiles are largely decided by individual states.¹³⁰ Although the National Highway Traffic Safety Administration has issued a set of federal safety standards and regulations that all states must adhere to,¹³¹ most traffic laws, that is, laws that regulate driving behavior, are implemented by specific state statutes.¹³² It may be difficult to design a self-driving car that can comply with certain state laws, and many laws may be such a bad fit for autonomous vehicles that it would be impractical and illogical to ask drivers to adhere to them.

As Bryant Walker Smith notes in his analysis of the current legal status of autonomous vehicles, New York law requires that drivers keep at least one hand on the steering wheel of their car at all times.¹³³ This would not necessarily be a difficult law to comply with from the manufacturer's perspective, but it may be entirely superfluous for the occupant of an autonomous vehicle—if the car is essentially the driver, there would be no need for someone in the car to be holding the steering wheel.

But some state laws may hinder the development of autonomous vehicles. For example, New Jersey has a law requiring drivers to honk their horn when passing other vehicles, bicyclists, skateboarders, and skaters.¹³⁴

129. But note that humans are notoriously irrational, and some people may choose to pay three times as much a month in insurance for a self-driving Aston Martin, even if it is twice as likely to run over small children as a Volvo. Aston Martin specifically requested to be exempted from U.S. safety regulations, and yet despite this lack of safety compliance, consumers continue to purchase cars from this luxury brand. See Chris Bruce, *Aston Martin Requests Exemption from Stringent US Safety Regulations*, AUTOBLOG (Apr. 18, 2014), <http://www.autoblog.com/2014/04/18/aston-martin-nhtsa-safety-exemption-db9-vantage> [<https://perma.cc/DP5W-SA46>].

130. See *Automated Driving: Legislative and Regulatory Action*, CTR. FOR INTERNET & SOC'Y, http://cyberlaw.stanford.edu/wiki/index.php/Automated_Driving:_Legislative_and_Regulatory_Action [<https://perma.cc/9M5P-WD55>].

131. *Federal Motor Vehicle Safety Standards*, U.S. DEP'T TRANSP., <http://www.nhtsa.gov/cars/rules/import/FMVSS/> [<https://perma.cc/LAU9-VVTE>].

132. See *Motor Vehicles—State Statutes*, LEGAL INFO. INST., https://www.law.cornell.edu/wex/table_motor_vehicles [<https://perma.cc/UU24-EMAM>].

133. Smith, *supra* note 54, at 413.

134. Mitch Lipka, *Honk! State Driving Law is Largely Ignored*, PHILLY.COM (Mar. 13, 2003), http://articles.philly.com/2003-03-13/news/25472340_1_legislature-strikes-law-horn [<https://perma.cc/UXR3-LEQ8>].

This law—enacted in 1928—is almost never enforced, but the legislature has never stricken it from the books. It is still in the New Jersey driving manual, and questions about this law occasionally appear in New Jersey DMV practice tests.¹³⁵ This raises an interesting and important question for manufacturers of autonomous vehicles—do they need to design their vehicles to adhere to this state law, even if it is rarely enforced? Consider Pennsylvania’s law on the matter, which mandates that drivers “NEVER honk [their] horn at bicyclists”¹³⁶ because it may startle them and cause an accident. Which law should manufacturers follow? Will they be required to design their vehicles to detect when they enter New Jersey and then enable auto-honking when they pass other vehicles, and disable the honking when they enter Pennsylvania? In Vermont, it is legal to pass vehicles on a double-yellow line, while it is illegal almost everywhere else.¹³⁷ Will the car need to be programmed to change how it operates and behaves in every state? The answers here are not completely clear.

Many other state vehicle laws make no sense when applied to autonomous vehicles. California is currently the only state that allows motorcycles to lane-split around cars in traffic.¹³⁸ Google, headquartered in California, has been working on programming defensive driving techniques that include evading lane-splitting motorcycles and electric skateboards.¹³⁹ But what of manufacturers not located in California? Will they also have to program their vehicles to anticipate and react to motorcycles driving very close to the car? In Oklahoma, it is illegal to read comic books while driving, presumably because reading while driving is very dangerous in general.¹⁴⁰ Wearing headphones while driving is legal in thirty-three states, illegal in

135. *Id.*

136. *Id.*

137. *Vermont, Passing Safely on Two-Lane Roads*, DEP’T MOTOR VEHICLES, http://dmv.vermont.gov/sites/dmv/files/pdf/DMV-Enforcement-SM-Passing_safely_on_2_lane_roads.pdf [<https://perma.cc/9FKH-PBCV>].

138. Zusha Elinson, *Motorcycle Lane-Splitting Could Move Beyond California*, WALL ST. J. (Mar. 6, 2015), <http://www.wsj.com/articles/motorcycle-lane-splitting-could-move-beyond-california-1425678764> [<https://perma.cc/H97M-37QL>]. But other states are considering allowing lanesplitting as well.

139. Lance Whitney, *Google’s Self-Driving Cars Hit the Roads in Austin, Texas*, CNET (July 7, 2015), <http://www.cnet.com/news/googles-self-driving-cars-hit-the-roads-in-austin-texas/> [<https://perma.cc/Z7US-8ZG7>]; *Google Self-Driving Car Project* (June 3, 2015), <https://static.googleusercontent.com/media/www.google.com/en//selfdrivingcar/files/reports/report-0615.pdf> [<https://perma.cc/4R7A-KGN6>].

140. *The Top 10 Strangest Driving Laws in the U.S.*, DIRECT AUTO & LIFE INS., <https://www.directgeneral.com/news-and-events/2014/05/strangest-driving-laws-in-the-us> [<https://perma.cc/5W56-ZN4X>].

four states, and complicated in the remaining thirteen.¹⁴¹ In some states, there are only certain places in a vehicle where it is legal to attach a GPS.¹⁴² Several states prohibit talking on a cellphone or texting while driving.¹⁴³

These are only a few examples of traffic laws that differ by state, but there are many other state-specific laws, both reasonable and unreasonable, that may not make sense for autonomous vehicles, or may make full nationwide implementation difficult. Even maximum speed limit laws¹⁴⁴ or following-distance laws, which differ by state, could prove tricky. Even though an autonomous vehicle may fairly easily detect the state in which it is located, will it be legally obligated and technically able to react accordingly? Some states or localities may even need specific autonomous vehicle modifications to address unique terrain or other distinctive needs, and it may be difficult for manufacturers to know which needs to address before commercial release.¹⁴⁵

State vehicle laws are simply not uniform, and this may pose problems for autonomous vehicle manufacturers. Each individual state could try to individually go through their laws and decide which ones should apply to autonomous vehicles, but technology may move much faster than the rate at which laws are repealed or changed.¹⁴⁶ Even if they are modified in a timely fashion, we probably cannot expect the changes to be uniform across the country. Even now, the current legislation on autonomous vehicles, sparse as it may be, is different in different states.¹⁴⁷

141. Jason Siu, *Wearing Headphones While Driving Legal in Most States*, AUTOGUIDE (Apr. 29, 2012), <http://www.autoguide.com/auto-news/2012/04/wearing-headphones-while-driving-legal-in-most-states.html> [<https://perma.cc/G73H-553C>].

142. See Scott J. Wilson, *Five California Traffic Laws That Drivers May Be Confused About*, L.A. TIMES (Dec. 18, 2011), <http://articles.latimes.com/2011/dec/18/business/la-fi-five-carlaws-20111218> [<https://perma.cc/6FQK-9AUJ>].

143. See *Distracted Driving*, INS. INST. FOR HIGHWAY SAFETY HIGHWAY LOSS DATA INST., <http://www.iihs.org/iihs/topics/laws/cellphonelaws/maphandheldcellbans> [<https://perma.cc/SF9C-Y4H9>].

144. See *State Speed Limits Chart*, NAT'L MOTORISTS ASS'N, <https://www.motorists.org/issues/speed-limits/state-chart/> [<https://perma.cc/22UE-FLJT>].

145. Autonomous vehicle testing is mostly done in California and other fair-weather states. See Doron Levin, *The Cold, Hard Truth About Autonomous Vehicles and Weather*, FORTUNE (Feb. 2, 2015), <http://fortune.com/2015/02/02/autonomous-driving-bad-weather> [<https://perma.cc/MG3K-H4U2>] (discussing how Google's car has not yet been tested in the snow, and its sensing technology may be inoperative in a snowstorm).

146. See, e.g., Vivek Wadhwa, *Laws and Ethics Can't Keep Pace with Technology*, MIT TECH. REV. (Apr. 15, 2014), <http://www.technologyreview.com/view/526401/laws-and-ethics-cant-keep-pace-with-technology> [<https://perma.cc/TCW2-4DUQ>].

147. *Automated Driving*, CTR. FOR INTERNET & SOC'Y, *supra* note 130.

III. PENDING REGULATIONS AND PROPOSED SOLUTIONS FOR REGULATING AUTONOMOUS VEHICLES

As autonomous vehicles move closer to market release, certain actions may help facilitate a smooth introduction. Several states have already passed or are considering autonomous vehicle legislation, and legal scholars have weighed in on the matter and offered a series of proposed solutions.

A. LAWS SPECIFIC TO AUTONOMOUS VEHICLES

Eight states have already passed and enacted laws regulating autonomous vehicles.¹⁴⁸ In 2011, Nevada became the first state to pass such a law when it passed two pieces of legislation directing the DMV to adopt regulations for licensing and operation of autonomous vehicles,¹⁴⁹ as well as permitting occupants of autonomous vehicles to use cell phones while “driving.”¹⁵⁰ In 2012, Florida adopted very similar legislation that established the legality of testing autonomous vehicles¹⁵¹ and prohibited cellphone use but exempted operators of vehicles that function in autonomous mode.¹⁵² California also passed its own legislation in 2012 that added special oversight of vehicles without drivers and compelled manufacturers of autonomous vehicles to provide a written disclosure describing what information is collected by the vehicle.¹⁵³ The District of Columbia,¹⁵⁴ Michigan,¹⁵⁵ and most recently Tennessee¹⁵⁶ have also passed their own legislation. Further, nineteen additional states currently have similar bills under consideration.¹⁵⁷

But Bryant Walker Smith foresees complications with the implementation of these laws.¹⁵⁸ He notes that there are different definitions of “driver,” “control,” and “autonomous” under various federal and state laws, and thus he suggests that regulatory bodies should strive to use a common vocabulary.¹⁵⁹ Furthermore, he suggests that federal and state

148. *Id.*

149. A.B. 511 (Nev. 2011).

150. S.B. 140 (Nev. 2011).

151. C.S./H.B. 1207 (Fla. 2012).

152. S.B. 52 (Fla. 2013).

153. S.B. 1298 (Cal. 2012).

154. B19-0931 (D.C. 2012).

155. S.B. 0169; S.B. 0663 (Mich. 2013).

156. H.B. 0616; S.B. 0598 (Tenn. 2015).

157. Smith, *supra* note 54, at 500. This is as of December 2015.

158. *Id.* at 516.

159. *Id.* at 517.

legislatures should sift through current laws and decide which existing laws should apply to autonomous vehicles, and which they should be exempted from.¹⁶⁰ But while the existing laws may be sufficient to permit testing of autonomous vehicles for the time being, it may prove quite problematic to fully introduce self-driving cars while still maintaining the existing legal framework for human-driven vehicles. The lack of uniformity in state vehicle codes and the uncertain question of how liability will be distributed compounds this issue.

B. SCHOLARLY PROPOSALS FOR REGULATING AUTONOMOUS VEHICLES

Although Villasenor argues that a federal tort law would be a very bad idea because it would infringe upon states' rights,¹⁶¹ many other scholars disagree and believe that the federal government should intervene. In a 2014 RAND report, the authors argue that federal tort preemption may be a good way to prevent inconsistent state laws from governing in liability cases.¹⁶² Although preemption in general is a controversial doctrine, many think that federal agencies are better at making regulatory decisions than juries, and it may be "unfair to subject product manufacturers to potentially fifty-one different and sometimes conflicting sets of requirements, depending on the particular holdings of juries in fifty-one jurisdictions."¹⁶³ Additionally, federal preemption exists in other areas of the law, even in the automotive context. In 2000, the Supreme Court found that the National Traffic and Motor Vehicle Safety Act preempted a state tort law that would have found a manufacturer negligent for failing to equip pre-1978 vehicles with airbags.¹⁶⁴ Congress has also passed technology-specific preemption in a variety of other industries over the past century,¹⁶⁵ so it may not be unreasonable to do so again with such a new and potentially dangerous technology like autonomous vehicles. Marchant and Lindor note that although NHTSA has not yet adopted a set of Federal Motor Vehicle Safety Standards, they may "if autonomous vehicles are likely to become prevalent and raise unique safety issues."¹⁶⁶

160. *Id.*

161. Villasenor, *supra* note 66, at 16.

162. ANDERSON, *supra* note 25, at 129.

163. *Id.*

164. *Id.* at 130 (citing *Geier v. Am. Honda Motor Co.*, 529 U.S. 861 (2000)). But note that this case was very narrowly decided (5 to 4).

165. *Id.* at 131.

166. Marchant & Lindor, *supra* note 90, at 1339.

To deal with the specific concern of manufacturer liability chilling autonomous vehicle innovation, Kyle Colonna suggests that Congress adopt a model similar to that of the 1957 Price-Anderson Act, which was enacted both to “compensate those injured as a result of a nuclear accident” and limit the liability of individual nuclear reactors.¹⁶⁷ This Act mandated a two-tier insurance program that worked to prevent excessive liability.¹⁶⁸ Each nuclear reactor was individually required to “obtain a ‘first tier’ insurance policy,” and then each nuclear reactor in the industry contributed a certain amount to a secondary insurance pool, which would be drawn from if the first tier became exhausted.¹⁶⁹ This spreads the risk across many manufacturers and insurance companies and prevents individual companies from going bankrupt.¹⁷⁰ Colonna suggests that such a model could be applied to autonomous vehicles, which may be high-risk, much like nuclear reactors.¹⁷¹ This would ensure that individual manufacturers would “not have to worry about the risk of liability affecting their profits because there [would] be two tiers of insurance and a ceiling on damages.”¹⁷²

But it may be necessary to go even further than that. Rather than passing a set of federal tort preemption laws or an insurance act, Congress may wish instead to establish a governmental agency to handle regulations and standards. Ryan Calo thinks this may be a good choice and has argued at length in favor of a federal robotics commission.¹⁷³ Historically, Congress has created agencies for new, emergent technologies. In 1926, Congress formed the Federal Radio Commission “to manage the impact of radio on society.”¹⁷⁴ That agency is now the Federal Communications Commission (FCC), and deals with a variety of new technologies related to mobile networks and communications devices.¹⁷⁵ Similarly, the emergence of trains led to the Federal Railroad Administration (now the Department of Transportation),¹⁷⁶ vaccines led to the Centers for Disease Control and

167. Colonna, *supra* note 109, at 122.

168. *Id.*

169. *Id.* at 123.

170. *Id.* at 124.

171. *Id.*

172. *Id.* at 125.

173. See Ryan Calo, *The Case for a Federal Robotics Commission*, BROOKINGS INST. (Sept. 2014), http://www.brookings.edu/~media/Research/Files/Reports/2014/09/case-for-federal-robotics-commission/RoboticsCommissionR2_Calo.pdf [<https://perma.cc/PF4C-T3KV>].

174. Calo, *Robotics and the Lessons of Cyberlaw*, *supra* note 84, at 556.

175. *Id.*

176. *Id.* at 556–57.

Prevention (now part of the Department of Health and Human Services),¹⁷⁷ and airplanes necessitated the formation of the Federal Aviation Administration.¹⁷⁸ Calo notes that agencies are more or less created to “foster justice and efficiency through the development of expertise,” and considering current uncertainties about the immediate impact and fallout of autonomous vehicles, an agency might be the best choice to ensure that the best decisions are being made.¹⁷⁹

Other scholars have suggested entirely new ways of approaching this problem. Sophia Duffy and Jamie Patrick Hopkins put forth an unorthodox and yet startlingly intuitive legal theory—perhaps instead of looking at products liability and driver liability, we should be analogizing to canine liability.¹⁸⁰ They argue that “both dogs and autonomous cars think and act independently from their human owners, and these independent acts have similar consequences of inflicting personal injury or property damage.”¹⁸¹ If autonomous cars are treated as chattel under tort law, then liability will be based strictly on ownership rather than on the specific actions of a person,¹⁸² and the actions of the victim, if they contributed to the accident, “can negate or alleviate the strict liability.”¹⁸³ While Duffy and Hopkins’ argument is not bulletproof (they either overlook or dismiss the possibility of products liability entirely), their theory shows that the law is perhaps capable of adapting to novel situations, and the solutions to these liability questions may lie in unexpected places.

IV. MOVING FORWARD: WHERE WE GO FROM HERE

While the above scholars provide a variety of plausible suggestions, Volvo’s CEO has likely proposed the best solution for the short-term. As Samuelsson argues, we probably need a uniform set of state traffic laws for autonomous vehicles, if not tort laws.¹⁸⁴ He notes that “the absence of one set of rules means that car makers cannot conduct credible tests to develop cars that meet all the different guidelines of all 50 states.”¹⁸⁵ Most states have not created legislation surrounding autonomous vehicles yet, and this may

177. *Id.*

178. *Id.*

179. *Id.* at 557.

180. Sophia H. Duffy & Jamie Patrick Hopkins, *Sit, Stay, Drive: The Future of Autonomous Car Liability*, 16 SMU SCI. & TECH. L. REV. 101, 113 (2013).

181. *Id.*

182. *Id.* at 117.

183. *Id.* at 116.

184. *See* Ziegler, *supra* note 50.

185. *Id.*

leave testing “in a legal gray zone.”¹⁸⁶ To ensure that these vehicles can enter the market and can operate legally across the country, manufacturers need to know which laws they need to program the cars to follow. It may be impossible to design a vehicle that can adhere to every single law in all fifty-one jurisdictions, so perhaps states need to work together to form a consistent and cohesive vehicle code that will regulate the testing and eventually the release and commonplace use of autonomous vehicles.

State traffic and tort laws are not uniform, and the few state laws applying to autonomous vehicles that have already passed or are being considered continue to be non-uniform.¹⁸⁷ This could be very problematic as the release date for commercially available autonomous vehicles draws ever nearer. Most of the laws that have been passed so far have been fairly reasonable,¹⁸⁸ but there is no guarantee that states will continue to make logical choices about autonomous vehicles, and many states have not even begun to discuss how they will handle the introduction of such vehicles.¹⁸⁹ As time passes and more bills are pushed through state legislatures, laws may start to wildly differ by state. Allowing individual states to continue to make laws about these vehicles is probably not the best course of action.

Since tort law already varies by state, differing liability laws might incentivize forum shopping. Consumers may choose to litigate in states that require strict liability for manufacturers, and manufacturers may want to litigate in states that tend to consider contributory or comparative negligence. Five states have already passed laws regarding liability for autonomous vehicles, though these laws have generally focused on liability to original manufacturers when third-party autonomous vehicle technology has been installed on existing cars.¹⁹⁰

As Smith discusses at length in his article, varying laws may make it troublesome to successfully introduce autonomous vehicles into the market.¹⁹¹ Currently, all states require drivers to be licensed,¹⁹² but if the car itself is the driver, will human occupants still need to be licensed? Some states have issued special licenses for testing autonomous vehicles, but the laws will likely need to be clarified in this area. Textual obstacles might

186. *Id.*

187. *Id.*

188. For example, laws allowing cellphone use and establishing the legality of testing autonomous vehicles are not unreasonable.

189. *Automated Driving*, CTR. FOR INTERNET & SOC'Y, *supra* note 130.

190. *Id.* (indicating that California, the District of Columbia, Florida, Michigan, and Nevada have passed third-party liability laws).

191. Smith, *supra* note 54, at 517.

192. *Id.* at 480.

emerge from state laws that could require drivers to be present in the vehicle,¹⁹³ and laws that impose an “obligation of prudence”¹⁹⁴ on drivers, requiring both the driver and the vehicle to drive safely and responsibly. As written, many state laws do not anticipate autonomous vehicles, and law enforcement personnel might be confused about whether an autonomous vehicle is operating legally.¹⁹⁵

Varying state laws may also impose burdens on software developers, who could have to tailor the already complex software in autonomous vehicles to adhere to specific laws in specific regions. As many laws on the books are not enforced,¹⁹⁶ it may be tedious and difficult work to go through all of the vehicle codes for every state and individually determine which laws should be integrated into the software. And even if developers do manage to successfully program autonomous vehicles to follow every single state law perfectly, law enforcement officers, using their discretion, might still decide that an occupant of an autonomous behavior is engaging in reckless or unsafe behavior and issue a ticket.¹⁹⁷ Because of this difficulty, manufacturers may choose instead to design their vehicles to comply with the laws of the most restrictive states. This has happened in other technology industries that extend across state borders. Professor Peter Menell has written about this phenomenon in the context of regulating spyware and adware, finding that “the lack of harmonization of, and uncertainty surrounding, state unfair competition law produces costly, confusing, multi-district litigation and pushes enterprises to adhere to the limits of the most restrictive state.”¹⁹⁸ This, in turn, “unduly hinders innovation”¹⁹⁹ Because of the difficulty of adhering to various state laws

193. *Id.* at 482–87.

194. *Id.* at 487.

195. For example, police in Mountain View, CA were perplexed when they pulled over a Google car for driving nine miles below the speed limit. After finding no driver, they lectured the car’s passenger about impeding traffic and ultimately decided that the car was not breaking any laws, and they did not issue a ticket. Don Melvin, *Cop Pulls Over Google Self-Driving Car, Finds No Driver to Ticket*, CNN (Nov. 13, 2015), <http://www.cnn.com/2015/11/13/us/google-self-driving-car-pulled-over> [<https://perma.cc/H4VX-3U2V>].

196. See Ziegler, *supra* note 50.

197. Aaron M. Kessler, *Hands-Free Law Takes the Wheel, and Law Isn’t Stopping Them*, N.Y. TIMES (May 3, 2015), <http://www.nytimes.com/2015/05/03/business/hands-free-cars-take-wheel-and-law-isnt-stopping-them.html> [<https://perma.cc/7LXB-2Z82>] (“If a police officer sees you driving down the road with no hands, he could determine that’s reckless and still give you a ticket.”).

198. Peter S. Menell, *Regulating “Spyware”: The Limitation of State “Laboratories” and the Case for Federal Preemption of State Unfair Competition Laws*, 20 BERKELEY TECH. L.J. 1363, 1372 (2005).

199. *Id.*

and the consequences of doing so, allowing states to individually legislate autonomous vehicles may actually impede the introduction and spread of this technology.

In fact, this may already be happening in California, where the DMV has suggested a series of proposals that would seriously slow innovation.²⁰⁰ These proposals require that all autonomous vehicles have a human operator that can take over in the event of a technology failure or emergency.²⁰¹ Such a requirement would slow the development of autonomous taxis and systems aimed at providing transportation to the elderly and handicapped, as these companies may have to test in more “innovation-friendly states (or countries).”²⁰² Donald Norma, a technology design expert, notes that there are “decades of research and experience demonstrat[ing] [that] ‘people are incapable of monitoring something for long periods and then taking control when an emergency rises.’”²⁰³ Thus, not only are these proposals overly restrictive, they may not even make sense.

Autonomous vehicle regulation may also become vulnerable to obstructive lobbying by incumbents fearful of new technology or regulatory capture by the autonomous vehicle manufacturers, as seen in other controversial industries. Currently (excluding the DMV’s latest proposals), California laws are fairly pro-Google and pro-autonomous vehicle,²⁰⁴ but California has a great economic interest in Google’s success. Other states with less robust autonomous vehicle industries may not be as motivated to be friendly to autonomous vehicles. And states that derive large economic boosts from traditional non-autonomous auto manufacturers, such as Michigan, may be vulnerable to anti-autonomous vehicle lobbying.²⁰⁵ Additionally, for many states, particularly in the Midwest, trucking is a significant part of the economy.²⁰⁶ Many towns exist largely to provide truckers with services like food and lodging. States with many such towns

200. Chunka Mui, *California Wrongfully Slams the Brakes on California’s Driverless Car*, FORBES (Dec. 18, 2015), <http://www.forbes.com/sites/chunkamui/2015/12/18/california-slams-the-brakes-on-googles-driverless-car/#65827f155e8c> [<https://perma.cc/5HTF-A6MJ>].

201. *Id.*

202. *Id.*

203. *Id.*

204. John Frank Weaver, *Autonomous Car Legislation Backs Google’s Vision of the Future Over Ford’s . . . For Now*, SLATE (Nov. 22, 2013), http://www.slate.com/blogs/future_tense/2013/11/22/autonomous_car_legislation_backs_google_s_vision_of_the_future_over_ford.html [<https://perma.cc/6XL7-S6KG>].

205. As a related example, car manufacturers have been known to relentlessly lobby over emissions standards. See Mike Yuille, *Car Makers Accused of “Obstructive Lobbying” Over Emissions*, EXARO NEWS (Nov. 12, 2015), <http://www.exaronews.com/articles/5702/car-makers-accused-of-obstructive-lobbying-over-emissions> [<https://perma.cc/3X5F-5J86>].

206. See Santens, *supra* note 11.

may be incentivized to pass laws restricting autonomous vehicles so as to preserve their rural service sectors.

V. CONCLUSION

Although autonomous vehicles are probably legal under existing law, many potential hurdles may prevent them from becoming an everyday reality. Disparate traffic laws may make designing and programming the cars difficult, and uncertain liability frameworks may create economic obstacles for manufacturers or consumers, depending on where liability will fall. States could perhaps work together to create a uniform set of traffic laws before autonomous vehicles become commercially available, but tort liability may need to be decided *ex post*, after it becomes more clear what kinds of problems and accidents these vehicles will face. At the same time, it may not be wise to let states create a variety of reactionary liability laws that could differ drastically by jurisdiction. It may be best for the federal government to step in and preempt state tort law in some fashion, though ideally in a way that will be as minimally intrusive to states' rights as possible.

Technology is changing rapidly, and the law has historically been very slow to react. As Calo points out, cyberlaw serves as a poignant example of how courts and legislatures struggle to regulate things that they do not fully understand and that evade traditional legal categories.²⁰⁷ But the law is also surprisingly adaptive, and it may be possible to draw on centuries of legal precedent and find bits and pieces of existing law or resuscitate older laws to successfully regulate new technologies. But even so, the root of the problem remains—robotics and artificial intelligence are unlike anything the law has dealt with before, and figuring out how to best regulate them will likely involve much trial and error, and probably many mistakes along the way. Finding the answer to autonomous vehicle regulation may shed light on how we should regulate artificial intelligence as a whole, and it may ease society's transition to a new, automated technological era.

207. See Calo, *Robotics and the Lessons of Cyberlaw*, *supra* note 84.

ANTITRUST ENFORCEMENT IN THE DEVELOPING E-BOOK MARKET: APPLE, AMAZON, AND THE FUTURE OF THE PUBLISHING INDUSTRY

Zachary C. Flood[†]

In *United States v. Apple, Inc.*, a panel of the United States Court of Appeals for the Second Circuit considered whether Apple orchestrated a conspiracy with major book publishing firms to raise the price of e-books in violation of Section One of the Sherman Act.¹ Apple negotiated with book publishers to secure content deals for its planned e-book application and platform in the lead up to its introduction of the iPad in 2010. The publishers, eager to break up Amazon's dominance over the e-book market and to raise retail e-book prices, welcomed the negotiations with Apple as a means to achieve both. Reviewing the collusive nature of the negotiations, the Second Circuit held that Apple violated the Sherman Act by using its talks and resulting contracts with each of the publishing firms to effectuate a horizontal price-fixing agreement.² Critically, the court also found that Apple's conduct was per se illegal under the Sherman Act, and thus did not require proof that the agreement actually harmed competition.³

The *Apple* decision is the latest chapter in an ongoing saga over the proper application of the per se rule in antitrust law. Over the past half-century—inspired by influential shifts in economic thinking—courts have reigned in their application of the per se rule to vertical restraints.⁴ Courts increasingly review these restraints under what is known as the rule of reason, a probing analysis of a given agreement's procompetitive and

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1. *United States v. Apple, Inc. (Apple II)*, 791 F.3d 290, 340 (2d Cir. 2015). Section One of the Sherman Act, 15 U.S.C. § 1, serves as one of the primary antitrust enforcement statutes.

2. *Id.* at 339.

3. *Id.* at 321.

4. See PHILLIP AREEDA, LOUIS KAPLOW & AARON S. EDLIN, ANTITRUST ANALYSIS ¶ 407 (7th ed. 2013). A vertical restraint is a limitation on competition between firms at different levels within a given market, such as a limit on maximum retail price imposed by a manufacturer on a local seller. By contrast, a horizontal restraint is a limitation on competition between firms at the same level within a given market—horizontal competitors—such as an agreement establishing a maximum retail price between two local sellers.

anticompetitive potential. At the heart of this shift in approach is the increasingly popular view that certain vertical agreements may lead to procompetitive effects, and thus should not be condemned without a more nuanced exploration of their effects on consumer welfare. The *Apple* court considered whether Apple's conduct qualified for this more lenient form of analysis, ultimately concluding that it did not.

The conduct at issue in *Apple* also represents a fascinating opportunity to explore the use of the per se rule in the context of a rapidly changing and ever-more important digital content market. The facts of this case illustrate the challenges that established firms—like the publishers here—can face during times of disruptive change. The court's decision makes clear that conduct in these changing markets is not exempt from the normal application of the antitrust laws.

This Note considers the Second Circuit's decision to apply the per se rule to Apple's conduct and explores how antitrust law has impacted the publishing industry. Part I explains the history of the per se rule and the reasons why courts have abandoned it for certain types of restraints. Part II provides background to the case, detailing the agreements between Apple and the publishers. Part III summarizes the Second Circuit's decision. In Part IV, the Note discusses three discrete ideas in separate Sections. The first Section discusses the Second Circuit's decision to apply the per se rule despite the presence of vertical restraints. This Section concludes that this was the proper decision given the nature of the agreement between Apple and the publishers, and the economic and administrative rationales associated with the per se rule. The next Section discusses—and rejects—Apple's proposed “Facilitating Market Entry” Exception to the per se rule. Finally, the last Section considers how antitrust law and the *Apple* decision could affect the future of the rapidly changing publishing industry.

I. THE HISTORY OF THE PER SE RULE AND THE RULE OF REASON

Section One of the Sherman Act (“the Act”) bans every “contract, combination . . . or conspiracy, in restraint of trade or commerce.”⁵ Early on, the Supreme Court struggled with Section One's expansive language. The Court initially held that the Act banned literally *all* restraints on trade, rejecting a more limited reading that would condemn only unreasonable restraints because it believed that judges lacked the expertise and reliable

5. Sherman Act § 1, 15 U.S.C. § 1 (2004).

standards necessary for evaluating reasonableness.⁶ Eventually, however, the Court adopted the view that the Act banned only unreasonable restraints, as measured under a rule of reason.⁷ The Court later elaborated that the application of the rule of reason required a searching analysis of the given restraint and its context to determine whether, on balance, it “merely regulates and perhaps thereby promotes competition or whether it is such as may suppress or even destroy competition.”⁸

Despite the adoption of the rule of reason as the baseline mode of Section One analysis, courts began applying a rule of per se illegality to certain types of restraints with clear anticompetitive potential throughout the early part of the twentieth century.⁹ Among the categories of restraints held to be illegal per se during this period were horizontal price-fixing;¹⁰ vertical agreements to set minimum prices,¹¹ maximum prices,¹² and non-price restraints;¹³ division of markets;¹⁴ group boycotts;¹⁵ and tying arrangements.¹⁶ The underlying judicial perception was that, on balance, these types of restraints were so overwhelmingly likely to yield anticompetitive versus procompetitive results that individual cases did not merit an in-depth rule of reason analysis. Instead, courts deemed these restraints to be per se anticompetitive.

Beginning in the 1970s, however, the immensely influential brand of conservative economic theory known as the Chicago School called into question the widespread use of the per se rule.¹⁷ This new economic

6. See *United States v. Trans-Missouri Freight Ass’n*, 166 U.S. 290, 331–32 (1897) (“[I]t is exceedingly difficult to formulate even the terms of the rule itself which should govern in the matter . . .”).

7. *Standard Oil Co. of N.J. v. United States*, 221 U.S. 1, 60 (1911).

8. *Bd. of Trade of City of Chicago v. United States*, 246 U.S. 231, 238 (1918) (“To determine that question the court must ordinarily consider the facts peculiar to the business to which the restraint is applied; its condition before and after the restraint was imposed; the nature of the restraint and its effect, actual or probable.”)

9. See, e.g., *United States v. Socony-Vacuum Oil Co.*, 310 U.S. 150, 223–24 (1940) (establishing the per se illegality of price-fixing).

10. *Id.* at 210.

11. See generally *Dr. Miles Med. Co. v. John D. Park & Sons Co.*, 220 U.S. 373 (1911), *overruled by* *Leegin Creative Leather Prods., Inc. v. PSKS, Inc.*, 551 U.S. 877 (2007).

12. *Albrecht v. Herald Co.*, 390 U.S. 145 (1968), *overruled by* *State Oil Co. v. Khan*, 522 U.S. 3 (1997).

13. *United States v. Arnold, Schwinn & Co.*, 388 U.S. 365 (1967), *overruled by* *Cont’l T.V., Inc. v. GTE Sylvania Inc.*, 433 U.S. 36 (1977).

14. *United States v. Addyston Pipe & Steel Co.*, 85 F. 271 (6th Cir. 1898), *aff’d as modified*, 175 U.S. 211 (1899).

15. *Fashion Originators’ Guild of Am. v. Fed. Trade Comm’n*, 312 U.S. 457, 688 (1941).

16. *Int’l Salt Co. v. United States*, 332 U.S. 392, 395 (1947).

17. See AREEDA & KAPLOW, *supra* note 4, at ¶ 400.

thinking challenged the assumptions about the economic effects of certain types of arrangements that courts had previously deemed per se illegal. These new economic perspectives had a profound impact on the way many courts and commentators viewed vertical restraints.¹⁸

During this period, Chicago School antitrust scholars began identifying a variety of situations in which they believed vertical restraints had the potential to benefit consumer welfare. Two observations in particular led to significant changes in the way courts approach vertical agreements. First, agreements between manufacturers and retailers that reduce price, territorial, or other forms of competition between retailers could increase overall output by allowing retailers to invest in promoting the manufacturer's product.¹⁹ For example, a reduction in price competition between two local retailers as regards a given product might increase both of their overall sales by allowing each of them to focus on their marketing and salesmanship of that product, without fear that their competitor would charge lower prices and free-ride off their promotional investment. Second, a manufacturer's efforts to set maximum retail prices may increase sales and output by limiting dealer markups, constraining the dealer's ability to leverage its market power.²⁰

The first insight eventually led the Supreme Court to its initial decision to backpedal on the application of the per se rule. In *Continental T.V., Inc. v. GTE Sylvania Inc.*, the Court held that the effects of vertical non-price restraints imposed by a manufacturer on a retail distributor were sufficiently ambiguous to warrant analysis under the rule of reason, overruling its prior decision in *United States v. Arnold Schwinn & Co.*²¹ In an effort to revive its struggling television sales, Sylvania abandoned its wholesale distribution model and began selling directly to local retailers on a franchise model.²² As part of the arrangement, Sylvania imposed geographic restraints on retailers, limiting where they could sell their products.²³ In holding that these restraints should be analyzed under the rule of reason, the Court focused on the complex potential for vertical restraints to boost interbrand competition (competition between manufacturers) at the relative expense of intrabrand

18. *Id.*

19. *Id.* at ¶ 409.

20. *Id.* at ¶ 408. Though this second insight is not discussed here, it eventually led the Supreme Court to reverse course on the application of the per se rule in cases of vertically imposed restrictions on maximum retail price. *See State Oil Co. v. Khan*, 522 U.S. 3 (1997).

21. *Cont'l T.V., Inc. v. GTE Sylvania Inc.*, 433 U.S. 36, 59 (1977).

22. *Id.* at 38.

23. *Id.*

competition (competition between retailers in the sale of a given product).²⁴ The Court determined the “redeeming virtues” of increased interbrand competition were enough to dispel the notion that such restraints lacked any redeeming value such that they should be proscribed *per se*.²⁵

Twenty years later, the Supreme Court invoked similar reasoning to reverse course on the use of the *per se* rule in the context of vertical restraints on minimum retail price, or price floors. In *Leegin v. PSKS*, the Court held in a 5-4 decision that a manufacturer’s use of retail price maintenance (RPM) to set minimum prices for its services held enough procompetitive potential to justify rule of reason, rather than *per se*, scrutiny.²⁶ Once again, the Court highlighted economic literature suggesting that, absent such price floors, “the retail services that enhance interbrand competition might be underprovided.”²⁷ Justice Breyer dissented. Enumerating the arguments for and against the competitive impact of minimum RPM, Breyer sharpened his inquiry on the *per se* rule’s costs and benefits—the tradeoff between foreclosing some potentially beneficial conduct on the one hand, and promoting efficient enforcement activity and smooth judicial administration on the other.²⁸ Breyer conceded that it was a difficult decision, but ultimately fell back on *stare decisis* and Congress’s lack of intervention in the longstanding application of the *per se* rule, breaking from the majority’s decision to apply the rule of reason to vertical restraints.²⁹

While the Supreme Court has marched back the application of the *per se* rule in the context of vertical restraints, the rule continues to play an important role in other areas of antitrust law. Most prominently, the *per se* rule is thoroughly entrenched in the realm of horizontal agreements between competitors to fix prices or to divide markets.³⁰ Still, even among

24. *Id.* at 51–56.

25. *Id.* at 51–59. The Court further noted the view of some economic theorists, particularly Robert Bork, that manufacturers have a natural incentive to maintain as much intrabrand competition as is consistent with the efficient distribution of their product. However, the Court also highlighted the lack of consensus on this point. *Id.* at 56.

26. *Leegin Creative Leather Prods., Inc. v. PSKS*, 551 U.S. 877, 904 (2007).

27. *Id.* at 890.

28. *Id.* at 914–17 (Breyer, J., dissenting).

29. *Id.* at 919–20.

30. *See* *Catalano, Inc. v. Target Sales, Inc.*, 446 U.S. 643, 647 (1980) (describing a horizontal agreement to fix prices as the “archetypal” *per se* violation); *Verizon Commc’ns Inc. v. Law Offices of Curtis V. Trinko, LLP*, 540 U.S. 398, 408 (2004) (referring to horizontal price-fixing as the “supreme evil” of antitrust law); *Palmer v. BRG of Ga., Inc.*, 498 U.S. 46, 49–50 (1990) (*per curiam*) (finding scheme to divide national market for bar review materials *per se* illegal).

this category of restraints, the Court has made exceptions where it has found compelling reasons to presume a given horizontal restraint might yield procompetitive benefits.

For example, in the definitive case of *Broadcast Music Inc. v. Columbia Broadcast System, Inc.* (“*BMI*”), the Court held that BMI—one of the two main performing rights organizations in charge of licensing musical performance rights and collecting royalties under a blanket license fee—though a literal horizontal combination engaging in price-fixing, was entitled to escape per se condemnation under Section One.³¹ The Court concluded that certain market failures within the music licensing market made BMI’s creation of a blanket license with a set price an innovative and potentially efficient development.³² The Court has characterized this and other analogous decisions as situations in which “restraints on competition are essential if the product is to be available at all.”³³

Notwithstanding these exceptions, the Court has generally drawn a dividing line between horizontal and vertical restraints, applying per se treatment to the former, and rule of reason treatment to the latter. But what if the conspiracy at issue involves agreements between both horizontally and vertically situated actors? This situation arises in so-called “hub-and-spoke” conspiracies in which many horizontal actors coordinate their activity through their interactions with a vertically situated actor.³⁴ For example, where a number of manufacturers decide to fix prices, they can then insist that a vertically situated retailer adopt a vertical restraint imposing a high price floor on each of them, thereby granting each manufacturer assurance that the others will be bound to that price floor. The *Apple* case grapples with what standard to apply where vertical restraints are used as part of horizontal conspiracies.

31. *BMI*, 441 U.S. 1, 21–24 (1979). For another landmark case in which the Court rejected application of the per se rule to horizontal price-fixing, see *National Collegiate Athletic Ass’n v. Bd. of Regents of Univ. of Okla.*, 468 U.S. 85 (1984).

32. Specifically, the Court focused on the transaction costs inherent in requiring consumers to negotiate individual licenses with each artist, and the difficulties artists in turn faced in policing unlicensed use of their works. *BMI*, 441 U.S. at 35 n.30.

33. *Am. Needle, Inc. v. Nat’l Football League*, 560 U.S. 183, 203 (2010).

34. See, e.g., *In re Musical Instruments & Equip. Antitrust Litig.*, 798 F.3d 1186, 1192 (9th Cir. 2015) (“[T]he line between horizontal and vertical restraints can blur. One conspiracy can involve both direct competitors and actors up and down the supply chain, and hence consist of both horizontal and vertical agreements.”).

II. *U.S. V. APPLE: FACTS AND PROCEDURAL HISTORY*

On January 27, 2010, Apple, Inc. (“Apple”) unveiled the iPad, a tablet device that marked a significant advance in consumer electronics. As part of the iPad’s elaborate launch presentation, Apple showed off the iBookstore, its new online marketplace for e-books. During his presentation, Apple’s CEO Steve Jobs used the iBookstore app to make a live purchase of the *New York Times* bestselling book *True Compass*. The list price for Jobs’s purchase was \$14.99, a price 50% greater than that charged by e-book pioneer and then-dominant retail player Amazon, Inc. Following the presentation, when a reporter asked Jobs how Apple would be able to compete with Amazon with prices 50 percent higher, Jobs confidently responded that they would not have to; that book publishers would force Amazon to raise its prices, and—infamously—that “the price will be the same.”³⁵

A. APPLE SEES AN OPPORTUNITY WHEN AMAZON AND PUBLISHERS FIGHT

Amazon, Inc. (“Amazon”) established itself as the dominant force in the e-book market through the early introduction of its Kindle e-book reader in November 2007, and its associated online e-book marketplace. Though Amazon controlled an estimated ninety percent of the e-book market at the beginning of 2010,³⁶ it found itself in a contentious relationship with the book publishing industry; specifically, the “Big Six” publishing firms.³⁷ The publishers were against Amazon’s practice of pricing its e-books—even new releases and bestsellers—at what the publishers saw as an unreasonably low \$9.99. They feared that Amazon’s pricing practices were eroding consumers’ value perception of their offerings and undercutting demand for their more profitable new release, hardcover, print offerings.³⁸

The publishers pursued a variety of strategies to get Amazon to increase its retail e-book prices. Prior to 2010, the publishers sold e-books to Amazon wholesale, charging Amazon a fixed fee for every e-book it sold.³⁹ When publishers raised the wholesale price they charged Amazon above \$9.99, to nearly \$13, Amazon reacted by maintaining its retail pricing and pursuing a loss-leader strategy, incurring a loss on each e-book it sold in order

35. *Apple II*, 791 F.3d 290, 308 (2015).

36. *Id.* at 299.

37. The “Big Six” firms at the time consisted of: Hachette, HarperCollins, Macmillan, Penguin, Random House, and Simon & Schuster. *Id.* at 298.

38. *Id.* at 299.

39. *Id.*

to incentivize consumers to invest in the Kindle platform.⁴⁰ Various publishers subsequently experimented with “windowing” their releases in order to move Amazon on its pricing, refusing to sell e-book versions of their new releases to Amazon for a set period following the release of initial hardcover editions.⁴¹ As the publishers realized, however, windowing was a desperate and counter-productive strategy because it harmed customers, promoted piracy, and hurt long-term sales.⁴²

Ultimately, while each of the Big Six hoped to move Amazon to increase the price of its e-books, they suffered from a collective action problem. Each of the Big Six was hesitant to challenge Amazon individually. As the dominant retailer of both e-books and—more importantly—physical books, Amazon possessed enormous power to retaliate against any individual publisher that took a hard line over e-book pricing by disrupting that publisher’s physical book sales.⁴³

In the lead up to the iPad’s launch, Eddy Cue, Apple’s Senior Vice President of Internet Software and Services and the director of Apple’s digital content stores, saw an opportunity to develop a proprietary e-book marketplace for the iPad. He recognized the publishers’ disdain for Amazon’s pricing model and their unsuccessful attempts to change it, and anticipated that the Big Six would eagerly help facilitate Apple’s entry into the e-book distribution market in order to gain negotiating leverage over Amazon. In Cue’s own words to Jobs, “[t]he book publishers would do almost anything for [Apple] to get into the ebook business.”⁴⁴

B. THE AGREEMENT BETWEEN APPLE AND THE PUBLISHERS

Two months before the iPad’s release, Apple reached out to the Big Six about providing content for its proposed iBookstore. Cue and the publishers negotiated at break-neck speed in order to come to an agreement in time to announce the iBookstore at the iPad launch event.⁴⁵ Ultimately, Apple agreed to a series of terms with five of the Big Six that all but guaranteed an increase in e-book prices.⁴⁶

First, the parties agreed that Apple would distribute e-books under an “agency”—as opposed to a wholesale—model.⁴⁷ Under this agreement,

40. *Id.*

41. *Id.* at 300–01.

42. *Id.* at 301.

43. *Id.* at 300.

44. *Id.* at 301.

45. *Id.* at 301–03.

46. Random House was the lone holdout. *Id.* at 308.

47. *Id.* at 302–04.

publishers would set retail prices themselves and Apple would collect thirty percent of all e-book sales revenue. However, Apple feared that publishers would set prices too high, infuriating customers and embarrassing the iBookstore. Consequently, Apple included “price-ceilings” of \$9.99, \$12.99, and \$14.99 for certain types of releases.⁴⁸ Second, each of the five publishers agreed to a Most Favored Nation (MFN) clause with Apple that required publishers to set iBookstore retail prices no higher than those charged by any other e-book retailer.⁴⁹

C. THE EFFECT OF THE AGREEMENT

Combined, the agency pricing and MFN terms meant that publishers would be forced to sell e-books at \$9.99 on the iBookstore in order to match Amazon’s retail price, and would make less than \$7 on each of those sales, significantly less than the \$13 they earned from each of their wholesale e-book sales with Amazon. Thus, the only way the deal made economic sense for each publisher was if they demanded a shift toward higher retail pricing from Amazon, which they had previously been too afraid to do, for fear of retribution.

Critically, throughout the negotiations, Apple and the publishers freely shared information regarding their progress on these terms.⁵⁰ With each of the five publishers aware that the others were similarly entering into deals that would force them to confront Amazon, the final deal with Apple solved the publishers’ collective action problem and forced them all to work together toward moving Amazon toward an agency model and raising retail prices for e-books.

In the months that followed, that is exactly what happened. The publishers, led by Macmillan, each began negotiations with Amazon designed to force it to switch to an agency model, sharing information with each other as they did so.⁵¹ Unable to stand up to five of the Big Six, Amazon ultimately relented, switching to an agency model with all five by June 2010. In short time, retail prices of e-books rose to the cap levels provided for in each of the publishers’ deals with Apple.⁵² Notably, during the period following the price increase the five publishers saw an estimated 14.5% decline in their sales of e-books.⁵³

48. *Id.* at 304–05.

49. *Id.*

50. *Id.* at 305–08.

51. *Id.* 309–10.

52. *Id.* at 310.

53. *Id.*

D. PROCEDURAL HISTORY

On April 11, 2012, the Department of Justice and various State Attorneys General filed two civil antitrust cases against Apple and the five Publisher Defendants.⁵⁴ By August 12, 2013, all of the Publisher Defendants had settled, entering into materially similar consent decrees with the Department of Justice curtailing their ability to set, alter, or reduce a retailer like Amazon's ability to set or reduce the price of any e-book.⁵⁵ Refusing to settle, Apple instead opted for a bench trial on the issues of liability and injunctive relief.⁵⁶ After a three week trial, on March 22, 2013 the District Court held that Apple had engaged in a per se violation of Section One of the Sherman Act and various congruent state laws by facilitating and engaging in a horizontal conspiracy to fix the retail price of e-books.⁵⁷ The court also expressed its view that Apple would still be liable were its behavior subject to a more economics-intensive rule of reason analysis.⁵⁸

Following the ruling on Apple's liability, the District Court issued a final injunctive order forbidding the company from enforcing its MFN clauses with publishers or otherwise retaliating against them for agreeing to distribution agreements with other retailers, and modifying the terms of its agency agreements with the publishers.⁵⁹ Following the issuance of the order, Apple and two of the Publisher Defendants—Macmillan and Simon & Schuster—filed an appeal.⁶⁰

III. THE SECOND CIRCUIT'S DECISION

In its appeal before the Second Circuit, Apple contended that its conduct should not be analyzed under the per se rule. First, Apple argued that its contracts with publishers were purely vertical and thus outside of the per se rule's reach.⁶¹ Second, Apple argued that its conduct warranted analysis under the rule of reason because of the procompetitive effects on

54. United States v. Apple Inc. (*Apple I*), 952 F.Supp.2d 638, 645 (S.D.N.Y. 2013).

55. *Apple II*, 791 F.3d at 322.

56. *Id.*

57. *Id.* (citing *Apple I*, 952 F.Supp.2d at 694).

58. *Id.* at 312.

59. *Id.*

60. *Id.* at 297.

61. Appellant Apple Inc.'s Opening Brief, *Apple v. United States*, 731 F.3d 290 (2d Cir. 2015) (2014 WL 3556301), 48–49 (hereinafter Apple's Opening Brief).

“enterprise and productivity” realized by its entry into the e-book retail market.⁶²

A. WHETHER APPLE’S RELEVANT CONDUCT WAS HORIZONTAL OR VERTICAL

Apple’s opening argument against the application of the per se rule was that its relations with the publishers consisted of “vertical agreements that in no way set prices or otherwise limited competition among the (horizontal) publishers.”⁶³ Judge Jacobs, dissenting from the Second Circuit panel’s decision, focused on this distinction and on specific language in *Leegin*⁶⁴ that he believed mandated rule of reason treatment for such vertical facilitation.⁶⁵ The majority, however, rejected this distinction in light of other Supreme Court precedent setting forth per se liability for vertically situated players who participate in and facilitate horizontal price-fixing conspiracies—so-called “hub-and-spoke” conspiracies.⁶⁶ In rejecting the dissent’s focus on the isolated language in *Leegin*, the majority noted *Leegin*’s susceptibility to multiple interpretations and the general rule against reading decisions to overrule precedent *sub silentio*.⁶⁷ The majority concluded that the relevant agreement for the purposes of Section One was not the contract Apple signed with each publisher, but Apple’s active agreement to further the horizontal price-fixing conspiracy.⁶⁸ It was Apple’s willing participation in this horizontal scheme that mattered to the court, not its vertical market position.⁶⁹

B. WHETHER APPLE’S ENTRY JUSTIFIED RULE OF REASON TREATMENT

Apple alternatively contended that its conduct deserved rule of reason treatment because it promoted “enterprise and productivity” by introducing competition into a monopolistic market and fostering technological

62. *Id.* at 50–52. Apple borrowed the language “enterprise and productivity” from Seventh Circuit cases built on the legacy of *BMI*. See, e.g., *In re Sulfuric Acid Antitrust Litig.*, 703 F.3d 1004, 1011 (7th Cir. 2012).

63. Apple’s Opening Brief, *supra* note 61, at 49 (emphasis in original).

64. *Leegin Creative Leather Prods., Inc. v. PSKS, Inc.*, 551 U.S. 877, 893 (2007) (“To the extent a vertical agreement setting minimum resale prices is entered upon to facilitate either type of cartel, it, too, would need to be held unlawful under the rule of reason.”).

65. *Apple II*, 791 F.3d at 346.

66. *Id.* at 322–25.

67. *Id.* at 324.

68. *Id.* at 325.

69. *Id.* at 322.

innovation. It argued that the theoretical underpinnings of the per se rule made it appropriate only in cases where conduct “lacked *any* redeeming virtue.”⁷⁰ Apple then highlighted how its entry had disrupted Amazon’s total dominance in the e-book retail market, and how the market had since experienced robust growth.⁷¹ Additionally, it touted the technological advances the iPad brought as an e-book device over Amazon’s Kindle, including its ability to display color illustrations and photographs on a backlit screen.⁷² According to Apple, these tangible benefits justified an exception to the application of the per se rule analogous to the one the Supreme Court applied in *BMI*.⁷³

The Second Circuit majority thoroughly rejected this perspective. Quickly dismissing Apple’s “technological innovation” argument, the court pointed out that the iPad’s technological advances were wholly unrelated to Apple’s agreements with the publishers and that the device was irreversibly destined for release regardless of whether Apple secured e-book content deals.⁷⁴

The Second Circuit then directed its attention to Apple’s novel “market entry” argument. It noted that this argument, at base, was “that higher prices enable more competitors to enter a market,” a theory categorically inconsistent with antitrust precedent.⁷⁵ As regards Apple’s disruption of Amazon’s e-book monopoly, the court opined that “if Apple could not turn a profit by selling new releases and bestsellers at \$9.99, or if it could not make the iBookstore and iPad so attractive that consumers would pay *more* than \$9.99 to buy and read those ebooks on its platform, then there was no place for its platform in the ebook retail market.”⁷⁶

Furthermore, focusing on the district court record, the court found insufficient support for Apple’s underlying premise that Amazon’s low prices acted as a barrier to either its own entry or that of other e-book retailers.⁷⁷ Significantly, the majority and dissent sparred over the proper way to frame Amazon’s role in the e-book market. The majority found that Amazon pursued a legitimate loss-leadership strategy in selling e-books below wholesale prices, but the dissent argued that characterization was

70. Apple’s Opening Brief, *supra* note 61, at 51.

71. *Id.*

72. *Id.* at 52.

73. *Id.*

74. *Apple II*, 791 F.3d at 335.

75. *Id.* at 330.

76. *Id.* at 331.

77. *Id.* at 332–33.

unsupported by the facts or the record.⁷⁸ While the majority believed Amazon's conduct was permissible, they nevertheless concluded that—even if Amazon had abused its monopoly—“the Sherman Act does not authorize horizontal price conspiracies as a form of marketplace vigilantism to eliminate perceived ruinous competition or other competitive evils.”⁷⁹

IV. DISCUSSION

This Part will explore specific legal aspects of the *Apple* decision as well as its implications for the publishing industry. The first Section considers whether the Second Circuit correctly applied the per se rule to Apple's deals with the publishers. The second Section explores the merits of Apple's proposed “market entry” exception to the rule in this situation and in general. Finally, the third Section discusses the implications the ruling may have for the publishing industry, and how that industry may react in the face of ongoing disruption.

A. THE SECOND CIRCUIT CORRECTLY APPLIED EXISTING ANTITRUST LAW AND PRINCIPLES IN UPHOLDING APPLE'S PER SE LIABILITY

The Second Circuit properly interpreted antitrust case law in holding Apple per se liable for its anticompetitive conduct in the e-books market. The majority's decision to apply the per se rule ultimately turned on its view that Apple's conduct during its negotiations with the publishers made it a core participant in the publishers' horizontal conspiracy and not a complicit vertical bystander in a hub-and-spoke scheme. In reaching this result, the Second Circuit drew the critical, yet admittedly subtle, distinction between a vertically orientated actor's adoption of restraints to merely *facilitate* a horizontal price-fixing conspiracy, and that actor's direct *participation* in the horizontal price-fixing conspiracy.

In *Leegin*, the Supreme Court acknowledged the potential of vertical agreements to facilitate horizontal conspiracies among competitors while overturning the application of the per se rule to vertical minimum price restraints.⁸⁰ The Court specifically recognized that retailers might collude to decrease output or reduce competition and then “compel a manufacturer

78. *Id.* at 344. Properly characterizing Amazon's role in the contemporary e-book market is critical to understanding the potential long-term impact of Apple's entry. This issue will be discussed further, below.

79. *Id.* at 332 (internal quotation marks omitted).

80. *Leegin Creative Leather Prods., Inc. v. PSKS, Inc.*, 551 U.S. 877, 893 (2007).

to aid the unlawful arrangement with resale price maintenance.”⁸¹ The *Leegin* Court then concluded that “[t]o the extent a vertical agreement setting minimum resale prices is entered upon to facilitate either type of cartel, it [] would need to be held unlawful under the rule of reason.”⁸² Judge Jacob’s dissent in *Apple* seized upon this language as transparent guidance from the high court that Apple’s conduct deserved rule of reason analysis.⁸³ In support of this position, he noted that the Third Circuit had also read *Leegin* to demand rule of reason treatment for vertical restraints alleged to have been adopted in order to facilitate a horizontal price-fixing agreement.⁸⁴

The Second Circuit majority instead characterized this language in *Leegin* as isolated to situations in which horizontal conspirators impose vertical restraints on non-conspirators.⁸⁵ The critical factor, in the majority’s view, was whether the vertically situated player was a knowing participant in the underlying horizontal conspiracy. If not, then a given vertical facilitating practice was entitled to the benefit of the doubt—in the form of rule of reason treatment—because “it may be difficult to distinguish such facilitating practices from procompetitive vertical retail price agreements.”⁸⁶ In contrast, where a vertical player knowingly participates in and organizes a hub-and-spoke conspiracy, the majority concluded that the adopted restraint does not deserve the same benefit of the doubt.⁸⁷

The majority’s interpretation of *Leegin* makes intuitive sense given the assumptions underlying the differential treatment of horizontal and vertical restraints. One enduring justification for the per se treatment of horizontal restraints is that the parties to such agreements, as direct competitors, have an overwhelming incentive to engage in anticompetitive collusion. Vertical restraints instead entail agreements between upstream and downstream players in the same product market where incentives can align to promote interbrand competition. Had the publishers colluded solely among themselves, and then demanded the resulting agency agreement and MFN

81. *Id.*

82. *Id.*

83. *Apple II*, 791 F.3d at 346.

84. *Id.* In *Toledo Mack*, the Third Circuit read *Leegin* to mandate that, “rule of reason analysis applies even when, as in this case, the plaintiff alleges that the purpose of the vertical agreement between a manufacturer and its dealers is to support illegal horizontal agreements between multiple dealers.” *Toledo Mack Sales & Serv., Inc. v. Mack Trucks, Inc.*, 530 F.3d 204, 225 (3d Cir. 2008).

85. *Apple II*, 791 F.3d at 324–25.

86. *Id.* at 325.

87. *Id.*

clause from Apple, the Second Circuit readily implied that the decision might have been different.⁸⁸ But the majority believed that Apple had agreed to participate in, and had in fact organized, the horizontal price-fixing agreement here in exchange for quick and favorable concessions from the publishers on other terms in their content deals.⁸⁹ Once the court concluded that Apple was actively involved in the horizontal conspiracy, itself subject to per se condemnation, it would make little sense to provide the company the benefit of the doubt simply because it helped effectuate its role through vertical contracts.

The Second Circuit's decision thus suggests that the critical inquiry in whether to assign per se liability to a vertically situated actor will be whether the evidence establishes that it played a culpable role in an underlying horizontal conspiracy by organizing it or knowingly agreeing to further its ends. Where a group of horizontal actors "compels" the vertical actor to facilitate its agreement, *Leegin* directs rule of reason treatment.⁹⁰ Where a vertical player instead knowingly participates in or organizes such a horizontal conspiracy, per se treatment attaches—not directly to its facilitating agreements, but to its underlying agreement to use them to further the conspiracy. Going forward, this distinction will turn on a necessarily uncertain line between identifying what facilitation by vertical actors is "compelled" and what stems from active participation in the underlying horizontal conspiracy. At base, however, this inquiry simply entails determining whether the vertical and horizontal actors *agreed* to effectuate horizontal price-fixing, which is both a core element in antitrust cases, and a standard that courts should find workable going forward.

B. ANTITRUST LAW SHOULD NOT RECOGNIZE A "FACILITATING MARKET ENTRY" EXCEPTION TO THE PER SE RULE AGAINST HORIZONTAL PRICE FIXING

Apple's additional argument for why it deserved rule of reason treatment invoked a well-known line of cases, exemplified by *BMI*, in which courts have held that otherwise illegal horizontal restraints possessed enough

88. *Id.* at 323 ("[T]he relevant 'agreement in restraint of trade' in this case is not Apple's vertical Contracts with the Publisher Defendants (which might well, if challenged, have to be evaluated under the rule of reason); it is the horizontal agreement that Apple organized among the Publisher Defendants to raise ebook prices.").

89. *Id.* at 334 ("[T]he district court's fact-finding illustrates that Apple organized the Publisher Defendants' price-fixing conspiracy . . . because it was a convenient bargaining chip.").

90. *Leegin Creative Leather Prods., Inc. v. PSKS, Inc.*, 551 U.S. 877, 893 (2007).

procompetitive potential to justify application of the rule of reason.⁹¹ Specifically, Apple argued that its agreements with the publishers should escape per se condemnation because its entry into the retail e-book business added serious competition to a market overwhelmingly dominated by Amazon. Given that the per se rule was designed to proscribe conduct that “lacked *any* redeeming virtue,” Apple insisted its behavior could not be squared with the rule.⁹²

However, Apple’s argument does not fit into the archetype of cases like *BMI*, which the Second Circuit properly noted were marked by joint ventures that were necessary if a given market was to exist at all. After all, the e-book market existed before Apple’s entry, even if in a concentrated form. Thus, in order to accept Apple’s argument, a court would need to find a novel exception to the application of the per se rule: a tall order given the important judicial efficiency concerns justifying that rule.⁹³

The implications of Apple’s reasoning are breathtaking. The apparent result would be that the existence of a monopolist in a given market would suspend the normal application of the antitrust laws as regards potential entrants and their conduct in other markets. As a preliminary matter, this raises serious concerns relating to judicial administrability, as a move to the rule of reason in such situations would mandate that courts grapple with economic judgments about the relative merit of competition in one market versus another. It would also raise tensions with existing monopolization precedent under Sherman Act Section Two, which recognizes the legitimacy of certain monopolies and condemns only the inappropriate use of monopoly power.⁹⁴ Finally, even where market entry might counteract monopolistic abuses, Apple’s argument would essentially require that courts endorse vigilantism.

91. Apple’s Opening Brief, *supra* note 61, at 50.

92. *Id.*

93. For a discussion of this justification, see *Leegin*, 551 U.S. at 914–17 (Breyer, J. dissenting).

94. See *Verizon Commc’ns Inc. v. Law Offices of Curtis V. Trinko*, 540 U.S. 398, 407 (2004). Writing for the majority in *Trinko*, Justice Scalia noted:

The mere possession of monopoly power, and the concomitant charging of monopoly prices, is not only not unlawful; it is an important element of the free-market system. The opportunity to charge monopoly prices—at least for a short period—is what attracts “business acumen” in the first place; it induces risk taking that produces innovation and economic growth. To safeguard the incentive to innovate, the possession of monopoly power will not be found unlawful unless it is accompanied by an element of anticompetitive *conduct*.

Id.

A market entry exception makes little economic or administrative sense. Where courts have moved away from applying the *per se* rule to vertical restraints, they have generally done so in the belief that some ways of reducing intrabrand competition can have beneficial effects on interbrand competition.⁹⁵ By contrast, Apple's position would have the court sacrifice interbrand competition between the publishers for more interbrand competition between e-book retailers. This tradeoff between increasing interbrand competition in one market and reducing it in another would seem to apply in any situation in which Apple's proposed market-entry exception would apply. Wherever an entrant's antitrust violations would be warranted by the presence of a monopolist in a given market, those violations—in order to actually promote market entry—would occur in markets upstream or downstream to the monopolized one.

Further, if rule of reason analysis were to apply to these situations, how would a court evaluate whether a potential procompetitive effect on a downstream market outweighs the anticompetitive effect on an upstream one? The Supreme Court, recognizing the difficulty of such balancing and the important policy judgments it would entail, has previously characterized such an undertaking as outside the competency of the courts and more properly assigned to the legislature.⁹⁶ Thus, a divergence from *per se* treatment on account of market entry would force courts to engage in a balancing analysis the Supreme Court has determined courts are categorically unqualified to handle. This alone is a compelling justification for maintaining *per se* treatment in this context.

Additionally, applying a market entry exception to the situation here would be difficult to reconcile with existing monopolization precedent. Illegal monopolization under Sherman Act Section Two requires more than the mere possession of market power; it requires exclusionary acts used to

95. *See, e.g.,* *Cont'l T.V., Inc. v. GTE Sylvania Inc.*, 433 U.S. 36 (1977).

96. *See* *United States v. Topco Assocs., Inc.*, 405 U.S. 596, 611–12 (1972). The Court in *Topco* noted:

If a decision is to be made to sacrifice competition in one portion of the economy for greater competition in another portion this [] is a decision that must be made by Congress and not by private forces or by the courts. Private forces are too keenly aware of their own interests in making such decisions and courts are ill-equipped and ill-situated for such decisionmaking. To analyze, interpret, and evaluate the myriad of competing interests and the endless data that would surely be brought to bear on such decisions, and to make the delicate judgment on the relative values to society of competitive areas of the economy, the judgment of the elected representatives of the people is required.

Id.

achieve or maintain that market power.⁹⁷ Absent conduct that qualifies as exclusionary, the Supreme Court has repeatedly emphasized that the Sherman Act, and the competitive principles it was designed to reinforce, should not condemn monopoly status alone.⁹⁸ Specifically, the Court has noted that the acquisition of a monopoly through legitimate competition serves as a valuable reward to those competitors who achieve market dominance through “growth or development as a consequence of a superior product, business acumen, or historic accident.”⁹⁹ Allowing an entrant to avoid the full force of the antitrust laws simply based on the existence of a monopoly in a given market would seem to undercut the view that obtaining a monopoly can serve as a due reward for successful competitors. Accordingly, excluding conduct from per se condemnation based on market entry seems rational only to the extent that entry targets those illicit monopolies that run afoul of the Sherman Act.

Even where market entry might disrupt an illicit monopoly, creating an exception to per se treatment on this basis would essentially endorse competitive vigilantism. Such an exception is contrary to applicable precedent. The Supreme Court has rejected arguments that the illegal conduct of others ever justifies antitrust violations.¹⁰⁰

C. *APPLE'S IMPLICATIONS FOR ANTITRUST LAW AS APPLIED TO THE PUBLISHING INDUSTRY*

The Second Circuit's decision no doubt came as a great disappointment to many in the publishing world who view Amazon as a destructive force. Some commentators were also stunned by the Department of Justice's initial decision to pursue charges against Apple and the struggling publishers on behalf of Amazon.¹⁰¹ To many, Amazon represents an existential threat to not just established publishers, but also the very foundations of literary creativity. They see the major publishing houses as integral to supporting a vibrant creative infrastructure, and worry that Amazon's power over the publishers will erode that infrastructure. This Section examines how the

97. *Trinko*, 540 U.S. 398 at 407.

98. *Id.*

99. *Id.*

100. *See, e.g.*, *Fashion Originators' Guild of Am. v. Fed. Trade Comm'n*, 312 U.S. 457, 458 (1941) (noting that illegal conduct by others “would not justify petitioners in combining together to regulate and restrain interstate commerce in violation of federal law”).

101. *See* Keith Gessen, *The War of the Words*, VANITY FAIR (Nov. 30, 2014), <http://www.vanityfair.com/news/business/2014/12/amazon-hachette-ebook-publishing> [<https://perma.cc/WED9-SDSG>]; *see also* Charles Schumer, *Memo to DOJ: Drop the Apple E-Books Suit*, WALL ST. J. (July 17, 2012), <http://www.wsj.com/articles/SB10001424052702303740704577527211023581798> [<https://perma.cc/7FY7-3XHB>].

antitrust laws have influenced the current state of the publishing industry, limiting the ways in which publishers interact with each other and Amazon, as well as how antitrust laws might shape the publishing industry's future.

1. *The Publishers' Lack of Bargaining Power or Legal Remedies*

Ultimately, the publishers colluded because they individually lacked the bargaining power necessary to compel Amazon to raise e-book prices. But the publishers could have legally achieved the same result, by either adopting agency pricing deals with Amazon so that they could set retail prices themselves, or simply raising the wholesale price they charged Amazon such that Amazon had no choice but to increase its retail prices. If Amazon had simply been an e-book retailer, individual publishers may have risked its wrath and held firm on their pricing demands. But Amazon held tremendous leverage over the publishers because it also served as the dominant physical bookseller.

The publishers also lacked a clear legal recourse. Amazon's aggressive leveraging of its market power in its dealings with the publishers was not a violation of the antitrust laws. The offense of monopolization under Sherman Act Section Two, as discussed above, requires that a monopolist engage in exclusionary acts to obtain, protect, or expand its market power. For the purposes of this analysis, the focus is generally on the monopolist's market power in the relevant horizontal market. This means that Amazon's exclusionary acts would have to have been targeted toward existing or potential horizontal competitors in the retail e-book market, rather than upstream suppliers like the publishers.¹⁰² Thus, under current law, only Amazon's exclusion of a potential entrant, like Apple here, could form the basis for a Section Two claim.

But a Section Two claim is highly unlikely to succeed. The strongest grounds for a claim that Amazon violated Section Two would have been that the company engaged in "predatory pricing," artificially deflating the sales price of its e-books in order to squeeze its current competitors and dissuade new ones from entering the retail e-book business. A firm engages in predatory pricing when it (1) sets its prices below an appropriate measure

102. Amazon was technically a monopsony—a buyer with market power. Notably, the Supreme Court has never found an illegal monopsony under Sherman Act Section Two. The closest any company has come to being labeled an illegal monopsony was in *Weyerhaeuser*, where the relevant inquiry was whether defendant had engaged in "predatory bidding" by artificially driving up the cost of upstream inputs in order to deny them to its competitors. *Weyerhaeuser Co. v. Ross-Simmons Hardwood Lumber Co.*, 549 U.S. 312, 318–319 (2007). The publishers would have little grounds to make such a claim here, as e-books are nonrivalrous goods and Amazon was actually driving prices down, not up.

of its costs, and (2) possesses a dangerous probability of recouping its short-term losses by eventually leveraging its resulting market power.¹⁰³ In this case, any claim that Amazon was engaging in predatory pricing to exclude entrants into the e-book market would run into significant obstacles in the form of alternative explanations for Amazon's behavior, and the difficulty of showing that such a scheme could have ever succeeded.

First, Amazon could argue that its pricing strategy represented a legitimate investment in its e-book sales platform and the Kindle. This complicates the determination of what the appropriate measure of cost is, as Amazon could frame the approximately three dollar per unit loss it took on sales of bestselling e-books as a way to incentivize consumers to purchase the Kindle and try out the e-book experience. Amazon had a strong incentive to price e-books below cost in order to drive sales of the Kindle and to draw new users to its platform.

More definitively, it would be difficult to demonstrate that Amazon ever had a reasonable chance of recouping its losses because of e-books' status as digital goods. In evaluating whether a company has a dangerous probability of recoupment for the purposes of Section Two, one important variable is the ease with which a new competitor could subsequently enter the market.¹⁰⁴ Courts require a dangerous probability of recoupment so as not to condemn legitimate competitive discounting or unsuccessful attempts at predation, which simply benefit consumers who enjoy lower prices.¹⁰⁵ Where entry barriers are insignificant, new competitors will enter the market and punish the predator's subsequent monopoly pricing. Here, the ease with which Apple launched the iBookstore illustrates the relatively insignificant barriers to entry in the retail e-book market. If Amazon "succeeded" in establishing a complete monopoly in retail e-book sales and then raised its prices to recoup its losses, little would stop companies with existing mobile software platforms from entering the market and undercutting Amazon's profits with lower priced e-books. Indeed, the greatest obstacle to entering the retail e-book market would likely be negotiating content deals with publishers; a group that one would expect to

103. For the purposes of the Sherman Act Section Two, predatory pricing requires a "dangerous probability" of recoupment. *See Brooke Grp. Ltd. v. Brown & Williamson Tobacco Corp.*, 509 U.S. 209, 224 (1993). Under the Robinson-Patman Act, by contrast, only a "reasonable prospect" of recoupment need be shown. *Id.*

104. *See id.* at 226.

105. *See, e.g., Brooke Grp.*, 509 U.S. at 224 (noting that "unsuccessful predation is in general a boon to consumers"); *see also Matsushita Elec. Indus. Co. v. Zenith Radio Corp.*, 475 U.S. 574, 594 (1986) ("[C]utting prices in order to increase business often is the very essence of competition.").

be ever more willing to ease Apple or another competitor's entry in order to thwart Amazon.¹⁰⁶

2. *The Effect on Consumers*

In the end, the Second Circuit's *Apple* decision benefitted a company with tremendous power—Amazon—and harmed smaller players in a struggling industry. *Apple* therefore begs the question of whether the antitrust laws fostered the right result from a consumer welfare perspective. In order to properly assess the result the court reached in *Apple*, it is important to take into account: the state of the publishing industry prior to Apple's entry; the publishers' underlying motivations in raising e-book prices; whether those motivations align with consumer interests; and whether Amazon's conduct actually represents a threat to consumers.

Any potential alignment between the publishers' and consumers' interests is merely speculative. As discussed above, Amazon's pricing behavior cannot be condemned as a traditional "predatory pricing" scheme, and thus could not be pigeonholed into existing monopolization precedent. This reflects the reality that Amazon's aggressively low priced e-books were almost surely a boon to consumers, at least in the short-term. The underlying concern of many in the publishing industry, however, centers on how Amazon's pricing might change the literary landscape in the long-term.¹⁰⁷ The thrust of this concern is that Amazon's disruption of the publishing industry could hurt a precariously balanced creative ecosystem.

The theory here is that what could be labeled "inefficiencies" in the publishing industry actually support a wide creative class of authors, which yield long term benefits to readers and to society as a whole.¹⁰⁸ The traditional publisher model involves providing authors advances against

106. Significantly, here the publishers' apparent concern was not that Amazon would eventually raise prices above competitive levels, but that it would keep prices low indefinitely, forever devaluing the book in the consumer's mind.

107. In the words of Hachette CEO David Young: "The big concern—and it's a massive concern—is the \$9.99 pricing point. If it's allowed to take hold in the consumer's mind that a book is worth ten bucks, to my mind it's game over for this business." Ken Auletta, *Publish or Perish*, NEW YORKER (Apr. 26, 2010), <http://www.newyorker.com/magazine/2010/04/26/publish-or-perish> [<https://perma.cc/AP7T-H6HD>]. The co-owner of the small publisher Melville House, Dennis Johnson, likewise expressed his fear that Amazon's low prices had "successfully fostered the idea that a book is a thing of minimal value" in consumers' minds—"It's a widget." George Packer, *Cheap Words*, NEW YORKER (Feb 17, 2015), <http://www.newyorker.com/magazine/2014/02/17/cheap-words> [<https://perma.cc/TQ59-VUDM>].

108. See Auletta, *Publish or Perish*, *supra* note 107 ("Good publishers find and cultivate writers, some of whom do not initially have much commercial promise. . . . The system is inefficient, but it supports a class of professional writers, which might not otherwise exist.").

future royalties to underwrite their research and writing.¹⁰⁹ Seventy percent of these advances will never be earned back in full through royalties.¹¹⁰ A small number of books will end up selling well, subsidizing the initial investment in advances to a variety of authors, and insulating those authors from the vagaries of the market. The worry is that Amazon's pricing pressure threatens to disrupt this equilibrium by squeezing margins to the point where advances are assigned to only those works most likely to earn them back through robust sales, such as those by already-prominent authors.

Even assuming that the traditional publishing model provides these structural creative benefits, it is hard to see how they would fit within the normal scope of antitrust analysis. Consider the analogous situation of a horizontal price-fixing conspiracy among manufacturers that increase profit margins to the point where they are able to provide more jobs, at higher wages, than they otherwise would be able to.¹¹¹ While courts weigh the procompetitive and anticompetitive effects of a restraint whenever they engage in rule of reason analysis, at some point the likely effects must become too speculative to merit consideration. Courts cannot parse every possible attenuated effect of a restraint. The antitrust laws themselves promote a particular vision of free-market competition that is itself assumed to order markets in a desirable manner.

That antitrust law vindicated Amazon's interests here may also reflect Amazon's unique characteristics. Amazon wields its market power in surprising ways—making it an interesting case study. The company now controls a sprawling universe of online retail, cloud services, streaming video, music, and, of course, physical and electronic books. Its success is due in no small part to its relentless discounting.¹¹² Despite its apparent power to raise prices in many goods, it seems not to. As a result, even as it has grown into a powerful force in the American economy, Amazon has generally earned relatively paltry overall profits.¹¹³ Furthermore, within the

109. See Ken Auletta, *Paper Trail*, NEW YORKER (Jun. 25, 2012), <http://www.newyorker.com/magazine/2012/06/25/paper-trail-2> [<https://perma.cc/82TR-FBL4>].

110. See Auletta, *Publish or Perish*, *supra* note 107.

111. This example assumes increased margins find their way to workers and not investors. In the publishing industry, commentators have widely differing views on whether profits have ever been sufficiently channeled toward authors.

112. Amazon even markets itself as “Earth’s most consumer-centric company.” See Packer, *supra* note 107.

113. See Farhad Manjoo, *How Amazon’s Long Game Yielded a Retail Juggernaut*, N.Y. TIMES (Nov. 18, 2015), <http://www.nytimes.com/2015/11/19/technology/how-amazons-long-game-yielded-a-retail-juggernaut.html> [<https://perma.cc/6P78-NKKC>].

company, more profitable divisions such as its cloud storage business actually subsidize investment in other, less profitable ones.¹¹⁴

If the goal of antitrust law was merely to promote competition between firms in a given market, it may actually be preferable for a monopolist like Amazon to charge a price higher than the market would normally support. Such a “supracompetitive” price is the carrot that incentivizes other firms to enter, eventually hastening the monopolist’s downfall. What is to be done with a company that continuously accumulates market power but refuses to leverage it against consumers? Does this even pose a problem? A cynical long-view perspective is that such a company will continue to make investments that allow it to operate so efficiently, or take advantage of platform effects so successfully, that no entrant would ever be able to undercut its prices. Once a company has achieved that level of dominance, the company may then raise prices without fear that new firms would attempt to enter the market.

3. *Implications for the Publishing Industry*

The conflict between Amazon and the publishers reflects a familiar trend. As digital technologies stir an established content market—like music and television before e-books—conflict between newly ascendant digital players like Amazon and traditional gatekeepers is almost inevitable. And Amazon’s preexisting market power in physical books only exacerbated the tension between Amazon and publishers. The publishing industry is likely to face ongoing changes as it acclimates to both the new normal of Amazon’s physical dominance, and the rise of the e-book.

One seemingly inevitable result of Amazon’s dominance and the disruptive emergence of the e-book market is greater consolidation in the publishing industry. Since the initial district court decision in *United States v. Apple*, the trend toward consolidation in the publishing world has only accelerated. In 2013, Penguin and Random House—two of the former “Big Six” publishers—merged to form Penguin Random House, creating by far

114. Deutsche Bank estimates that Amazon’s cloud service could soon be worth \$160 billion as a stand-alone company. *Id.* That division maintains a net operating margin of 25 percent, compared to 3.5 percent for Amazon’s North American retail business. *Id.* For more details on Amazon’s business model, see Andrea M. Hall, *Standing the Test of Time: Likelihood of Confusion in Multi Time Machine v. Amazon*, 31 BERKELEY TECH. L.J. 815, 826–29 (2016).

the largest publishing house in the world.¹¹⁵ The merger was widely seen as a bid to increase bargaining power with Amazon.¹¹⁶

This sort of consolidation poses its own threats to competition and creative output at the publisher level. Large publishing houses generally maintain many “imprint” subsidiary publishing brands united under the larger corporate umbrella. Predictably, the large firms restrict their imprints from bidding against each other for manuscripts, which means that mergers effectively reduce the relative bargaining power of authors by winnowing competition for manuscripts.¹¹⁷ In this way consolidation can pass along the pressure publishers feel from Amazon to authors, with the potential to disrupt the creative ecosystem.

While the publishers consolidate and authors are left with ever fewer traditional suitors, Amazon itself has pursued a strategy that represents an existential threat to the publishers: disintermediation.¹¹⁸ Amazon Publishing, created after the Kindle’s release, offers an increasingly popular self-publishing tool for those who either fail to secure deals with publishers or who covet the opportunity to earn up to seventy percent of their work’s royalties.¹¹⁹ But Amazon has experienced a rocky start in promoting the self-publishing model thus far. Established authors have proven surprisingly loyal to their publishers and new authors may be drawn towards the aura of prestige surrounding certain traditional publishing house brands.¹²⁰ Amazon’s early failures with this model have been attributed both to tension between Amazon and other physical retailers, as well as a lack of institutional knowledge on Amazon’s part—the industry frequently casts Amazon as a data-driven company out of its element in a business built on relationships.¹²¹ Nevertheless, Amazon’s efforts in this area continue.

115. See Jeremy Greenfield, *Penguin Random House Merger Deal Closed, New Publishing Giant Emerges*, DIGITAL BOOK WORLD (July 1, 2013), <http://www.digitalbookworld.com/2013/penguin-random-house-merger-deal-closed-new-publishing-giant-emerges> [https://perma.cc/6C8K-T3AF].

116. See Packer, *supra* note 107.

117. See Boris Kachka, *Book Publisher’s Big Gamble*, N.Y. TIMES (July 9, 2013), <http://www.nytimes.com/2013/07/10/opinion/book-publishings-big-gamble.html> [https://perma.cc/H9KT-CDK5].

118. Disintermediation refers to any process by which a firm bypasses an intermediary between itself and end consumers. Amazon has taken steps toward working directly with authors, cutting the traditional publishers out of the process. See Packer, *supra* note 107.

119. See Packer, *supra* note 107.

120. See *id.* Notably, MacKenzie Bezos, the wife of Amazon CEO Jeff Bezos, published her 2014 novel *Traps* with Knopf, a respected imprint that is now a subsidiary of Penguin Random House. *Id.*

121. *Id.*

The Second Circuit's decision represents a win for Amazon's—and consumers'—interests. However, focusing solely on the legal result obscures how Apple and the publishers ultimately achieved their objectives of raising prices and breaking Amazon's hold on the e-book retail market. After the expiration of the waiting period imposed as part of their settlement with the Justice Department, the five publishing houses that had reached deals with Apple eventually had to negotiate new deals with Amazon. This led to a highly publicized standoff during the negotiations between Amazon and Hachette—the first of the publishers to renegotiate.¹²² In the deals that followed, every publisher insisted upon and received the power to set prices under the agency model.¹²³ Since those deals were negotiated, e-book prices have risen, and—perhaps not coincidentally—growth in e-book sales has begun to level off.¹²⁴ Furthermore, Amazon now faces considerable competition in the retail e-book market from both Apple and Google.

On March 7, 2016 the Supreme Court denied Apple's cert petition.¹²⁵ Notably, the \$450 million the company has agreed to pay out as a result of the case represents a small sum compared to its latest quarterly profits of almost \$11.1 billion.¹²⁶

V. CONCLUSION

The Second Circuit's decision in *Apple* is a well-reasoned application of existing antitrust precedent and principles. Apple's justifications for why its conduct deserved rule of reason, as opposed to per se analysis, do not make sense given either the facts of the case or established antitrust approaches. Once the court determined that Apple had knowingly participated in the publishers' horizontal pricing fixing conspiracy, the fact that Apple used vertical contracts in order to effectuate that conspiracy should not save it

122. See Davey Alba, *Amazon Resolves Dispute With Top-Five Publisher Hachette Over Book Sales*, WIRED (Nov. 13, 2014), <http://www.wsj.com/articles/amazon-hachette-end-publishing-dispute-1415898013> [<https://perma.cc/VN8E-N7UC>].

123. See Alison Griswold, *Amazon to Publishers: Set Your Own E-Book Prices! Amazon to Customers: Not Our Fault!*, SLATE (Apr. 14, 2015), http://www.slate.com/blogs/moneybox/2015/04/14/what_the_amazon_harpercollins_deal_means_for_e_book_pricing_and_publishing.html [<https://perma.cc/F5V2-MNVW>].

124. See Jeffrey A. Trachtenberg, *E-Book Sales Fall After New Amazon Contracts*, WALL ST. J. (Sept. 3, 2015), <http://www.wsj.com/articles/e-book-sales-weaken-amid-higher-prices-1441307826> [<https://perma.cc/95HX-CW2R>].

125. See Adam Liptak & Vindu Goel, *Supreme Court Declines to Hear Apple's Appeal in E-Book Pricing Case*, N.Y. TIMES (Mar. 7, 2016), <http://www.nytimes.com/2016/03/08/technology/apple-supreme-court-ebook-prices.html> [<https://perma.cc/3FNW-Y22W>].

126. See Colin Lecher, *Apple Will Pay \$450 Million After Losing Ebooks Price-fixing Appeal*, THE VERGE (June 30, 2015), <http://www.theverge.com/2015/6/30/8870061/apple-450-million-ebooks-price-fixing-appeal> [<https://perma.cc/HNP7-792S>].

from the application of the per se rule. Rule of reason treatment represents an unnecessary benefit of the doubt in such situations.

The court likewise properly rejected the invitation to recognize a market entry exception to the per se rule. Such a rule would require courts to make sweeping decisions about the relative value of competition in different markets, would fly in the face of monopolization precedent, and essentially endorse antitrust vigilantism.

In the end, the circumstances surrounding the *Apple* decision also provide an insight into the current state of the publishing industry and how antitrust law might affect its future. The industry is currently in the midst of an ongoing transformation driven by technology and embodied by Amazon—a highly disruptive force. Antitrust law will not insulate the publishers from this change, nor will it ignore their collusion. While publishers ultimately succeeded in raising e-book prices and slowing the pace of change, the future of the publishing business is far from clear. In the words of Jeff Bezos, Amazon’s CEO: “Amazon is not happening to bookselling. The *future* is happening to bookselling.”¹²⁷

127. See Packer, *supra* note 107.

NET NEUTRALITY AND THE FCC'S 2015 OPEN INTERNET ORDER

Simone A. Friedlander[†]

Forty percent of the world's population uses the Internet.¹ In the United States, eighty-seven percent of the population uses the Internet.² As of 2016, the Internet is ubiquitous, popular, and as vital to public communication as any technology that came before it.³ The United States Congress recognized the value of the Internet when it enacted legislation in furtherance of the explicit policy "to preserve the vibrant and competitive free market that presently exists for the Internet."⁴ And the American people have indicated that they too think the Internet and its regulation are vitally important: the latest round of public comment on the net neutrality rules the Federal Communications Commission (FCC) proposed saw a record-breaking number of comments.⁵

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1. INT'L TELECOMM. UNION, ICT FACTS AND FIGURES 2014 (2014), <http://www.itu.int/en/ITU-D/Statistics/Documents/facts/ICTFactsFigures2014-e.pdf> [<https://perma.cc/4BRW-YP3K>].

2. *United States of America: Internet Usage and Broadband Usage Report*, INTERNET WORLD STATS <http://www.internetworldstats.com/am/us.htm> [<https://perma.cc/P7JT-25KW>].

3. *See, e.g.*, FED. COMM'NS COMM'N, FCC-15-24, *IN RE PROTECTING AND PROMOTING THE OPEN INTERNET* ¶ 2 (Mar. 12, 2015) [hereinafter 2015 OPEN INTERNET ORDER] (noting that broadband providers invested \$212 billion between 2011 and 2013); *id.* ¶ 3 ("Netflix sends the most peak downstream traffic in North America of any company . . . Etsy reports that it has grown from \$314 million in merchandise sales in 2010 to \$1.35 billion in merchandise sales in 2013.").

4. Communications Act, 47 U.S.C. § 230(b)(2) (2012).

5. *FCC Receives Record 3 Million Net Neutrality Comments: What now?*, PCWORLD.COM (Sept. 16, 2014), <http://www.pcworld.com/article/2684395/fcc-gets-record-number-of-net-neutrality-comments-what-now.html> [<https://perma.cc/83G3-A4GT>]; *see also* *FCC Received a Total of 3.7 Million Comments on Net Neutrality*, THE VERGE (Sept. 16, 2014), <http://www.theverge.com/2014/9/16/6257887/fcc-net-neutrality-3-7-million-comments-made> [<https://perma.cc/A2D3-5FU5>]. To put that in perspective, the next highest amount of comments ever received by the FCC was 1.4 million in response to Janet Jackson's wardrobe malfunction at the 2004 Super Bowl. *See Net Neutrality Debate Surpasses Janet Jackson's 'Nip Slip' in Number of Comments Sent to the FCC*, ENTREPRENEUR, <http://www.entrepreneur.com/article/237382> [<https://perma.cc/L3QR-HVQ2>].

The Internet is a valuable tool for individuals to reach an audience that might otherwise be inaccessible.⁶ It is also a valuable tool for businesses to reach consumers.⁷ Further, because it enables the uninhibited exchange of ideas and money, the Internet itself is a valuable product. Internet gatekeepers (i.e., Internet Service Providers or ISPs) such as Comcast and Verizon recognize its market value. And these valuable aspects of the Internet affect three interested parties in the net neutrality debate: end-users, edge providers, and the telecommunication companies that connect the two. Given the many competing interests surrounding Internet policy, it is no surprise that the debate over how best to regulate the Internet is a national discussion amongst politicians, social activists, and the public.

But while the implications of Internet regulation are undoubtedly political and social, the mechanics of such regulation are technical and grounded in legal precedent. Over the past thirty years, Congress, the FCC, and the judiciary have been creating a framework for Internet regulation piece by piece. That framework has evolved into the current state-of-the-art Internet regulation, the 2015 Open Internet Order, which classifies the Internet as a Title II telecommunications service subject to common carrier regulation and within the jurisdiction of the FCC.⁸

The telecommunications industry has already challenged the 2015 Open Internet Order at the D.C. Circuit.⁹ The challenges to the Order

6. *MAG-Net Speaks: Net Neutrality Federal Communications Commission Filing*, CTR. FOR MEDIA JUSTICE (July 15, 2014), <http://centerformediajustice.org/2014/07/15/mag-net-speaks-net-neutrality-federal-communications-commission-filing> [<https://perma.cc/H4DF-EEX5>].

[A]ny devolution of network neutrality rules will harm independent artists, musicians and social justice advocates that currently use the open Internet to reach audiences otherwise inaccessible in a heavily corporatized and consolidated media. Without an Open Internet, these innovators and entrepreneurs face tremendous barriers to entry that choke their opportunities for creative expression, opportunity, democratic participation and community building.

Id.

7. For example, e-commerce sales are expected to ultimately total more than \$1.92 trillion in 2016, to exceed \$2.1 trillion in 2017, and are projected to continue growing in the coming years. *B2C E-commerce Sales Worldwide from 2012 to 2018*, STATISTA, <http://www.statista.com/statistics/261245/b2c-e-commerce-sales-worldwide> [<https://perma.cc/X7VY-E5UF>]. Worldwide digital buyer penetration is projected to reach forty-five percent as of 2016 and is also projected to increase further. *Digital Buyer Penetration Worldwide from 2011 to 2018*, STATISTA, <http://www.statista.com/statistics/261676/digital-buyer-penetration-worldwide> [<https://perma.cc/PQ3Y-X3EG>].

8. 2015 OPEN INTERNET ORDER.

9. *United States Telecom Assoc. v. FCC, et al.* [consolidated cases], *appeal docketed*, No. 15-1063, 15-1078, 15-1086, 15-1090, 15-1091, 15-1092, 15-1095, 15-1099, 15-1117,

question whether the FCC acted reasonably in its reclassification of broadband Internet, under both the Administrative Procedure Act (APA) and the Telecommunications Act.¹⁰ This Note argues that the FCC did in fact conform to the APA and reasonably reclassified broadband Internet as a Title II telecommunications service. Further, this Note predicts that the FCC's actions will withstand judicial scrutiny under both the *Chevron* doctrine and the arbitrary and capricious standard of the APA.

Part I of this Note contextualizes the net neutrality debate. Part II examines the judicial, legislative, and administrative history of net neutrality regulation. Part III surveys the FCC's 2015 Open Internet Order and the pending litigation challenging the Order. Part IV analyzes the 2015 Open Internet Order against previously established judicial standards, namely the *Chevron* and arbitrary and capricious doctrines. Finally, Part V concludes that the 2015 FCC Order will survive judicial scrutiny.

I. BACKGROUND

Before addressing the legal and administrative principles behind Internet regulation, it is important to understand the architecture and politics of both the Internet and net neutrality.

A. DEFINING NET NEUTRALITY

Net neutrality (a.k.a. “network neutrality” or “open Internet”) “is the principle that those who manage networks should provide access to all applications, content, platforms, and websites on a non-discriminatory basis.”¹¹ In layman's terms, a truly neutral Internet treats all content equally, regardless of origin or type. For example, Amazon's ability to reach an end user would be no different than that of a local mom-and-pop retailer. One current hot topic in net neutrality is the concept of “fast lane” access, where a company must pay in order to ensure competitive transmission speeds.¹²

However, the broader net neutrality debate encompasses a range of concerns, including fears of ISPs blocking access to certain content for

15-1128, 15-1151, 15-1164 (D.C. Cir. 2015). Oral argument in the D.C. Circuit took place on December 4, 2015.

10. Telecommunications Act of 1996, Pub. L. No. 104-104, 110 Stat. 56 (1996).

11. ZACK STIEGLER, REGULATING THE WEB: NETWORK NEUTRALITY AND THE FATE OF THE OPEN INTERNET 2 (Zack Stiegler ed., 2012).

12. See, e.g., Jon Brodtkin, *FCC Votes for Net Neutrality, a Ban on Paid Fast Lanes, and Title II*, ARS TECHNICA (Feb. 26, 2015), <http://arstechnica.com/business/2015/02/fcc-votes-for-net-neutrality-a-ban-on-paid-fast-lanes-and-title-ii> [https://perma.cc/H54C-KEU8]. But see Jeffrey Dorfman, *Net Neutrality Puts Everyone in the Internet Slow Lane*, FORBES (Feb. 27, 2015), <http://www.forbes.com/sites/jeffreydorfman/2015/02/27/net-neutrality-puts-everyone-in-the-internet-slow-lane/#15b2a2a29ab7> [https://perma.cc/N9U2-WFYV].

political, anti-competitive, or censorship reasons; vertically integrated companies favoring or only allowing access to their subsidiaries; and larger, more well-funded competitors denying market entry to smaller sites, services, and companies.

While net neutrality is a highly charged term that means many different things to many different people, the regulatory debate surrounding net neutrality revolves around the statutory language of the Communication Act, the Telecommunication Act, the FCC's declaratory rulings and orders, and the judicial decisions. But first, an understanding of how the Internet functions will help lay the foundation for the legal and regulatory analysis of net neutrality that follows.

B. AN INTRODUCTION TO HOW THE INTERNET WORKS

The Telecommunications Act defines the Internet as an “international computer network of both Federal and non-Federal interoperable packet switched data networks,”¹³ and as “the combination of computer facilities and electromagnetic transmission media, and related equipment and software, comprising the interconnected worldwide network of computer networks that employ the [TCP/IP] or any successor protocol to transmit information.”¹⁴ The Supreme Court more succinctly described the Internet as a “network of interconnected computers.”¹⁵

The infrastructure of the Internet involves interconnected Network Service Providers (NSPs), which are connected to Network Access Points, which are, in turn, connected to ISPs that route information to a computer. The NSP and the ISP may be the same company, or the NSP may lease bandwidth or network access to independent ISPs. For purposes of this net neutrality discussion, it is important to keep in mind three major players in the Internet ecosystem: the backbone (cable or telephone companies that act as NSPs), the edge providers (content providers such as Netflix), and the end users (people who consume content via the Internet). These key players interact with a broader set of political players and interest groups; those interactions help frame the net neutrality debate.

C. POLITICAL PLAYERS AND INTEREST GROUPS

Net neutrality, while judicially defined in terms of legal and administrative precedent, is a resonant political issue for those concerned

13. 47 U.S.C. § 230(f)(1) (2012). TCP/IP, short for Transmission Control Protocol/Internet Protocol, is the basic communication language of the Internet and between computers.

14. *Id.* at § 231(e)(3) (2012).

15. *Nat'l Cable & Telecomm. Ass'n v. Brand X Internet Servs.*, 545 U.S. 967, 974 (2005).

with various issues such as free and open communication, consumer rights, business interests, economic autonomy, and limited government.

1. *Pro-Net-Neutrality Parties and Their Interests*

Pro-net-neutrality parties support neutrality for both political and economic reasons. Those invested in net neutrality for financial reasons include many Internet-based companies such as Google and Netflix.¹⁶ Without network neutrality, these companies would likely need to redesign their business models in order to accommodate the added costs of doing business with unregulated telecommunications providers. Services such as Netflix and Google's YouTube are particularly invested in net neutrality rules that prevent ISPs from charging more for fast lane access because their business models rely on quality and consistent video streaming, the type of content that would be penalized by "fast lane" policies.¹⁷ Companies such as Reddit and Netflix have even participated in online protests such as the September 10, 2014 Internet Slowdown protest.¹⁸

Internet and general rights organizations such as Electronic Frontier Foundation, SaveTheInternet, and the ACLU are vociferous pro-neutrality supporters.¹⁹ Politically, pro-neutrality proponents are wary of the gatekeeping potential of unregulated ISPs, which now have the unprecedented ability to control the most widely used form of communication in the country. Top policy reasons to support net-neutrality include concerns about ISPs being able to block content for censorship or anti-competitive reasons.

16. Alex Wilhelm & Cat Zakrzewski, *Google, Other Leading Internet Companies Support Net Neutrality, Call for Extension to Mobile Providers*, TECHCRUNCH (July 14, 2014), <http://techcrunch.com/2014/07/14/google-other-leading-internet-companies-support-net-neutrality-call-for-extension-to-mobile-providers> [https://perma.cc/NA36-6DHL].

17. Gene Marks, *Netflix and Youtube Now Consume 50% of the Internet as the Argument for Net Neutrality Weakens*, FORBES (Nov. 24, 2014), <http://www.forbes.com/sites/quickerbetteartech/2014/11/24/netflix-and-youtube-now-consume-50-of-the-internet-as-the-argument-for-net-neutrality-weakens/#33acca0b7982> [https://perma.cc/XS25-Z46F]; see also Marguerite Reardon, *Comcast vs. Netflix: Is This About Net Neutrality?*, CNET (May 15, 2014), <http://www.cnet.com/news/comcast-vs-netflix-is-this-really-about-net-neutrality> [https://perma.cc/5PJS-YJ79].

18. *Sept. 10th Is the Internet Slowdown*, BATTLEFORTHENET, <https://www.battleforthenet.com/sept10th> [https://perma.cc/J84V-6QL5].

19. See *Net Neutrality*, ELECTRONIC FRONTIER FOUND., <https://www.eff.org/issues/net-neutrality> [https://perma.cc/MV9V-VBWK]; *Take Action*, SAVE THE INTERNET, <http://www.savetheinternet.com/sti-home> [https://perma.cc/GJR6-6VSL]; *What is Net Neutrality?*, AMERICAN CIVIL LIBERTIES UNION, <https://www.aclu.org/feature/what-net-neutrality> [https://perma.cc/3U78-ZPG2].

2. *Anti-Net-Neutrality Parties and Their Interests*

Another set of parties opposes net neutrality for business, financial, political, and ideological reasons. SBC CEO Edward Whitacre, Jr. articulated the anti-neutrality concerns of telecommunications companies in a 2005 interview by arguing that the capital investment of companies like his gives such companies a right to exclude competitors from using their “pipes for free.”²⁰ Telecommunication companies are also concerned about the costs of burdensome regulation, especially if Title II reclassification requires them to adhere to the common carriage principles of the Telecommunications Act.²¹ This concern is not necessarily unfounded, as an increase in streaming video traffic has created severe network management problems, solutions for which could be stymied by the enforcement of Title II anti-discrimination provisions.²²

Others argue that the FCC’s net neutrality rules are a solution in search of a problem. Key players within the Internet ecosystem have generally acted neutrally, even without FCC regulation.²³ But telecommunication companies may also oppose regulation simply because they see profit in the type of behavior that net neutrality is supposed to address. For example, the controversy that led to the *Comcast* decision of 2010 began when Comcast attempted to throttle peer-to-peer Internet traffic, demonstrating the exact kind of discriminatory behavior that net neutrality rules are designed to prevent.²⁴ Further, companies such as AT&T have proposed creating “fast lane” access or “paid prioritization” for edge providers willing to pay a

20. Arshad Mohammed, *SBC Head Ignites Access Debate*, WASHINGTON POST (Nov. 4, 2005), <http://www.washingtonpost.com/wp-dyn/content/article/2005/11/03/AR2005110302211.html> [<https://perma.cc/9X5N-WWA4>].

21. See *Why Congress Should Act to Ensure Net Neutrality*, NAT’L CABLE & TELECOMM. ASS’N, <https://www.ncta.com/positions/title-ii> [<https://perma.cc/LQC9-28PR>]; see also Jon Brodtkin, *Making the Internet a Utility—What’s the Worst that Could Happen?* (Dec. 17, 2014), <http://arstechnica.com/business/2014/12/worst-case-scenario-why-the-cable-lobby-is-scared-of-becoming-a-utility> [<https://perma.cc/575C-JT48>].

22. See *Net Neutrality – Issues*, CISCO, http://www.cisco.com/web/about/gov/issues/net_neutrality.html [<https://perma.cc/96ZX-N4QC>].

23. Nick Gillespie & Todd Krainin, *FCC Commissioner Ajit Pai: Net Neutrality is a “Solution That Won’t Work to a Problem That Doesn’t Exist,”* REASON.COM (Feb. 25, 2015), <http://reason.com/reasonTV/2015/02/25/fccs-ajit-pai-on-net-neutrality-a-soluti> [<https://perma.cc/9REH-R6EB>]; see also Daniel Brenner, *Net Neutrality: A Solution in Search of a Problem*, FORBES (Sept. 25, 2012), <http://www.forbes.com/sites/ciocentral/2012/09/25/net-neutrality-a-solution-in-search-of-a-problem/#41600cce3ffc> [<https://perma.cc/7RWM-QTGY>].

24. *Comcast v. FCC*, 600 F.3d 642, 644 (D.C. Cir. 2010).

premium to make sure their content reaches end users quickly and without interruption.²⁵

A major telecommunications lobby and current litigant against the FCC's 2015 Open Internet Order, USTelecom maintains that it

fully supports a broad public inquiry on how best to maintain and improve an open and transparent Internet, and our industry remains firmly committed to open Internet principles. But the Title II approach is ill-advised. The robust investment and rapid innovation that characterizes the Internet today exists precisely because prior Democratic and Republican FCC chairmen have recognized the importance of keeping 19th century regulation away from 21st century technology.²⁶

This position is neither nefarious nor unfounded. The Internet is not an unlimited resource. Congestion increases as more consumers access the Internet more regularly.²⁷ Network management practices, which involve de facto discrimination in order to make sure that as much data as possible is transmitted from end-to-end, could be stymied by a net neutrality regime, even one that purports to include an exception for network management practices.²⁸ Further, online streaming is only increasing in popularity, using an enormous portion of the Internet's bandwidth.²⁹ Anti-neutrality proponents argue that basic business practices support allowing telecommunication companies, as private entities, to charge more for the use of such a large portion of their service.³⁰ These players and their viewpoints—on both sides of the debate—have influenced legislative, judicial, and administrative developments in Internet regulation.

25. See Ernesto Van der Sar, *AT&T Patents "Fast Lane" for File-Sharing Traffic*, TORRENTFREAK (Feb. 19, 2015), <https://torrentfreak.com/att-patents-fast-lane-for-bittorrent-traffic-150219> [<https://perma.cc/5PTR-VUAG>]; Brendan Sasso, *On Net Neutrality, Verizon Leads Push for 'Fast Lanes'*, NATIONAL JOURNAL (July 18, 2014, 9:47 AM), <http://www.nationaljournal.com/tech/2014/07/18/Net-Neutrality-Verizon-Leads-Push-Fast-Lanes> [<https://perma.cc/6L5S-ZGDH>].

26. *Open Internet*, USTELECOM, <http://www.ustelecom.org/issues/open-internet> [<https://perma.cc/GC9A-YRVH>].

27. See *Limiting Internet Congestion a Key Factor in Net Neutrality Debate*, PHYS.ORG (Dec. 10, 2014), <http://phys.org/news/2014-12-limiting-internet-congestion-key-factor.html> [<https://perma.cc/P5QH-EQRH>].

28. *Id.*

29. Gene Marks, *Netflix and Youtube Now Consume 50% of the Internet as the Argument for Net Neutrality Weakens*, FORBES (Nov. 24, 2014), <http://www.forbes.com/sites/quickerbetteertech/2014/11/24/netflix-and-youtube-now-consume-50-of-the-internet-as-the-argument-for-net-neutrality-weakens/#33acca0b7982> [<https://perma.cc/XS25-Z46F>].

30. *Id.*

II. PRE-OPEN-INTERNET-ORDER LEGISLATIVE, JUDICIAL, AND ADMINISTRATIVE DEVELOPMENTS IN INTERNET REGULATION

The FCC derives its authority to regulate the Internet from the Telecommunications Act of 1996,³¹ passed to update and amend the Communications Act of 1934.³² Prior to passage of the 1996 Telecommunications Act, the FCC regulated the Internet under the auspices of the *Computer II* rules, developed to regulate those data-processing services transmitted over telephone wires.³³ The *Computer II* regime categorized communications services in one of two mutually exclusive categories depending on the extent to which information was processed during transmission: either as a “basic service” or as an “enhanced service.”³⁴ Basic services were subject to Title II common carrier regulation,³⁵ while enhanced services were not.³⁶ The FCC reasoned at the time that Title II regulation of this nascent data-processing technology would be inappropriate, as it would limit the potential services that vendors could offer in this fast-moving, competitive market. The FCC further reasoned that “[r]egulation also would disserve the interest of consumers

31. Telecommunications Act of 1996, Pub. L. No. 104-104, 110 Stat. 56 (1996).

32. 47 U.S.C. § 151(1) (2012).

For the purpose of regulating interstate and foreign commerce in communication by wire and radio so as to make available, so far as possible, to all the people of the United States . . . a rapid, efficient, Nation-wide, and world-wide wire and radio communication service . . . and for the purpose of securing a more effective execution of this policy by centralizing authority heretofore granted by law to several agencies and by granting additional authority with respect to interstate and foreign commerce in wire and radio communication, there is hereby created a commission to be known as the ‘Federal Communications Commission,’ which shall be constituted as hereinafter provided, and which shall execute and enforce the provisions of this chapter.

Id. For the purpose of this note, the Telecommunications Act and the Communications Act shall be referred to herein collectively as either The Act or the Communications Act.

33. *In re* Amendment of Section 64.702 of the Commission’s Rules and Regulations (*Computer II Order*), 77 F.C.C. 2d 384 (1980).

34. *Id.* at 422.

35. *Id.* at 428, ¶ 114. Common carrier duties include furnishing communication services upon reasonable request, not engaging in unjust or unreasonable discrimination in “charges, practices, classifications, regulations, facilities, or services,” and charging “just and reasonable” rates. *Id.*

36. *Id.* at 428–432, ¶¶ 115–23.

and the goals of the Communications Act.”³⁷ This classification regime lasted for more than twenty years.

Then the Telecommunications Act was enacted, at which point the categorization was re-named from “basic” and “enhanced” communication services to “telecommunication”³⁸ and “information” services,³⁹ respectively. Although the FCC, during the *Computer II* regime, opted not to regulate Internet service furnished over telephone lines as a basic/telecommunications service subject to Title II common carrier regulations, the FCC initially categorized DSL Internet, or broadband Internet service furnished over telephone lines, as a telecommunication service, subjecting it to Title II regulation.⁴⁰

The categorization of communications services as being either an information service or a telecommunications service is vital to understanding the extent of the FCC’s authority to enforce certain regulations upon a particular service. While both Title I information services and Title II telecommunication services fall under the FCC’s jurisdiction, the FCC can only impose common-carrier-type regulations on services classified as telecommunication services and subject to Title II regulation.⁴¹ The Act also gives the FCC authority to regulate communications via “ancillary authority”⁴² and a mandate under § 706.⁴³ For years, the FCC has been trying to use this authority to implement net neutrality principles. One early iteration of the FCC’s net neutrality principles was the 2002 Cable Broadband Order.

37. *Id.* at 434, ¶ 129.

38. 47 U.S.C. § 153(53) (2010).

39. *Id.* at § 153(24).

40. *In re* Deployment of Wireline Services Offering Advanced Telecommunications Capability, 13 F.C.C.R. 24012, 24014, 24029–30 ¶¶ 3, 35–36 (1998).

41. *See* *Verizon v. FCC*, 740 F.3d 623 (D.C. Cir. 2014).

42. 47 U.S.C. § 154(i). Ancillary jurisdiction grants the FCC power to “perform any and all acts, make such rules and regulations, and issue such orders, not inconsistent with the [the Act], as may be necessary in the execution of its functions.” *Id.*; *see also* *NCTA v. Brand X*, 545 U.S. 967, 976 (2005) (“[T]he Commission has jurisdiction to impose additional regulatory obligations under its Title I ancillary jurisdiction to regulate interstate and foreign communications.”).

43. 47 U.S.C. § 706(a). “[T]he Commission . . . shall encourage the deployment on a reasonable and timely basis of advanced telecommunications capability to all Americans . . . by utilizing, in a manner consistent with the public interest, convenience, and necessity, price cap regulation, regulatory forbearance, measures that promote competition in the local telecommunications market, or other regulating methods that remove barriers to infrastructure investment.” *Id.*

A. 2002 CABLE BROADBAND ORDER

Prior to 2002, the FCC abstained from classifying cable modem service for high-speed Internet access. The FCC addressed the issue of cable modem service classification in 2002, in a Declaratory Ruling and Notice of Proposed Rulemaking titled *In the Matter of Inquiry Concerning High-Speed Access to the Internet Over Cable and Other Facilities*.⁴⁴ In determining how to classify cable modem services, the FCC looked to its *Universal Service Report*, which had found that Internet access services should be classified as information services under the Act “because the provider offers a single, integrated service” to the user.⁴⁵ The FCC reasoned that elements of Internet service such as e-mail, web browsing, access to applications, and computer interconnectivity are not separate services and therefore should not “be deemed to have separate legal status” as a telecommunication service.⁴⁶

The FCC also looked to the Act’s definitions of the terms “telecommunications service,” “telecommunications,” and “information service.”⁴⁷ All of the statutory definitions concerned the function the service makes available to the consumer, not the facility used by the service.⁴⁸ As such, the FCC determined that the classification of cable modem service should rest on its function, not the facilities used.⁴⁹ The FCC found “that cable modem service is an offering of Internet access service,” because cable modem service functions in the same way: providing consumers with access to a combination of functions, such as “e-mail, newsgroups, maintenance of the user’s World Wide Web presence, and the DNS.”⁵⁰

The FCC further concluded that cable modem service does not include a separable telecommunications component.⁵¹ While the cable modem

44. 17 F.C.C.R. 4798 (2002).

45. *Id.* at 4821.

46. *Id.*

47. *Id.* at 4820.

48. *Id.* at 4822. The “function” of a service would be its activity or purpose, whereas the “facility” used by the service refers to the physical method through which the service is provided (e.g., wireline, broadband, wireless, etc.).

49. *Id.*

50. *Id.* DNS, or Domain Name System, is a system for naming and organizing into a hierarchy of domains computers and network services. *DNS Defined*, MICROSOFT (Jan. 21, 2005), <https://technet.microsoft.com/en-us/library/cc787920> [<https://perma.cc/R8YD-G65L>].

51. *Id.* at 4823.

service provides its functions to consumers via telecommunications, “the Act distinguishes ‘telecommunications’ from ‘telecommunications service.’”⁵²

B. THE FCC’S FOUR PRINCIPLES OF INTERNET FREEDOM

On February 8, 2004, FCC Chairman Michael Powell called for four principles of Internet Freedom at the Silicon Flatirons Symposium in Boulder, Colorado.⁵³ Powell highlighted the FCC’s broadband Internet policy goals, which were to “promote investment in diverse, faster, and more sophisticated Internet and related digital technologies [in order to] foster economic growth, innovation and empower American consumers to make more choices in how they live, work and play.”⁵⁴ Powell spoke of the FCC’s opportunity to fulfill its mandate of “encourag[ing] the deployment of [broadband] on a reasonable and timely basis” and in doing so, addressing the issues of “last mile” problems that had “plagued competition for a century and invited heavy monopoly regulation.”⁵⁵ Powell also suggested that Congress intended to keep the Internet “free of unnecessary regulation that might distort or slow its growth.”⁵⁶ Given the relative novelty of broadband Internet and the lack of data on the effects of regulation, Powell was disinclined to create official regulations.⁵⁷ Instead, he called for the telecommunications industry (“Industry”) to act to protect certain Internet freedoms.⁵⁸

In his remarks, Powell called for the Industry to preserve (1) the “Freedom to Access Content,” (2) the “Freedom to Use Applications,” (3) the “Freedom to Attach Personal Devices,” and (4) the “Freedom to Obtain Service Plan Information.”⁵⁹ With these four principles of Internet freedom, Powell seemed to be suggesting a path for telecommunications companies to avoid stringent regulation through good corporate behavior (e.g., avoiding anti-competitive vertical integration, ensuring that consumers have access and choice among their providers, etc.).

52. *Id.* at 4823 (“Although the transmission of information to and from . . . computers may constitute ‘telecommunications,’ that transmission is not necessarily a separate ‘telecommunications service.’”).

53. Michael K. Powell, *Preserving Internet Freedom: Guiding Principles for the Industry*, 3 J. ON TELECOMM. & HIGH TECH. L. 1 (2004).

54. *Id.* at 6.

55. *Id.* at 7.

56. *Id.* at 9.

57. *Id.* at 10.

58. *Id.* at 11–12.

59. *Id.*

C. *BRAND X* DECISION

The year after Commissioner Powell published the FCC's Four Principles of Internet Freedom, the Supreme Court decided *National Cable & Telecommunications Ass'n v. Brand X Internet Services*, which began to define the contours of the FCC's ability to regulate the Internet as well as the framework for judicial oversight of such regulation.⁶⁰ The *Brand X* Court held that: (1) the *Chevron* framework applied to the FCC's construction of the Act; (2) the FCC's interpretation of "telecommunications service" was a lawful construction of the Act under *Chevron*; and (3) the FCC's ruling was not arbitrary or capricious under the APA.⁶¹ *Brand X* is important because it: (a) instructs the courts to apply *Chevron* to the FCC's interpretation of "telecommunications service;" (b) gives an example of what the Court considers to be a lawful construction of the Communications Act; and (c) gives an example of what agency actions the Court finds to not be "arbitrary and capricious" under the APA.⁶²

Prior to the advent of cable Internet, most users accessed the web through DSL Internet provided via telephone lines.⁶³ Until its later reclassification, DSL Internet was grouped under the Title II classification of telephony and was therefore subject to common carrier requirements.⁶⁴ One element of DSL common carriage required telephone companies to allow competing ISPs to access the telephone company's wires in order to provide Internet service to consumers.⁶⁵ Essentially, these independent ISPs were able to use privately-owned wires in a public manner due to the classification of DSL Internet as a Title II "telecommunications service."⁶⁶

Because the 2002 Cable Broadband Order classified cable modem service as Title I "information service" not subject to common carrier obligations, these independent ISPs did not have the de facto right to access cable lines in the same public manner as telephone lines. The independent ISPs petitioned for judicial review and ended up in the Ninth Circuit Court of Appeals via judicial lottery.⁶⁷ The Ninth Circuit vacated the portion of

60. 545 U.S. 967, 974 (2005).

61. *Id.*

62. *Id.*

63. *Id.* at 974.

64. *Id.*

65. *Id.*

66. *Id.*

67. *Id.* at 979. Judicial lottery is "a system of random selection to determine which court will review a Commission order when petitions for review are filed in multiple federal circuit courts of appeals." *Judicial Lottery Procedure*, FED. COMM'N COMM'N, <https://www.fcc.gov/general/judicial-lottery-procedure> [<https://perma.cc/N7FL-FYEX>].

the 2002 Order concluding that cable modem service was not a telecommunication service, holding that the FCC could not permissibly construe the Communications Act to exempt cable companies that act as ISPs from Title II regulation and common carrier obligations.⁶⁸ The FCC appealed, and the Supreme Court granted certiorari.⁶⁹

The Supreme Court overturned the Ninth Circuit decision for its improper analysis of the validity of the FCC's Order.⁷⁰ First, the Court determined that the Ninth Circuit erred in failing to apply the *Chevron* analysis for determining whether an agency's legal interpretation of a statute is valid to the 2002 Order.⁷¹ It then proceeded to apply a *Chevron* analysis to the Order, which requires a court faced with reviewing an agency's construction of a statute that agency administers to address two questions.⁷² First, a court must ask whether Congress has spoken to the precise question at issue, that is, whether the statute is ambiguous.⁷³ Second, if the statute is ambiguous, a court must ask whether the agency's answer to the question is based on a permissible construction of the statute.⁷⁴ The rationale behind this framework is that agencies are better positioned than courts to make the difficult policy determinations required to fill such statutory gaps.⁷⁵ If the statute is ambiguous and the agency's construction is reasonable, the court must defer to the agency.⁷⁶ In such a situation, a court may not use its own interpretation of the statute even if that interpretation differs from the

68. *Id.* The Ninth Circuit did not engage in *Chevron* analysis; instead, it based its decision on *AT&T Corp. v. Portland*, 216 F.3d 871 (9th Cir. 2000), a case which did not review an administrative proceeding, to which the FCC was not a party, and which held that cable modem service was a telecommunications service.

69. *Id.* at 980.

70. *Id.*

71. *Id.* at 982. The FCC has the authority, delegated by Congress, to "execute and enforce" the Communications Act. *Id.* at 969. The FCC also has the authority to "prescribe such rules and regulations as may be necessary in the public interest to carry out the provisions" of the Communications Act, which includes "promulgat[ing] binding legal rules." *Id.* at 981. The 2002 Order was an exercise of the FCC's authority and within the FCC's jurisdiction. *Id.* at 974. Therefore, in determining whether the FCC properly constructed the Communications Act, the Court must apply the *Chevron* framework, because "[a]gency inconsistency is not a basis for declining to analyze the agency's interpretation under the *Chevron* framework." *Id.* at 981.

72. *Id.* at 982.

73. *Id.* at 980.

74. *Id.* at 986.

75. *Id.* at 980.

76. *Id.*

agency's interpretation.⁷⁷ The Court held that the FCC's interpretation of the Act was "permissible at both steps."⁷⁸

The Court's holding was based on its analysis of the FCC's Declaratory Ruling, where FCC decided "whether cable companies providing cable modem service[s] are providing a 'telecommunications service' in addition to an 'information service.'"⁷⁹ The FCC concluded that cable modem service is an information service.⁸⁰ The FCC also concluded that cable modem service was not a telecommunications service under the definition provided in the Act.⁸¹ "[T]he question whether cable broadband Internet providers 'offer' telecommunications involved more than whether telecommunications was one necessary component of cable modem service."⁸² "Instead . . . 'offering' 'turn[ed] on the nature of the function the *end user* is offered," not the "particular type of facilities used."⁸³ The FCC concluded that cable modem service is not a telecommunications offering because the information-processing capabilities of Internet access cannot be separated from the high-speed wire used to access such offerings.⁸⁴ Therefore, "[t]he integrated character of this offering" leads to the conclusion that "cable modem service is not a 'stand-alone,' transparent offering of telecommunications."⁸⁵ The Court determined that this construction satisfied *Chevron's* first step.⁸⁶

Further, the FCC's construction was "a reasonable policy choice" under *Chevron's* second step.⁸⁷ The Court reasoned that "the [FCC] provided a reasoned explanation for treating cable modem service differently from DSL service."⁸⁸ It also noted that the FCC "is free within the limits of reasoned interpretation to change course if it adequately justifies the change," and it did.⁸⁹ There was nothing arbitrary about the FCC's new analysis of current Internet market condition.⁹⁰ The FCC conducted a thorough analysis that led to a reasoned conclusion upon which it based its

77. *Id.* at 980.

78. *Id.* at 986.

79. *Id.*

80. *Id.* at 987.

81. *Id.*

82. *Id.* at 988.

83. *Id.*

84. *Id.*

85. *Id.*

86. *Id.* at 989.

87. *Id.* at 997.

88. *Id.* at 1000-01.

89. *Id.* at 1001.

90. *Id.* at 1001-02.

deviation from the previous position it held in *Computer II*.⁹¹ Thus the Court held that the FCC's action in this case passed muster under *Chevron*. *Brand X* would lay the foundation for a series of cases that would both limit and define the FCC's power to regulate the Internet and to impose open Internet principles.

D. POST-*BRAND X* AND THE 2005 FCC INTERNET POLICY STATEMENT PRINCIPLES

Following the *Brand X* decision, the FCC reclassified DSL Internet from a telecommunications service to an information service.⁹² The FCC then classified wireless Internet as an information service,⁹³ essentially categorizing all broadband ISPs as information service providers not subject to common carrier regulation under Title II. The FCC left open the possibility of regulating broadband providers under Title I of the Act,⁹⁴ but the extent of its authority after reclassification was unclear.

In 2005, the FCC adopted four non-binding principles for the Appropriate Framework for Broadband Access to the Internet Over Wireline Facilities:

To encourage broadband deployment and preserve and promote the open and interconnected nature of the public Internet, consumers are entitled to[:]

- access the lawful Internet content of their choice.⁹⁵
- . . . run applications and use services of their choice, subject to the needs of law enforcement.⁹⁶
- . . . connect their choice of legal devices that do not harm the network.⁹⁷
- . . . competition among network providers, application and service providers, and content providers.⁹⁸

These principles, though still too broad to serve as an enforceable framework for net neutrality, represented the FCC's next step in creating a net neutrality regime after the policy statement released in 2004. The

91. *Id.*

92. Federal Communications Commission, FCC 05-150, *In re Appropriate Framework for Broadband Access to the Internet Over Wireline Facilities* (Sept. 23, 2005).

93. Federal Communications Commission, FCC 07-30, *In re Appropriate Regulatory Treatment for Broadband Access to the Internet Over Wireless Networks* (Mar. 23, 2007).

94. *Id.*

95. FCC Appropriate Framework for Broadband Access to the Internet Over Wireline Facilities Rule, 70 Fed. Reg. 60222 (Oct. 17, 2005).

96. *Id.*

97. *Id.*

98. *Id.*

principles demonstrated an early articulation of the non-blocking, non-throttling, and non-paid prioritization themes that appear in almost every attempt by the FCC to institute net neutrality. However, the FCC still struggled to ground its authority in judicially accepted administrative law, as seen in the 2010 *Comcast* decision.

E. *COMCAST V. FCC: IN WHICH THE THEORY OF ANCILLARY AUTHORITY FALLS FLAT*

In the 2010 case *Comcast v. FCC*, the D.C. Circuit held that the FCC had failed to justify its exercise of ancillary authority to regulate an ISP's network management practices.⁹⁹ In 2007, two non-profit advocacy groups accused Comcast of interfering with its subscribers' peer-to-peer networking applications in contravention of the FCC's Open Internet Principles.¹⁰⁰ Free Press and Public Knowledge filed a complaint against Comcast with the FCC arguing that the Open Internet Principles entitled consumers "to access the lawful Internet content of their choice . . . [and] to run applications and use services of their choice."¹⁰¹ The FCC issued an order censuring Comcast and declaring jurisdiction over ISP network management practices based on the ancillary jurisdiction given to it by the Communications Act.¹⁰² Comcast appealed the FCC's ruling that it had unlawfully impeded consumer access to lawful content and applications in contravention to open Internet policies.¹⁰³

The D.C. Circuit court applied the two-part *Library Associations*¹⁰⁴ test for ancillary authority: (1) whether the FCC's general jurisdictional grant under Title I covers the regulated subject; and (2) whether the regulations are reasonably ancillary to the FCC's effective performance of its statutorily mandated responsibilities.¹⁰⁵ While the court found that the FCC satisfied the first part of the test, its basis for authority to regulate Comcast's network management practices—a Congressional statement of policy and various provisions of the Communications Act—did not qualify as a "statutorily-mandated authority."¹⁰⁶ Thus Comcast ultimately prevailed, the *Comcast*

99. *Comcast Corp. v. FCC*, 600 F.3d 642 (D.C. Cir. 2010).

100. Peter Svensson, *Comcast Blocks Some Internet Traffic*, ASSOCIATED PRESS (Oct. 19, 2007), http://www.nbcnews.com/id/21376597/ns/technology_and_science-internet/t/comcast-blocks-some-internet-traffic [<https://perma.cc/8KRW-EWNE>].

101. *Comcast*, 600 F.3d at 644.

102. *Comcast Order*, 23 F.C.C.R. 13028 (2008).

103. *Comcast*, 600 F.3d at 642.

104. *Am. Library Ass'n v. FCC*, 406 F.3d 689 (D.C. Cir. 2005).

105. *Comcast*, 600 F.3d at 646.

106. *Id.* at 646, 661.

order was vacated, and the FCC was no longer able to rely on a theory of ancillary authority to enforce net neutrality principles. However, the FCC continued to develop and refine its vision of an open Internet, even in the face of administrative challenges.

F. 2010 FCC OPEN INTERNET ORDER

After the D.C. Circuit decided *Comcast*, the FCC released a new order regarding the regulation of the Internet.¹⁰⁷ The new open Internet order created two classes of Internet access: wired/fixed and wireless.¹⁰⁸ The wired net neutrality policies are stricter, whereas wireless has more leniencies. This is in part due to the still developing nature of wireless Internet access, and the FCC's policy of not burdening developing technologies with overregulation.¹⁰⁹ The three rules laid out in this order were: (1) transparency for both fixed and mobile broadband providers; (2) a no-blocking provision for both fixed and mobile broadband providers; and (3) an anti-discrimination rule for fixed providers, under which they could not unreasonably discriminate against lawful network traffic.¹¹⁰ Verizon mounted a challenge to these rules, which culminated in a D.C. Circuit decision that helped to clearly define the mechanisms of the FCC's authority to regulate the Internet.

G. *VERIZON V. FCC*

In 2014, the D.C. Circuit laid out a roadmap for administratively sound implementation and enforcement of net neutrality rules. The *Verizon* decision of 2014 clarified that while the FCC has broad powers under its § 706 authority, those powers do not include the authority to enforce common-carrier-style regulation on communications services that are categorically exempt from such regulation.¹¹¹ In *Verizon*, Verizon sued the FCC over the 2010 Open Internet Order, arguing that the order exceeded the FCC's statutory authority.¹¹² The D.C. Circuit ultimately held that the transparency principle could stand but vacated the anti-blocking and the anti-discrimination principles on the basis that they were per se common carrier regulations on "information services," which cannot be regulated as common carriers under the Communications Act.¹¹³

107. FED. COMM'CN COMM'N, FCC 10-201, *IN RE PRESERVING THE OPEN INTERNET*, SEC. III (Dec. 23, 2010) [hereinafter 2010 OPEN INTERNET ORDER].

108. *Id.*

109. 2010 OPEN INTERNET ORDER at 59199.

110. *Id.*

111. *Verizon Commc'ns, Inc. v. FCC*, 740 F.3d 623, 628 (D.C. Cir. 2014).

112. *Id.*

113. *Id.*

The court focused much of its analysis on the FCC's reliance on its statutory authority under § 706(a) of the Telecommunications Act:

[T]he Commission . . . shall encourage the deployment on a reasonable and timely basis of advanced telecommunications capability to all Americans . . . by utilizing, in a manner consistent with the public interest, convenience, and necessity, price cap regulation, regulatory forbearance, measures that promote competition in the local telecommunications market, or other regulating methods that remove barriers to infrastructure investment.¹¹⁴

Section 706(b) requires that the FCC conduct a regular inquiry regarding whether advanced telecommunications capability¹¹⁵ is available and being deployed to all Americans.¹¹⁶ If it is not, § 706(b) requires the FCC to “take immediate action to accelerate deployment of such capability by removing barriers to infrastructure investment and by promoting competition in the telecommunications market.”¹¹⁷ The court found that § 706 was not a statement of congressional policy, as suggested by Verizon, but rather a Congressional delegation of authority to the FCC to carry out the actions described in § 706.¹¹⁸ The FCC persuaded the court that the relationship between broadband providers and edge providers directly affects the deployment of advanced telecommunications capabilities to the American public and thus falls within the FCC's authority to regulate such a relationship in order to fulfill its obligations under § 706.¹¹⁹

However, the D.C. Circuit also acknowledged that the FCC's § 706 authority was not limitless; the power granted to the FCC under § 706 could not be used “in a manner that contravene[d] any specific prohibition contained in the Communications Act.”¹²⁰ The court held that “the [FCC] would violate the Communications Act were it to regulate broadband providers as common carriers,” in light of the FCC's “still-binding decision to classify broadband providers” as information services and not telecommunication services.¹²¹ Since the two classifications remain mutually exclusive, the court concluded that the FCC could not on one hand classify a service as an information service and, on the other hand, impose common

114. 47 U.S.C. § 1302(b) (2012).

115. “Advanced telecommunications” includes broadband Internet.

116. 47 U.S.C. § 1302(b) (2012).

117. 47 U.S.C. § 706(b).

118. *Verizon*, 740 F.3d at 637–38.

119. *Id.* at 641.

120. *Id.* at 649.

121. *Id.* at 650.

carrier obligations designed for a telecommunication service.¹²² The court rejected the FCC's argument that the Open Internet Order's requirements of non-discrimination and no-blocking were not per se common carrier obligations.¹²³ These requirements left no room for "individualized bargaining"¹²⁴ and therefore were common carriage requirements.¹²⁵

The *Verizon* decision was vital to the development of the FCC's current net neutrality regime. Essentially, the D.C. Circuit laid out a roadmap for the FCC of the steps necessary to create a legally and administratively sound and enforceable net neutrality regime. The FCC took the court's message to heart when it began work on issuing notice of proposed rulemaking, which culminated in the groundbreaking 2015 Open Internet Order.

III. 2015 OPEN INTERNET ORDER

The 2015 Open Internet Order ("Order") is arguably the strongest net neutrality rulemaking in FCC history. In it, the FCC reclassified the Internet in order to be able to enforce the Title II common carrier provisions of non-discrimination and no-blocking.¹²⁶ The Order also thoroughly analyzed the FCC's ability to rely on other theories of regulation, such as its forbearance authority and its authority under § 706.¹²⁷

In May of 2014, the FCC released a Notice of Proposed Rule Making (NPRM) positing the fundamental question: "What is the right public policy to ensure that the Internet remains open?"¹²⁸ The NPRM aimed to "enhance the transparency rule, and follow the *Verizon* court's blueprint by relying on [§] 706 to adopt a no-blocking rule and a requirement that broadband providers engage in 'commercially reasonable' practices."¹²⁹ The NPRM also queried whether the FCC "should adopt other bright-line rules or different standards using other sources of [FCC] authority, including Title II."¹³⁰ Finally, the FCC asked, "if Title II were to apply . . . how [should the FCC] exercise its authority to forbear from Title II obligations" and whether mobile services should also fall under Title II classification.¹³¹

122. *Id.* at 628.

123. *Id.*

124. *Cellco P'ship v. FCC*, 700 F.3d 534, 548 (D.C. Cir. 2012).

125. *Verizon*, 740 F.3d at 658.

126. 2015 OPEN INTERNET ORDER.

127. *Id.*

128. Federal Communications Commission, FCC 14-61, *In re Protecting and Promoting the Open Internet*, 29 FCC Rcd at 5562, ¶ 2 (proposed May 15, 2014).

129. 2015 OPEN INTERNET ORDER ¶ 10.

130. *Id.*

131. *Id.*

The response to the NPRM was overwhelming, with an unprecedented nearly four million comments submitted during the comment period.¹³²

A. SUMMARY OF ORDER

In answering the fundamental question of the 2014 Open Internet NPRM, three overarching objectives guided the FCC: “America needs more broadband, better broadband, and open broadband networks.”¹³³ According to the Order, an open Internet is important because it “drives the American economy and serves every day as a critical tool for America’s citizens to conduct commerce, communicate, educate, entertain, and engage in the world around them.”¹³⁴ The Internet must remain open for commerce, innovation, speech, consumers, innovation by application developers and content companies, expansion, and investment by broadband providers.¹³⁵ “[C]arefully-tailored rules to protect Internet openness will allow investment and innovation to continue to flourish.”¹³⁶ The Order adopts rules to prevent harmful practices (specifically blocking, throttling, and paid prioritization), an enhanced transparency rule, and “a strong standard of conduct designed to prevent the deployment of new practices that would harm Internet openness.”¹³⁷ The Order also adopts a twenty-first century Title II regime “consistent with the ‘light-touch’ regulatory framework that has facilitated the tremendous investment and innovation on the Internet.”¹³⁸ By reclassifying the Internet as a Title II communications service, the FCC may regulate the Internet in a way that was impermissible when the Internet was classified as an “information service” under Title I, because it can impose common-carrier-style regulations (e.g., anti-discrimination and no-blocking principles).¹³⁹

In the Open Internet Order, the FCC stated that a net neutrality regime is necessary in order to uphold the principles of an open Internet because broadband providers are economically incentivized to, and actually capable of, limiting Internet openness.¹⁴⁰ In order to prevent providers from limiting openness, the FCC decided to promulgate strong rules to protect

132. *Id.* ¶ 13.

133. *Id.* ¶ 11.

134. *Id.* ¶ 1.

135. *Id.*

136. *Id.* ¶ 4.

137. *Id.*

138. *Id.* ¶ 5.

139. *See, e.g., Verizon Commc’ns, Inc. v. FCC*, 740 F.3d 623, 630–31 (D.C. Cir. 2014).

140. 2015 OPEN INTERNET ORDER ¶ 86.

consumers. These rules are clear, bright lines to guide industry and users.¹⁴¹ They prohibit unreasonable interference with Internet conduct and include transparency requirements to ensure openness.¹⁴²

B. SUBSEQUENT LITIGATION

Almost immediately after the official release of the Order,¹⁴³ the United States Telecommunications Association¹⁴⁴ petitioned the D.C. Circuit to review the Order on the grounds that it was “arbitrary, capricious, and an abuse of discretion within the meaning of the [APA]; violates federal law, including, but not limited to, the Constitution, the Communications Act of 1934 . . . and FCC regulations promulgated thereunder; conflicts with the notice-and-comment rulemaking requirements of 5 U.S.C. § 553; and is otherwise contrary to law.”¹⁴⁵

The D.C. Circuit heard oral arguments for this and the consolidated cases on December 4, 2015.¹⁴⁶ The major challenges to the Order are: (1) the FCC lacked statutory authority to reclassify broadband as a telecommunications service; (2) the FCC lacked authority to reclassify mobile broadband as a commercial mobile service or its functional equivalent; (3) the FCC’s Open Internet Rules violate the First Amendment; and (4) the FCC did not go far enough in regulating broadband providers, and improperly forbore from certain provisions of Title II.¹⁴⁷

141. *Id.*

142. *Id.*

143. The Order was released March 12, 2015; USTelecom filed its petition for review 11 days later on March 23, 2015. The USTelecom case became the umbrella under which other challenges to the FCC’s Order were consolidated. Other petitioning parties include Alamo Broadband, Inc.; Telecommunications Industry Association; Full Service Network; Sage Telecommunications LLC, Telescape Communications, Inc.; Truconnect Mobile; CTIA; The Wireless Association; American Cable Association; Daniel Berninger; Wireless Internet Service Providers Assoc.; the National Cable & Telecom Association; and AT&T, Inc.

144. USTelecom is a representative trade association for the telecommunications industry. Self-published information about the organization can be found at www.ustelecom.org.

145. *USTelecom v. FCC* (15-1063), Protective Petition for Review (Mar. 23, 2015).

146. *Id.*

147. *Id.*

IV. THE 2015 ORDER SHOULD BE UPHELD UNDER STARE DECISIS AND THE *CHEVRON* DOCTRINE

The Order will likely survive the telecommunication industry's challenge to the FCC's authority to reclassify broadband Internet as a telecommunications service instead of an information service. According to the *Verizon* court, which will also be deciding the current challenge to the Order, the classification of broadband Internet as an information service was the primary roadblock to the FCC's ability to enforce the net neutrality provisions of no-blocking and non-discrimination because these provisions were de facto common carrier regulations.¹⁴⁸ If the *USTelecom* court finds that the FCC has the authority to reclassify broadband Internet as a telecommunications service subject to Title II common carrier regulations, it is likely that the 2015 Order will survive the current challenge and that the FCC's current net neutrality regime will remain intact. Based on the holdings in *Brand X* and *Verizon*, it is likely that the FCC does in fact have the authority to reclassify the Internet as a telecommunications service and therefore to enforce its net neutrality Order.

A. THE ORDER SURVIVES UNDER *BRAND X* ANALYSIS

The D.C. Circuit will likely rely heavily on *Chevron* and *Brand X* in its analysis of the 2015 Order. Like this case, *Brand X* dealt with the question of the FCC's authority to classify broadband Internet service as either a telecommunications service or an information service.¹⁴⁹ The *Brand X* decision guides the court to apply *Chevron* to the question of the FCC's construction of the Act.¹⁵⁰ First, the Order will likely survive a challenge that it was an invalid legal interpretation of the Act under *Chevron*. As to the first step in *Chevron*, the *Brand X* Court found that Congress had not spoken to the precise question at issue because the Act did not explicitly instruct how to categorize communication services, therefore delegating such interpretive power to the FCC.¹⁵¹ As to the second step in *Chevron*, the *Brand X* Court also found that the FCC's answer to the question of how to classify the Internet was legally justified.¹⁵² Given that both *Brand X* and the current challenge deal with the FCC's construction of the terms "information service" and "telecommunications service" in the Act, the D.C. Circuit is likely to similarly conclude that the 2015 Order is a valid legal

148. *Verizon Commc'ns, Inc. v. FCC*, 740 F.3d 623, 628 (D.C. Cir. 2014).

149. *Nat'l Cable & Telecomm. Ass'n v. Brand X Internet Servs.*, 545 U.S. 967, 975 (2005).

150. *Id.* at 980.

151. *Id.* at 980–81.

152. *Id.* at 986.

interpretation of the Act. Second, the Order will likely survive a challenge that the FCC's policy determinations in the Order were arbitrary and capricious under APA § 706(2)(A) given the diligence with which the FCC prepared its Order.

1. *Chevron Analysis*

In *Brand X*, the Court determined that *Chevron* was the appropriate framework to analyze the FCC's interpretation of the term "telecommunications service" in the Act.¹⁵³ The Court held that *Chevron* applied to the FCC's construction of the Act because Congress had delegated the authority to "execute and enforce" the Act to the FCC and to "prescribe such rules and regulations as may be necessary in the public interest to carry out the provisions" of the Act.¹⁵⁴ Because the current challenge also deals with the construction of the term "telecommunications service" within the Act, it follows that the D.C. Circuit will apply the *Chevron* framework to its analysis of the 2015 Open Internet Order.

The *Chevron* test requires the court to first determine whether Congress spoke to the specific issue at controversy.¹⁵⁵ Then, if Congress did not, the court must determine whether the FCC's answer to the question was a reasonable policy choice for it to make.¹⁵⁶ If the court determines that the FCC's decisions embodied in the Order were based on a permissible construction of the statute, the court will defer to those decisions.

As in *Brand X*, the court will likely find that the FCC's interpretation is permissible under both steps of the *Chevron* framework.¹⁵⁷ The *Brand X* court, in analyzing the Act's definitions of "telecommunications service" and "information services" found that the Act "fails unambiguously to classify" whether certain facilities offer telecommunications or information services¹⁵⁸ and that the "silence suggests . . . that the [FCC] has the discretion to fill the consequent statutory gap."¹⁵⁹ It is likely that the D.C. Circuit will follow the *Brand X* Court's analysis in addressing whether the FCC has the authority to interpret the Act under the first step of *Chevron*. Similarly, the D.C. Circuit will likely determine that the FCC does in fact have such authority.

153. *Id.* at 980.

154. *Id.* at 980 (citing the Communications Act §151).

155. *Chevron U.S.A., Inc., v. Natural Res. Def. Council*, 467 U.S. 837, 843 (1984).

156. *Id.* at 845.

157. *Brand X*, 545 U.S. at 986.

158. *Id.* at 996–97.

159. *Id.* at 997.

Under *Chevron*'s second and final step, the court must determine whether the FCC's policy answer to the question at hand reflected a reasonable construction of the Act.¹⁶⁰ Again, and as in *Brand X*, it is likely that the D.C. Circuit will find that the FCC's classification of broadband Internet as a telecommunications service is a reasonable construction of the statute. Further, the court is unlikely to find that the FCC's reclassification was an unreasonable policy choice, given the FCC's thorough research, its development of a modern Title II framework designed to protect both Internet users and ISPs, and the overwhelming number of pro-neutrality comments in response to the 2015 Open Internet NPRM.

2. *Arbitrary and Capricious Analysis*

Further, the D.C. Circuit will likely hold that, given the diligence and reasoning that went into the 2015 Order, the FCC's construction of the Act was neither arbitrary nor capricious. The *Brand X* Court held that "the [FCC] is free within the limits of reasoned interpretation to change course if it adequately justifies the change."¹⁶¹ Because the FCC has provided, via its 2015 Open Internet Order, a "reasoned explanation" for reclassifying broadband Internet as a telecommunications service, the D.C. Circuit will likely defer to the FCC. With the *Brand X* and *Chevron* analysis satisfied, the court will likely look to its prior *Verizon* decision to ensure that the FCC followed the *Verizon* roadmap.

B. *VERIZON* COURT ANALYSIS

The *Verizon* court was generally amenable to the Open Internet Principles but found that the FCC could not impose common carrier regulations on a communications service that the FCC itself had specifically classified as exempt from such common carrier regulations.¹⁶² Because the FCC has appropriately reclassified broadband Internet as a telecommunications service subject to common carrier regulation, the D.C. Circuit's concerns in *Verizon* will have been satisfied and should no longer impede the FCC's ability to enforce its Open Internet Order.¹⁶³

The *Verizon* court held that "the [FCC] would violate the Communications Act were it to regulate broadband providers as common carriers," in light of the FCC's "still-binding decision to classify broadband providers" as information services and not telecommunication services.¹⁶⁴

160. *Chevron*, 467 U.S. at 855.

161. *Brand X*, 545 U.S. at 1001.

162. *Verizon*, 740 F.3d at 628.

163. *See id.*

164. *Id.* at 650.

Since the two classifications remain mutually exclusive, the court concluded that the FCC could not classify a service as an information service with one hand and impose common carrier obligations designed for a telecommunication service with the other.¹⁶⁵

But the *Verizon* court did not reject the Open Internet principles on substantive grounds. Rather, it determined that, given the FCC's construction of the Communications Act, the FCC did not have the authority to impose or enforce such principles.¹⁶⁶ Because the FCC adhered to the roadmap set out in the *Verizon* decision by reclassifying broadband Internet as a telecommunication service, it is likely that the *Verizon* court would accept the FCC's new construction of the Act and agree that the FCC now has the authority to impose and enforce its Open Internet principles.

V. CONCLUSION

The 2015 Open Internet Order will likely overcome judicial scrutiny because the FCC laid sufficient foundational groundwork in the Order to both overcome the *Chevron* analysis and avoid being found to have acted in an arbitrary and capricious manner under the Administrative Procedure Act. While the Order will be vigorously challenged by net neutrality opponents, and while no one can predict with certainty the outcome of such challenges, the fact that the Order is so well supported by proper adherence to the APA offers a measure of security and certainty for Internet users and businesses that trade in or rely on Internet services. Regardless of the outcome, everyone who is affected by the Internet will benefit from clear and enforced rules. If the current Order stands, end-users and consumers will receive the benefit of certainty as well as the protection of anti-discrimination, anti-blocking, anti-throttling Internet principles, making the Internet more free and users less affected by the business decisions of Internet gate-keepers.

165. *Id.* at 628.

166. *Id.*

REGULATING PERSONALIZED MEDICINE

Sarah Y. Kwon[†]

In this time of exceptional scientific and technological breakthroughs, health care is in a historic transition towards personalized medicine.¹ Personalized medicine, or precision medicine, is an emerging health care model for disease treatment and prevention strategies that takes into account each person's genetic variations, environment, and lifestyle.² Advances in genetic testing allow diagnosis of diseases,³ identify risk of genetic transmission of diseases,⁴ assess future risk of disease,⁵ and help target treatments.⁶ Today, a single laboratory can sequence an entire human genome in about twenty-four hours for just a few thousand dollars—making routine genomic profiling a near-reality.⁷ Drawing on this momentum, President Obama announced his Precision Medicine Initiative during the 2015 State of the Union address,⁸ energizing both public and private efforts to usher in personalized medicine.

The success of personalized medicine hinges on diagnostic tests involving key innovations such as genomic sequencing technologies.⁹ Such innovative diagnostic tests, however, also pose both potentially greater risks

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1. See PERSONALIZED MEDICINE COAL., *THE CASE FOR PERSONALIZED MEDICINE* 3–5 (4th ed. 2014).

2. Nat'l Insts. of Health, *Precision Medicine*, GENETICS HOME REFERENCE (Jan. 11, 2016), <http://ghr.nlm.nih.gov/handbook/precisionmedicine?show=all> [<https://perma.cc/8T9B-UHXA>].

3. See, e.g., *Testing for CF*, CYSTIC FIBROSIS FOUND., <https://www.cff.org/What-is-CF/Testing> [<https://perma.cc/N5RP-KU4S>].

4. See, e.g., *Learning About Tay-Sachs Disease*, NAT'L HUM. GENOME RES. INST. (Mar. 17, 2011), <https://www.genome.gov/10001220> [<https://perma.cc/3RXC-NQDW>].

5. PERSONALIZED MEDICINE COAL., *supra* note 1, at 8.

6. Margaret A. Hamburg & Francis S. Collins, *The Path to Personalized Medicine*, 363 *NEW ENG. J. MED.* 301, 301 (2010).

7. Francis S. Collins & Margaret A. Hamburg, *First FDA Authorization for Next-Generation Sequencer*, 369 *N. ENGL. J. MED.* 2369, 2369 (2013).

8. *The Precision Medicine Initiative*, WHITE HOUSE, <https://www.whitehouse.gov/precision-medicine> [<https://perma.cc/D338-4TWP>].

9. See Hamburg & Collins, *supra* note 6, at 302.

to patients and new regulatory challenges.¹⁰ Rapid advances in genomic sequencing technologies not only strain the U.S. Food and Drug Administration's (FDA) present regulatory framework, but also cast doubt on the agency's regulatory role in this new clinical landscape.

Recognizing the promise and challenge of personalized medicine, FDA is currently finding its regulatory foothold during this transition in the practice of medicine.¹¹ After decades of non-enforcement, the agency recently announced its plan to actively regulate diagnostic tests developed and used by laboratories ("laboratory-developed tests" or LDTs).¹² FDA's efforts to keep pace with these technological advances have been met with heated opposition from various stakeholders who challenge FDA's authority to regulate LDTs.¹³ The success of FDA's efforts will thus depend on its ability to adeptly modernize its regulatory framework to ensure that clinicians and patients can safely rely on increasingly complex and prevalent diagnostic tests without barring access to innovation.¹⁴

Part I of this Note provides a brief overview of the science and technology behind DNA sequencing technologies and diagnostic tests and compares the traditional health care model with the emerging field of personalized medicine. Part II introduces current federal regulatory oversight of diagnostic tests. Part III discusses the challenges in adapting regulatory oversight to today's diagnostics landscape. Specifically, FDA must first address regulatory gaps before it can begin to regulate diagnostic tests vital to the success of personalized medicine. Part IV analyzes the legal viability of FDA's attempts to fill in the regulatory gaps regarding diagnostics. In particular, Part IV considers FDA's statutory authority over LDTs, the practice of medicine limitation, potential pre-emption by the Clinical Laboratory Improvement Amendments (CLIA), and undesirable consequences of FDA oversight of LDTs.

10. See generally Eric S. Lander, *Cutting the Gordian Helix—Regulating Genomic Testing in the Era of Precision Medicine*, 372 N. ENGL. J. MED. 1185 (2015).

11. See *Continuing America's Leadership: Realizing the Promise of Precision Medicine for Patients: Hearing Before the Comm. on Health, Ed., Labor & Pensions*, 114th Cong. 3–4 (2015) (statement of Jeffrey Shuren, Director of Ctr. for Devices and Radiological Health, U.S. Food & Drug Admin.).

12. See U.S. Food & Drug Admin., Draft Guidance For Industry, Clinical Laboratories, And FDA Staff: Framework for Regulatory Oversight of Laboratory Developed Tests (LDTs) 5 (Oct. 3, 2014), <http://www.fda.gov/downloads/medical-devices/deviceregulationandguidance/guidancedocuments/ucm416685.pdf> [<https://perma.cc/ZX68-4S3X>] [hereinafter LDT Draft Guidance].

13. See *infra* Part IV.

14. See *id.*

I. THE SCIENCE OF PERSONALIZED MEDICINE

Rapid advancements in the field of genomics have enabled scientists to develop tests to assess an individual's risk of developing a wide range of diseases. The advent of these increasingly sophisticated diagnostics continues to disrupt the traditional health care model, thus making way for personalized medicine.

A. GENETICS

Deoxyribonucleic acid (DNA) is the blueprint of our genetic makeup, or genome.¹⁵ A gene is a segment of DNA that encodes a specific protein or trait.¹⁶ DNA coding is made up of four chemical bases: adenine, guanine, cytosine, and thymine.¹⁷ DNA bases pair with each other in a zipper-like double helix structure.¹⁸ The human genome consists of three billion base pairs, ninety-nine percent of which are the same in all people.¹⁹ Except for rare somatic mutations,²⁰ an individual's genome sequence does not change.²¹

Inheritable, or "Mendelian," disorders such as cystic fibrosis and Huntington's disease can be caused by a single genetic mutation.²² These diseases are generally highly penetrant, meaning the mutation highly correlates with disease risk.²³ Other common diseases such as cancer and diabetes are much more complex and much less penetrant; they are likely associated with the interplay of numerous genetic and environmental factors and are thus more difficult to predict.²⁴

15. *Deoxyribonucleic Acid (DNA) Fact Sheet*, NAT'L HUMAN GENOME RES. INST. (June 16, 2015), <https://www.genome.gov/25520880> [<https://perma.cc/7TYV-TJ55>].

16. *Id.*

17. *Id.*

18. *Id.*

19. *What is DNA?*, NAT'L INSTS. OF HEALTH (Mar. 7, 2016), <http://ghr.nlm.nih.gov/handbook/basics/dna> [<https://perma.cc/J7ZE-N6N9>].

20. Somatic mutations are non-inherited genetic mutations. They are frequently caused by environmental factors such as ultraviolet radiation exposure. *See Somatic Mutation*, NAT'L INSTS. OF HEALTH (Mar. 7, 2016), <http://ghr.nlm.nih.gov/glossary=somaticmutation> [<https://perma.cc/57DD-T8WZ>].

21. *See* Williams E. Evans & Howard L. McLeod, *Pharmacogenomics—Drug Disposition, Drug Targets, and Side Effects*, 348 N. ENGL. J. MED. 538, 546 (2003).

22. *See* Wenfei Jin et al., *A Systematic Characterization of Genes Underlying Both Complex and Mendelian Diseases*, 21 HUM. MOLECULAR GENETICS 1611, 1611 (2012).

23. *See* Kari Hemminki et al., *The Balance Between Heritable and Environmental Aetiology of Human Disease*, 7 NATURE 958, 958 (2006).

24. Jin, *supra* note 22.

B. DIAGNOSTIC TESTS

In vitro molecular diagnostic tests are laboratory procedures used to detect and analyze genetic sequences and other biomarkers in collected patient samples.²⁵ Diagnostics play an increasingly important role in the practice of medicine, impacting as high as seventy percent of health care decision making.²⁶ Notably, genetic testing is likely the fastest growing field in diagnostics.²⁷ DNA sequencing provides information that can reveal underlying genetic causes of diseases, in turn enabling the development of increasingly sophisticated diagnostic tests.²⁸ While early genetic tests were developed to detect rare, relatively straightforward single-gene variations highly correlated with a specific disease (i.e. “Mendelian” diseases), today’s genetic tests examine more common, complex diseases by detecting multiple, often novel genes.²⁹

In particular, next generation sequencing (NGS) is widely expected to transform the nature of genetic testing.³⁰ NGS generally refers to new high-throughput technologies that generate millions of sequences simultaneously for whole-genomic analysis from a single sample.³¹ Whole-genome sequencing technology promises to have a striking impact on genomic research and clinical diagnostics by “allow[ing] any lab to test any sequence for any purpose.”³² Because a single NGS test can generate a vast amount of genetic information, high-power computational analysis is a crucial aspect of NGS technology.³³

25. See KEWAL K. JAIN, TEXTBOOK OF PERSONALIZED MEDICINE 91–96 (2d. ed. 2015) (ebook).

26. *Id.* at 35.

27. Douglas A. Grimm, FDA, CLIA, or a “Reasonable Combination of Both”: Toward Increased Regulatory Oversight of Genetic Testing, 41 U.S.F. L. REV. 107, 107 (2006).

28. See U.S. FOOD & DRUG ADMIN., PAVING THE WAY FOR PERSONALIZED MEDICINE 30 (2013) (“Volumes of information arising out of the human genome project combined with a dramatic decrease in costs of DNA sequencing . . . are giving way to an explosion of publications linking particular genetic markers to diseases or conditions and a rapid application of this information in the development of new molecular diagnostic tests.”).

29. Michael M. Hopkins & Paul Nightingale, The Economic Dynamics of Modern Biotechnology 142 (Maureen D. McKelvey et al. eds., 2004).

30. See Gail H. Javitt & Katherine Strong Carner, *Regulation of Next Generation Sequencing*, 42 J.L. MED. & ETHICS 9, 9 (2014).

31. Ayman Grada & Kate Weinbrecht, *Next-Generation Sequencing: Methodology and Application*, 133 J. INVESTIGATIVE DERMATOLOGY 1, 1 (2013).

32. See Collins & Hamburg, *supra* note 7, at 2371.

33. See Jun Zhang et al., *The Impact of Next-Generation on Genomics*, 38 J. GENETICS & GENOMICS 95, 100–01 (2011) (“The benefits of NGS sequencing will not be fully

Though it has had little clinical impact so far, NGS is now transitioning from laboratory research to clinical use.³⁴ With significantly higher throughput and dramatically lower costs, the technology has advanced to the point of the near-widespread availability.³⁵ By offering an efficient, cost-effective means of identifying a wide range of genetic variants within a single test, NGS technologies will be a cornerstone in the success of personalized medicine.³⁶

C. HEALTH CARE MODELS

Health care is traditionally performed by a “one-size-fits-all” approach, whereby diagnosis and treatment selections are based on broad population averages.³⁷ In other words, a physician traditionally attributes a set of symptoms to a generally associated disease. Physical symptoms, however, can mask a whole range of causes.³⁸ As a result, a doctor must prescribe various medications and treatments associated with a disease in a trial-and-error manner without particular specificity to the underlying cause.³⁹

Personalized medicine, on the other hand, allows for “the right drug at the right dose at the right time.”⁴⁰ For example, pharmacogenomics—perhaps the most emblematic field in personalized medicine—uses genomic information to study an individual’s response to drugs.⁴¹ Different genetic mutations can cause a disease that, despite similar symptoms, responds to different treatments.⁴² Genetic tests can uncover the mutations underlying a disease, enabling physicians to deliver the most effective treatment strategy and thus potentially sparing patients unnecessary expenses and

appreciated until extremely high-performance computing and intensive bioinformatics support is available. The information accrued by NGS may lead to a paradigm shift in the way that genetics and bioinformatics converge.”).

34. See Jason M. Rizzo & Michael J. Buck, *Key Principles and Clinical Applications of “Next-Generation” DNA Sequencing*, 5 *CANCER PREVENTION RES.* 887, 990 (2012).

35. See Turna Ray, *With \$999 Whole-Genome Sequencing Service, Veritas Embarks on Goal to Democratize DNA Information*, *GENOMEWEB* (Mar. 6, 2016), <https://www.genomeweb.com/sequencing-technology/999-whole-genome-sequencing-service-veritas-embarks-goal-democratize-dna> [<https://perma.cc/ZBS4-XP72>].

36. See Leslie G. Biesecker & Robert C. Green, *Diagnostic Clinical Genome and Exome Sequencing*, 370 *N. ENGL. J. MED.* 2418, 2418 (2014).

37. Nat’l Insts. of Health, *supra* note 2.

38. See Evans & McLeod, *supra* note 21, at 538.

39. See *id.*

40. Hamburg & Collins, *supra* note 6.

41. *What is Pharmacogenomics?*, *NAT’L INSTS. OF HEALTH* (Mar. 7, 2016), <https://ghr.nlm.nih.gov/handbook/genomicresearch/pharmacogenomics> [<https://perma.cc/AJ7X-J2M9>].

42. Evans & McLeod, *supra* note 21, at 538.

adverse side effects.⁴³ Because of their profound impact on the health care model, DNA sequencing diagnostics play a fundamental role in personalized medicine.⁴⁴ Furthermore, personalized medicine has a more preventive focus as compared to the traditional health care model, which essentially reacts to the onset of disease.⁴⁵ As a result, physicians increasingly rely on genetic test results in making crucial treatment decisions.

II. CURRENT FEDERAL REGULATORY OVERSIGHT OF DIAGNOSTIC TESTS

Two federal regulatory agencies currently oversee diagnostic tests: FDA and the Centers for Medicare and Medicaid Services (CMS). Both agencies differ significantly in the frameworks used to regulate these tests.

A. FDA REGULATION

FDA is responsible for protecting and promoting public health by assuring “the safety, effectiveness, [and] quality”⁴⁶ of medical drugs and devices. Congress continues to modify FDA’s statutory authority to help safeguard public health as technologies become more complex and prevalent.⁴⁷ Accordingly, FDA’s role has shifted from that of a mere policeman of fraudulent medical products to a powerful gatekeeper of medical products.

1. *History of FDA’s Authority over Medical Devices*

In 1938, the Federal Food, Drug, and Cosmetic Act (FDCA) authorized FDA to regulate medical devices for the first time.⁴⁸ Under the FDCA, Congress authorized FDA to regulate any medical device

43. See PERSONALIZED MEDICINE COAL., *supra* note 1, at 4 (“The genotyping of drug-metabolizing enzymes has produced improved dosing of drugs for conditions as wide-ranging as depression and anxiety, coronary and peripheral artery disease, inflammatory bowel disease, and cancer.”).

44. JAIN, *supra* note 25, at 17.

45. See Leroy Hood & Stephen H. Friend, *Predictive, Personalized, Preventive, Participatory (P4) Cancer Medicine*, 8 NATURE 184, 184 (2011).

46. *FDA Fundamentals*, U.S. FOOD & DRUG ADMIN., <http://www.fda.gov/AboutFDA/Transparency/Basics/ucm192695.htm> [<https://perma.cc/MLK8-VRXY>].

47. See Carol Rados, *Medical Device and Radiological Health Regulations Come of Age*, U.S. FOOD & DRUG ADMIN. (Oct. 7, 2010), <http://www.fda.gov/aboutfda/whatwedo/history/productregulation/medicaldeviceandradiologicalhealthregulationscomeofage/default.htm> [<https://perma.cc/EQW6-5TR9>].

48. *Id.*

introduced into interstate commerce.⁴⁹ FDA's enforcement power, however, was still limited to policing fraudulent devices via post-market regulation.⁵⁰

Congress addressed this regulatory gap by passing the Medical Device Amendments of 1976 (MDA). By the mid-1960s, medical devices had grown increasingly more sophisticated and complex.⁵¹ Reports of faulty devices such as pacemaker failures and problems with intrauterine devices, which caused 10,000 injuries including 731 deaths,⁵² incentivized efforts to strengthen regulation of medical devices. Congress thus passed MDA, fundamentally altering the way medical devices entered the market. MDA granted FDA authority to regulate medical devices the same way it regulated drugs—through pre-market approval to ensure the safety and efficacy of medical devices.⁵³

2. FDA's Regulation of *in Vitro* Diagnostic Tests

FDA regulates *in vitro* diagnostic tests (IVDs) as a subset of medical devices. The FDCA defines “medical device” broadly. Generally, FDA considers as medical devices “any health care product that does not achieve its principal intended purposes by chemical action in or on the body.”⁵⁴ Three regulatory classes—Classes I, II, and III—determine the level of oversight of devices based on their intended use and the degree of risk they pose to the public.⁵⁵ Class I includes low-risk devices and Class III includes high-risk devices.⁵⁶ Class I devices are generally exempt from pre-market

49. See 21 U.S.C. § 331(a) (2012) (prohibiting “[t]he introduction or delivery for introduction into interstate commerce of any food, drug, device, or cosmetic that is adulterated or misbranded”).

50. Rados, *supra* note 47.

51. *See id.*

52. S. REP. NO. 94-33, at 6 (1975).

53. *See id.*

54. Grimm, *supra* note 27, at 118–19.

55. *Classify Your Medical Device*, U.S. FOOD & DRUG ADMIN., <http://www.fda.gov/MedicalDevices/DeviceRegulationandGuidance/Overview/ClassifyYourDevice> [<https://perma.cc/P4TB-3B5V>] (“The class to which your device is assigned determines, among other things, the type of premarketing submission/application required for FDA clearance to market Device classification depends on the *intended use* of the device and also upon *indications for use* In addition, classification is risk based, that is, the risk the device poses to the patients and/or the user is a major factor in the class it is assigned.”).

56. *Id.*

approval; class III devices generally require more stringent pre-market approval before marketing.⁵⁷

The FDCA defines IVDs as “an instrument, apparatus, implement, machine, contrivance, implant, in vitro reagent, or other similar or related article, including a component part, or accessory which is . . . *intended for use* in the diagnosis of disease or other conditions, or in the cure, mitigation, treatment, or prevention of disease.”⁵⁸ FDA further defines IVDs as “those reagents, instruments, and systems intended for use in the diagnosis of disease or other conditions, including a determination of the state of health, in order to cure, mitigate, treat, or prevent disease.”⁵⁹

FDA’s pre-market approval of IVDs involves both analytical and clinical validation.⁶⁰ Analytical validation is assessed by the test’s laboratory performance characteristics based on its ability to detect a known sample whose detection has a known intended use.⁶¹ In other words, FDA ensures that the test accurately identifies the sample. Clinical validation is assessed by evidence linking a particular variant to a specific disease or clinical action.⁶² In other words, FDA ensures that the test results correctly identify a patient’s relevant disease or condition.

B. CMS REGULATION

CMS currently regulates clinical laboratories under the Clinical Laboratory Improvement Amendments of 1988 (CLIA).⁶³ Congress passed CLIA’s 1988 amendments to unify the previous patchwork of inconsistent regulation of laboratories under a single, strengthened regulatory mechanism.⁶⁴ CLIA regulations ensure the reliability and accuracy of laboratory test results by “establish[ing] quality standards for laboratory testing performed on specimens from humans . . . for the purpose of

57. *Id.*; *Class III Exemptions*, U.S. FOOD & DRUG ADMIN., <http://www.fda.gov/MedicalDevices/DeviceRegulationandGuidance/Overview/ClassifyYourDevice/ucm051549.htm> [<https://perma.cc/CKH6-NZQ8>].

58. 21 U.S.C. § 321(h)(2) (2012) (emphasis added).

59. In Vitro Diagnostic Products for Human Use, 21 C.F.R. § 809.3(a) (2015).

60. *CLIA Overview*, CMS, LDT AND CLIA FAQs (Oct. 22, 2013), https://www.cms.gov/regulations-and-guidance/legislation/clia/downloads/ldt-and-clia_faqs.pdf [<https://perma.cc/4XWU-9KS6>].

61. *Id.*

62. *Id.*

63. PETER M. KAZON, *Laboratory Developed Tests*, IN VITRO DIAGNOSTICS: THE COMPLETE REGULATORY GUIDE 115, 115 (Scott D. Danzis & Ellen J. Flannery eds., 2010).

64. *See* S. REP. NO. 100-561, at 3 (1988); H.R. REP. NO. 100-899, at 12 (1988).

diagnosis, prevention, or treatment of disease, or assessment of health.”⁶⁵ These standards focus on the overall operation of the laboratory by assessing training of lab personnel, proficiency testing, and quality control systems.⁶⁶ Diagnostic tests are considered high complexity tests and therefore clinical laboratories performing such tests are subject to stringent CLIA requirements.⁶⁷

While CLIA ensures analytical validity of diagnostic tests performed by a specific laboratory, it does not address clinical validity.⁶⁸ Ultimately, CLIA oversight focuses on “intra-laboratory processes as opposed to the clinical uses of test results.”⁶⁹ Furthermore, oversight occurs post-market—after a laboratory has already started testing—during a laboratory’s routine biennial inspections assessing compliance with CLIA standards.⁷⁰

III. REGULATORY CHALLENGES: LABORATORY-DEVELOPED TESTS

As laws regulating medical devices and diagnostic tests predate health care’s recent focus on personalized medicine, current regulatory mechanisms were not designed to accommodate today’s sophisticated, ubiquitous diagnostic tests.⁷¹ As such, gaps in federal oversight of these rapidly advancing technologies continue to widen.⁷² These gaps are most evident in the current oversight of LDTs.

65. *CLIA Law & Regulations*, CTRS. FOR DISEASE CONTROL & PREVENTION (Mar. 16, 2015), <http://wwwn.cdc.gov/clia/Regulatory/default.aspx> [<https://perma.cc/XH7V-AHBZ>].

66. KAZON, *supra* note 63, at 116.

67. *CLIA Overview*, *supra* note 60.

68. *Id.*

69. Sec’y’s Advisory Comm. on Genetic Testing, NIH, *Enhancing the Oversight of Genetic Tests: Recommendations of the SACGT 9* (2000), http://osp.od.nih.gov/sites/default/files/oversight_report.pdf [<https://perma.cc/EX77-ZUF5>] [hereinafter SACGT RECOMMENDATIONS].

70. *CLIA Overview*, *supra* note 60.

71. Gail H. Javitt, *In Search of a Coherent Framework: Options for FDA Oversight of Genetic Tests*, 62 *FOOD & DRUG L.J.* 617, 617 (2007).

72. See Gail H. Javitt et. al., *Direct-to-Consumer Genetic Tests, Government Oversight, and the First Amendment: What the Government Can (and Can't) Do to Protect the Public's Health*, 57 *OKLA. L. REV.* 251, 253–54 (2004) (“Government oversight of genetic testing services . . . currently falls between several regulatory ‘cracks’ within the federal government, and is therefore arguably both ambiguous and insufficient.”).

A. LABORATORY-DEVELOPED TESTS

Laboratories often develop and market their own diagnostic tests⁷³ using generally available testing reagents and equipment.⁷⁴ FDA defines LDTs as tests “intended for clinical use and designed, manufactured and used within a single laboratory.”⁷⁵ While a laboratory may not commercially distribute an IVD test kit, it can commercially sell its services as an LDT. Traditionally, a health care provider such as a physician orders these tests. Recently, however, LDTs are increasingly offered directly to consumers.⁷⁶

Thus diagnostic tests can be marketed in two ways. First, a test can be developed, manufactured, packaged, and sold for distribution as an IVD commercial test kit.⁷⁷ Second, a test can be developed by and used in-house as an LDT.⁷⁸ While FDA regulates IVDs, the agency does not currently regulate LDTs. Although FDA considers LDTs as medical devices, the agency maintains that it has exercised “enforcement discretion,” meaning it chose not to enforce regulatory requirements with respect to LDTs.⁷⁹ As such, LDTs are currently only regulated under the less-stringent CLIA framework.

While a small handful of diagnostics are sold as IVDs, a vast majority of tests are offered as LDTs.⁸⁰ As these increasingly complex tests transition into routine clinical practice, they are expected to play a key role in personalized medicine. Current regulation over these complex LDTs, however, lags behind the technology.⁸¹ After previously shying away from regulating genetic tests and LDTs,⁸² FDA now plans to enforce regulatory requirements over these tests.⁸³ Many stakeholders, however, heavily dispute FDA’s authority to regulate LDTs.⁸⁴ While it is generally accepted

73. These tests are referred to as “LDTs,” “home brews,” or “in-house” tests. LDT DRAFT GUIDANCE, *supra* note 12, at 4 n.2.

74. *Id.* at 5.

75. *Id.*

76. *E.g.*, 23ANDME, <https://www.23andme.com> [<https://perma.cc/RX3T-XACC>]; THERANOS, <https://www.theranos.com> [<https://perma.cc/V7JX-VDT6>].

77. KAZON, *supra* note 63.

78. *Id.*

79. *See* LDT DRAFT GUIDANCE, *supra* note 12, at 6–7.

80. PERSONALIZED MEDICINE COAL., *supra* note 1, at 22.

81. *See generally* Javitt, *supra* note 71.

82. *See* Neil A. Holtzman, *FDA and the Regulation of Genetic Tests*, 41 JURIMETRICS J. 53, 61 (2000) (“Fearing that it will be deluged with new tests, FDA has maintained that it lacks the resources to extend its full power to regulate devices to genetic tests marketed as services.”).

83. LDT DRAFT GUIDANCE, *supra* note 12.

84. *See infra* Part IV.

that LDT regulation must be modernized to provide appropriate oversight,⁸⁵ various interested parties argue over the proper degree and manner of oversight.

B. EVOLUTION OF FDA'S APPROACH TO LDTs

FDA has historically exercised “enforcement discretion” over LDTs and thus did not actively regulate these tests. The increasing complexity and prevalence of LDTs—and their increasingly pervasive business models—however, have recently provoked FDA to end its enforcement discretion altogether.

1. *Enforcement Discretion*

FDA historically did not regulate LDTs because they were initially relatively simple, well-understood tests used only for rare diseases.⁸⁶ These tests were typically used within the health care institution responsible for the patient⁸⁷ and were viewed merely as low-risk enhancements to medical care.⁸⁸ As the LDT market grew, however, FDA began expressing concern over the quality of LDTs by noting an emerging trend of sophisticated laboratories developing their own tests to diagnose a wide range of medical conditions.⁸⁹ In 1996, despite this concern, FDA believed LDTs fulfilled niche clinical needs and thus ultimately chose to continue enforcement discretion.⁹⁰

2. *Early Approach: Analyte-Specific Reagents*

In 1997, FDA began regulating the “active ingredients,” called analyte-specific reagents (ASRs), used in LDTs rather than the tests themselves.⁹¹ The ASR category differentiates between general-purpose reagents, which include equipment, collection systems, and chemicals used broadly in various tests, and “active ingredients” including antibodies and nucleic acid probes designed for diagnostic purposes.⁹² Since FDA “believed that

85. See Turna Ray, *Amid Competing LDT Regulatory Proposals, Common Ground but Key Disagreements for Congress to Consider*, GENOMEWEB (Sep. 28, 2015), <https://www.genomeweb.com/molecular-diagnostics/amid-competing-ldt-regulatory-proposals-common-ground-key-disagreements> [<https://perma.cc/7TDDK-TNMC>].

86. LDT DRAFT GUIDANCE, *supra* note 12, at 7.

87. *Id.*

88. *See id.*

89. 61 Fed. Reg. 10,484 (proposed Mar. 14, 1996).

90. *See id.* (recognizing that LDTs play an important clinical role “as a mechanism for providing novel, highly specialized tests in a relatively short time”).

91. *See* 21 C.F.R. § 864.4020 (2015).

92. *See id.*

laboratories certified as high complexity under [CLIA] . . . have demonstrated expertise and ability to use ASRs in test procedures and analysis,” the agency chose to regulate ASRs rather than the tests as a whole to minimize regulatory burden.⁹³ FDA noted that “at a future date,” however, it “may reevaluate whether additional controls over [LDTs] may be needed to provide an appropriate level of consumer protection.”⁹⁴

The LDT landscape continues to grow more complex since the completion of the Human Genome Project in 2003.⁹⁵ DNA sequencing technologies have evolved from single-gene to multi-gene testing. As such, LDTs increasingly rely on complex instrumentation and software to generate results.

After several prominent committees had become concerned about the lack of oversight of genetic tests,⁹⁶ FDA began increasing scrutiny over LDTs. In February 2004, FDA halted the release of OvaCheck, a diagnostic test for ovarian cancer.⁹⁷ OvaCheck differed from previous genetic tests by analyzing multiple biomarkers and utilizing “black-box” algorithmic technology.⁹⁸ While acknowledging general enforcement discretion over LDTs, FDA asserted that the software was a medical device, as the software was intended to diagnose a disease.⁹⁹

3. *Breaking Enforcement Discretion: In Vitro Multivariate Index Assays*

In 2006, FDA first broke its enforcement discretion policy by announcing its intent to regulate in vitro multivariate index assay

93. Draft Guidance for Industry, Clinical Laboratories, and FDA Staff on In Vitro Diagnostic Multivariate Index Assays, 71 Fed. Reg. 52,800, 52,801 (Sept. 7, 2006).

94. 61 Fed. Reg. at 10,484.

95. In 2003, the international scientific community working on the Human Genome Project completed the first sequencing of the human genome. This gave rise to genomic research and the commercialization of DNA technologies. *The Human Genome Project Completion: Frequently Asked Questions*, NAT'L HUM. GENOME RES. INST. (Oct. 30, 2010), <https://www.genome.gov/11006943> [<https://perma.cc/BD27-5VKH>].

96. See, e.g., SACGT RECOMMENDATIONS *supra* note 69, at ix–x (“Based on the rapidly evolving nature of genetic tests, their anticipated widespread use, and extensive concerns expressed by the public about their potential for misuse or misinterpretation, additional oversight is warranted for all genetic tests . . . FDA should be the federal agency responsible for the review, approval, and labeling of all new genetic tests that have moved beyond the basic research phase.”).

97. Javitt, *supra* note 71, at 634.

98. *Id.*

99. *Id.*

(IVDMIA) LDTs as medical devices.¹⁰⁰ Like OvaCheck, the growing IVDMIA category included use of non-standard LDT components such as proprietary algorithms relying on multiple biomarkers to diagnose a disease or condition.¹⁰¹ FDA grew concerned over the safety and effectiveness of “black box” algorithms because they are “not within the ordinary ‘expertise and ability’ of laboratories that FDA referred to when it issued the ASR rule.”¹⁰² In other words, clinicians could not independently interpret IVDMIA test results without the test developer’s assessment of clinical significance. Because FDA believed these LDTs posed new, significant public health risks, it asserted that IVDMIA “do not fall within the scope of laboratory-developed tests over which FDA has generally exercised enforcement discretion.”¹⁰³ FDA, however, never finalized this enforcement plan.

4. *Facing Changes in LDT Business Models*

Simultaneous advances in everyday consumer-oriented technologies such as overnight shipping and the Internet hugely impacted laboratory business models, increasing FDA’s concern over LDTs.¹⁰⁴ In contrast to traditional LDT providers in 1976 such as hospital laboratories offering tests for its own patients, many of today’s LDT providers are large corporations that nationally market complex, high-risk tests independent of any health care institution.¹⁰⁵ Concern over the potential for widespread consequences of LDTs heightened with OvaSure, an algorithm-based LDT.¹⁰⁶ In June 2008, LabCorp, one of the largest clinical laboratory companies in the U.S., began marketing OvaSure as an ovarian cancer risk detection test.¹⁰⁷ Because patients who catch the disease in its early stages

100. See U.S. Food & Drug Admin., Draft Guidance For Industry, Clinical Laboratories, And FDA Staff: In Vitro Diagnostic Multivariate Index Assays (2007).

101. *Id.*

102. Draft Guidance for Industry, Clinical Laboratories, and FDA Staff on In Vitro Diagnostic Multivariate Index Assays, 71 Fed. Reg. 52,800, 52,801 (Sept. 7, 2006).

103. *Id.* at 52,801.

104. A single laboratory can now provide services nationwide due to overnight shipping and electronic delivery of test results. LDT DRAFT GUIDANCE, *supra* note 12, at 8.

105. LDTs are now a multibillion-dollar-a-year industry. See Thomas M. Burton, *Is Lab Testing the ‘Wild West’ of Medicine?*, WALL ST. J. (Dec. 10, 2015), <http://www.wsj.com/articles/is-lab-testing-the-wild-west-of-medicine-1449800707> [<https://perma.cc/2QCD-SAKG>].

106. See Andrew Pollack, *F.D.A. Says Cancer Test Failed to Get Its Approval*, N.Y. TIMES (Oct. 8, 2008), <http://www.nytimes.com/2008/10/09/business/09cancer.html> [<https://perma.cc/BKD3-5AXV>].

107. Louise M. Slaughter, *FDA Oversight of Laboratory Developed Tests Essential for Patient Health and Safety*, 20 AM. J. MANAGED CARE SP393, SP421 (2014).

have a much higher chance of survival, many preemptively removed their ovaries based on OvaSure's test results.¹⁰⁸ Yet the test was not clinically validated and was later found to have a high false positive rate, which possibly led healthy women to unnecessarily undergo highly invasive surgery.¹⁰⁹ In October 2008, FDA effectively halted the sale of OvaSure.¹¹⁰

The rise of the Internet also fostered the direct-to-consumer (DTC) genetic testing market. In 2007, laboratory companies such as 23andMe and Pathway Genomics began offering personal genetic testing directly to consumers.¹¹¹ Due to rising demand, increasing complexity of health reports, and lack of physician intermediary, FDA began exercising jurisdiction over DTC genomic services. In 2010, FDA effectively blocked a partnership between Pathway Genomics and Walgreens.¹¹² In 2013, FDA sent a warning letter to 23andMe instructing the company to discontinue its unapproved health report service.¹¹³ The agency later again emphasized its jurisdictional exercise over DTC services, stating that it "generally does not exercise enforcement discretion for [DTC] tests regardless of whether they meet the definition of an LDT Therefore . . . FDA's usual enforcement policies apply to DTC tests."¹¹⁴

5. *Uniform Regulation of LDTs*

In June 2010, in lieu of issuing a final guidance on IVDMLA regulation, FDA announced its intention to revoke enforcement discretion over LDTs altogether.¹¹⁵ The agency now plans to replace its previous ad hoc regulatory approach with uniform regulation of LDTs.

108. *Id.*

109. *Id.*

110. *Responding to FDA, LabCorp Discontinues Offering OvaSure Test*, GENOMEWEB (Oct. 27, 2008), <https://www.genomeweb.com/responding-fda-labcorp-discontinues-offering-ovasure-test> [<https://perma.cc/3CJ3-JRM8>].

111. Sancy A. Leachman et al., *Direct-to-Consumer Genetic Testing: Personalized Medicine in Evolution*, 29 AM. SOC'Y CLINICAL ONCOLOGY 34, 36 (2011).

112. Andrew Pollack, *Walgreens Delays Selling Personal Genetic Test Kit*, N.Y. TIMES (May 12, 2010), <http://www.nytimes.com/2010/05/13/health/13gene.html> [<https://perma.cc/A8ZS-CMH7>].

113. Letter from Alberto Gutierrez, Director, Office of In Vitro Diagnostics and Radiological Health, to Ann Wojcicki, CEO, 23andMe, Inc. (Nov. 22, 2013), <http://www.fda.gov/iceci/enforcementactions/warningletters/2013/ucm376296.htm> [<https://perma.cc/QWY7-E3WD>].

114. LDT DRAFT GUIDANCE, *supra* note 12, at 4 n.4.

115. Turna Ray, *FDA Shelves IVDMLA Final Guidelines in Order to Focus on Overall LDT Regulation*, GENOMEWEB (June 23, 2010), <https://www.genomeweb.com/dxpgx/fda-shelves-ivdmia-final-guidelines-order-focus-overall-ldt-regulation> [<https://perma.cc/NC43-4KU9>].

In October 2014, FDA released the draft guidance document for LDT oversight.¹¹⁶ FDA noted the changes in the complexity and use of LDTs and the associated increased risks, particularly in the context of personalized medicine.¹¹⁷ The agency also noted changes in the laboratory industry, such as the shift from local use of LDTs to nationwide marketing.¹¹⁸ FDA stated that due to these drastic changes in the LDT landscape, it “has serious concerns regarding the lack of independent review of the evidence of clinical validity of LDTs.”¹¹⁹

FDA also grew concerned over the “unbalanced playing field” between LDT and traditional IVD companies: IVD manufacturers performing rigorous, resource-intensive clinical studies for FDA approval must compete with LDT companies offering similar tests that are only subject to minimal CLIA requirements.¹²⁰ The current discrepancy between LDT and test kit regulation has led many diagnostic testing companies to base their business model on the LDT model.¹²¹ The public is also growing more aware of this “LDT loophole” as media scrutiny over certain prominent LDT companies intensifies.¹²² To address this business model trend—and growing public concern—FDA reasons that tests should be regulated “based on their use, not how they were developed.”¹²³

The LDT draft guidance proposes to regulate LDTs under a risk-based framework.¹²⁴ FDA’s requirements include registration and listing,

116. LDT DRAFT GUIDANCE, *supra* note 12, at 4.

117. FDA believes that LDTs not validated for their intended use put patients at risk of missed diagnoses, inaccurate diagnoses, or failure to receive proper treatment. *Id.* at 10–11.

118. *Id.* at 8.

119. *Id.* at 9.

120. See U.S. FOOD & DRUG ADMIN., THE PUBLIC HEALTH EVIDENCE FOR FDA OVERSIGHT OF LABORATORY DEVELOPED TESTS: 20 CASE STUDIES 4 (2015), <http://www.fda.gov/downloads/AboutFDA/ReportsManualsForms/Reports/UCM472777.pdf> [<https://perma.cc/M4WL-VXWA>] [hereinafter FDA CASE STUDIES].

121. See Nick Stockton, *Fixing the Laws That Let Theranos Hide Data Won't Be Easy*, WIRED (Oct. 20, 2015), <http://www.wired.com/2015/10/fixing-the-laws-that-let-theranos-hide-data-wont-be-easy> [<https://perma.cc/P2TN-D2B7>].

122. See, e.g., *id.*; Arielle Duhaime-Ross, *Theranos Isn't the Only Diagnostic Company Exploiting Regulatory Loopholes: Avoiding Pre-Market Verification Is Downright Easy*, VERGE (Nov. 11, 2015), <http://www.theverge.com/science/2015/11/11/9706356/fda-theranos-health-diagnostics-cancer-tests-regulation-loophole-ldt> [<https://perma.cc/LCE6-77WR>]; *In Modern-Day Gold Rush of Genetic Testing, Profit Placed Above Proof*, CBS NEWS (Feb. 10, 2016), <http://www.cbsnews.com/news/cbs-news-investigation-genetic-tests-pathway-genomics-profit-over-evidence> [<https://perma.cc/4TZX-ED7L>].

123. Andrew Pollack, *F.D.A. Acts on Lab Tests Developed In-House*, N.Y. TIMES (July 31, 2014) <http://www.nytimes.com/2014/08/01/business/fda-to-regulate-lab-developed-test-kits.html> [<https://perma.cc/G9KT-Y2Y5>].

124. LDT Draft Guidance, *supra* note 12, at 11–13.

notification, adverse event reporting, and pre- and post-market review for LDTs based on risk-classification.¹²⁵ To give laboratories time to comply, enforcement over moderate- and high-risk LDTs will be phased in over nine years, beginning with high-risk tests.¹²⁶ FDA does not plan to regulate all forms of LDT. Under the proposed framework, the agency will continue to exercise enforcement discretion over LDTs that diagnose rare diseases, address unmet needs, or pose low risks.¹²⁷

The draft guidance was predictably met with heavy opposition, with many stakeholders arguing against FDA's jurisdiction over LDTs. Consequently, before FDA can successfully move forward with its plan to regulate LDTs, it must first establish its jurisdiction over these tests.

IV. FDA'S AUTHORITY TO REGULATE LDTs

FDA's jurisdiction over LDTs has been consistently contested. At the heart of this decades-long debate is whether an LDT is a medical "device." FDA maintains that LDTs are devices and thus the 1976 Medical Device Amendments grant it authority to regulate LDTs.¹²⁸ Many stakeholders, however, argue that LDTs are services, not devices, and are thus outside the purview of FDA's jurisdiction.¹²⁹ The legal questions at play in this dispute highlight broader policy questions—particularly the feasibility of applying FDA's current regulatory framework to rapidly evolving technologies. In essence, stakeholders argue over the right balance between protecting public health and innovating the clinical tools necessary for the success of personalized medicine.¹³⁰

125. *Id.*

126. Jeffrey Shuren, *Curbing Risk, Not Medical Innovation, in Personalized Medicine*, FDA VOICE (July 31, 2014), <http://blogs.fda.gov/fdavoices/index.php/2014/07/curbing-risk-not-medical-innovation-in-personalized-medicine> [<https://perma.cc/92YV-VJSX>]; LDT DRAFT GUIDANCE, *supra* note 12, at 14.

127. LDT DRAFT GUIDANCE, *supra* note 12, at 22–23.

128. *Id.* at 6.

129. Paul D. Clement & Laurence H. Tribe, *Laboratory Testing Services, as the Practice of Medicine, Cannot Be Regulated as Medical Devices*, AM. CLINICAL LABORATORY ASS'N 2 (Jan. 7, 2015), <http://www.acla.com/acla-releases-white-paper-detailing-legal-arguments-against-fdas-proposal-to-regulate-laboratory-developed-tests-ldts-as-medical-devices> [<https://perma.cc/F2ZT-7DNG>].

130. Congress is currently examining the policy issues regarding LDT regulation. *See, e.g., 21st Century Cures: Examining the Regulation of Laboratory Developed Tests*, H. COMM. ON ENERGY & COM. (Sept. 9, 2014), <https://energycommerce.house.gov/hearings-and-votes/hearings/21st-century-cures-examining-regulation-laboratory-developed-tests> [<https://perma.cc/3MJV-5QEN>].

A. FDA'S AUTHORITY UNDER THE FDCA

The FDCA mandates that FDA regulate “[t]he introduction or delivery for introduction into interstate commerce of any . . . device . . . that is adulterated or misbranded.”¹³¹ Therefore, FDA’s jurisdiction depends on the presence of both a device and interstate commerce.

1. *Device Versus Service*

A product’s “intended use” is critical to the definition of “device.”¹³² Similar to IVD test kits manufactured by traditional device companies, LDTs are test systems comprised of instruments, apparatus, in vitro reagents, and other related articles “intended for use in the diagnosis of disease or other conditions.”¹³³

A straightforward reading of the FDCA thus arguably supports FDA’s interpretation of LDTs as devices. FDA argues that attempts to distinguish LDTs from IVDs boil down to a difference without distinction: because both IVD test kits and LDTs are functionally the same, the location of manufacturing should not affect their regulation. This functional similarity is illustrated by the fact that some laboratories offer LDTs diagnosing the same conditions as FDA-approved IVDs.¹³⁴

Opponents argue that LDTs are outside FDA’s jurisdiction because they are medical *services* rather than *devices*.¹³⁵ This distinction emphasizes

131. 21 U.S.C. § 331(a) (2012).

132. Jessica Elizabeth Palmer, Genetic Gatekeepers: Regulating Direct-to-Consumer Genomic Services in an Era of Participatory Medicine, 67 FOOD & DRUG L.J. 475, 496 (2012).

133. 21 U.S.C. § 321(h)(2) (2012). LDTs such as genetic tests arguably do not diagnose but simply provide information—putting them outside of FDA’s jurisdiction. The term “diagnose,” however, is a broadly inclusive term. Courts have generally considered products that aid in the detection and screening of a health condition, even if results are inconclusive or a disease or condition is not ultimately determined, as a diagnosis. *See, e.g.*, United States v. 25 Cases, More or Less, of an Article of Device, 942 F.2d 1179, 1181–83 (7th Cir. 1991) (recognizing that the term “diagnosis” in 21 U.S.C. § 321(h)(2) brings within the definition of “device” an article that screens for possible symptoms of disease but does not provide final identification of condition); United States v. Undetermined No. of Unlabeled Cases, 21 F.3d 1026, 1028–29 (10th Cir. 1994) (holding that specimen containers used as part of a protocol identifying the presence of HIV antibodies for insurance risk assessment purposes constituted “diagnosis”).

134. *See, e.g.*, Charlie Schmidt, *Challenges Ahead for Companion Diagnostics*, 104 J. NAT’L CANCER INST. 14, 15 (2012) (highlighting the availability of the FDA-approved Cobas test and similar LDTs testing for the same mutations).

135. Clement & Tribe, *supra* note 129, at 2.

the common usage of the term “device” as an article or tangible product.¹³⁶ This interpretation is arguably supported by MDA’s legislative history, which consistently referred to “devices” as “articles” and “products.”¹³⁷ Compared to IVD test kits, LDTs can be viewed as proprietary methodologies or protocols for performing diagnostic tests.¹³⁸ No article is ever labeled or sold as a product. As such, opponents argue that FDA’s effort to exert jurisdiction over LDTs requires an unnatural reading of the statute.¹³⁹

Broad, even purportedly unnatural reading of the FDCA, however, does not necessarily defeat FDA’s assertion of authority. In the past, FDA has been generally successful in expanding its jurisdiction in analogous situations. Before Congress enacted MDA, and thus before FDA had pre-market authority over devices, courts liberally construed the term “drug” to grant FDA broad jurisdiction over non-drug products. In *AMP, Inc. v. Gardner*, the Second Circuit upheld FDA’s classification of a nylon ligature loop used during surgery as a “drug.”¹⁴⁰ While the more natural understanding of the ligature loop is as a device, the court was “reluctant to give a narrow construction to this statute, touching the public health as it does.”¹⁴¹ The following year, the Supreme Court reaffirmed this broad reading in *United States v. An Article of Drug . . . Bacto-Unidisk*.¹⁴² The Court upheld FDA’s liberal interpretation of “drug” to include an antibiotic disc used as a screening test. As a result, courts allowed FDA to regulate certain device-like products as if they were drugs.

Just as courts were highly cognizant of public health concerns—and thus deferred to FDA’s liberal construction of the term “drug”—courts will likely be similarly cognizant of public health concerns in evaluating FDA’s interpretation of “device.” FDA, various medical societies,¹⁴³ and patient

136. See, e.g., *American Heritage Dictionary Entry: Device*, AM. HERITAGE DICTIONARY, <https://www.ahdictionary.com/word/search.html?q=device> [<https://perma.cc/DS6G-3NWX>] (defining “device” as “[a]n object designed and manufactured to perform one or more functions”).

137. H.R. REP. NO. 94–853, at 6 (1976).

138. Clement & Tribe, *supra* note 129, at 10.

139. *Id.*

140. 389 F.2d 825, 830 (2d Cir. 1968).

141. *Id.*

142. 394 U.S. 784, 801 (1969).

143. E.g., American Society of Clinical Oncology, American Cancer Society, American Heart Association, Open letter to FDA (Dec. 10, 2014), https://www.heart.org/idc/groups/ahaecc-public/@wcm/@adv/documents/downloadable/ucm_470484.pdf [<https://perma.cc/M5FM-5VGE>].

advocacy groups¹⁴⁴ cite the need for stronger evidentiary support for diagnostics, particularly when such tests directly guide clinical decision making. The agency recently released a report of twenty case studies of problematic LDTs to support its new enforcement policy.¹⁴⁵ FDA believes its regulatory demand for rigorous evidence will help address these potential complications.¹⁴⁶ Proponents of FDA regulation further stress that “[i]t is paramount that patients and their physicians know that regardless of how or where a test is manufactured or performed, they can trust the information produced by that test.”¹⁴⁷

In light of FDA’s public health rationale, a court may agree with FDA that apparent “manufacturing” factual distinctions, while perhaps significant from a regulatory standpoint, are immaterial from a consumer standpoint.¹⁴⁸ Thus due to the increase in complexity and prevalence of LDTs, a court may accept FDA’s interpretation of “device.”

2. *Interstate Commerce*

Congress delegated statutory power under the Commerce Clause to FDA through the FDCA’s enforcement provisions.¹⁴⁹ Thus, as a prerequisite to its jurisdiction, FDA must show that LDTs are “in interstate commerce.”¹⁵⁰ IVD test kits easily fall under FDA’s jurisdiction because they are a collection of physical objects that are bundled and sold across state lines. On the other hand, LDTs by definition are performed in-house and

144. *NHC’s Comments on Oversight of Laboratory-Developed Tests*, NAT’L HEALTH COUNCIL (Aug. 15, 2010), http://www.nationalhealthcouncil.org/sites/default/files/NHC_Letter_LDT.pdf [<https://perma.cc/Z5NF-BNTF>].

145. FDA CASE STUDIES, *supra* note 120, at 2. FDA claims that LDTs that have not been validated for their intended use can put patients at risk of missed diagnosis, inaccurate diagnosis, failure to receive proper treatment, or suffering unnecessarily uncomfortable or dangerous procedures. *Id.* at 4. The Association for Molecular Pathology, however, disputes the strength of FDA’s case study report. *Facts FDA Ignored: An Analysis of the FDA Report, “The Public Health Evidence for FDA Oversight of Laboratory Developed Tests: 20 Case Studies,”* ASS’N FOR MOLECULAR PATHOLOGY (Dec. 13, 2015), <http://amp.org/emailads/documents/AMPResponseFDACaseReportFinal.pdf> [<https://perma.cc/4JW6-C6Q9>].

146. FDA CASE STUDIES, *supra* note 120, at 30.

147. *FDA Report Cites Benefits of LDT Oversight*, AM. CANCER SOC’Y CANCER ACTION NETWORK (Nov. 16, 2015), <https://www.acscan.org/content/media-center/fda-report-cites-benefits-of-ldt-oversight> [<https://perma.cc/KW25-PC4G>].

148. See Anny Huang, *FDA Regulation of Genetic Testing: Institutional Reluctance and Public Guardianship*, 53 FOOD & DRUG L.J. 555, 557 (1998).

149. See 21 U.S.C. § 331.

150. *Id.*

are thus necessarily intrastate activities. The issue then is whether these intrastate activities constitute interstate commerce.

LDTs likely fulfill the interstate commerce requirement because of their substantial economic effect on interstate commerce and their interstate clientele and components. Commerce Clause jurisprudence grants Congress expansive powers to regulate activities substantially affecting interstate commerce. The Supreme Court notably held in *Wickard v. Filburn* that “[e]ven if [an] activity be local and though it may not be regarded as commerce, it may still . . . be reached by Congress if it exerts a substantial economic effect on interstate commerce.”¹⁵¹ LDTs most likely fall within this broad category, as these services are a significant commercial industry within the health care system.¹⁵² This reach over intrastate activities was recently supported in *United States v. Regenerative Sciences, LLC*, where the D.C. Circuit held that FDA had jurisdiction over “the mixture” of a patient’s stem cells and various reagents and antibiotics.¹⁵³ The court found that although the procedure was entirely intrastate, the mixture had sufficient connection to interstate commerce under the Commerce Clause.¹⁵⁴

Furthermore, the D.C. Circuit held that the FDCA does not require the entire product to have been shipped in interstate commerce for FDA to have statutory jurisdiction.¹⁵⁵ The court found that because the FDCA defines the term “drug” to include the product’s components as well as the finished product itself, the mere use of an ingredient that travelled in interstate commerce sufficiently triggered the interstate commerce element.¹⁵⁶ Similarly, the FDCA defines “device” to include the components of the product. As such, FDA jurisdiction over LDTs can be based on materials laboratories receive in interstate commerce in assembling

151. 317 U.S. 111, 125 (1942) (holding that the Commerce Clause allows Congress to regulate wheat produced solely for a farmer’s personal use); *see also* *Gonzales v. Raich*, 545 U.S. 1, 17 (2005) (recognizing that Congress has the authority to regulate even “purely local activities that are part of an economic ‘class of activities’ that have a substantial effect on interstate commerce”).

152. *See* *Burton*, *supra* note 105.

153. 741 F.3d 1314, 1323 (D.C. Cir. 2014).

154. *Id.* at 1320–21.

155. *Id.* at 1320.

156. *Id.* Again the D.C. Circuit chose to broadly construe a statutory scheme “designed to regulate the safety of drugs at every stage of their distribution.” *Id.*; *see also* *Baker v. United States*, 932 F.2d 813, 814 (9th Cir. 1991) (“[S]hipment in interstate commerce’ requirement is satisfied even when only an ingredient is transported interstate.”).

the tests, such as ASRs.¹⁵⁷ Thus, a court will likely find that LDTs satisfy the interstate commerce requirement even though no final product is sold and delivered across state lines.

B. PRACTICE OF MEDICINE LIMITATION

The FDCA contains an implicit practice of medicine limitation. FDA acknowledges that it cannot interfere with the practice of medicine, as Congress traditionally left regulation of the practice of medicine to the states.¹⁵⁸ The line between FDA's jurisdiction and the practice of medicine, however, has always been subject to controversy.¹⁵⁹ Stakeholders argue that LDTs, as laboratory testing procedures, are "part and parcel" to the practice of medicine and are thus beyond FDA's reach.¹⁶⁰ The practice of medicine limitation, however, does not completely shield medical practice from FDA regulation.

FDA cannot regulate how a physician uses available medical tools, such as the prescription of legally marketed drugs or diagnosis based on IVD results. For example, both FDA and courts protect a physician's off-label use of drugs or devices—that is, the ability to use FDA-approved drugs and devices for unapproved uses when appropriate—as the practice of medicine.¹⁶¹ Yet, pre-market regulation is distinct from the practice of medicine: FDA clearly has the authority to regulate the initial marketing of medical products.¹⁶² In this sense, FDA can indirectly regulate the practice of medicine.

FDA's regulation of LDTs is arguably in the same vein. FDA cannot interfere with how a physician uses LDT results in diagnosing a patient—and the agency does not seek to regulate a physician's post-market diagnostic use of LDTs. On the other hand, the agency has the authority to

157. Juliana Han, *The Optimal Scope of FDA Regulation of Genetic Tests: Meeting Challenges and Keeping Promises*, 20 HARV. J. LAW & TECH. 423, 434 (2007).

158. *Id.* at 434–35.

159. *See id.* at 435–36; *Buckman Co. v. Plaintiffs' Legal Comm.*, 531 U.S. 341, 349–50 (2001) (recognizing that FDA, under its statutory and regulatory framework, must balance "difficult (and often competing) objectives" to fulfill "the difficult task of regulating the marketing and distributing of medical devices without intruding upon decisions statutorily committed to the discretion of health care professionals").

160. Clement & Tribe, *supra* note 129, at 4.

161. *E.g.*, *Weaver v. Reagen*, 886 F.2d 194, 198 (8th Cir. 1989) (allowing off-label drug use); *Femrite v. Abbott Nw. Hosp.*, 568 N.W.2d 535, 541 (Minn. Ct. App. 1997) (allowing off-label device use).

162. *United States v. Evers*, 643 F.2d 1043, 1048 (5th Cir. 1981) ("[W]hile the [FDCA] was not intended to regulate the *practice of medicine*, it was obviously intended to control the *availability of drugs* for prescribing by physicians.").

regulate which LDTs, as medical devices, are available to physicians in the first place. FDA regulation necessarily affects the practice of medicine by deciding which tools are safe and effective for use. Thus while it might be true that the use of LDTs is an integral part of the practice of medicine, the development of LDTs themselves arguably does not constitute the practice of medicine.¹⁶³ Furthermore, the argument that LDTs are part and parcel to the practice of medicine potentially also implicates CMS's authority to regulate LDTs under CLIA, as medical practice regulation is left to states. This argument thus risks bringing about the very opposite result that those opposing FDA's authority over LDTs hope to achieve.¹⁶⁴

LDTs are also arguably outside the scope of the practice of medicine because such tests are increasingly developed and performed in laboratories having no relation to a particular patient.¹⁶⁵ Additionally, claiming that LDTs constitute the practice of medicine arguably implies that physicians perform such laboratory services. Yet non-physicians, including scientists, are authorized to direct clinical laboratories.¹⁶⁶ Congress also did not believe that a medical degree alone assured the requisite competence to manage a clinical laboratory.¹⁶⁷ To say that the practice of medicine extends to technicians and non-physicians arguably improperly stretches the traditional understanding of medical practice. Thus, a court may find reasonable grounds to view the practice of medicine and laboratory services as distinct.

163. See *U.S. v. Regenerative Scis., LLC*, 741 F.3d 1314, 1319 (D.C. Cir. 2014) (“Notwithstanding appellants’ attempt to characterize this case as an effort by the FDA to ‘restrict[] the use of an autologous stem cell procedure,’ . . . the focus of the FDA’s regulation is the Mixture. That is, the FDA does not claim that the procedures used to administer the Mixture are unsafe; it claims that the Mixture itself is unsafe. Appellants’ arguments about the practice-of-medicine exemption are therefore wide of the mark.”)

164. E.g., *ACLA Expresses Concern with FDA Guidance on Laboratory Developed Tests (LDTs)*, AM. CLINICAL LABORATORY ASS’N (July 31, 2014), <http://www.acla.com/acla-expresses-concern-with-fda-guidance-on-laboratory-developed-tests-ldts> [<https://perma.cc/W338-PEBP>] (supporting enhancement of the CLIA regulatory framework, rather than imposing FDA regulation, to improve regulation of LDTs).

165. See, e.g., *Lab Services*, DOUGLAS COUNTY HOSP., <http://www.dchospital.com/alexclinic/services/lab-services> [<https://perma.cc/JGH6-J9DY>] (“Individualized laboratory testing is not conducted within Alexandria Clinic. All testing services are referred to external reference labs such as Douglas County Hospital, LabCorp or Mayo Medical Laboratories.”).

166. See H.R. REP. NO. 100-899, at 28 (1988).

167. *Id.*

C. OVERALL REGULATORY SCHEME: FDCA AND CLIA

LDTs are currently regulated by CMS under CLIA. Neither CLIA nor the MDA mention each other in either statutory text or legislative history. Nor does either statute facially limit the other. Thus, it is unclear whether Congress intended to delegate LDT oversight exclusively to CMS.

In passing the 1976 MDA, Congress noted, “[i]f present regulatory controls are sufficient, the Committee does not intend that the proposed legislation result in promulgation of duplicative regulations.”¹⁶⁸ Congress first passed the Clinical Laboratory Improvement Act in 1967, which it later amended in 1988 to strengthen federal oversight of laboratories after reports of poor-quality laboratory services.¹⁶⁹ Many stakeholders claim that since LDTs are already regulated under CLIA, FDA regulation would be duplicative.¹⁷⁰

Overlapping regulations over LDTs, however, are not necessarily duplicative. FDA regulation of LDTs is arguably complementary to CMS regulation because the two regulatory schemes differ in focus, scope, and purpose.¹⁷¹ CMS regulates clinical laboratories by setting general quality standards.¹⁷² Specifically, CLIA requirements focus on certifying good laboratory practice standards.¹⁷³ These standards, which are not directed to any specific test, provide only analytical validation through a biennial, post-market survey.¹⁷⁴ The legislative history of CLIA illustrates that Congress was focused on low-quality administration of laboratory tests. Congress specifically noted that dangerously inaccurate pap smear results were, “[i]n too many instances . . . the result of overworked and undersupervised cytotechnologists charged with the crucial responsibility of examining and

168. H.R. REP. NO. 94-853, at 15 (1976).

169. See S. REP. NO. 100-561, at 3 (1988).

170. E.g., Clement & Tribe, *supra* note 129, at 15 (The “enactment of the CLIA amendments in 1988 would be well-nigh inexplicable if Congress had intended in the 1976 MDA . . . to subject laboratory-developed testing services to the FDCA’s device regulations” and would render CLIA “utterly pointless.”).

171. *CLIA Overview*, *supra* note 60; see also Jeffrey Shuren & Patrick H. Conway, *FDA and CMS Form Task Force on LDT Quality Requirements*, FDA VOICE (Apr. 16, 2015), <http://blogs.fda.gov/fdavoices/index.php/2015/04/fda-and-cms-form-task-force-on-ldt-quality-requirements> [<https://perma.cc/NPB9-5YL9>] (noting that the FDA-CMS task force will be “working together to clarify responsibilities for laboratories that fall under the purview of both agencies”).

172. Grimm, *supra* note 27, at 120.

173. See *CLIA Overview*, *supra* note 60 (“Analytical validation [of tests] is limited . . . to the specific conditions, staff, equipment and patient population of the particular laboratory.”).

174. See *id.*

categorizing cervical slides.”¹⁷⁵ Congress reiterated this point in 1997 by noting that “[t]he purpose of CLIA quality control, proficiency testing, and personnel requirements is to ensure consistent, reliable, and appropriate use of a test system by users of the test.”¹⁷⁶

FDA, on the other hand, regulates specific devices. As such, FDA regulation arguably differs from CMS regulation by focusing on the test itself rather than general laboratory practices. More significantly, unlike CMS, FDA clinically validates tests.¹⁷⁷ In the context of personalized medicine, accurate analysis of a patient’s clinical symptoms is essential to effective treatment. Rapid technological advances and a decreasing tolerance for test error can impose non-negligible risks to public safety.¹⁷⁸ Thus the distinction between analytical and clinical validity can have important consequences. Notably, CMS itself states that FDA is the agency with the scientific capability to handle clinical validation.¹⁷⁹ Moreover, FDA can provide more robust post-market surveillance compared to CMS by implementing an adverse event reporting system.¹⁸⁰ As such, a court may find an overriding public need for heightened regulation and thus deem mere post-market analytical validation under CLIA inadequate.

In construing the FDCA, courts generally presume that “unless they explicitly forbid it, the purpose of a statutory provision is the best test of the meaning of the words chosen.”¹⁸¹ Courts are conscious of the FDCA’s overriding purpose of protecting public health and FDA’s expertise in defining public health risks.¹⁸² The FDCA arguably does not explicitly prohibit FDA’s jurisdiction over LDTs, and CLIA does not compel preemption.¹⁸³ Thus given the public health concerns voiced by FDA and various medical and patient advocacy groups, a court would have reasonable

175. S. REP. NO. 100-561, at 26–27 (1988).

176. H.R. REP. NO. 105-310, at 76 (1997).

177. *CLIA Overview*, *supra* note 60.

178. *See* FDA CASE STUDIES, *supra* note 120, at 4.

179. *Examining the Regulation of Diagnostic Tests and Laboratory Operations: Hearing Before the H. Comm. on Energy & Com., Subcomm. on Health*, 114th Cong. 7 (2015) (statement of Patrick Conway, Chief Med. Officer, Ctrs. for Medicare & Medicaid Serv.).

180. *See id.*

181. *AMP, Inc. v. Gardner*, 389 F.2d 825, 827 (2d Cir. 1968) (quoting Judge Learned Hand in broadly construing the term “drug”); *see also* *United States v. Article of Drug . . . Bacto-Unidisk*, 394 U.S. 784, 799 (1969) (quoting the same language).

182. Han, *supra* note 157, at 432.

183. *Clinical Reference Lab., Inc. v. Sullivan*, 791 F. Supp. 1499, 1509 (D. Kan. 1992) (holding that FDCA and CLIA are not inconsistent, and “Congress intended to leave some regulatory overlap between” the two statutory schemes), *partially rev’d on other grounds*, *United States v. Undetermined No. of Unlabeled Cases*, 21 F.3d 1026 (10th Cir. 1994).

grounds to view FDA and CMS regulation as complementary rather than duplicative.

D. *BROWN & WILLIAMSON* AND THE ABSURDITY DOCTRINE

Even if a court agrees with FDA's reading of the FDCA, it may nonetheless be reluctant to infer Congress's intent to give FDA authority over LDTs due to potential "absurd results" such regulation could produce. In *FDA v. Brown & Williamson*, the Supreme Court rejected FDA's attempt to regulate tobacco products.¹⁸⁴ The Court acknowledged that though nicotine seemed to fall within the FDCA's definition of "drug," FDA's regulation of tobacco products would lead to results clearly not intended by Congress.¹⁸⁵ Thus based on the inconsistent results between Congress's inferred intent and the FDCA's overall regulatory scheme, the Court rejected FDA's interpretation of "drug."¹⁸⁶

Similarly, whether a court is willing to accept FDA's asserted jurisdiction over LDTs—which include NGS tests and individualized tests—will likely depend on FDA's ability to modernize its regulatory framework to accommodate personalized medicine. FDA currently regulates diagnostic tests based on a "one-test, one-disease" framework. That is, a test developer must prove that a claimed variant is accurately identified and clinically linked to the disease or condition the test is intended to diagnose.¹⁸⁷ This necessarily requires that a test developer have an intended disease or condition in mind prior to FDA approval.

NGS tests, however, fundamentally differ from traditional diagnostic tests by the sheer volume of data they generate, the lack of a priori intended use, and the unlimited number of clinical interpretations possible from a single sample.¹⁸⁸ These fundamental differences do not fit within FDA's regulatory framework for traditional diagnostic tests.

First, NGS tests challenge FDA's current approach to analytical validation. A single NGS test sequencing a whole genome can detect over

184. 529 U.S. 120, 161 (2000).

185. The Court held nicotine regulation under the FDCA would lead to a complete ban on tobacco products, while tobacco-specific legislation enacted subsequent to the FDCA implied that Congress did not intend to ban them. *Id.* at 137.

186. *Id.* at 126.

187. *See supra* Section II.A.2.

188. *Optimizing FDA's Regulatory Oversight of Next Generation Sequencing Diagnostic Tests—Preliminary Discussion Paper*, U.S. FOOD & DRUG ADMIN. (2014), <http://www.fda.gov/downloads/MedicalDevices/NewsEvents/WorkshopsConferences/UCM427869.pdf> [<https://perma.cc/3VA7-Z7KW>] [hereinafter *Optimizing FDA's Regulatory Oversight of NGS*].

three billion bases, including up to three million genetic variants. Assessing the analytical validity of all three billion bases detected, as required under FDA's current framework, is unfeasible.¹⁸⁹

Second, NGS tests present clinical validation challenges as well. Whole-genome NGS tests may have broad or undefined intended uses.¹⁹⁰ This possibility strains FDA's "one-test, one-disease" framework because a single NGS test can be intended to diagnose a wide range of diseases or conditions or not be intended to diagnose any particular disease at all prior to testing. Moreover, if an NGS test is intended to diagnose a particular disease or condition, it might do so by detecting rare variants specific to an individual or family.¹⁹¹ Proving clinical validity for rare variants, however, places a heavy burden on test developers: because the variant is rare, the test developer likely will not have sufficient data or information to demonstrate clinical significance required for approval.¹⁹² These various bottlenecks in pre-market review could thus effectively ban patient access to valuable tests.

Furthermore, FDA oversight of LDTs could potentially have negative consequences contrary to the agency's intentions. Laboratories update their tests in response to a patient's need or developments in scientific research and technology—a practice that will only increase with the use of NGS.¹⁹³ FDA's additional layer of regulatory requirements, however, may impede laboratories that literally cannot afford to comply with FDA requirements from developing or improving tests, or at the very least introduce lag time in test updates, making tests obsolete.¹⁹⁴ This may have the undesired effect of stifling the very innovations that are leading the health care industry towards personalized medicine. FDA regulation may also have the undesirable effect of leaving LDT development to large laboratory

189. Developing Analytical Standards for NGS Testing, U.S. FOOD & DRUG ADMIN. (2015), <http://www.fda.gov/downloads/MedicalDevices/NewsEvents/WorkshopsConferences/UCM468521.pdf> [<https://perma.cc/QX9R-LNQP>] ("NGS-based tests have the capacity to produce, in a single test, data for up to billions of individual analytes. This large number of analytes, and even larger number of possible results, makes it infeasible for test developers to provide and FDA to review performance data for each analyte."); Lander, *supra* note 10, at 1186 ("FDA's regulatory framework might lead to a *reduction ad absurdum*.").

190. *Optimizing FDA's Regulatory Oversight of NGS*, *supra* note 188.

191. *See id.*

192. *Id.*

193. *See* Gail Javitt, *Which Way for Genetic-Test Regulation?*, 446 NATURE 816, 818 (2010) ("A particular challenge for the regulators of genetic testing . . . is that geneticists' understanding of the clinical significance of markers is evolving rapidly.").

194. *See* James P. Evans & Michael S. Watson, *Genetic Testing and FDA Regulation: Overregulation Threatens the Emergence of Genomic Medicine*, 313 J. AM. MED. ASS'N 669, 669 (2015).

corporations that have the resources to meet FDA requirements. This sort of monopoly could hinder patient access to necessary tests due to cost.¹⁹⁵

Given personalized medicine's reliance on nimble NGS and individualized tests,¹⁹⁶ FDA's current regulatory approach—which is modeled for traditional commercial device manufacturers—is an inappropriate framework for LDTs. FDA oversight may thus lead to the “absurd result” of effectively banning laboratory tests necessary to the success of personalized medicine. As such, even if FDA's interpretation of “device” is accepted, a court may infer that Congress intended LDTs to be regulated by the more flexible CLIA framework.

FDA's ability to account for these potential negative consequences, however, may help the agency avoid these absurd results. In *Medical Center Pharmacy v. Mukasey*,¹⁹⁷ the Fifth Circuit dealt with an analogous question of whether a pharmacist's compounding of medication to meet an individual patient's needs constitutes a “new drug” under the FDCA.¹⁹⁸ The pharmacists argued that their compounded drugs were exempt from “new drug” approval requirements because the FDCA does not reach traditional pharmacy practice. Moreover, they invoked the absurd-result argument, claiming that “few would undergo the costly and arduous approval process” of meeting FDA's requirements for each individualized compounded drug product, thus making nearly all compounding effectively unlawful under the FDCA.¹⁹⁹ The court acknowledged that such a result “appear[ed] inconsistent with the likely expectation that compounding would and

195. *Id.* at 670 (“Prior to [*Ass'n for Molecular Pathology v. Myriad Genetics, Inc.*, 133 S. Ct. 2107 (2013)], only a single laboratory was permitted to offer sequencing of those clinically important [BRCA1/2] genes, leading to a situation in which improvements in testing were stifled, women and their physicians had no options to obtain independent second opinions, and patient access to testing was limited. Immediately following elimination of this monopoly, numerous laboratories began offering [expanded, higher-quality, cheaper] testing Should [FDA regulate LDTs], monopolies in laboratory medicine may reappear, affecting not just genetic testing but diagnostic testing more broadly.”).

196. Andrew Pollack, *F.D.A. Acts on Lab Tests Developed In-House*, N.Y. TIMES (July 31, 2014), <http://www.nytimes.com/2014/08/01/business/fda-to-regulate-lab-developed-test-kits.html> [<https://perma.cc/26ZZ-ALWR>] (“The ability of laboratories to develop custom diagnostic tests has been critical to the growth of personalized medicine and keeping pace with the changing face of disease.”).

197. 536 F.3d 383 (5th Cir 2008).

198. FDA asserted it previously exercised enforcement discretion over drug compounding and only began enforcing the “new drug” requirements when it believed a pharmacist engaged in drug manufacturing “under the guise of compounding” to avoid FDA's oversight. *Id.* at 389–99.

199. *Id.* at 389.

should persist.”²⁰⁰ Similarly for LDTs, arguably few would be willing to undergo the additional approval process for every individualized test update.

The *Medical Center* court, however, believed it should not infer an absurd result from a “maximalist interpretation” of FDA’s authority when it is “tempered” by enforcement discretion.²⁰¹ That is, FDA’s authority over compounded drugs did not lead to absurd results where FDA’s continued enforcement discretion did not completely outlaw all drug compounding. As such, the court affirmed FDA’s jurisdiction over compounded drugs.²⁰²

Courts may similarly accept FDA’s “tempered” jurisdiction over LDTs. The agency has already made strides in modernizing its regulatory approach to accommodate personalized medicine.²⁰³ The 2014 draft guidance includes proposed discretionary carve-outs for LDTs that are inherently individualized,²⁰⁴ traditional, low-risk, or that detect rare diseases or address unmet needs.²⁰⁵ It also proposes a phased-in nine-year timeframe to give laboratories time to comply as well as to address concern over patient access to necessary tests in the short term.²⁰⁶ Moreover, FDA has already approved the first NGS test in 2013²⁰⁷ and is actively exploring ways to modernize its regulatory framework to adapt to the complexity and data-richness of rapidly evolving NGS tests.²⁰⁸ Thus FDA’s continued enforcement

200. *Id.* at 398.

201. *Id.* at 399.

202. *Id.* at 389–99.

203. Examining the Regulation of Diagnostic Tests and Laboratory Operations: Hearing Before the H. Comm. on Energy & Com., Subcomm. on Health, 114th Cong. 2 (2015) (statement of Jeffrey Shuren, Director of Ctr. for Devices and Radiological Health, U.S. Food & Drug Admin.).

204. *E.g.*, LDT DRAFT GUIDANCE, *supra* note 12, at 16 (“Consistent with a 2011 recommendation from the Secretary’s Advisory Committee on Organ Transplantation, FDA intends to continue to exercise enforcement discretion in full over LDTs used in CLIA-certified, high-complexity histocompatibility laboratories, when those LDTs are used in connection with organ, stem cell, and tissue transplantation These devices are often individualized within each medical facility They also are rapidly evolving.”).

205. *Id.* at 20–23.

206. *Id.* at 24, 26; Joshua Sharfstein, *FDA Regulation of Laboratory-Developed Diagnostic Tests: Protect the Public, Advance the Science*, 313 J. AM. MED. ASS’N ONCOLOGY 667, 668 (2015).

207. Collins & Hamburg, *supra* note 7.

208. FDA has hosted several public workshops beginning in 2011 to discuss potential regulatory schemes for NGS platforms and tests and will continue to host workshops in the future. FDA also recently launched precisionFDA, a curated database to help address clinical validation challenges. Taha A. Kass-Hout & Elaine Johanson, *FDA Launches precisionFDA to Harness the Power of Scientific Collaboration*, FDA VOICE (Dec. 15, 2015), <http://blogs.fda.gov/fdavoices/index.php/2015/12/fda-launches-precisionfda-to-harness-the-power-of-scientific-collaboration> [<https://perma.cc/37FS-S2BS>].

discretion and the flexibility the agency is attempting to display in its proposed guidance and public workshops may help mitigate a court's concern over potentially absurd results of the agency's jurisdiction over LDTs.

E. NOTICE-AND-COMMENT RULEMAKING

As a final note, FDA's choice of procedural tool to enforce regulatory requirements for LDTs may impact the agency's authority in court. The rigorous notice-and-comment procedure is meant to ensure "public transparency, responsiveness, and reason-giving."²⁰⁹ Although a thorough discussion of the Administrative Procedure Act is beyond the scope of this Note, FDA is likely legally obligated to promulgate LDT regulation through the notice-and-comment rulemaking procedure, as opposed to its current use of less rigorous guidance documents.²¹⁰

FDA contends that its guidance document is merely a policy statement on its allegedly pre-existing jurisdiction and thus it is not imposing any new requirements on the LDT industry.²¹¹ On the other hand, considering FDA's long exercise of enforcement discretion for LDTs, "a policy shift of this magnitude" likely would require notice-and-comment rulemaking.²¹² Imposing regulatory requirements would constitute a drastic departure from FDA's longstanding position and would thus fundamentally alter the LDT landscape. The agency's shifts in policy due to changes in technology and medical practice "are exactly the sorts of changes in fact and circumstance which notice and comment rulemaking is meant to inform."²¹³ Furthermore, it is disputable whether FDA's LDT guidance document carries the force of law and is thus unclear whether a court would owe the agency *Chevron*²¹⁴ deference in a challenge to FDA enforcement.²¹⁵ If FDA were to proceed with notice-and-comment rulemaking, however, it would

209. Cass R. Sunstein, *Chevron Step Zero*, 92 VA. L. REV. 187, 211 (2006).

210. Gail Javitt & Katherine Carner, *Must FDA Engage in Rulemaking to Regulate Laboratory-Developed Tests?*, 1 FOOD & DRUG L. INST. 1, 1 (2011).

211. Turna Ray, *Q&A: FDA's Alberto Gutierrez Fields Questions On Evolving LDT, CDx Regulations*, GENOMEWEB (Dec. 30, 2014), <https://www.genomeweb.com/molecular-diagnostics/qa-fdas-alberto-gutierrez-fields-questions-evolving-ldt-cdx-regulations> [<https://perma.cc/4EXD-2RW7>].

212. Javitt & Carner, *supra* note 210.

213. *Syncor Int'l Corp. v. Shalala*, 127 F.3d 90, 95 (D.C. Cir. 1997).

214. *Chevron, U.S.A., Inc. v. NRDC, Inc.*, 467 U.S. 837 (1984).

215. *Chevron* deference is owed to agency rules carrying the force of law. Whether a guidance document carries the force of law, however, is contestable—both courts and scholars debate whether formal notice-and-comment rulemaking is necessary to constitute the force of law. *See generally* Kristen E. Hickman, *Unpacking the Force of Law*, 66 VAND. L. REV. 465 (2013).

undoubtedly benefit from heightened deference under *Chevron*—an advantage needed in this long-contentious debate over the agency’s interpretation.²¹⁶

V. CONCLUSION

Due to rapidly advancing DNA sequencing technologies such as NGS, the long-awaited promise of personalized medicine is now an attainable reality. Genomic-based diagnostic tests will play an increasingly important role in fostering this new health care reality. At the same time, these tests continue to grow in complexity and prevalence and thus also potentially present increased risks to public safety. As such, proper regulatory oversight of these sophisticated diagnostic tests must be addressed.

FDA is constantly playing catch up to these quickly evolving diagnostic tests. While it is important to ensure public confidence in these tests, premature oversight may lead to undesirable, “absurd” results. Without a new flexible framework adapted for the profoundly different emerging field of personalized medicine, FDA risks cutting off the health care model it seeks to support. FDA should consider establishing clear evidentiary standards for analytical and clinical validation for new diagnostic technologies before moving forward with its plan to regulate LDTs. The agency should also work closely with stakeholders through the notice-and-comment rulemaking procedure to understand the appropriate scope of enforcement discretion it should exercise. Otherwise, FDA, despite its good intentions, risks contravening its obligation to protect and promote public health by cutting off patient access to the promise of personalized medicine.

216. Specifically, agencies are owed *Chevron* deference to their interpretation of statutory ambiguity regarding the scope of their jurisdiction. *City of Arlington v. FCC*, 133 S. Ct. 1863, 1871 (2013).

EDTECH AND STUDENT PRIVACY: CALIFORNIA LAW AS A MODEL

Dylan Peterson[†]

The educational technology (“edtech”) industry has grown rapidly over the last decade. Trade groups estimate that the industry centered on software for kindergarten through twelfth grade students has generated \$7.9 billion in revenue in a single year.¹ In 2014, edtech startups saw a record of nearly \$1.9 billion in venture capital (VC) investment.² The boom continued in 2015, as VC funding to edtech startups grew 68% when compared to the previous year.³ These numbers are staggering, particularly in light of the \$400 million in financing edtech companies received in 2009.⁴

Edtech represents a broad category of educational products and services used in schools and by private individuals. The emerging edtech industry includes devices such as tablets and other computers, the applications and software that run on these devices, websites and other Internet-based services (including cloud computing technology and social media), and various other technologies that seek to improve learning and education administration in the home, classroom, school, and school districts. Participants in the edtech industry include both well-established companies like Apple, Microsoft, and Google and smaller, more specialized companies like Schoology and Edmodo. In addition, edtech continues to attract robust startup activity. The industry’s growth is poised to continue as K–12

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1. Natasha Singer, *Microsoft and Other Firms Pledge to Protect Student Data*, N.Y. TIMES (Oct. 7, 2014), <http://www.nytimes.com/2014/10/07/business/microsoft-and-other-firms-pledge-to-protect-student-data.html> [<https://perma.cc/C49D-ADAJ>] [hereinafter *Firms Pledge to Protect Student Data*].

2. See Mark Koba, *Education Technology Funding Soars—But Is It Working in the Classroom?*, FORTUNE (Apr. 28, 2015), <http://fortune.com/2015/04/28/education-tech-funding-soars-but-is-it-working-in-the-classroom> [<https://perma.cc/6K37-V5V4>].

3. From quarter three of 2014 through quarter two of 2015. *Funding to VC-Backed Education Technology Startups Grows 503% Over 5 Years*, CB INSIGHTS (July 17, 2015), <https://www.cbinsights.com/blog/ed-tech-funding-on-pace-record-year> [<https://perma.cc/F6A8-58JX>].

4. See Koba, *supra* note 2.

educators embrace technology and indicate their willingness to integrate a greater level of digital technology in the classroom.⁵

Internet or digital technology has taken a long time to catch on in the education industry.⁶ Educators and edtech advocates hope that new technology will provide wide-ranging benefits to students, teachers, and administrators. Although many edtech ideas have proven to be ineffective and have not been profitable, many in the education industry are optimistic that technological innovation will transform student learning in the near future.⁷ Edtech, by collecting and storing data on student performance, can help teachers better understand student learning and the effectiveness of different teaching approaches.⁸ It may also help teachers customize their teaching to better serve individual students, and improve classroom and school administration.⁹

Growing student use of digital technology has led to increased concerns about access to, and the use of, student data created and gathered by educational websites, applications, and other online services. A series of high profile data breaches in the retail and employment sector has only added to the public push for stricter and more comprehensive student privacy laws.¹⁰ Further, current federal student privacy laws are widely seen as inadequate and outdated. The applicable laws suffer from inadequate enforcement and confusion due to their overlapping and unclear coverage.

The central tension in edtech is between the need to protect student data privacy on the one hand, and edtech companies' ability to innovate on the other, as well as schools' ability to improve efficiency and enhance education. Edtech companies need access to student data to evaluate and

5. Vision K-20, *2015 Results from the Vision K-20 Survey: Executive Summary*, THE SOFTWARE & INFO. INDUSTRY ASS'N 1, 5 (2015), <http://www.siiia.net/Portals/0/pdf/Education/Visionk20/SIIA%20Vision%20K-20%20Survey%20Executive%20Summary%20V1.pdf> [<https://perma.cc/BP32-FN3U>].

6. See *Firms Pledge to Protect Student Data*, *supra* note 1.

7. See Natasha Singer, *Silicon Valley Turns Its Eye to Education*, N.Y. TIMES (Jan. 11, 2015), <http://www.nytimes.com/2015/01/12/technology/silicon-valley-turns-its-eye-to-education.html> [<https://perma.cc/R5NL-XG2Z>] [hereinafter *Silicon Valley*].

8. See Susan Dynarski, *When Guarding Student Data Endangers Valuable Research*, N.Y. TIMES (June 13, 2015), <http://www.nytimes.com/2015/06/14/upshot/when-guarding-student-data-endangers-valuable-research.html> [<https://perma.cc/D2Y2-73U3>]. As a side note, it is important to recognize that many edtech companies do not collect student data at all and should not be grouped with many of the companies that do collect, store, and use student data.

9. See Jules Polonetsky & Omar Tene, *Who is Reading Whom Now: Privacy in Education from Books to MOOCs*, 17 VAND. J. ENT. & TECH. L. 927, 931, 940 (2015).

10. See Keith R. Krueger & Bob Moore, *New Technology "Clouds" Student Data Privacy*, KAPPAN MAGAZINE 19, 19 (Feb. 2015).

improve education programs.¹¹ And while the general public appears unified behind the effort for greater student privacy protections at both the state and federal level, some involved in education technology are worried that the passage of stricter privacy laws without careful evaluation could greatly reduce the benefits of technology in the classroom.¹² Many policymakers and parents believe that companies that handle children's data must act with extra care in order to ensure their privacy.¹³ This view favors more expansive regulation of student privacy and the modernization of student privacy law.¹⁴

This Note will both evaluate current federal student privacy law and analyze the effectiveness of the California legislature's efforts to enhance student privacy protections. Specifically, Part I of this Note will discuss the scope of the edtech industry and address the nature of student privacy. Part II will evaluate current federal student privacy law and introduce the California legislature's efforts to enhance student privacy protections. Part III will discuss the adequacies and shortcomings of California's Student Online Personal Information Protection Act (SOPIPA), examine the law's effect on the incentives of edtech companies subject to its regulation, and assess whether it appropriately addresses the concerns of parents and educators. Furthermore, Parts III and IV will evaluate whether SOPIPA succeeds in striking an appropriate balance between innovation and the consensus policy goal of strong student data privacy protection, and whether SOPIPA is an adequate solution to the inadequate scheme of federal student privacy law. This Note concludes that while SOPIPA effectively responds to many of the gaps in federal law and successfully updates an outdated body of law, it largely functions as a Band-Aid measure, and federal reform is needed. Additionally, while SOPIPA is a definite improvement on existing student privacy laws, it has some substantive shortcomings, and creates some new problems for the edtech industry.

11. See Dynarski, *supra* note 8.

12. See, e.g., *id.*

13. See Mike Orcutt, *Educational Technology Faces a Pivotal Privacy Moment*, MIT TECH. REV. (July 27, 2015), <http://www.technologyreview.com/news/539101/educational-technology-faces-a-pivotal-privacy-moment> [<https://perma.cc/ED3Q-UNJQ>]; see, e.g., Dynarski, *supra* note 8; see Polonetsky & Tene, *supra* note 9, at 949–54.

14. It is interesting, however, that in many contexts the government does very little to protect children's privacy. This is perhaps most apparent in the context of the children's retail market. Many companies in this market target children through club or loyalty program memberships. There is little regulation in this area, which can allow companies to collect information such as a child's home address and birthday in order to better market their products to children. See generally CHRIS JAY HOOFNAGLE, FEDERAL TRADE COMMISSION PRIVACY LAW AND POLICY (forthcoming 2016).

I. BACKGROUND: AN OVERVIEW OF EDTECH

While edtech is a very important industry, it remains difficult both to define the edtech market and determine whether edtech products offer any benefits to teachers, students, and schools. This Part will first discuss the current scope of the edtech market, including its growth and the types of extant edtech companies and their monetization strategies, as well as criticisms about technology use and effectiveness in the classroom. It will then discuss privacy issues generally and provide a synopsis of the issues specifically raised by student privacy.

A. WHAT IS EDUCATION TECHNOLOGY?

Education technology can be difficult to define because of its breadth. And a discussion of technology often exclusively contemplates modern technology. However, education has long incorporated technology. For example, a blackboard, an overhead projector, a television, and a book are all pieces of education technology. The transition from manual and physical print technology to today's digital and Internet-based technology is the primary source of the present privacy problem.¹⁵ Before the late twentieth century, student data was almost exclusively stored in paper form.¹⁶ Not long ago, computers were considered a luxury in schools. But now digital devices are largely considered a necessity (or are quickly becoming one) to provide students with a quality education. The influx of digital technology (devices, websites, software, and apps that utilize the Internet and cloud-based technology) into the education system presents the law with new student privacy challenges. New technology has increased the ease of collecting and storing data on individual students, raising new concerns about the security of this personal information once it has been collected.¹⁷ The current scope and rapidly evolving nature of edtech makes it a particularly difficult area for privacy law to address.

1. *Types of Edtech Companies and Monetization Strategies*

Different types of edtech companies use different business models and monetize their products in unique ways.¹⁸ Many edtech startups offer their

15. See generally Sonja Trainor, *Student Data Privacy is Cloudy Today, Clearer Tomorrow*, KAPPAN MAG., Feb. 2015, at 13.

16. *Id.* at 14.

17. Joanna Tudor, *Legal Implications of Using Digital Technology in Public Schools: Effects on Privacy*, 44 J. L. & EDUC. 287, 288 (2015).

18. Edtech companies can generally be placed into one of three categories. First, there are companies like Apple, Microsoft, and Google. These are technology companies that do not exclusively have an education focus, but many of their products and services are

products to schools on a free or freemium¹⁹ basis in order to bypass schools' limited budgets and slow, bureaucratic technology adoption process.²⁰ However, the lack of a clear and certain monetization route may be holding down VC investment in the industry.²¹ There is debate over whether startups that do not have a clear strategy to monetize their user-base will be sustainable.²² Investors are generally more confident in edtech companies that charge their customers consistent fees.²³ Many software companies charge for their service directly either for a one-time fee or on a subscription basis.²⁴ Other companies, particularly platform companies like Apple, Google, and Microsoft, offer products at a low cost or offer ad-free versions

widely used in schools. These are platform-based companies that want consumers to adopt their entire ecosystem of products and services. See Matt Buchanan, *Apple vs. Google: Did Apple Learn Anything From its War With Microsoft*, WIRED (Nov. 1, 2013), <http://www.wired.com/2013/11/is-the-mobile-dogfight-between-apple-and-google-just-like-the-one-with-microsoft> [<https://perma.cc/AQC3-M3N9>]. For example, Google's platform encompasses its Chromebook computers, Apps for Education, e-mail platform (g-mail), search engine, and many other products and services. See *Google for Education*, GOOGLE, <https://www.google.com/edu> [<https://perma.cc/4FZR-PMFU>]. These platforms hope to benefit from network effects: their assumption is that wider distribution will exponentially attract more customers and encourage current customers to stay with the company. See Buchanan, *supra* note 18. Second, there are well-established education-centric companies. This category includes companies like Houghton Mifflin Harcourt, Walsworth, and Pearson, which are traditional education companies. These types of companies provide services such as education publishing and school assessment, but are also generally expanding into digital content and services. This category also includes companies like Edmodo, Canvas, and Blackboard. These companies exclusively provide digital education services, platforms, and content. Third, there are edtech companies that can be classified as startups. These companies have limited distribution, funding, and may be made up of just a single entrepreneur or partners. For the most part, these companies have not signed the Student Privacy Pledge that will be discussed later in the Note.

19. Investopedia defines "freemium" as:

a combination of the words 'free' and 'premium' used to describe a business model that offers both free and premium services. The freemium business model works by offering simple and basic services for free for the user to try and more advanced or additional features at a premium. This is a common practice with many software companies, who offer basic software free to try but with limited capabilities.

Freemium Definition, INVESTOPEDIA, <http://www.investopedia.com/terms/f/freemium.asp> [<https://perma.cc/4Y3X-TBXT>].

20. *Silicon Valley*, *supra* note 7.

21. *See id.*

22. *See id.*

23. *See id.*

24. *See id.*

of their services to students²⁵ in order to attract a user base that will later yield a powerful network of users.

For the purposes of this Note, the division between edtech startups and more established edtech companies (both platform-based companies and education centric companies) will play a significant role in the evaluation of SOPIPA, particularly due to their differing resources and revenue streams.

2. *Benefits and Criticisms of Edtech*

While edtech has grown tremendously over the last few years, some leaders in the education industry question whether the benefits of new technology are truly being realized and whether access to technology is broad across schools with varying economic resources and can be sustained over the long-term.²⁶ Access to technology is still limited in lower income neighborhoods, and many edtech services are not cheap.²⁷ Furthermore, in order to keep up with rapidly evolving technology in the face of ever-dwindling budgets, many school districts have chosen to issue bonds in order to bridge the funding gap.²⁸ Schools not only find that devices quickly become obsolete as technology evolves,²⁹ but also must build funding into their budgets for the applications and other services that run on these devices.³⁰

Aside from problems with the cost of and access to educational technology, many teachers are concerned that digital technology supplants their ability to teach and reach students.³¹ Some teachers see the integration of digital devices into classroom teaching as a distraction that has far less educational value than edtech companies credit it with.³² A recent study found that, although students that use computers “moderately” at school generally perform better than those that use them infrequently, the performance of students that use computers very frequently suffers.³³ This may mean that teachers need to be more involved in the design and

25. See Tudor, *supra* note 17, at 321.

26. See Koba, *supra* note 2.

27. See *id.*

28. *Id.*

29. See *id.*

30. See *id.*

31. See *id.*

32. See *id.*

33. *New Approach Needed to Deliver on Technology's Potential in Schools*, ORGANISATION FOR ECON. CO-OPERATION & DEV. (Sept. 15, 2015), <http://www.oecd.org/education/new-approach-needed-to-deliver-on-technologys-potential-in-schools.htm> [<https://perma.cc/86GP-2H85>].

implementation of edtech products.³⁴ But it is at least clear that educators and edtech companies still have a lot to figure out in order to unlock the true potential of digital technology integration in the classroom. However, and notwithstanding these criticisms, researchers expect school expenditures on new technology to continue to grow for the foreseeable future.³⁵

Proponents of technology in the classroom maintain that students and teachers can benefit from it in many ways. For example, the use of data-collecting digital technology can provide students with a more personalized education than would otherwise be available to them.³⁶ A piece of software may be able to recognize certain reoccurring problems that a student struggles with, or determine a student's optimal learning style in a way that a teacher may be unable to uncover.³⁷ More generally, collection of large amounts of data "promises big advantages" to education including "the ability to track and document the needs, progress, and success of individuals and groups."³⁸ The technology itself may also increase opportunities for collaboration among students and can lead to greater engagement in learning.³⁹

B. DEVELOPMENT OF PRIVACY LAW & STUDENT PRIVACY

High profile privacy threats have recently taken center stage in the national discourse, leading to increased public concern about the potential privacy implications of the collection of personal information and data by companies, organizations, and government agencies.⁴⁰ Further, Edward Snowden's disclosures relating to the National Security Agency's collection of the personal phone records of millions of Americans has increased the push for stronger privacy protections.⁴¹

Information privacy, or data protection, law is a relatively new area of law that is largely still taking shape.⁴² Much of the development in this area has occurred since the year 2000 as new technologies have forced lawmakers to reevaluate privacy protections and determine the nature of public

34. *See id.*

35. Koba, *supra* note 2.

36. *See* Polonetsky & Tene, *supra* note 9, at 939.

37. *See* Orcutt, *supra* note 13.

38. Trainor, *supra* note 15, at 13.

39. *See* Polonetsky & Tene, *supra* note 9, at 931.

40. *See* Dynarski, *supra* note 8.

41. *See id.*

42. DANIEL J. SOLOVE & PAUL M. SCHWARTZ, *PRIVACY LAW FUNDAMENTALS* 39 (3d ed. 2015).

expectations of privacy in the digital technology space.⁴³ For example, the first data breach notification statute was not passed in the United States until 2003.⁴⁴

As noted by Daniel Solove and Paul Schwartz, “privacy problems occur in particular contexts, and different types of problems involve different trade-offs and concerns.”⁴⁵ In other words, the best solution to the student data problem may differ greatly from the solution to various other privacy problems that arise in other contexts (such as adult data privacy or even child privacy in Internet use outside of the education context). This Section will discuss the current state of student privacy law and the central issues facing policy makers.

1. *Current Issues Surrounding Student Privacy*

Like privacy generally, student privacy remains a developing and constantly changing area of the law. But student privacy is not a new concern. Federal statutes have regulated student privacy in some form for over forty years. The Family Educational Rights and Privacy Act of 1974 (FERPA), the first federal statute to regulate student privacy, was described as being “on the frontier of federal privacy regulation” at the time of its enactment.⁴⁶ However, FERPA’s effectiveness has come into question as the edtech market has exploded in the last few years.⁴⁷ While in the past, student privacy was largely regulated by federal statutes, legislative activity in this area has shifted to the states. Twenty-eight states enacted student privacy laws in 2014.⁴⁸ In comparison, state legislatures only enacted a single student privacy bill in 2013.⁴⁹ Since 2013, nearly all states have passed or considered bills to enhance student data privacy protections.⁵⁰ Many of

43. *See id.*

44. *Id.*

45. *Id.*

46. Daniel Solove & Paul Schwartz, *The Battle for Leadership in Education Privacy Law: Will California Seize the Throne?*, SAFEGOV (Mar. 27, 2014), <http://edu.safegov.org/the-battle-for-leadership-in-education-privacy-law-will-california-seize-the-throne> [<https://perma.cc/9YJ6-SGLF>].

47. *See id.*

48. *See* Trainor, *supra* note 15, at 17.

49. John Watson et al., KEEPING PACE WITH K–12 DIGITAL LEARNING: AN ANNUAL REVIEW OF POLICY AND PRACTICE 66 (11th ed. 2014).

50. *See* Amelia Vance, *Policy Update*, NAT’L ASS’N ST. BOARDS EDUC. (2015), http://www.nasbe.org/wp-content/uploads/NASBE-Policy-Update-2015-Legislative-Session-Data-Privacy_-June-2015.pdf [<https://perma.cc/4C2B-GJ23>].

these laws seek to ensure that student data is not sold to third parties or otherwise used for commercial purposes.⁵¹

Educators and edtech companies have expressed concern that some of the more restrictive laws will pose problems for effective digital learning and innovation.⁵² Rob Curtin, a long-time employee at Microsoft and current chief privacy officer at an edtech startup, has warned that comprehensive restrictions on the collection and sharing of student data could “stifle innovation” and limit the educational benefits of edtech data.⁵³ Curtin claims that historical data profiles of an individual student’s performance on assessments can be used to personalize lesson plans and instruction.⁵⁴ But many advocates and politicians are in favor of strengthening student privacy protections, instituting major reform of the current conglomeration of federal laws that supposedly protect student privacy.⁵⁵ There are also many advocacy organizations such as the Future of Privacy Forum and Common Sense Media that advocate for student privacy in the form of new legislation and agreed upon business standards.⁵⁶ Some policy makers and parents are susceptible to the knee jerk reaction of maximum privacy protection for students, and some involved in the education industry are concerned that broadly written legislation could eliminate the many benefits of edtech and student data.⁵⁷

The sheer amount of data collected on individual students—and the fact that schools and school districts generally contract out the processing and storage of student data—further exacerbates privacy concerns.⁵⁸ Student data can also be very personal in nature. For example, edtech company Edmodo allows students to create profiles as a part of the students’ interaction with virtual classrooms.⁵⁹ These classrooms provide students

51. *See id.*

52. Watson et al., *supra* note 49, at 66.

53. Orcutt, *supra* note 13.

54. *Id.*

55. *See* Solove & Schwartz, *supra* note 46.

56. *See Common Sense Media Applauds President Obama for Addressing Important Kids and Family Issues in His State of the Union*, COMMON SENSE MEDIA (Jan. 20, 2015), <https://www.common-sense-media.org/about-us/news/press-releases/common-sense-applauds-president-obama-for-addressing-important-kids-and> [<https://perma.cc/Z4VW-DRTP>] [hereinafter *Common Sense Media*]; *Firms Pledge to Protect Student Data*, *supra* note 1.

57. *See* Butch Gemin et al., KEEPING PACE WITH K–12 DIGITAL LEARNING: AN ANNUAL REVIEW OF POLICY AND PRACTICE 116 (12th ed. 2015); Dynarski, *supra* note 8.

58. *See* Krueger & Moore, *supra* note 10, at 20.

59. Natasha Singer, *Data Security Is a Classroom Worry Too*, N.Y. TIMES (June 22, 2013), <http://www.nytimes.com/2013/06/23/business/data-security-is-a-classroom-worry-too.html> [<https://perma.cc/F5RN-7YNR>].

with access to homework assignments, quizzes, and third-party software.⁶⁰ These student profiles allow children to upload a picture and other personal information that is visible within the students' class.⁶¹

In response to concerns provoked by edtech features like student profiles, recently proposed student privacy laws generally aim to increase parental rights over student data and restrict edtech vendors' use of student data for purposes outside of learning, such as the sale of student data or the use of the data for marketing.⁶² Commentators expect that coming legislation will impose more privacy requirements on schools and edtech companies in the near future.⁶³

Even if future legislation increases privacy protections and requirements, schools may not sufficiently comply with the new regulation. Some schools have likely violated current student privacy laws like FERPA by allowing companies to have access to student data for profit-seeking rather than educational purposes.⁶⁴ However, FERPA and other extant laws lack enforcement power.⁶⁵ In the absence of a threat of sanctions, there is little incentive for schools and edtech companies to change their behavior.⁶⁶ However, reacting to this problem with unnecessarily restrictive laws that still lack enforcement power may be an ill-fitted solution. Furthermore, without proper oversight of educators' technology use, there remains a great risk that products and services lacking acceptable data security practices or engaging in unauthorized student data profiling will find their way into the classroom, even in the presence of a strong enforcement scheme.⁶⁷

2. *Precautionary Social Attitudes Towards Student Privacy: inBloom as an Example*

The public reaction to the student data practices of the now-defunct edtech company inBloom provides a helpful illustration of the general attitude towards student privacy.⁶⁸ Further, inBloom's story also illustrates

60. *Id.*

61. *Id.*

62. See Tanya Roscorla, *A National Look at Student Data Privacy Legislation*, GOV'T TECH. (Sept. 12, 2014), <http://www.govtech.com/education/National-Look-at-Student-Data-Privacy-Legislation.html> [<https://perma.cc/C7P5-ZXXC>].

63. See Watson et al., *supra* note 49, at 66.

64. Dynarski, *supra* note 8.

65. See Solove & Schwartz, *supra* note 46.

66. See Dynarski, *supra* note 8.

67. See Polonetsky & Tene, *supra* note 9, at 950.

68. See generally Natasha Singer, *A Student-Data Collector Drops Out*, N.Y. TIMES (Apr. 26, 2014), <http://www.nytimes.com/2014/04/27/technology/a-student-data-collector>

the importance of public perception in the realm of student privacy, demonstrating how false perceptions and misunderstandings can quickly lead to the demise of a well-funded corporation, even in the absence of wrongdoing.

InBloom was a nonprofit data management and storage company supported by the Gates Foundation.⁶⁹ It had many of the same goals as other edtech companies.⁷⁰ Specifically, inBloom wanted to analyze student information to better customize lessons for individual students and collect individual student data to help teachers track student progress.⁷¹ Parents were extremely concerned about the prospect of an outside organization holding a vast amount of student data in the cloud, the sheer amount of data that inBloom sought to collect, and inBloom's analysis of this data.⁷² Parents and privacy advocates portrayed the company as an entity with questionable motives.⁷³ Parents also recognized—and were bothered—that schools were generally not equipped to provide effective oversight into how organizations like inBloom were using student information in practice.⁷⁴ As public criticism gradually grew into an uproar, inBloom was forced to shut down after only fifteen months.⁷⁵ In the end, the nonprofit that “planned to collect and integrate student attendance, assessment, disciplinary and other records from disparate school-district databases, put the information in cloud storage and release it to authorized web services . . . that could help teachers track student's progress” ceased operations without legal wrongdoing. Part II will discuss the current legal landscape that governs edtech companies like inBloom.⁷⁶

II. WHERE WE ARE NOW: EXISTING LAW

Student privacy rights are protected by an overlapping combination of laws. Currently, several federal statutes jointly govern student data privacy. FERPA, the Children's Online Privacy Protection Act of 1998 (COPPA), and the Protection of Pupil Rights Amendment (PPRA) all address

-drops-out.html [<https://perma.cc/7YZ8-37ZJ>] [hereinafter *Student-Data Collector Drops Out*].

69. *Id.*

70. *See id.*

71. *See id.*

72. *See id.*

73. *See id.*

74. *See id.*

75. *See id.*

76. *See id.*

different aspects of student privacy.⁷⁷ These statutes have been widely described as outdated, as all three statutes were enacted at a time with vastly different technological, business, and education landscapes.⁷⁸ Aside from an update to the COPPA rules, the current student privacy regulatory scheme does not specifically contemplate edtech companies.⁷⁹

State legislatures have passed many student privacy laws in the last few years to try to modernize the law and address gaps in the federal law that have become apparent with the spread of digital technology.⁸⁰ For example, recent expansions in state student privacy laws have largely put an end to the once common practice of selling student data generated and gathered by edtech products.⁸¹ The current wave of state laws respond to parental concerns over Internet data security and generally “spell out procedures for collecting, storing, and using student data or prohibit the gathering of certain types of sensitive data, like info related to health, religion, or political affiliations.”⁸² California passed its landmark student privacy bill—SOPIPA—in the midst of the student privacy legislation wave.⁸³

A. SOPIPA

California has long been considered a leader in privacy law.⁸⁴ The state is credited as the first to pass a data breach notification law, and also recently passed a groundbreaking law that grants children and young adults the right to permanently delete content they post on various online services and applications.⁸⁵ SOPIPA demonstrates that California is also at the forefront of student data privacy law.

SOPIPA is a California student privacy bill that limits “commercial advertising, marketing and profiling by operators of websites or providers of

77. See 20 U.S.C. §1232g (2012); 15 U.S.C. §§ 6501–6506 (2012); 20 U.S.C. § 1232h (2012).

78. See Polonetsky & Tene, *supra* note 9, at 974–75.

79. See Krueger & Moore, *supra* note 10, at 20.

80. See Polonetsky & Tene, *supra* note 9, at 972–75; Vance, *supra* note 50.

81. Orcutt, *supra* note 13.

82. *Id.*

83. See Polonetsky & Tene, *supra* note 9, at 973–74; Vance, *supra* note 50.

84. See Maritza Jean-Louis, *California Breaks New Ground in Education Privacy Law with K–12 Student Privacy Bill*, PROSKAUER PRIVACY BLOG, (Sept. 17, 2014), <http://privacylaw.proskauer.com/2014/09/articles/california/california-breaks-new-ground-in-education-privacy-law-with-K-12-student-data-privacy-bill> [<https://perma.cc/K4D5-LAQH>].

85. *Id.*

Internet services or mobile applications.”⁸⁶ The law specifically governs any “operator of an Internet Web site, online service, online application, or mobile application with actual knowledge that the site, service, or application is used primarily for K–12 school purposes and was designed and marketed for K–12 school purposes.”⁸⁷ SOPIPA defines “K–12 purposes” as “purposes that customarily take place at the direction of the K–12 school, teacher, or school district . . . including, but not limited to, instruction in the classroom or at home, administrative activities, and collaboration between students, school personnel, or parents, or are for the use and benefit of the school.”⁸⁸ Notably, influential stakeholder groups like the California Teachers Association, the California State PTA, and Common Sense Media supported SOPIPA,⁸⁹ which went into effect at the start of 2016.⁹⁰

SOPIPA is both an attempt to update student data privacy law, and supplements existing federal laws (FERPA, COPPA, PPRA). It is the first comprehensive law and is notable because it explicitly targets edtech companies.⁹¹ SOPIPA specifically targets “operator[s] of [I]nternet web site[s], online service[s], online application[s], or mobile application[s].”⁹² Cloud computing services are also included in the category of “online services.”⁹³ And even though SOPIPA is a California law, it applies to companies based outside of California that reach California K–12 students.⁹⁴

1. *Prohibited Use and Disclosure of Student Data*

SOPIPA prohibits edtech companies (“operators”) that collect or create student data from selling the data or using it themselves for the purpose of

86. See Jim Halpert & Michelle Anderson, *State Privacy and Security Developments – Looking Back and Looking Ahead*, BLOOMBERG BNA (Feb. 9, 2015); CAL. BUS. & PROF. CODE §§ 22584–22585 (2014).

87. CAL. BUS. & PROF. CODE § 22584(a).

88. *Id.* § 22584(j).

89. S. RULES COMM., S.B. 1177 BILL ANALYSIS, (Cal. 2014) http://www.leginfo.ca.gov/pub/13-14/bill/sen/sb_1151-1200/sb_1177_cfa_20140826_135115_sen_floor.html [<https://perma.cc/R4UC-X7VC>].

90. CAL. BUS. & PROF. CODE § 22585.

91. See Krueger & Moore, *supra* note 10, at 21.

92. CAL. BUS. & PROF. CODE § 22584(a).

93. *Id.* § 22584(h).

94. Randy Sabett, *How Student Privacy and California’s SOPIPA May Affect You*, JD SUPRA BUSINESS ADVISOR (Nov. 20, 2014), <http://www.jdsupra.com/legalnews/blog-how-student-privacy-and-california-93991> [<https://perma.cc/MA43-ZSQG>].

targeted advertising.⁹⁵ Consistent with this prohibition on the use of student data for certain commercial ends, SOPIPA also prohibits the sale of student data.⁹⁶ Further, SOPIPA also restricts the creation of a profile of data on an individual student unless the profile is “amassed” for “K–12 school purposes.”⁹⁷

Disclosure of “covered information” under SOPIPA is generally prohibited.⁹⁸ “Covered information” includes any personally identifiable information created or provided by a student or parent transmitted to an “operator in the course of the use of the operator’s site, service, or application for K–12 school purposes.”⁹⁹ “Covered information” also includes information that is gathered by an operator through the operation of their site, service, or application that “is descriptive of a student or otherwise identifies a student.”¹⁰⁰ SOPIPA permits disclosure of “covered information” only if it is made: “in furtherance of the K–12 purpose of the site;” in order to “ensure legal and regulatory compliance;” “to respond to or participate in judicial process;” for certain safety purposes; or if disclosure is made to another service provider with several restrictions attached.¹⁰¹ This allowable disclosure is clearly limited. While SOPIPA is clear in its general opposition to the use of student data for commercial purposes, the law explicitly permits operators to use information for “maintaining, developing, supporting, improving, or diagnosing [problems with]” their site, service, or application.¹⁰²

2. *Affirmative Obligations for Edtech*

In addition to the restrictions discussed above, SOPIPA places affirmative obligations on operators. Companies that handle student data must “maintain reasonable security procedures” to protect student data from “unauthorized access, destruction, use, modification, or disclosure.”¹⁰³ The “reasonable security procedures and practices” must be “appropriate to the

95. Halpert & Anderson, *supra* note 86. Targeted advertising is prohibited on any “site, service, or application when the targeting of the advertising is based upon any information, including covered information and persistent unique identifiers, that the operator has acquired because of the use of that operator’s site, service, or application.” CAL. BUS. & PROF. CODE §§ 22584(b)(1)(A)–(B).

96. CAL. BUS. & PROF. CODE § 22584(b)(3).

97. *Id.* § 22584(b)(2).

98. *Id.* § 22584(b)(4).

99. *Id.* § 22584(i)(1).

100. *Id.* § 22584(i)(3).

101. *Id.* § 22584(b)(4).

102. *Id.* § 22584(c).

103. *Id.* § 22584(d)(1).

nature of the covered information.”¹⁰⁴ SOPIPA also requires operators of online websites or services to delete student data at the request of a school or school district, but only if that data is under the control of the school or district.¹⁰⁵

3. *Deidentified Student Data*

SOPIPA treats deidentified student data differently from personally identifiable information.¹⁰⁶ Operators are permitted to use deidentified student information that would otherwise be covered by the law within a site, service, or application owned by the operator with the purpose of improving educational products.¹⁰⁷ The deidentified student data can also be used for marketing purposes in order to “demonstrate the effectiveness of the operator’s application or service.”¹⁰⁸ Furthermore, SOPIPA allows operators to share “aggregated” deidentified covered student data for the development or improvement of other educational products.¹⁰⁹

4. *Enforcement*

SOPIPA itself does not contain any explicit enforcement provisions. Drafters expected it to be enforced through California’s Unfair Competitions Law (UCL).¹¹⁰ The UCL permits California’s Attorney General, district attorneys, and certain qualifying city attorneys to file an action for unfair competition.¹¹¹ Additionally, the UCL permits a “person who has suffered injury in fact and has lost money or property as a result of the unfair competition” to file an action for relief.¹¹²

B. THE IMPACT OF THE STUDENT PRIVACY PLEDGE

Shortly after the passage of SOPIPA, a number of edtech companies agreed to sign the Future of Privacy Forum’s Student Privacy Pledge.¹¹³ The Student Privacy Pledge was designed to address some of the weaknesses in FERPA as well as some of the student privacy issues discussed at the state level.¹¹⁴

104. *Id.*

105. *Id.* § 22584(d)(2).

106. *See id.* § 22584(f)(1).

107. *Id.* § 22584(f)(1).

108. *Id.* § 22584(f)(2).

109. *Id.* § 22584(g).

110. CAL. BUS. & PROF. CODE §§ 17200–17209 (West 2015).

111. *Id.* § 17204.

112. *Id.*

113. *Firms Pledge to Protect Student Data*, *supra* note 1.

114. *Id.*

1. *Growth of the Pledge*

The Future of Privacy Forum developed the pledge with the help of the Software & Information Industry Association.¹¹⁵ Initially, fourteen companies agreed to take the pledge, including Microsoft and Houghton Mifflin Harcourt.¹¹⁶ Similar to SOPIPA, companies that took the pledge are “publicly committing themselves not to sell information on kindergartners through 12th graders.”¹¹⁷ The signatory companies also agreed not to use student data to target students with advertisements and not to create profiles of individual students without school or parent permission.¹¹⁸ In this way, the pledge is largely taking the core provisions of SOPIPA and extending them across state lines.¹¹⁹ Prior to publicly acknowledging their commitments, the initial signatories ensured they already complied with the requirements of the pledge in their business operations.¹²⁰ And while the pledge is not legally binding, failure to uphold their commitment could land signatory companies in hot water with the Federal Trade Commission due to violations of their own public representations of their privacy practices.¹²¹ Some analysts suggest that edtech companies chose to take this pledge in order to “fend off tighter regulation” by “plug[ging] some of the loopholes in federal privacy law.”¹²²

The pledge has gathered momentum since its initial announcement. While Apple and Google initially refused to sign the pledge, both companies have since signed on.¹²³ This represents a transition for Google in this area, as the company admitted that it had used student e-mail data for advertising purposes until early 2014.¹²⁴ The rapid increase in signatories of the pledge is also, at least partially, the result of President Obama’s

115. *Id.*

116. *Id.*

117. *Id.*

118. *Id.*

119. See CAL. BUS. & PROF. CODE § 22584(g); see also *Firms Pledge to Protect Student Data*, *supra* note 1.

120. *Firms Pledge to Protect Student Data*, *supra* note 1.

121. *Id.*

122. Stephanie Simon, *Student Privacy Pledged; Critics Scoff*, POLITICO (Oct. 7, 2014), <http://www.politico.com/story/2014/10/student-privacy-tech-companies-111645> [<https://perma.cc/3VEA-53EK>].

123. Alistair Barr, *Google Changes Course, Signs Student Data Privacy Pledge*, WALL ST. J. (Jan. 20, 2015), <http://blogs.wsj.com/digits/2015/01/20/google-changes-course-signs-student-data-privacy-pledge> [<https://perma.cc/288N-QBSM>].

124. Roscorla, *supra* note 62.

endorsement—and school districts’ awareness—of the pledge in negotiations with potential edtech service providers.¹²⁵

2. *Criticisms of the Pledge*

Critics of the Student Privacy Pledge note that in the absence of concrete federal protections, these types of voluntary efforts can often lack oversight.¹²⁶ Some have criticized the privacy pledge for failing to require specific security measures, “such as encryption of logins for sites that collect personal details about students.”¹²⁷ Some companies that have signed the pledge do not even have basic encryption for their login process.¹²⁸

While large, wealthy companies like Google and Apple are signatories of the pledge, the pledge does not stop them from collecting data produced by students in the classroom. For example, Google is a large provider of low-cost laptop computers to schools around the country.¹²⁹ Google’s Chromebook is extremely attractive to schools because it is cheap and able to easily perform many functions valuable to teachers.¹³⁰ The Chromebook comes with Google’s free Apps for Education services pre-installed to make the Chromebook even more appealing to teachers and schools.¹³¹ When schools receive their Chromebooks, a feature known as “Google Sync” is enabled. Google Sync sends each student user’s browsing history to Google.¹³² Furthermore, the data remains associated with each student’s personal account, which contains personal information such as his birthday.¹³³ According to the Electronic Frontier Foundation, Google’s practices regarding student use of Chromebooks demonstrate that it is far

125. See Barr, *supra* note 123.

126. *Firms Pledge to Protect Student Data*, *supra* note 1.

127. Natasha Singer, *Data Security Gaps in an Industry Student Privacy Pledge*, N.Y. TIMES (Feb. 11, 2015), <http://bits.blogs.nytimes.com/2015/02/11/data-security-gaps-in-an-industry-student-privacy-pledge> [<https://perma.cc/385Z-3MSU>].

128. *Id.*; see also Natasha Singer, *Digital Learning Companies Falling Short of Student Privacy Pledge*, N.Y. TIMES (Mar. 5, 2015), <http://bits.blogs.nytimes.com/2015/03/05/digital-learning-companies-falling-short-of-student-privacy-pledge> [<https://perma.cc/4GQE-9XZP>] (noting how odd it is that many companies signed a pledge that requires them to “maintain a comprehensive security program that is reasonably designed to protect the security, privacy, confidentiality, and integrity of student personal information” without an “elementary security measure” like full encryption for their login process) [hereinafter *Digital Learning Companies Falling Short*].

129. Nate Cardozo, *Internet Companies: Confusing Consumers for Profit*, ELECTRONIC FRONTIER FOUND. (Oct. 14, 2015), <https://www.eff.org/deeplinks/2015/10/internet-companies-confusing-consumers-profit> [<https://perma.cc/5MVE-8Z24>].

130. *See id.*

131. *See id.*

132. *Id.*

133. *Id.*

too difficult to determine what a company is doing with student data.¹³⁴ While students and school districts have the option to opt out of Google Sync, most school districts were unaware that Google was collecting their browsing data.¹³⁵ If Google, a highly visible and established company, and a signatory of the Student Privacy Pledge, is still engaged in this highly questionable collection of student data, it raises larger concerns about the student data practices of lesser known edtech companies and those who have refused to sign the pledge.

C. FAMILY EDUCATIONAL RIGHTS AND PRIVACY ACT OF 1974

FERPA was the first law to establish student privacy rights, passed in 1974.¹³⁶ It defined which parties are permitted to access and share student data.¹³⁷ It was also the first to clarify parental rights in their children's information.¹³⁸ However, FERPA is largely "ineffective in protecting student privacy in today's digital age."¹³⁹

1. *Application and Boundaries of FERPA*

FERPA applies to all schools that receive federal funding.¹⁴⁰ It regulates a school's ability to disclose "personally identifiable information" from a student's "education records."¹⁴¹ Education records are defined as records that "contain information directly related to the student" and "are maintained by an educational agency or institution or by a person acting for such agency or institution."¹⁴² Examples of education records include student grades or disciplinary records.¹⁴³ The law requires parental consent prior to the release of education records or any personally identifiable information.¹⁴⁴ Under FERPA, the student's parents have control of their child's privacy rights until the student is no longer a minor.¹⁴⁵

134. *Id.*

135. *See id.*

136. Tudor, *supra* note 17, at 291.

137. Polonetsky & Tene, *supra* note 9, at 959.

138. *Id.* at 960.

139. Solove & Schwartz, *supra* note 46.

140. 20 U.S.C. §1232g (2012).

141. *Id.* § 1232g(b)(1).

142. *Id.* §1232g(a)(4)(A).

143. Khizar Sheikh & Kimberly Goldberg, *Schools and Digital Education Technologies*, 288 N.J. LAW. 34, 35 (2014).

144. 20 U.S.C. § 1232g(b)(1).

145. Tudor, *supra* note 17, at 291.

There are many exceptions to FERPA that allow school districts to disclose information without parental consent.¹⁴⁶ Two major exceptions are most relevant to the present discussion.¹⁴⁷ First, schools may disclose “directory information” to third-party vendors if disclosure “would not generally be considered harmful or an invasion of privacy.”¹⁴⁸ Directory information includes “the student’s name, address, telephone listing, date and place of birth . . . [and] dates of attendance.”¹⁴⁹ Second, schools may disclose personally identifiable information without consent if “a vendor performs a function that otherwise would be performed by a school employee, has a legitimate interest in that data, and the school directly controls the vendor’s use and maintenance of the data.”¹⁵⁰ Although disclosure to a vendor is permitted under this exception, a vendor may only use the disclosed personally identifiable information for the authorized purpose and may “not permit any other party to have access to such information without the written consent of the parents of the student.”¹⁵¹ Additionally, FERPA requires that the school keep track of all parties that have accessed the student’s education record and the reason that it permitted access to the data.¹⁵²

2. Criticisms of FERPA

There are several criticisms of FERPA. Most importantly, it lacks a sufficient enforcement mechanism, and thus there is little incentive for companies to comply with it.¹⁵³ Under FERPA, the Secretary of Education has a duty to take any “appropriate actions to enforce” the law.¹⁵⁴ Even though the text of the statute may describe a wide range of penalties available, the only sanction available to the Department of Education is the power to stop all federal funding to the school.¹⁵⁵ While this penalty seems harsh and might lead schools to comply, the Department of Education has never imposed it,¹⁵⁶ largely because the sanction is impractically severe.¹⁵⁷

146. Sheikh & Goldberg, *supra* note 143, at 35.

147. *See id.*

148. 34 C.F.R. § 99.3 (2012).

149. 20 U.S.C. § 1232g(a)(5)(A).

150. Sheikh & Goldberg, *supra* note 143, at 35 (citing 20 U.S.C. § 1232g(b) and 34 C.F.R. § 99.31(a)(1)).

151. 20 U.S.C. § 1232g(b)(4)(B).

152. *Id.* § 1232g(b)(4)(A).

153. *See* Solove & Schwartz, *supra* note 46.

154. 20 U.S.C. § 1232g(f).

155. *See* Solove & Schwartz, *supra* note 46.

156. *Id.*

157. *Id.*

Thus the lack of adequate sanctions available for FERPA violations has resulted in “essentially nonexistent” enforcement.¹⁵⁸

FERPA may also be ill-equipped to deal with the rapid increase in the use of digital technology in schools and is in desperate need of an update or supplemental law.¹⁵⁹ As mentioned, third party companies and organizations often handle student data in today’s world. Significantly, FERPA regulation only applies to schools.¹⁶⁰ The Department of Education is therefore unable to enforce the law against third-party businesses, even if these businesses are in control of data that would otherwise be regulated by FERPA.¹⁶¹ Once the data leaves the school’s hands (which happens frequently in today’s world), there is no enforcement threat. Along these lines, FERPA also lacks modern data security requirements.¹⁶²

FERPA runs into significant problems when the school uses a cloud computing service provider to analyze or store student data.¹⁶³ It fails to assign any real responsibilities to the cloud service provider.¹⁶⁴ In fact, when student data is shared with a cloud computing provider, the provider’s data security responsibilities are largely governed by its contract with the school.¹⁶⁵ If the school claims that it is simply outsourcing its own functions when it shares data with the third party, the school is permitted to disclose the otherwise protected education records.¹⁶⁶ A study by Fordham Law School found that contracts between schools and third-party vendors generally did not prohibit the sale or marketing of students’ information and did not provide for proper oversight of third-party handling of sensitive data.¹⁶⁷

158. *Id.*

159. *See id.*; *see also* Polonetsky & Tene, *supra* note 9, at 960, 962.

160. Solove & Schwartz, *supra* note 46.

161. *Id.*

162. “FERPA provides little to no guidance about data governance and security obligations.” Polonetsky & Tene, *supra* note 9, at 968.

163. Solove & Schwartz, *supra* note 46 (citing Joel R. Reidenberg et al., *Privacy and Cloud Computing in Public Schools*, FORDHAM CTR. ON LAW & INFO. POL’Y (Dec. 13, 2013), <http://ir.lawnet.fordham.edu/clip/2> [<https://perma.cc/52AK-AVLL>]).

164. *See id.*

165. *See id.*

166. *See id.*

167. *See id.*

D. CHILDREN'S ONLINE PRIVACY PROTECTION ACT OF 1998

Congress passed COPPA to protect the personally identifiable information of children under the age of thirteen on the Internet.¹⁶⁸ The law arose from the increasing ubiquity of Internet use and the worry that corporations, other organizations, and individuals were collecting personal data from children.¹⁶⁹ COPPA was also enacted on the basis that children lack the judgment required to use the Internet safely and are thus in need of additional protection.¹⁷⁰

Because the statute applies to children, it naturally applies to student data as well. Although it has several problems, COPPA adequately protects children while they use the Internet in many ways. Specifically, it gives parents control over the information that a website operator may collect from their child (under 13).¹⁷¹ COPPA only applies to website operators or online services that are “directed to children” or websites and services that have “actual knowledge that [they are] collecting personal information from a child.”¹⁷² Parental consent must be obtained by the website operator or online service provider prior to collecting a child’s information.¹⁷³ A school may provide consent in place of a parent “only for use of data for school purposes and for no other commercial purpose.”¹⁷⁴ Under COPPA, the definition of “personally identifiable information” has been expanded and may include information not included under FERPA and PPRA.¹⁷⁵

The statute applies to edtech companies that operate educational websites.¹⁷⁶ However, the FTC recently announced that the statute does not apply to data collection by schools and certain online test providers.¹⁷⁷ Unlike FERPA and PPRA, entities that violate COPPA are subject to civil penalties in an action brought by a state attorney general.¹⁷⁸ Additionally,

168. See 15 U.S.C. §§ 6501–6506 (2012).

169. Hoofnagle, *supra* note 14 (chapter 7 manuscript at 1–2).

170. See *id.* (chapter 7 manuscript at 2).

171. See 15 U.S.C. § 6502(b)(1).

172. *Id.* § 6502(a)(1).

173. Polonetsky & Tene, *supra* note 9, at 970.

174. *Id.*

175. Sheikh & Goldberg, *supra* note 143, at 35.

176. *Id.*

177. Lesley Fair, *Testing, Testing: A Review Session on COPPA and Schools*, FED. TRADE COMM’N (Jan. 23, 2015), <https://www.ftc.gov/news-events/blogs/business-blog/2015/01/testing-testing-review-session-coppa-schools> [<https://perma.cc/8ARE-2FBM>].

178. See Sheikh & Goldberg, *supra* note 143, at 35.

those in violation of the statute may be subject to a FTC enforcement action that can result in fines in excess of \$1 million.¹⁷⁹

Many website and online service operators attempt to work around the requirements of COPPA by explicitly stating that their platform or product is intended to be available only to children thirteen years or older.¹⁸⁰ However, younger children are often able to work around this requirement and continue to use the online product without receiving the intended protections of COPPA.¹⁸¹

Additionally, while COPPA requires that website operators obtain parental consent and provide a privacy policy that details the website's data collection practices prior to collecting a child's covered information, it is common for operators to reserve the right to unilaterally amend their privacy policy.¹⁸² This places the burden on the parent to monitor the privacy policies for any changes.¹⁸³ Otherwise, children could unintentionally be exposed to suspect data collection and use practices.¹⁸⁴

Because Congress acted quickly when it enacted COPPA, the statute lacks an extensive legislative history.¹⁸⁵ This has made it difficult to identify congressional intent behind COPPA. Thus, COPPA has been used as both "an information privacy law and an online safety measure."¹⁸⁶ The law largely attempts to achieve both goals and, in so doing, fails to comprehensively address children's online privacy in an effective manner.

Aside from its shortcomings as to its limited scope and emphasis on parental consent, the following example demonstrates COPPA's other failures. Google Apps for Education is governed by COPPA.¹⁸⁷ Google places the burden on the school district to acquire the required parental consent under COPPA.¹⁸⁸ The company applies the standard privacy policy for all users to children.¹⁸⁹ Effectively, parents have the choice to consent to Google's terms, or "refus[e] to allow their child to participate in the educational activities associated with the Google Education App."¹⁹⁰ In

179. *See id.*

180. Polonetsky & Tene, *supra* note 9, at 971.

181. Hoofnagle, *supra* note 14 (chapter 7 manuscript at 3).

182. Tudor, *supra* note 17, at 320.

183. *See id.*

184. *See id.*

185. *See* Hoofnagle, *supra* note 14 (chapter 7 manuscript at 2).

186. *Id.*

187. *See* Tudor, *supra* note 17, at 321.

188. *Id.*

189. *Id.*

190. *Id.* at 322.

addition, once Google obtains parental consent through the school as its intermediary, Google has “reserved the right to unilaterally amend its privacy policy, which essentially renders the policy meaningless.”¹⁹¹ This demonstrates that COPPA ultimately lacks teeth and can easily be worked around.

E. PROTECTION OF PUPIL RIGHTS AMENDMENT

Like FERPA, the Protection of Pupil Rights Amendment (PPRA) applies to educational agencies that receive federal funding, and does not contain a private right of action.¹⁹² Specifically, the statute regulates student participation in surveys or evaluations that reveal specific types of information.¹⁹³ In addition, the statute restricts a school’s ability to disclose, use, or sell student information that falls under the statute for marketing purposes without first notifying the student’s parents and presenting them with the opportunity to opt-out.¹⁹⁴ However, the restrictions in PPRA do not apply when “the collection, disclosure, or use of personal information collected from students [is] for the exclusive purpose of developing, evaluating, or providing educational products or services for, or to, students or educational institutions.”¹⁹⁵

The distinction between PPRA and FERPA is that PPRA is implicated when a school collects certain types of personal information from a student, while FERPA protects a student’s education records from disclosure.

III. SOPIPA AS A SOLUTION TO SHORTCOMINGS IN STUDENT PRIVACY LAW

An effective solution to the issues edtech presents must consider privacy concerns specific to children as well as stakeholder expectations of student data privacy. SOPIPA addresses some, but not all, relevant concerns, making it an admirable yet imperfect attempt to enhance student privacy protections in the face of the developing edtech industry.

A. PRIVACY CONCERNS SPECIFIC TO CHILDREN

U.S. law often treats children as a distinct class in need of increased protection. For example, children cannot enter into enforceable contracts, and society does not perceive children as “rational actors who can bargain

191. *Id.*

192. *See* Tudor, *supra* note 17, at 296.

193. *See* 20 U.S.C. § 1232h(b) (2012).

194. *See id.* § 1232h(c)(2); *see also* Polonetsky & Tene, *supra* note 9, at 972.

195. 20 U.S.C. § 1232h(c)(4)(A).

for their privacy in the marketplace.”¹⁹⁶ Children are also unable to consent to personal data collection.¹⁹⁷ In light of these principles, edtech companies must be cautious in determining the scope and manner of data collection, and permitted data use, of data collected from children. Children engage with society in their roles as students in K–12 systems. Students are presumably less concerned than adults about the dangers of creating a large personal data profile that is highly accessible to companies and potential criminals.¹⁹⁸ They are also less likely to be able to comprehend that once data is created, and is somehow associated with their account, profile, or other personal identifier, the information exists in perpetuity and may follow them in their future endeavors.

B. STUDENT DATA PRIVACY EXPECTATIONS

It is common practice for schools to collect student data for administrative and performance purposes. Collection of data points such as student attendance, grades, test results, and low-income status by the school receives little resistance and is generally accepted.¹⁹⁹ Collection and use of this data is essential to a well-functioning and successful school, and creates opportunity for educator and student improvement.²⁰⁰ Using student data to measure and analyze performance is also important, as demonstrated by federal programs such as the No Child Left Behind Act and President Obama’s Race to the Top Initiative.²⁰¹

However, the rapid adoption of digital technology in schools is causing a lot of uncertainty. Lawmakers, educators, parents, and edtech companies are still engaging in public discussions to define the appropriate nature of students’ privacy expectations. Much of this debate has centered on a desire to protect students from unnecessary exposure to commercial activity. However, it is common for schools to be complicit in exposing students to various advertisements and branded merchandise throughout the school (whether that is through product use, fundraisers, etc.).²⁰² This exposure does not employ individual student data for marketing or other commercial purposes and thus does not implicate student privacy concerns.

196. Hoofnagle, *supra* note 14 (chapter 7 manuscript at 1); see Wouter M. P. Steijn & Anton Vedder, *Privacy Under Construction: A Developmental Perspective on Privacy Perception*, 40 *SCI., TECH., & HUMAN VALUES* 615, 615 (2015).

197. See Hoofnagle, *supra* note 14 (chapter 7 manuscript at 16).

198. See Steijn & Vedder, *supra* note 196, at 616.

199. See Krueger & Moore, *supra* note 10, at 20.

200. See Polonetsky & Tene, *supra* note 9, at 940.

201. See *id.* at 941–42.

202. See Cardozo, *supra* note 129; see also Polonetsky & Tene, *supra* note 9, at 949–54.

Lawmakers face the key question of where to draw the line on commercial activity in schools. Targeted advertising of students and the sale of student data are generally viewed as activities that should be prohibited.²⁰³ Other commercial activity is a much closer call. For example, many edtech companies use student data to improve their education products and services, for research and development purposes in creating new education products and services, and to improve products and services that have nothing to do with education.²⁰⁴ While some of this activity is undoubtedly beneficial to students and educators in the form of improved and more efficient educational technology, some of this activity is also much more beneficial to companies with access to the student data and may not benefit students. This presents lawmakers with the question of whether to allow edtech companies to use and benefit from student data when students are seeing at most marginal benefits in return. Because much of this activity is important to edtech companies, we must consider how companies are still able to use student data for commercial purposes under SOPIPA and whether commercial use is permitted at all.

C. SOPIPA AS A SOLUTION

Prominent commentators are concerned that the recent waves of state student privacy laws have a tendency to be reactionary in nature and fail to be sufficiently forward-looking in their response to the perceived student privacy problem.²⁰⁵ In order to fully evaluate SOPIPA and to determine whether it is an effective solution, an understanding of how it will affect different types of edtech companies and an examination of the behavioral incentives and disincentives it creates for these companies are necessary. Many of the problems with the current patchwork of student privacy laws, aside from their fragmentation and limited scope, stem from the laws' inability to incentivize companies to properly secure student data or even comply with the law. This analysis will also assess how SOPIPA addresses common parent and teacher complaints concerning the current state of the law. Finally, it is important to examine the California legislature's goals in enacting SOPIPA and its success in achieving those goals.

In its legislative analyses, the California Assembly expressed that SOPIPA was needed to supplement the primary protections of FERPA because:

203. Polonetsky & Tene, *supra* note 9, at 952.

204. *See id.* at 951.

205. *See id.* at 990.

the growing use of online educational programs and mobile applications has led to an increasing flow of personal information directly from students and teachers to developers of educational programs and applications, and there are no restrictions on how this information may be used, other than restrictions that developers may impose on themselves²⁰⁶

The Assembly went on to review a number of current privacy policies of various edtech companies.²⁰⁷ The investigation found that companies had reserved the right to disclose student personal information to other companies, absolved themselves of responsibility for “mishandling student information,” and reserved the right to “unilaterally change its privacy policy at any time.”²⁰⁸ SOPIPA was designed to “limit[] the use of personal information that [was] obtained through” students use of “online educational programs and mobile applications.”²⁰⁹ Specifically, the legislature was uncomfortable that the current regulatory scheme does not protect students’ personal information, which would have been otherwise protected under FERPA if obtained from school records.²¹⁰

SOPIPA successfully covers much of what was left in the gaps of pre-existing federal laws.²¹¹ It brings student privacy law into the modern edtech era. It also successfully addresses the goals of the California legislature.²¹² Under SOPIPA, companies are only permitted to disclose student personal information to other companies under select circumstances.²¹³ It also imposes meaningful penalties on edtech companies who mishandle student information, while not crippling their operations. For example, companies are required to “implement and maintain reasonable security procedures and practices appropriate to the nature of the covered information,” while also protecting “that information from unauthorized access, destruction, use, modification, or disclosure.”²¹⁴ This places an affirmative obligation on companies and attempts to hold them responsible for failing to institute

206. S.B. 1177 BILL ANALYSIS: SENATE THIRD READING, at 7 (Cal. 2014), http://www.leginfo.ca.gov/pub/13-14/bill/sen/sb_1151-1200/sb_1177_cfa_20140821_233112_asm_floor.html [<https://perma.cc/FVA4-NKMJ>].

207. *Id.*

208. *Id.*

209. *Id.*

210. *Id.*

211. *See* CAL. BUS. & PROF. CODE § 22584 (2014).

212. *Id.*; *see* S. RULES COMM., S.B. 1177 BILL ANALYSIS, (Cal. 2014), http://www.leginfo.ca.gov/pub/13-14/bill/sen/sb_1151-1200/sb_1177_cfa_20140826_135115_sen_floor.html [<https://perma.cc/BVJ9-88HX>].

213. CAL. BUS. & PROF. CODE § 22584(b)(4).

214. *Id.* § 22584(d)(1).

proper security procedures and failing to reasonably protect student data.²¹⁵ Additionally, SOPIPA succeeds in protecting information that would have been protected under FERPA if it were disclosed by a school by prohibiting operators from disclosing personally identifiable information and further restricting their use of this information.²¹⁶ Further, SOPIPA often casts a wider net than FERPA does because it applies to other student information in addition to personally identifiable information. For example, SOPIPA prohibits an operator from “sell[ing] a student’s information, including covered information.”²¹⁷ While “covered information” refers to personally identifiable information under SOPIPA, this language presumably covers student information in addition to “covered information.”²¹⁸

The following analysis will look to several themes in student privacy that SOPIPA addresses, or fails to address, to evaluate whether SOPIPA is an adequate model for comprehensive, federal student privacy legislation.

1. *Sale of Student Data and Targeted Advertising*

Many privacy advocates believe that edtech companies should be prohibited from selling student data and using it to target advertisements at individual students.²¹⁹ A 2014 study by the privacy advocate group Common Sense Media determined that eighty-six percent of those surveyed believed that “oversight is necessary to ensure [children’s] private information is not exploited for commercial purposes and stays out of the hands of the wrong people.”²²⁰

SOPIPA explicitly and directly responds to these concerns by making it unequivocally illegal to sell any student data to a third party, no matter the content or circumstances.²²¹ Likewise, targeted advertising, whether on the operator’s own site, service, or application, or any other site, service, or application, is prohibited if the information employed for the advertising was gathered from the use of the operators’ (the entity engaged in targeted advertising in this case) site, service, or application.²²² This provision seems

215. *See id.*

216. *See id.* § 22584(b); *see also* S.B. 1177 BILL ANALYSIS: SENATE THIRD READING, at 7 (Cal. 2014), http://www.leginfo.ca.gov/pub/13-14/bill/sen/sb_1151-1200/sb_1177_cfa_20140821_233112_asm_floor.html [<https://perma.cc/Y3CS-MSFT>].

217. CAL. BUS. & PROF. CODE § 22584(b)(3).

218. *See id.*

219. Gemin et al., *supra* note 57, at 116.

220. *See Student Privacy Survey*, COMMON SENSE MEDIA, https://www.common sense media.org/sites/default/files/uploads/about_us/student_privacy_survey.pdf [<https://perma.cc/3FYM-RJ7S>].

221. *See* CAL. BUS. & PROF. CODE § 22584(b)(3).

222. *See id.* § 22584(b)(1)(A)–(B).

to function as a practical ban on targeted advertising, even if only deidentified data is used. While there is a provision that would permit the operator to use deidentified data in marketing, this would only be permitted to show the “effectiveness of the operator’s products or services,” not to specifically target advertising.²²³ Overall, SOPIPA effectively responds to concerns about the commercialization of student data.

However, it is important to question whether the California legislature’s goal of ending targeted advertising is always beneficial to students. Should some targeted advertising be permitted? For example, after a student completes a test or particular course of study in an application or other software program, and the company has collected data on the student’s performance, there may be educational benefits in allowing a company to recommend a new program to the student and his parents based on this student’s data.²²⁴ This would promote education customization and would help connect students with the most appropriate learning tools. But SOPIPA would likely prohibit targeting of this nature. While SOPIPA does permit marketing of educational products directly to parents, it prohibits marketing to parents that employs “covered information.”²²⁵ SOPIPA’s prohibition on targeted advertising²²⁶ likely prohibits an operator from targeting a student’s parent or teacher with advertising based on the student’s past performance on the operator’s site or service, which might have yielded educational benefits. This might be a drawback and unintended consequence of SOPIPA.

2. *New Market Incentives*

Another drawback to SOPIPA is that it may disincentivize entrepreneurs from entering the edtech industry by increasing baseline compliance costs. SOPIPA may therefore reduce edtech companies’ revenue, which could reduce the viability of edtech startups, and thus reduce the diversity of products available for schools to choose from.

Many edtech startups offer a free service or operate on the increasingly common freemium model.²²⁷ Generally, companies that offer their product or service for free must intend to generate revenue in a different manner, often through monetizing customer data.²²⁸ If edtech companies are prohibited from selling customer data or offering targeted advertising, these

223. *See id.* § 22584(f)(2).

224. *See* Polonetsky & Tene, *supra* note 9, at 951–52.

225. CAL. BUS. & PROF. CODE § 22584(o).

226. *Id.* §§ 22584(b)(1)(A)–(B).

227. *See* Polonetsky & Tene, *supra* note 9, at 952–53; *see also* *Silicon Valley*, *supra* note 7.

228. *See* Polonetsky & Tene, *supra* note 9, at 950.

revenue streams will not be available to them. It will thus be harder for edtech companies to make money. Lack of a viable revenue generation model, could, in turn, lead to a reduction in the pool of available VC funding because VC firms are reluctant to fund companies with no prospect of making money. Indeed, VC firms and other early investors are already concerned about the absence of monetization in many edtech startup business models.²²⁹

Further, these comprehensive restrictions on the commercial use of student data may lead many companies to face the challenge of finding an alternative way to monetize their product or service, or abandon the edtech industry altogether. Other companies may initially offer their product or service for free in hope that the customer will purchase an enhanced service in the future.²³⁰ Edtech companies may also face increased compliance costs from having to adhere to the many new requirements in SOPIPA. Therefore, an edtech company that lacks distribution and an existing platform ecosystem to drive revenue may find it more difficult to stay afloat under the SOPIPA regime. However, one could argue that companies that rely on the sale of student data and targeted advertising are not companies with sustainable business models in the first place.

The restriction on the use of student data for targeted advertising and the ban on the sale of student data may encourage companies to compete in other ways and find new ways to make money. For example, SOPIPA allows companies to continue to use student data that they create or gather on their site or service “in furtherance of K–12 school purposes.”²³¹ While it is not entirely clear what exactly constitutes a “K–12 purpose,” this provision suggests that companies can continue to use the student data that they collect to improve their products or develop new products. Because SOPIPA blocks certain revenue streams that technology companies have relied on in the past, companies now need to find other ways to get a bigger piece of the limited money allocated by states to their education system.²³² Edtech companies may be able to grow their share of the funding pie by becoming an integral part of classrooms and schools and by developing products that can successfully perform tasks that would have previously been the responsibility of a teacher, administrator, assistant, or other staff member. In the long run, this would allow schools to cut staffing costs and free up more dollars to spend on technology.

229. *See Silicon Valley, supra* note 7.

230. *See id.* Companies could also offer a free trial and charge once the trial is completed.

231. CAL. BUS. & PROF. CODE §§ 22584(b)(2), (b)(4)(A) (2014).

232. *See Silicon Valley, supra* note 7.

For companies that are more established and operate on a platform model, SOPIPA may discourage them from developing a K–12 version of their product or service so as to avoid the obligation of compliance with the law’s strict regulations. This, in turn, could have ramifications similar to the loophole in COPPA, where some companies choose to explicitly not target children under thirteen (even though this does not prohibit children from using their site or service). In effect, this may incentivize companies not to install the protections required under the law, but it would not stop teachers and students from using the specific platform. Under these circumstances, students would not be protected by SOPIPA and would thus receive little data privacy protection.

Although SOPIPA may introduce some problematic incentives, it also likely creates positive market incentives that are consistent with the overall goals of the law. If large companies that operate platforms want to target students, the law effectively forces them to create a K–12 version of their product so as to comply with the law. Many of the larger companies in the edtech space are capable of creating student versions of their products and are incentivized to do so in order to access a large number of students. An example of such a student version is the ad-free version of Gmail that Google offers to educational institutions.²³³ Microsoft also offers ad-free versions of its Office 365 for Education applications and its Bing search engine.²³⁴ These products targeted at students serve a useful business purpose. For example, the student version of Gmail familiarizes children with Google and its platform so that when they complete school, they will want to continue to use Google’s platform, helping Google to gain new users, and ultimately make more money.²³⁵

In addition, even edtech companies not based in California will almost assuredly serve California students and be subject to SOPIPA because it is relatively easy for most edtech companies to scale.²³⁶ This fact may incentivize edtech companies to release SOPIPA-compliant websites or online services even when the product is not being used by students in California. That said, there is always the chance that companies decide that the law is too burdensome and either choose to stay out of the California

233. See David Nagel, *Google Turns Off Ad Scanning in Apps for Education Permanently*, JOURNAL (Apr. 30, 2014), <https://thejournal.com/articles/2014/04/30/google-turns-off-ad-scanning-in-apps-for-education-permanently.aspx> [<https://perma.cc/67E7-N6ZE>].

234. Polonetsky & Tene, *supra* note 9, at 980.

235. See Jeff Gould, *Google Admits Data Mining Student Emails in its Free Education Apps*, SAFEGOV (Jan. 31, 2014), <http://safegov.org/2014/1/31/google-admits-data-mining-student-emails-in-its-free-education-apps> [<https://perma.cc/64GB-6RSD>].

236. See Sabett, *supra* note 94.

market or develop a version of their site or application for use only in California.

3. *Data Security*

While security concerns have been at the forefront of the national privacy debate, SOPIPA only requires that operators “maintain reasonable security procedures and practices appropriate to the nature of the covered information.”²³⁷ The law fails to give further guidance regarding what would constitute “reasonable security procedures.”²³⁸ This provision is alarmingly ambiguous because data security is a significant challenge for many edtech startups. Given that many edtech companies have significant gaps in their security procedures, an unclear security standard presents a very legitimate concern for parents.²³⁹

The incentives created by SOPIPA’s security provision largely depend on the manner in which the provision is interpreted in future enforcement actions. If the term “reasonable security procedures” is not given more specificity, it may be that companies, particularly startups, will treat the provision as an indication that security standards are not going to be taken seriously under SOPIPA. While there may be some consensus as to what constitutes “reasonable security procedures” in other areas of the law, this provision may invite certain companies to ignore security standards. This may be particularly true in an area of the law that has lacked proper enforcement and oversight in the past, lacks a well-developed modern body of law, and deals with students, a group that possesses characteristics distinct from the general population.

4. *Data Deidentification*

SOPIPA is silent as to the standard that operators will be held to in terms of the level of personal data deidentification it requires. Therefore, one potential concern is that SOPIPA inadequately protects student privacy because it allows companies too much latitude in their use of deidentified data. Because privacy risks may remain when deidentified student data is not “irreversibly made anonymous,” the effectiveness of deidentification

237. See CAL. BUS. & PROF. CODE § 22584(d)(1) (2014).

238. See Sabett, *supra* note 94.

239. See Natasha Singer, *Uncovering Security Flaws in Digital Education Products for Schoolchildren*, N.Y. TIMES (Feb. 8, 2015), <http://www.nytimes.com/2015/02/09/technology/uncovering-security-flaws-in-digital-education-products-for-schoolchildren.html> [<https://perma.cc/6PLY-ZQDZ>]; see also *Digital Learning Companies Falling Short*, *supra* note 128.

largely turns on the standard for deidentification used in the law, and the way that law is enforced.²⁴⁰

The Department of Education provides guidance insofar as it offers a definition of deidentified data, but SOPIPA does not appear to explicitly require companies to adhere to this guidance.²⁴¹ The Department of Education defines data deidentification as “the process of removing or obscuring any personally identifiable information from student records in a way that minimizes the risk of unintended disclosure of the identity of individuals and information about them.”²⁴² Even this statement has an element of ambiguity. This ambiguity could lead to conduct that was intended to be prohibited when the California legislature passed the law.

5. *Enforcement, Ambiguity, and Educator Awareness*

A law is generally only as strong as its enforcement. Many of FERPA’s failures can be attributed to its poor enforcement provisions.²⁴³ While SOPIPA seems to address some of the enforcement issues with the current federal scheme, particularly FERPA, questions remain as to how effectively the law will be enforced.

Much of SOPIPA provides exceptions for certain conduct on the part of operators if the conduct is “in furtherance of a K–12 purpose.”²⁴⁴ Prominent cybersecurity and privacy lawyer Randy Sabett has suggested that because SOPIPA is a new law, its definition of what constitutes a K–12 purpose is not entirely clear.²⁴⁵ Because the definition of this term is key to the enforcement of the law, any ambiguity could lead to a number of loopholes that would allow operators to use student data for a commercial purpose disguised as a K–12 purpose under the law.

SOPIPA may also be unable to combat a lack of teacher and administrator awareness of student privacy law and issues. For example, if a teacher is not aware that a product may not meet SOPIPA’s standards, and the product does not go through a district- or school-wide review, there is little that the law can do. This is especially true in the case of free edtech products, which are naturally more likely to fall short of the comprehensive

240. See Polonetsky & Tene, *supra* note 9, at 975.

241. See *id.*

242. U.S. DEP’T OF EDUC. PRIVACY TECHNICAL ASSISTANCE CTR., PTAC-GL, DATA DE-IDENTIFICATION: AN OVERVIEW OF BASIC TERMS (updated May 2013), http://ptac.ed.gov/sites/default/files/data_deidentification_terms.pdf [https://perma.cc/5PYM-XHWT].

243. See Solove & Schwartz, *supra* note 46.

244. See CAL. BUS. & PROF. CODE § 22584.

245. See Sabett, *supra* note 94.

privacy standards in SOPIPA. Additionally, because teachers have some autonomy, free products are much less likely to go through any sort of privacy or data security review at the school or district level.²⁴⁶ And because it is difficult for a law to address a lack of teacher or administrator awareness of privacy issues, teacher training on the issue is integral to an adequate regulatory scheme. Additionally, most schools lack an individual that is an expert in student privacy issues.²⁴⁷ An ideal scheme would provide for an individual that teachers and administrators can seek assistance from when there is a potential privacy issue. This individual would ideally work in each school, but at the very least the school district should employ a privacy expert. Without such a specialist, it will be very burdensome for teachers to ensure that they comply with the law.

While it remains to be seen how SOPIPA will be enforced, any SOPIPA enforcement must be informed, active, and significant in order to ensure broad compliance.

6. *Transparency, Consent, and Communication*

Parents and other privacy advocates have also made it clear that they value transparency, consent, and communication in connection with the collection and use of student data by edtech companies.²⁴⁸ Specifically, parents value control over their child's data. However, SOPIPA fails to give parents and students the right to request deletion of their information, leaving that power only to schools, and only when schools have control over the information.²⁴⁹ This lack of control raises further questions about the potential for student data to follow a student down the line. Without proper controls and assurances, student data could conceivably be used in the future to discriminate against certain individuals in the college application or job-seeking process.²⁵⁰ This seems to be a legitimate concern in the absence of a strong deletion requirement, especially if SOPIPA lacks strong enforcement or strong security requirements. Furthermore, the longer data

246. See Polonetsky & Tene, *supra* note 9, at 950.

247. See *id.* at 978.

248. See Bradley Shear, *Edtech Must Embrace Stronger Student Privacy Laws*, JOURNAL (May 28, 2015), <https://thejournal.com/articles/2015/05/28/ed-tech-must-embrace-stronger-student-privacy-laws.aspx> [<https://perma.cc/63AD-3V8E>].

249. See CAL. BUS. & PROF. CODE § 22584(d)(2).

250. See Shear, *supra* note 248, at 8.

is stored, the greater amount of time it is subject to security risks such as data breaches or hacking.²⁵¹

Despite the restrictions SOPIPA places on edtech companies, many argue that a comprehensive scheme is good for companies in the long run and will lead to further adoption of digital technology in schools.²⁵² If some schools have held off on the adoption of digital technology because of privacy concerns, a comprehensive student privacy law could lead to more digital technology use. Further, SOPIPA's comprehensive nature and support from public authorities, including various privacy advocates and the Obama Administration, will likely increase parents' trust in edtech products.²⁵³ Edtech support of the Student Privacy Pledge signals to parents and educators that many of these companies are at least somewhat worried about the public's lack of trust in their data use. Some experts suggest that if edtech companies were completely transparent about their student data practices, parents and teachers would no longer be hesitant to use their products.²⁵⁴

SOPIPA does not require edtech companies to clearly disclose their data collection, use practices, or security measures implemented to protect student information.²⁵⁵ While it may be onerous for companies to comply with an enhanced disclosure requirement, perhaps the transparency provided by such a disclosure would quell the complaints of the most zealous student privacy advocates. Direct communication with parents and teachers can only be seen as positive in this regard. Allowing parental access to their child's data may also help parents see the potential benefits of current edtech and student data use. As in the case of inBloom, a lack of communication and transparency on the part of the edtech company can lead to a disastrous public response and eliminate the educational benefits of certain types of edtech.²⁵⁶

251. Student data is valuable to criminals for identity theft purposes later in the student's life. See Katie Kilfoyle Remis, *Locking Down Student Data*, DISTRICT ADMIN. 55, 55 (2015).

252. See generally Shear, *supra* note 248; see also Polonetsky & Tene, *supra* note 9, at 976–77.

253. See S. RULES COMM., S.B. 1177 BILL ANALYSIS, (Cal. 2014), http://www.leginfo.ca.gov/pub/13-14/bill/sen/sb_1151-1200/sb_1177_cfa_20140826_135115_sen_floor.html [<https://perma.cc/HM9D-CQTV>]; see also *Common Sense Media*, *supra* note 56.

254. See Shear, *supra* note 248, at 8.

255. See CAL. BUS. & PROF. CODE § 22584 (2014).

256. See *Student-Data Collector Drops Out*, *supra* note 68.

IV. CONCLUSION

SOPIPA does not address the concerns of all relevant stakeholders in its attempt to strike a balance between student data privacy protection, edtech innovation, and educational benefits. Due to compromise, ambiguity, and omission, the law does not entirely align with all student privacy best practices suggestions. However, SOPIPA successfully enhances student privacy protections while updating and closing many of the gaps in current law. And while SOPIPA makes compliance with student privacy law somewhat more difficult for edtech companies, particularly startups, it is not overly burdensome. Through compromise, SOPIPA continues to allow edtech companies to use student data to develop products and innovate in many circumstances.

Adequate enforcement of any student privacy law is difficult in the face of schools' limited resources and the inevitable responsibility of teachers and administrators to vet the data practices of edtech companies. In the face of this reality, there must be efforts made to educate schools and teachers about the privacy risks posed by edtech outside of SOPIPA in order to ensure a high likelihood of effective enforcement and widespread compliance.

Further, federal reform is needed to simplify the student data privacy regulatory scheme, which has only increased in complexity with the passage of various state laws on the subject. A single unified federal law would not only be easier for companies to comply with, but would also likely be easier for the government, schools, and parents to enforce. While SOPIPA may need to be tweaked to be passed at the federal level, and some ambiguities in the law may need to be clarified, the law is certainly a step in the right direction and would provide an effective template for the design of a future federal law.²⁵⁷

257. In reality, SOPIPA, and its interaction with other laws, adds to the complexity of the federal student privacy scheme. President Obama has endorsed SOPIPA as a template for future federal legislation. See Emma Brown, *Obama to Propose New Student Privacy Legislation*, WASH. POST (Jan. 19, 2015), https://www.washingtonpost.com/local/education/obama-to-propose-new-student-privacy-legislation/2015/01/18/2ad6a8ae-9d92-11e4-bcfb-059ec7a93ddc_story.html [<https://perma.cc/AA5S-3F7M>].

INTERNET OF THINGS: UNDERLYING TECHNOLOGIES, INTEROPERABILITY, AND THREATS TO PRIVACY AND SECURITY

Swaroop Poudel[†]

After the Internet reached billions of people, followed by the explosive growth of smartphones and their applications, the next frontier in information technology is very likely the Internet of Things (IoT).¹ IoT comprises an evolving array of technologies that extend the idea of instantaneous connectivity beyond computers, smartphones, and tablets to everyday objects such as home appliances, cars, and medical devices. Applications have already appeared in our lives, but IoT has far from reached its potential. It promises the future development of many services. Cisco projects that fifty billion devices will be connected to the Internet by 2020,² and Strategy Analytics forecasts that the IoT market will be worth \$242 billion in 2022.³

A current smart home IoT application, Nest's Thermostat, encapsulates some of the promises and technologies that undergird the concept of IoT.⁴ First, Nest connects to the consumer's smartphone through an app so that the consumer can remotely regulate the temperature of her home.⁵ Second, it has enhanced sensors that detect not only the current temperature but also when she walks in the room, as well as actuators that light up a panel when

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1. See Press Release, *Gartner's 2014 Hype Cycle for Emerging Technologies Maps the Journey to Digital Business*, GARTNER, INC. (Aug. 11, 2014), <http://www.gartner.com/newsroom/id/2819918> [<https://perma.cc/48W3-4XFH>] (ranking IoT at the top of hype cycle for emerging technologies and predicting a five to ten year full maturity period for the market).

2. Dave Evans, *The Internet of Things: How the Next Evolution of the Internet is Changing Everything*, CISCO, 3 (Apr. 2011), https://www.cisco.com/web/about/ac79/docs/innov/IoT_IBSG_0411FINAL.pdf [<https://perma.cc/DUF9-A9YY>].

3. Press Release, *M2M Market Will Generate \$242 Billion Revenue by 2022*, STRATEGY ANALYTICS (Jan. 8, 2014), <http://strategyanalytics.com/default.aspx?mod=pressreleaseviewer&a0=5468> [<https://perma.cc/BME4-V3AP>].

4. *Meet the Nest Thermostat*, NEST, <https://nest.com/thermostat/meet-nest-thermostat> [<https://perma.cc/SW6W-6A8Y>].

5. *Id.*

she moves to show her the temperature and time.⁶ Third, Nest features machine learning of her habits in order to automate temperature settings. For instance, by remembering the temperature she sets right before bedtime and after getting up from bed in the morning, it creates a temperature-setting schedule.⁷ Similarly, it will learn to turn off the heat when she leaves home.⁸

The Nest thermostat is currently an example of a “vendor-specific closed-loop scheme” (that is, only other Nest products can connect with it), but IoT has the potential to unlock immense value when more devices become interoperable with each other.⁹ For instance, the value to customers would significantly increase if third-party application developers could build on the current system to add services such as regulation of lighting and humidity. Similarly, if the smart home is connected to a smart car, then the smart home can turn up the heat when the car is about to approach home.

Consider another example that illustrates other potential uses and challenges of IoT: a connected health (or a smart health) application for smart phones and watches called Fido that is designed by a company named Fjord.¹⁰ While current non-IoT devices can detect one’s glucose level at a point in time and recommend an appropriate insulin dose, Fido promises several functionalities to better manage the chronic diabetic condition.¹¹ First, Fido is device-agnostic. That is, it will work on many devices such as smartphones and watches.¹² Second, it measures and records not just glucose level but also nutrition, stress level, sleep, and activity, and does so either automatically or through consumer input.¹³ It also measures all of this data over long periods of time. This collection of a variety of data at a granular level via various sensors speaks to the enormous scale of IoT data over what computers can currently collect. Third, by aggregating data from several people, it can discern the pattern between glucose level and various

6. *Id.*

7. *Id.*

8. *Id.*

9. See GS1 US, *Comment Letter on FTC Seeking Input on Privacy and Security Implications of the Internet of Things*, 3 (July 25, 2013), <https://www.ftc.gov/policy/public-comments/comment-00030-2> [<https://perma.cc/2NDB-NZE5>].

10. Eric Wicklund, *Analytics and mHealth Find Common Ground*, MHEALTHNEWS (Oct. 1, 2015), <http://www.mhealthnews.com/news/analytics-and-mhealth-find-common-ground> [<https://perma.cc/FB48-KUAR>].

11. Jeb Brack, *Platform Eyes Easier Diabetes Management for 400 Million Sufferers*, PSFK (Oct. 9, 2015), <http://www.psfk.com/2015/10/diabetes-management-type-1-diabetes-platform-fjord-fido.html> [<https://perma.cc/GM4R-7DA2>].

12. Wicklund, *supra* note 10.

13. *Id.*

consumer habits, and thus, suggest behavioral changes to help manage that glucose level.¹⁴ This would not be possible without enhanced data analytics capabilities. Fourth, when a consumer's glucose level goes over a safe threshold, Fido can alert healthcare providers to enable a timely, life-saving intervention.¹⁵ Fido shows the tremendous potential benefits of IoT, but also presents a sobering reminder of IoT's privacy and security implications. Health data is sensitive, and its granularity presents significant challenges to anonymizing personal information, thereby exposing consumers to privacy and data security risks.

Two conventional products, namely, home security systems and electronic toll collection, show how IoT differs from similar currently available products. A home security system utilizes various motion and sound sensors to detect intrusion into a home, and actuators to give automated alerts such as bells, sirens, and flashing lights.¹⁶ Further, its components are interconnected through wired or wireless means.¹⁷ Similarly, an electronic toll collection system such as E-ZPass uses RFID technology to authenticate a given vehicle and process automated payments.¹⁸ What both of these systems do not have, however, is the "back-end information infrastructures necessary to create new services."¹⁹ In other words, as this Note will explain later, there is no common services layer upon which to add or modify functionalities once the system is put in place.²⁰ Further, the fairly basic and limited data they store and process fail to capture the role of big data analytics in IoT.²¹ At the same time, these examples illustrate that many of the technologies that enable IoT have been around for some time, and it is only the convergence of these disparate technologies as well as their rapid advancement that has helped create a vision for IoT.

14. Brack, *supra* note 11.

15. Wicklund, *supra* note 10.

16. *Security Alarm*, WIKIPEDIA, https://en.wikipedia.org/wiki/Security_alarm [<https://perma.cc/36AN-5X7D>].

17. *Id.*

18. Kantara Initiative, *Comment Letter on FTC Seeking Input on Privacy and Security Implications of the Internet of Things* (May 2013), <https://www.ftc.gov/policy/public-comments/comment-00016-2> [<https://perma.cc/G4MM-KCL4>].

19. Ovidiu Vermesan et al., *Internet of Things Strategic Research Roadmap*, IOT EUROPEAN RESEARCH CLUSTER, 17 (2011), http://www.internet-of-things-research.eu/pdf/IoT_Cluster_Strategic_Research_Agenda_2011.pdf [<https://perma.cc/GWC9-L2FX>].

20. *See infra* Section I.A.

21. *See infra* Section I.B.

More generally, IoT has wide-ranging applications.²² It is already deployed in products such as home thermostats (like Nest), health monitoring (via wearables such as FitBit), automobiles, and parking. More remarkably, IoT could potentially revolutionize diverse fields such as electric grids, water leakage detection, autonomous vehicles, traffic management, forest fire detection, agriculture, manufacturing, inventory management, and supply chain control.²³

Part I of this Note defines IoT through a description of underlying technologies. Notwithstanding IoT's significant promise, there are two main issues that can obstruct the growth of this sector—lack of interoperability and threats to privacy and security. Parts II and III explain these issues and the regulatory response to date. An understanding of underlying technologies from Part I will equip the reader to see these issues in concrete terms. Lastly, Part IV argues that, while regulators should promote broad principles and remain watchful of risks developing in the IoT space, they should not impose excessive restrictions that may hinder the innovation, growth, and progress that IoT promises.

I. ARCHITECTURE AND ENABLING TECHNOLOGIES: DEFINING THE INTERNET OF THINGS

There is no universal definition of IoT because it is a nascent industry whose technology and participants are in a state of great flux.²⁴ But some of IoT's architectural models and enabling technologies point to a workable definition. This discussion will help show how privacy and security risks arise, as well as shed light on ways to achieve interoperability.

A. IOT ARCHITECTURE

Figure 1 is a visual representation of how different IoT components can fit in an overall architectural model. It illustrates how different IoT products

22. Perhaps the most talked about example of a future IoT product is a smart refrigerator, which keeps track of, for instance, the number of remaining eggs in it and alerts a consumer when eggs are about to run out. This smart refrigerator can even automatically place orders online, and if connected to a smart scale, warn the consumer of her most recent weight and BMI as she pulls out a pint of ice cream from the fridge. Patrick Thibodeau, *Explained: The ABCs of the Internet of Things*, COMPUTERWORLD (May 6, 2014), <http://www.computerworld.com/article/2488872/emerging-technology-explained-the-abcs-of-the-internet-of-things.html> [<https://perma.cc/63Q8-JYML>].

23. See Ian G. Smith et al., *The Internet of Things 2012: New Horizons*, IOT EUROPEAN RESEARCH CLUSTER, 35–39 (2012), http://www.internet-of-things-research.eu/pdf/IERC_Cluster_Book_2012_WEB.pdf [<https://perma.cc/C8BP-QZ8M>] (discussing potential applications of IoT).

24. See Thibodeau, *supra* note 22.

fit together and explains the relationship between the many different types of companies creating IoT products.²⁵ It also provides guidance as to how new technologies may get incorporated into the system.

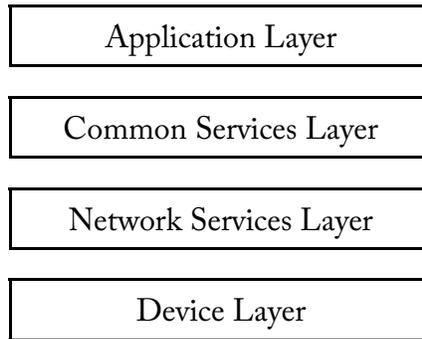


Figure 1: oneM2M Layered Model, Along With ITU's Device Layer

Two organizations created the models described here: oneM2M, an umbrella standards organization comprising several other standards bodies as well as vendors and service providers, and International Telecommunications Union (ITU), a United Nations agency for Information and Communication Technologies (ICTs).²⁶ oneM2M's model consists of three layers: application, common services, and network services.²⁷ The application layer contains the high-level programs and applications, along with business and operational logic.²⁸ The common services layer performs data storage and processing as well as other functions specific to applications, and the network services layer provides transport, connectivity, and service functions.²⁹ Along with the above three layers, ITU's model also includes the device layer, a fourth layer below the network layer.³⁰ The device layer comprises devices that upload information and receive commands via the network layer either directly or through gateways.³¹ Here, gateways provide multiple interfaces and support protocol

25. See Kantara Initiative, *supra* note 18, at 1.

26. Roberto Minerva, Abyi Biru & Domenico Rotondi, *Towards a Definition of the Internet of Things (IoT)*, IEEE INTERNET INITIATIVE, 14–16 (May 27, 2015), http://iot.ieee.org/images/files/pdf/IEEE_IoT_Towards_Definition_Internet_of_Things_Revision1_27MAY15.pdf [<https://perma.cc/85K7-GZRL>] (describing the standard-setting organizations for IoT); *Overview of the Internet of Things*, ITU, 6–9 (June 15, 2012), <https://www.itu.int/ITU-T/recommendations/rec.aspx?rec=y.2060> [<https://perma.cc/9KMK-ARKV>] [hereinafter *Overview of IoT*].

27. Minerva, Biru & Rotondi, *supra* note 26, at 14–16.

28. *Id.*

29. *Id.*

30. *Overview of IoT*, *supra* note 26, at 6–9.

31. *Id.*

conversion between devices connected through different means or between the device and network layers.³²

To see how the four layers work, consider a connected health system.³³ In the device layer, data moves from various medical sensors attached to a patient to a monitoring hub or gateway at home via an unlicensed wireless link such as Bluetooth or Near Field Communication.³⁴ That information is then transmitted from the gateway through the network layer (typically a broadband network) to the cloud.³⁵ Tools for data storage and processing, which make up the service layer, reside in the cloud.³⁶ Finally, in the application layer, an application runs predictive analysis on all the data and notifies the patient's healthcare provider when anomalies appear.³⁷ In this example, risks to privacy or data security breach can occur within the devices or the monitoring hub (where data is stored before transmission to the cloud), during data transit to the cloud (that is, in the network), or in the cloud where data is stored and processed. Privacy and security are big issues that will be explored in greater detail in Part III.

The architectural model also explains the roles of different businesses in the interconnected IoT system and how businesses could achieve interoperability. The operator of a network (such as a broadband provider or other telecom) provides connectivity and related services to a service provider (like Google's cloud service), which provides common services to an application service provider (such as the company that sells the medical service to the customer), which in turn operates applications for the end user.³⁸ The oneM2M Initiative aims to achieve interoperability in the entire IoT system across industries.³⁹ oneM2M has recognized the common services layer as the bottleneck for interoperability.⁴⁰ The European Telecommunications Standards Institute (ETSI), a regional standards organization and contributor to oneM2M, is working to create a "horizontal

32. *Id.*

33. See AT&T, *Comment Letter on FTC Seeking Input on Privacy and Security Implications of the Internet of Things*, 5–7 (May 31, 2013), <https://www.ftc.gov/policy/public-comments/comment-00004-2> [<https://perma.cc/AG66-MZYM>].

34. See *id.* at 5, 9.

35. See *id.* at 5.

36. See *id.*

37. See *id.*

38. See *id.* at 10–11.

39. See *id.* at 11; *The Interoperability Enabler for the Entire M2M and IoT Ecosystem*, ONEM2M, 13 (Jan. 2015), <http://www.onem2m.org/images/files/oneM2M-whitepaper-January-2015.pdf> [<https://perma.cc/AT7R-QU8T>].

40. See ONEM2M, *supra* note 39, at 9.

pipe scenario” in which applications across industries build on a common services layer and network elements.⁴¹

B. IOT’S ENABLING TECHNOLOGIES

Many technologies have converged to make IoT possible.⁴² More specifically, advancements in microprocessors, sensors, and communication hardware typically found in IoT devices, along with big data analytics, the cloud, and algorithms to automate various ordinary processes have all made IoT a viable reality.⁴³ Other factors influencing the development of IoT include network technologies that link different devices as well as connect devices to a remote processor, the introduction of a new Internet communication protocol (IPv6), and more precise satellite GPS technology.

Sensors, such as cameras, thermometers, and pedometers, lie at the heart of an IoT system.⁴⁴ These collect varied information about the environment, such as mechanical data (position, force, pressure), thermal data (temperature, heat flow), electrostatic or magnetic field, radiation intensity (electromagnetic, nuclear), chemical data (humidity, ion, gas concentration), and biological data (toxicity, presence of bio organisms).⁴⁵ Sensors can work with actuators, output devices that implement decisions.⁴⁶ For example, an electronic jacket can have sensors that detect external temperature, and actuators that adjust the jacket’s temperature.⁴⁷ Sensors can also combine to form useful applications. When a moisture sensor detects water on the basement floor and a temperature sensor in the main water pipe detects water flow (as the temperature lowers), this points to leakage.⁴⁸ The system can be set to trigger an automated valve shutoff when the sensors detect these two circumstances. Where the moisture sensor detects only water on the basement floor without the change in pipe temperature, it would not trigger any response because routine leakage from

41. Minerva, Biru & Rotondi, *supra* note 26, at 16.

42. See, e.g., Eric A. Fischer, Cong. Research Serv., R44227, *The Internet of Things: Frequently Asked Questions*, 11–14 (Oct. 13, 2015), <https://www.fas.org/sgp/crs/misc/R44227.pdf> [<https://perma.cc/M8EH-DJMB>] (explaining the many technologies and potential pitfalls of their combination in IoT).

43. See *id.* at 2.

44. See *The Internet of Things*, ITU, 21 (Nov. 2005), <https://www.itu.int/net/wsis/tunis/newsroom/stats/The-Internet-of-Things-2005.pdf> [<https://perma.cc/7SC6-V6YL>] [hereinafter ITU—IoT].

45. See *id.*

46. See *id.*

47. See *id.*

48. Thibodeau, *supra* note 22.

heavy rainfall might cause water on the floor.⁴⁹ The burgeoning demand for microchips in the phone and tablet markets has led to cheaper and less power-intensive sensors.⁵⁰ While this holds significant promise for IoT, the ability of sensors to collect varied data also raises privacy and data security concerns.⁵¹

Beyond cheaper and better sensors, cheaper, faster, and more widely available broadband Internet connectivity drives IoT expansion.⁵² Growing demand from Internet subscribers over the past years has driven substantial growth in the deployment of fixed line, cellular 3G/4G and LTE, power line, and fiber-optic networks, which have increased available bandwidth.⁵³ An IoT system can use these networks, for instance, to connect a smart home system to the cloud, which can process sensor data. These networks connect the device layer and the common services layer.

Similarly, various local communication methods are available to connect devices with the gateway or with other devices within the device layer. Typically, an IoT device will have a radio to send and receive wireless communications.⁵⁴ Some standards have been designed to provide Wi-Fi communication among devices over a broad geographic range, while other standards cover a short to medium range.⁵⁵ IoT wireless protocols are meant

49. *Id.* Combining sensor data from various sources to produce information that is greater than the sum of information from individual sources is called “sensor fusion.” *Opinion 8/2014 on the on [sic] Recent Developments on the Internet of Things*, ARTICLE 29 DATA PROTECTION WORKING PARTY, 7 n.6 (Sept. 16, 2014), http://ec.europa.eu/justice/data-protection/article-29/documentation/opinion-recommendation/files/2014/wp223_en.pdf [<https://perma.cc/NBK5-HMA8>].

50. See Sir Mark Walport, *The Internet of Things: Making the Most of the Second Digital Revolution*, UK GOV'T OFF. FOR SCIENCE, 15 n.3 (Dec. 2014), https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/409774/14-1230-internet-of-things-review.pdf [<https://perma.cc/LW7G-AM5X>].

51. *Id.* at 16.

52. *Id.* at 15 n.8.

53. *Id.*; Bernadette Johnson, *How the Internet of Things Works*, HOWSTUFFWORKS, <http://computer.howstuffworks.com/internet-of-things.htm/printable> [<https://perma.cc/LY6T-96XW>].

54. See Thibodeau, *supra* note 22; Johnson, *supra* note 53.

55. Electronic Privacy Information Center (EPIC), *Comment Letter on FTC Seeking Input on Privacy and Security Implications of the Internet of Things*, 3–6 (June 1, 2013), <https://www.ftc.gov/policy/public-comments/comment-00011-2> [<https://perma.cc/7H62-UCLQ>]. For example, the Worldwide Interoperability for Microwave Access (WiMAX) and 802.16 Wireless Metropolitan Network (WMAN) standards broadcast over several miles, and the 802.11p standard facilitates intelligent transport systems. Bluetooth and Radio Frequency Identification (RFID) communication technologies can offer a range from three to three hundred feet, whereas Near Field Communication (NFC) offers a much shorter range of up to four inches. Because RFID communication operates through

to operate on low power, use low bandwidth, and work on a mesh network.⁵⁶ In a mesh network, devices connect directly with one another to relay information, enabling the network to sprawl over a wide area even though a single device may transmit only up to 300 feet.⁵⁷ Mesh networks are also immune to the failure of any individual device.⁵⁸

Advancements in the protocols used to assign Internet protocol (IP) addresses, specifically IPv6, and the satellite-based global positioning system (GPS) promise vast improvements in identifying and tracking IoT devices, but raise privacy and security concerns. Whereas the older version of the IP protocol, IPv4, ran out of its 2^{32} addresses in 2011, IPv6 offers 2^{128} unique addresses.⁵⁹ This enables each IoT device to have its own unique, persistent identifier, thereby enhancing identifying and tracking capabilities of devices across multiple networks as well as creating privacy and security ramifications.⁶⁰ Similarly, GPS can provide detailed three-dimensional location data (latitude, longitude, and altitude) precise to within 100 feet, time to within a millionth of a second, and velocity to within a fraction of a mile per hour.⁶¹ This offers great tracking functionality, for instance, in Event Data Recorders (EDR) in cars, but it also has serious privacy implications.⁶²

IoT is intimately connected to the notion of big data: collecting and storing a large amount and variety of granular data in real time, and using

tags, it also gives a device a unique identifier, which helps in tracking the location and status of the device. *Id.*

56. Thibodeau, *supra* note 22. The Z-Wave Alliance, Zigbee Alliance, and Insteon have developed wireless mesh IoT protocols, which are not directly interoperable, but can work together via hubs. *Id.*

57. *See id.*

58. *See id.*

59. EPIC, *supra* note 55, at 7–9.

60. *Id.*; *see* Thibodeau, *supra* note 22. Under IPv4, multiple devices in a local network connected to the same router share the same IP address while communicating in and out of the network, and have unique sub-addresses within the network. Consequently, individual devices “enjoy a certain degree of anonymity.” EPIC, *supra* note 55, at 7. On the other hand, IPv6 obviates the need for devices to share an IP address (although periodically randomizing IP addresses and generating temporary addresses can still anonymize a device). *Id.* at 8. In a smart metering system, this means that IPv6 can help track individual appliances, but potentially also expose granular data on a customer’s use of appliances to privacy and security threats. *Id.* at 11.

61. Global Positioning System Fact Sheet, LOS ANGELES AIR FORCE BASE (Jan. 19, 2009), <http://www.losangeles.af.mil/library/factsheets/factsheet.asp?id=5325> [<https://perma.cc/29KT-TUFW>].

62. EPIC, *supra* note 55, at 10–12.

data analytics to reveal insights from these data.⁶³ Putting together all the data from the device layer in a big data “lake” enables its analysis in the context of other information, helping previously unseen linkages, patterns, and inferences emerge.⁶⁴ Interoperability of various IoT systems will allow for such pooling of data.⁶⁵ Society cannot realize IoT’s full value proposition if sensor data languishes in information silos, accessible only to a few specialists.⁶⁶ At the same time, storage and network limitations render storing and transmitting all the data inefficient. Therefore, data management—determining “what type of data is important, what should be transmitted immediately, what should be stored and for how long, and what information should be discarded”—is essential.⁶⁷ Data management minimizes data stored and time stored, one of the principles advocated by the Federal Trade Commission (FTC) in order to mitigate privacy and data security risks in IoT.⁶⁸

The development of cloud computing has been of paramount importance to big data and will play a major role in the IoT infrastructure. Instead of expanding their native infrastructures, many enterprises are moving the storage and processing of big data to the cloud for enhanced scalability and flexibility.⁶⁹ The cloud also provides the platform for third party app developers to build solutions, akin to an “app store” on mobile phones and mirroring oneM2M’s vision of a common services layer.⁷⁰

63. See Charles McLellan, *The Internet of Things and Big Data: Unlocking the Power*, ZDNET (Mar. 2, 2015), <http://www.zdnet.com/article/the-internet-of-things-and-big-data-unlocking-the-power> [https://perma.cc/74DW-6SKW].

64. See Drew Robb, *How IoT Will Change Big Data Analytics*, ENTERPRISE APPS TODAY (Nov. 17, 2014), <http://www.enterpriseappstoday.com/business-intelligence/how-iot-will-change-big-data-analytics.html> [https://perma.cc/L63S-N43C].

65. See Andy Vitus, *The California Drought and Standards of IoT*, TECHCRUNCH (Oct. 17, 2015), <http://techcrunch.com/2015/10/17/the-california-drought-and-standards-of-iot> [https://perma.cc/YE6L-9BF6].

66. Robb, *supra* note 64.

67. *Id.*

68. FTC, STAFF REPORT, *Internet of Things: Privacy & Security in a Connected World*, 33–36 (Jan. 2015), <https://www.ftc.gov/system/files/documents/reports/federal-trade-commission-staff-report-november-2013-workshop-entitled-internet-things-privacy/150127iotrpt.pdf> [https://perma.cc/5D7F-F9EE].

69. See Kaushik Pal, *The Impact of Internet of Things on Big Data*, DATA INFORMED (Sept. 10, 2015), <http://data-informed.com/the-impact-of-internet-of-things-on-big-data> [https://perma.cc/2Z2B-2HN7].

70. See Sean Gallagher, *Machine Consciousness: Big Data Analytics and the Internet of Things*, ARS TECHNICA (Mar. 24, 2015), <http://arstechnica.com/information-technology/2015/03/machine-consciousness-big-data-analytics-and-the-internet-of-things> [https://perma.cc/6293-UPPR]. GE Software CTO envisions a “cloud operating system” for industrial

However, location-based or network latency issues can affect the cloud.⁷¹ Some IoT systems will, therefore, need more computing power on the edge of the network, in what Cisco calls “fog” networking.⁷² Fog networking will, for instance, enable an autonomous vehicle to receive signals from traffic lights, mapping programs, and other vehicles in real time.⁷³ Additionally, it will reduce data to a more manageable form, enhance reliability, and lower privacy and data security risks from the transmission of granular data over the network.⁷⁴

Finally, automation is a major component of IoT’s scalability and value proposition. As the number of connected devices rises, their added value will diminish if customers have to track and maintain all of their devices manually. As discussed earlier in this Part, devices can offload processing and automation capability to cloud-based software.⁷⁵ Alternatively, a sensor web combines “distributed network”—sharing of data collected by all sensors across the entire network—and “embedded intelligence”—the system’s acting on its own without communicating to an end user or an external control system for analysis and decision-making.⁷⁶

Irrespective of the loci of intelligence, IoT algorithms can extend beyond simple if-then routines of past embedded computing to machine

analytical apps whereby companies can control access to their sensor data while leveraging analytic software written by third party developers. *Id.*

71. McLellan, *supra* note 63.

72. *Fog Computing and The Internet of Things: Extend the Cloud to Where the Things Are*, CISCO (2015), http://www.cisco.com/c/dam/en_us/solutions/trends/iot/docs/computing-overview.pdf [<https://perma.cc/Q7YA-5N74>] (describing fog computing: “[t]he fog extends the cloud to be closer to the things that produce and act on IoT data. These devices, called fog nodes, can be deployed anywhere with a network connection.”).

73. *See* Robb, *supra* note 64. Likewise, in industrial applications, devices often need to communicate and make decisions locally, as in Airbus’s vision of using data analytics in tracking the performance of a system where intelligent tools will replace humans in manufacturing planes. GE similarly uses local analytics to change the configuration of its wind turbines based on sensor data on, for instance, wind gust. Sean Gallagher, *The Future Is the Internet of Things—Deal with It*, ARS TECHNICA (Oct. 29, 2015), <http://arstechnica.com/unite/2015/10/the-future-is-the-internet-of-things-deal-with-it> [<https://perma.cc/Z4C3-UAQZ>].

74. *See* Gallagher, *supra* note 73. Gartner uses the term “distributed approach to data center management” whereby multiple “mini-data centers” perform initial processing and forward relevant data over WAN links to a centralized location for further analysis. *See* Press Release, *Gartner Says the Internet of Things Will Transform the Data Center*, GARTNER, INC. (Mar. 19, 2014), <http://www.gartner.com/newsroom/id/2684616> [<https://perma.cc/PYE9-FNVY>].

75. Johnson, *supra* note 53.

76. ITU—IoT, *supra* note 44, at 23–24.

learning, which is a form of artificial intelligence.⁷⁷ Machine learning can enable recognizing patterns from data, making predictions, and continually improving the algorithm to produce the most efficient responses.⁷⁸ It is particularly useful when it is not possible to foresee every possible future scenario in an IoT application. For instance, because one cannot predict every circumstance on the road, algorithms in autonomous vehicles are expected to rely on machine learning and other forms of artificial intelligence.⁷⁹

C. DEFINING IoT

There is no hard and fast definition of IoT. According to Cisco, IoT is simply a point in time when more devices are connected to the Internet than are people.⁸⁰ This occurred in 2010—12.5 billion connected devices vis-à-vis 6.8 billion people—thanks in large part to the explosive growth of smartphones and tablets.⁸¹ While this definition captures the exponential rise of Internet-connected devices, it fails to encapsulate the characteristics of many emerging technologies that substantiate the concept of connecting objects beyond phones, tablets, and computers to the Internet.

Other definitions emphasize the various technologies that enable IoT. Underscoring the role of sensors and Internet connectivity, the Institute of Electrical and Electronics Engineers (IEEE), the world's largest Standard Setting Organization (SSO), defines IoT as “a network of items—each embedded with sensors—which are connected to the Internet.”⁸² Similarly, according to the Organization for the Advancement of Structured Information Standards (OASIS), a consortium that works to advance open standards for the information society, IoT is a “system where the Internet is connected to the physical world via ubiquitous sensors.”⁸³ Taking a different approach, ETSI highlights the significance of automation in defining a concept similar to IoT, “machine to machine (M2M) communication:” “communication between . . . entities that do not

77. See Johnson, *supra* note 53.

78. *The Economist Explains: How Machine Learning Works*, ECONOMIST (May 13, 2015), <http://www.economist.com/node/21651052/print> [<https://perma.cc/8WNA-VCGU>].

79. For a more in-depth discussion on autonomous vehicles, see Jessica Brodsky, Note, *Autonomous Vehicle Regulation: How an Uncertain Legal Landscape May Hit the Brakes on Self-Driving Cars*, 31 BERKELEY TECH. L.J. 851 (2016).

80. Evans, *supra* note 2, at 2.

81. See *id.* at 3.

82. Minerva, Biru & Rotondi, *supra* note 26, at 10.

83. *Id.* at 21.

necessarily need any direct human intervention. M2M services intend to automate decision and communication processes.”⁸⁴

According to the ITU, IoT embodies the vision of a “ubiquitous network,” connected “anytime, anywhere, by anyone and anything.”⁸⁵ In other words, IoT allows “people and things to be connected anytime, anyplace, with anything and anyone, ideally using any path/network and any service.”⁸⁶ This way of viewing IoT speaks to its constituent elements, reach, and vision, and puts IoT in the context of earlier achievements in computing; that is, after mobile Internet expanded “anytime” connectivity to “anyplace,” IoT promises to extend it to “anyone” and “anything.”⁸⁷ It also hopes to attain interoperability in networks and services.

II. INTEROPERABILITY

The IoT industry is projected to be worth hundreds of billions of dollars in the future.⁸⁸ Although vendors will offer IoT products that are vertically integrated to varying degrees, no one company can supply all of IoT’s constituent parts and technologies. Likewise, the lack of a common services layer will hinder horizontal interoperability, that is, prevent application developers from utilizing existing IoT infrastructure to offer applications to end customers. Thus IoT may not become the massive industry it is projected to become unless its many constituting devices can interoperate, or communicate with each other. In fact, oneM2M argues that market projections of growth of IoT are unrealistic absent a global standardized platform.⁸⁹

The dual standards in videocassette recorders (VCRs), Sony’s Betamax and JVC’s VHS, present a classic illustration of the value of standards.⁹⁰ As the two companies jostled for market share, confusion among vendors, video shop rentals, and customers followed.⁹¹ Vendors manufactured VCRs in one or both formats and rental shops stocked two copies of each movie title—a waste of resources in addition to dual research and development and

84. *Id.* at 12.

85. *See* ITU—IoT, *supra* note 44, at 3.

86. Vermesan et al., *supra* note 19, at 12.

87. *See* ITU—IoT, *supra* note 44, at 3.

88. *See* STRATEGY ANALYTICS, *supra* note 3.

89. oneM2M, *supra* note 39, at 2.

90. *See* Andrew Updegrave, *The Essential Guide to Standards: What (and Why) Is an SSO?*, CONSORTIUMINFO (2007), <http://www.consortiuminfo.org/essentialguide/whatisansso.php> [<https://perma.cc/3WJD-5BLX>].

91. *Id.*

marketing by Sony and JVC.⁹² The ambiguity also stunted the growth of the entire VCR ecosystem.⁹³ VHS eventually prevailed over Betamax even though many believed that the latter was a technologically superior product.⁹⁴ A standard in VCR technology from the start would have limited inefficiencies and propelled the growth of related industries.⁹⁵ Further, if the standard had emerged from collaboration between competitors in a standards organization, they could have pooled their knowhow to produce something even technologically superior.

IoT platforms are currently highly fragmented.⁹⁶ The current lack of standards remains a significant hurdle to unlocking significant economic value from IoT.⁹⁷ Like during the VCR standards battle, vendors and end users could be delaying investments—even though they see value in using IoT—because they fear making irreversible investments in the standard that loses out in the end. This problem is particularly acute in a system such as smart meters, where it takes twenty to thirty years to recoup initial investment outlays.⁹⁸ Utility service providers will, therefore, need assurances that network interfaces will be stable and device software will be manageable and upgradable. More broadly, standards that provide common service layer capabilities and open interfaces will help “reduce investments, time-to-market, development and on-boarding costs, and facilitate management of devices and applications.”⁹⁹ In order for IoT to become ubiquitous, applications should be “abstracted from the underlying access networks and technologies,” which will require interoperability between “devices, platforms, data formats, protocols, and applications.”¹⁰⁰ Standards will, thus, enhance scalability and flexibility in IoT applications.¹⁰¹

Indirect network effects are at play in the IoT market; that is, the more widely end users adopt a company’s platform, the more vendors and developers are drawn to the platform and vice versa. In such a market, a company that eventually owns the dominant platform will obtain a tremendous monopoly advantage. Given the likely exponential growth of the IoT market, the potential rewards are, thus, astronomical. However,

92. *Id.*

93. Sangin Park, *Quantitative Analysis of Network Externalities in Competing Technologies: The VCR Case*, 86 REV. ECON. & STATISTICS 937, 939 (2004).

94. Updegrave, *supra* note 90.

95. *See* Park, *supra* note 93, at 939.

96. *See* oneM2M, *supra* note 39, at 13.

97. *See id.* at 2; Walport, *supra* note 50, at 8, 16.

98. *See* oneM2M, *supra* note 39, at 6.

99. *Id.* at 6.

100. *Id.*

101. *See id.*

because there is currently no common dominant standard, the IoT market could evolve in different ways. In their work on competition in standard markets, economists Stanley M. Besen and Joseph Farrell outline three different scenarios that apply to the IoT ecosystem: (1) Tweedledum and Tweedledee, where firms choose incompatibility and race to make their platform dominant; (2) Battle of the Sexes, where firms agree to have a common standard, but push for their own standard or for a standard that is favorable to their firm; and (3) Pesky Little Brother, where the dominant firm attempts to exclude the smaller firm from its platform, but the smaller firm tries to make its product compatible with the dominant firm's platform.¹⁰²

Today's fragmented IoT market shows signs of each of the three scenarios described above. Various strategies mark the Tweedledum and Tweedledee scenario. Firms can attempt to build an early lead, for instance, with companies like Nest, IBM, and AT&T coming up with newer and improved products to gain traction in the market.¹⁰³ In the IoT market characterized by indirect network effects, firms can also try to get ahead by opening up platforms to application developers, as Intel did in December 2014.¹⁰⁴ Yet another way to compete in the platform race is by making product preannouncements to keep customers away from competitors' platforms.¹⁰⁵ For instance, Orange demonstrated its intentions to be the dominant network operator of IoT in France by announcing its plans to build a Low Power Wide Area (LPWA) network that covers the entirety of metropolitan France.¹⁰⁶ Nest has similarly announced a certification program for its Thread platform in the near future.¹⁰⁷

102. Stanley M. Besen & Joseph Farrell, *Choosing How to Compete: Strategies and Tactics in Standardization*, 8 J. ECON. PERSPECTIVES 2, 121–29 (1994).

103. See *id.* at 122; NEST, *supra* note 4; Jennifer Booton, *IBM Launches Internet of Things Division*, MARKETWATCH (Sept. 14, 2015), <http://www.marketwatch.com/story/ibm-launches-internet-of-things-division-2015-09-14> [https://perma.cc/5ZWG-XXCV]; Stacey Higginbotham, *AT&T's Plan for the Internet of Things Goes Way Beyond the Network*, FORTUNE (Sept. 15, 2015), <http://fortune.com/2015/09/15/att-internet-of-things> [https://perma.cc/5W97-HFA8].

104. See Besen & Farrell, *supra* note 102, at 122–23; Aaron Tilley, *Intel Releases New Platform to Kickstart Development in the Internet of Things*, FORBES (Dec. 9, 2014), <http://www.forbes.com/sites/aarontilley/2014/12/09/intel-releases-new-platform-to-kickstart-development-in-the-internet-of-things/#614684fc1028> [https://perma.cc/2VN3-EE8S].

105. See Besen & Farrell, *supra* note 102, at 123–24.

106. *Orange Deploys a Network for the Internet of Things*, ORANGE (Sept. 18, 2015), <http://www.orange.com/en/Press-and-medias/press-releases-2016/press-releases-2015/Orange-deploys-a-network-for-the-Internet-of-Things> [https://perma.cc/9KLP-EF4V].

107. Colin Neagle, *A Guide to the Confusing Internet of Things Standards World*, NETWORK WORLD (July 21, 2014), <http://www.networkworld.com/article/2456421/>

IoT-related standardization efforts at various consortia exemplify both Battle of the Sexes and Tweedledum and Tweedledee scenarios. Within a consortium, companies can compete with each other to use their technologies in the standard. At the same time, more than one consortium can work on a standard that attains the same goal, which results in a race to make their respective standards dominant. There is a publicly acknowledged competition between two service-layer platforms developed by the AllSeen Alliance—comprising Qualcomm, Cisco, Microsoft, LG, and HTC—and the Open Internet Consortium—comprising Intel, Atmel, Broadcom, Dell, Samsung, and Wind River.¹⁰⁸ Overall, the IoT platform standard market is fragmented, with several competing consortia trying to develop their own standards.¹⁰⁹ As an example of a Pesky Little Brother scenario, while Apple has allowed app developers and hardware manufacturers to build on its proprietary HomeKit platform, its insistence on cutting-edge encryption keys and chips used by Wi-Fi and Bluetooth devices has effectively excluded the developers.¹¹⁰

Going forward, the IoT market may experience persistent platform fragmentation. This will likely hinder full realization of IoT's value and retard the adoption of IoT. Alternatively, competition between standards may eventually lead to the rise of *de facto* dominant standards in different IoT segments.¹¹¹ However, as in the VCR standards battle, the best technologies may not win. Therefore, the best way forward may be to foster cooperation between competitors in developing various standards. Over time, when the business models of various IoT vendors crystallize and the dimensions of competition become clear, the industry may witness such broad standardization efforts, as when the establishment of the Internet in the 1990s led to the adoption of the World Wide Web.¹¹²

internet-of-things/a-guide-to-the-confusing-internet-of-things-standards-world.html [https://perma.cc/TKQ5-RW6H].

108. *Id.* While opening its platform to the open source community for collaboration, the OIC has expressed distrust with Qualcomm's intentions. *Id.* Similarly, Qualcomm has publicly denounced OIC's spurn of its platform. *Id.*

109. *See id.*

110. Christopher Null, *The State of IoT Standards: Stand By for the Big Shakeout*, TECHBEACON (Sept. 2, 2015), <http://techbeacon.com/state-iot-standards-stand-big-shakeout> [https://perma.cc/QA42-DK6R].

111. *See* Robert S. Sutor, *Open Source vs. Open Standards*, <http://www.sutor.com/c/essays/osvsos> [https://perma.cc/7W45-7E22].

112. *See* Direct Marketing Association, *Comment Letter on FTC Seeking Input on Privacy and Security Implications of the Internet of Things*, 2 (June 1, 2013), <https://www.ftc.gov/policy/public-comments/comment-00010-2> [https://perma.cc/KN2F-GJE2].

III. THREATS TO PRIVACY AND SECURITY

The two biggest threats to the widespread adoption of IoT are privacy and security.¹¹³ Consumers vote with their feet when it comes to protecting their data.¹¹⁴ Given the likely ubiquity of IoT devices and the volume and granularity of sensor data collected, transmitted, and stored, IoT will magnify the types of privacy and security risks that already accompany the traditional Internet. But some privacy and security issues are particular to IoT.

A. PRIVACY

Sensors can collect a treasure trove of sensitive information about people, either directly or indirectly through inferences made from data over time.¹¹⁵ For example, simple movement data from the accelerometer and the gyroscope contained in most smartphones can help decipher an individual's driving habits.¹¹⁶ It can also help infer one's level of relaxation and, if supplemented by heart-sensor data, portray stress levels and emotions.¹¹⁷ More generally, IoT devices can enable inferences about "a user's mood; stress levels; personality type; bipolar disorder; demographics (e.g., gender, marital status, job status, age); smoking habits; overall well-being; progression of Parkinson's disease; sleep patterns; happiness; levels of exercise; and types of physical activity or movement."¹¹⁸ Left unchecked, IoT devices could allow intrusive surveillance into the private spheres of individuals' lives. Just as the widespread use of CCTV has influenced people's behavior in public spaces, IoT may pressure people to avoid behavior that can be perceived as anomalous even in the comfort of their homes.¹¹⁹

Unauthorized people may also use IoT data in unauthorized ways. While rich data created by the IoT ecosystem can lead to better credit, insurance, and employment decisions, its use without consumers' knowledge and consent can be harmful.¹²⁰ For instance, insurers could use

113. See Walport, *supra* note 50, at 6.

114. FTC, *supra* note 68, at 51–52.

115. Scott R. Peppet, *Regulating the Internet of Things: First Steps Toward Managing Discrimination, Privacy, Security, and Consent*, 93 TEXAS L. REV. 85, 113 (2014).

116. Article 29 Data Protection Working Party, *supra* note 49, at 7.

117. Peppet, *supra* note 115, at 121.

118. *Id.* at 115–16.

119. Article 29 Data Protection Working Party, *supra* note 49, at 8; see also Zygmunt Bauman & David Lyon, *Liquid Surveillance* (2013); Neil M. Richards, *The Dangers of Surveillance*, 126 HARV. L. REV. 1934 (2013).

120. Peppet, *supra* note 115, at 125–26.

Fitbit data to charge higher premiums to people with higher perceived health risks. A consumer's right to challenge accuracy in consumer reports under the Fair Consumer Reporting Act (FCRA) is inadequate here because sensor data is hardly inaccurate, and FCRA does not apply to specious inferences drawn from such accurate data.¹²¹ FCRA also spares companies collecting data and conducting analytics in-house.¹²² Similarly, even though Title VII of the Civil Rights Act prohibits various forms of discrimination, creditors, insurers, and employers can make inferences from sensor data to create proxies for race, gender, disability, or other protected classes.¹²³

Further, IoT data largely breaks down the distinction between personal and nonpersonal information.¹²⁴ Comprising granular data with many variables, sensor data can enable someone with knowledge of certain attributes of a person to identify them, even without their personally identifiable information (PII)—examples of PII include name, social security number, telephone number, and address.¹²⁵ For example, Fitbit's movement data can reveal someone's gait.¹²⁶ Someone who knows a person's gait could, thus, identify that person and gain access to the rest of his or her Fitbit data.¹²⁷ Hence, data not previously considered personally identifiable information could now enable the re-identification of individuals in the IoT context, rendering the anonymizing of IoT data with de-identification and data aggregation ineffective.¹²⁸ Moreover, various existing and proposed state laws mandate notification upon breach of only personal data and have more stringent security requirements for personal data than for nonpersonal data.¹²⁹ This blurring of lines between personal and nonpersonal data will, in effect, weaken these laws.¹³⁰

121. *Id.* at 128 (explaining that “[a]ccuracy, however, is really not the problem with Internet of Things sensor data . . . What is more questionable are the inferences drawn from such data. The FCRA does not reach those inferences, however. It applies to the underlying ‘inputs’ into a credit, insurance, or employment determination, not the reasoning that a bank, insurer, or employer then makes based on those inputs.”).

122. *Id.* at 127.

123. *Id.* at 124–25.

124. *Id.* at 129–31.

125. *Id.* at 132.

126. *Id.* at 129.

127. *Id.*

128. *Id.*

129. *Id.* at 132–33. For a more in-depth discussion of data breaches and security breach notification laws, see Yasmine Agelidis, Note, *Protecting the Good, the Bad, and the Ugly: “Exposure” Data Breaches and Suggestions for Coping with Them*, 31 BERKELEY TECH. L.J. 1057 (2016).

130. *Id.*

B. SECURITY

Increased reliance upon IoT heightens both the risk of data breaches and physical harm to users of IoT systems or devices.¹³¹ Each additional IoT device represents another point of vulnerability for intruders to access information.¹³² A connected device can be an entry point for an attack on an entire network or other connected systems.¹³³ As a case-in-point from a non-IoT system, during the theft of forty million credit card numbers and infiltration of Target's computer system in 2013, attackers exploited security flaws in a contractor's computer system that was connected to Target's computer system for the purposes of "electronic billing, contract submission, and project management."¹³⁴ Further, IoT can pose a direct threat to people's physical safety through manipulation of device functions or tracking of user's location.¹³⁵ As examples, a hacker once exploited vulnerabilities of a baby monitoring device to shout at a sleeping toddler, and a group of researchers were able to control the steering and braking of a connected car by hacking it remotely.¹³⁶

In addition to security risks emerging from communication links and storage infrastructure, IoT devices are inherently vulnerable for many reasons. First, manufacturers of these devices—primarily consumer goods companies—are inexperienced in data security issues relative to software or hardware firms.¹³⁷ Second, the devices' compact form and low battery life do not lend themselves to the high processing power that is "needed for robust security measures such as encryption."¹³⁸ Third, it is hard to periodically update or patch these devices with security fixes, thereby exposing them to threats not existing or contemplated at the time of their manufacture.¹³⁹

131. See Jim Snell & Christian Lee, *The Internet of Things Changes Everything, or Does It?*, 32 COMPUTER & INTERNET LAWYER 2 (2015).

132. FTC, *supra* note 68, at 11.

133. *Id.* at 11–12.

134. Paul Ziobro, *Target Breach Began with Contractor's Electronic Billing Link*, WALL ST. J. (Feb. 6, 2014), <http://www.wsj.com/articles/SB10001424052702304450904579367391844060778> [<https://perma.cc/ZJ8H-SCRR>].

135. FTC, *supra* note 68, at 12–13.

136. Andy Greenberg, *How Hackable is Your Car? Consult This Handy Chart*, WIRED (Aug. 6, 2014), <http://www.wired.com/2014/08/car-hacking-chart> [<https://perma.cc/G5P3-E2A2>]; *Home, Hacked Home: The Perils of Connected Devices*, ECONOMIST (July 12, 2014), <http://www.economist.com/news/special-report/21606420-perils-connected-devices-home-hacked-home> [<https://perma.cc/E9DZ-E38F>].

137. Peppet, *supra* note 115, at 135.

138. *Id.*

139. *Id.* at 135–36.

Moreover, lack of coordination among different stakeholders in the IoT ecosystem hampers not only interoperability but also security. There is a divergence of interests in the IoT ecosystem: for instance, while a telecom operator primarily wants to ensure network availability, a customer enterprise prioritizes data protection, and an IoT provider wants to ensure uptime.¹⁴⁰ Failure to coordinate technical design with implementation can also give rise to weak points, with “the level of security provided by the weakest component.”¹⁴¹ According to oneM2M, “the huge diversity of . . . IoT device types, their different capabilities and the range of deployment scenarios makes security a unique challenge for the . . . IoT industry.”¹⁴² For example, most sensors available today do not support encryption because the devices have limited battery power, and therefore, insufficient computing resources.¹⁴³

C. REGULATORY RESPONSE TO DATE

The FTC proposed best practices to minimize privacy and security risks in its IoT report published in January 2015.¹⁴⁴ Recognizing that the IoT industry is still at an early stage with great potential for innovation, it opposes enacting IoT-specific legislation.¹⁴⁵ The FTC’s recommendations consist of: (1) data security, (2) data minimization, and (3) notice and choice.¹⁴⁶

The standard for data security is reasonable security, which depends on “the amount and sensitivity of data collected, the sensitivity of the device’s functionality, and the costs of remedying the security vulnerabilities.”¹⁴⁷ The FTC report makes several specific recommendations to companies developing IoT products. It advocates implementing “security by design,” that is, building security into the devices at the outset;¹⁴⁸ promoting personnel policies to ensure prioritization of security needs;¹⁴⁹ and ensuring that third party service providers to whom the company has outsourced work maintain reasonable security.¹⁵⁰ For systems with significant risk, the report recommends adopting a “defense-in-depth” approach that considers

140. oneM2M, *supra* note 39, at 12.

141. Article 29 Data Protection Working Party, *supra* note 49, at 9.

142. oneM2M, *supra* note 39, at 12.

143. *See* Article 29 Data Protection Working Party, *supra* note 49, at 9.

144. *See* FTC, *supra* note 68, at i.

145. *Id.* at 48–49.

146. *See id.* at 27–46.

147. *Id.* at 27–28.

148. *Id.* at 28.

149. *Id.* at 29.

150. *Id.* at 30.

security measures at all levels, for instance, using data encryption in both transit and storage, instead of relying on consumers' passwords.¹⁵¹ It also recommends using strong authentication to permit IoT devices to interact with other IoT devices and systems while not unduly hindering the device's usability, monitoring products through the life cycle, providing security updates, and patching known vulnerabilities after the sale of the devices.¹⁵²

Data minimization encompasses reasonable limits on both collection and retention of data.¹⁵³ The FTC report also advocates a privacy-by-design approach whereby the company evaluates its data needs—"what types of data it is collecting, to what end, and how long it should be stored."¹⁵⁴ It also recommends considering whether a company can provide the same services with less granular data, for example, using zip codes instead of precise geographical location.¹⁵⁵ When de-identification is possible and de-identified data serves business needs, the report suggests that companies maintain data in de-identified form and publicly commit to not re-identify data.¹⁵⁶ At the same time, it acknowledges the importance of maintaining flexibility in the data minimization framework so as not to foreclose future innovations based on data they do not use today.¹⁵⁷

The notice and choice framework advocated by the FTC allows a company to collect sensitive personal information with the express consent of consumers.¹⁵⁸ However, such consent is not required if data can be effectively and immediately de-identified, or if its collection and use is consistent with the context of a transaction or the relationship between the company and the customer.¹⁵⁹ To illustrate, a smart oven vendor that also offers an app to turn the oven on remotely and specify its temperature need not seek consumers' consent to use oven-usage information to improve the sensitivity of the oven's sensors or recommend related products to consumers.¹⁶⁰ On the contrary, the vendor would need consumers' consent to sell this data to a data broker or an advertisement network.¹⁶¹ The report refrains from embracing a full use-based framework not in the least because

151. *Id.*

152. *Id.* at 31–32.

153. *Id.* at 33–34.

154. *Id.* at 36.

155. *Id.*

156. *Id.* at 36–37.

157. *Id.* at 38–39.

158. *Id.* at 39–40.

159. *Id.* at 40, 43.

160. *Id.* at 40–41.

161. *Id.*

the authority—either based on legislation or a multi-stakeholder code of conduct—on what constitutes a beneficial or harmful use of data is unclear.¹⁶²

In order for a notice and choice framework to work, a user's consent should be meaningful and well-informed.¹⁶³ However, consent is hard to achieve in IoT devices, which are “often small and screen-less, and lack an input mechanism like a touch screen or keyboard.”¹⁶⁴ Further, information related to privacy and data security is often only available on manufacturers' websites, without means for consumers to locate it.¹⁶⁵ When it can be located, it may be incomplete or vague.¹⁶⁶ For instance, many of these online privacy and security policies do not make it clear who owns the data collected by IoT devices, whether data is stored on the device or a remote server, what measures are employed to prevent security breaches, what data is collected, what constitutes personal and nonpersonal information and how they are treated differently, and whether consumers can access, modify, and delete raw data.¹⁶⁷

In order to effectuate meaningful consent, the FTC recommends providing consumers options such as choice at the point of sale or set-up, choice through the website interface that can be accessed via code on the device, choice through a dashboard, and tutorials.¹⁶⁸ Companies can also offer general privacy menus along with an explanation of each privacy setting, or alternatively, personalize default privacy choices based on expressed past preferences.¹⁶⁹ While FTC recognizes that there cannot be a one-size-fits-all approach to acquiring consent, it cautions that privacy choices “should be clear and prominent, and not buried in lengthy documents.”¹⁷⁰

In addition to these best practice recommendations, § 5 of the Federal Trade Commission Act authorizes the FTC to bring an action against a company in response to that company's “unfair or deceptive acts or practices.”¹⁷¹ This gives limited authority to the FTC.¹⁷² While the

162. *Id.* at 44–46.

163. *See* Article 29 Data Protection Working Party, *supra* note 49, at 7.

164. Peppet, *supra* note 115, at 140.

165. *Id.* at 141.

166. *See id.* at 142–45.

167. *See id.* at 144–45.

168. FTC, *supra* note 68, at 41–42.

169. *Id.* at 42.

170. *Id.* at 41, 43.

171. 15 U.S.C. § 45(a).

172. *See* Peppet, *supra* note 115, at 136–37.

“deception” prong requires a company’s violating its own statements to consumers, the “unfairness” prong requires an injury to consumers through a violation of public policy.¹⁷³ FTC’s complaint against TRENDnet, and its eventual settlement, marks the only IoT-related case thus far where the FTC invoked its § 5 authority.¹⁷⁴ TRENDnet marketed its Internet-connected cameras for various purposes including home security and baby monitoring, promising that the cameras were secure.¹⁷⁵ However, the company stored and transmitted over the Internet unencrypted login credentials and failed to test consumers’ privacy settings.¹⁷⁶ Hackers were, therefore, able to access live video feeds from these cameras.¹⁷⁷

Likewise, although forty-six states have enacted statutes requiring companies to disclose data breaches, they only cover variations of what has historically been considered personal information, leaving out a vast amount of IoT sensor data that can be used to identify individuals.¹⁷⁸ In response to these regulatory gaps, the FTC has called for general, technology-neutral data security and privacy legislation, which would apply to IoT but would not be specific to IoT.¹⁷⁹ This law would cover both personal data as well as device functionality, clarify when companies should give privacy notices and offer choices about data collection and use, and require companies to disclose a data breach.¹⁸⁰ This law could also articulate what constitutes a beneficial or harmful use of data, and, thus, help implement use-based restrictions of IoT data.¹⁸¹

The Article 29 Working Party (“Article 29”), an independent European advisory body on data protection and privacy, has also published best practices recommendations in its September 2014 IoT report.¹⁸² The report acknowledges IoT’s significant benefits, but also stresses the need to respect

173. *Id.*

174. *See* In the Matter of TRENDnet, Inc., 122 F.T.C. 3090 (Feb. 7, 2014) (FTC complaint), <https://www.ftc.gov/system/files/documents/cases/140207trendnetcmpt.pdf> [<https://perma.cc/LVV6-VPYD>]; PRESS RELEASE, *MARKETER OF INTERNET-CONNECTED HOME SECURITY VIDEO CAMERAS SETTLES FTC CHARGES IT FAILED TO PROTECT CONSUMERS’ PRIVACY*, FED. TRADE COMMISSION (Sept. 4, 2013), <https://www.ftc.gov/news-events/press-releases/2013/09/marketer-internet-connected-home-security-video-cameras-settles> [<https://perma.cc/B5HH-BK47>].

175. FED. TRADE COMMISSION, Press Release, *supra* note 174.

176. *Id.*

177. *Id.*

178. *See* Peppet, *supra* note 115, at 137–39.

179. *See* FTC, *supra* note 68, at 48–52.

180. *Id.*

181. *Id.*

182. *See* Article 29 Data Protection Working Party, *supra* note 49.

the attendant privacy and security challenges.¹⁸³ Compared to the FTC's recommendations, Article 29's recommendations are more numerous, more specific, and tailored to many IoT stakeholders.¹⁸⁴ For instance, it recommends that OS and device manufacturers provide users a user-friendly interface to access personal data;¹⁸⁵ that application developers frequently warn users that sensors are collecting data;¹⁸⁶ that social platforms ask users to decide on publication on social platforms by default;¹⁸⁷ that users of IoT devices inform non-user data subjects about the presence of devices and the type of data being collected;¹⁸⁸ and that standardization bodies promote interoperable and clear data formats.¹⁸⁹

IV. CONCLUSION AND POLICY IMPLICATIONS

In light of the huge potential of the IoT industry to create a positive impact in the world, but also to pose threats to privacy and security, the big question is the appropriate role of the government. IoT is an evolving industry, so any technological mandate can favor one emerging technology over the other when their relative merits are still unclear. Particularly because it is the convergence of many technologies that has made IoT possible, it is also hard to foresee the many uses of IoT. Further, consumers have different and evolving privacy preferences and, if well informed, can weigh risks and benefits to make appropriate choices. This favors industry self-regulation through representation of various stakeholders over government involvement. However, reliance on consumer education or vigorous participation by privacy advocates is often unrealistic. In the face of these uncertainties, the best regulatory approach going forward would be to observe market dynamics and self-regulatory efforts, promote broad principles, and take a wait-and-see approach. Regulators should still monitor the development of known threats and emergence of unknown threats.

Likewise, a lack of interoperability may stunt IoT's growth. Realizing this, the UK Government Office for Science recommends using government's technology procurement policies to encourage open IoT systems.¹⁹⁰ Such nudging of the industry in the direction of greater

183. *See id.* at 3.

184. *See id.* at 21–24.

185. *Id.* at 22.

186. *Id.* at 23.

187. *Id.*

188. *Id.* at 24.

189. *Id.*

190. Walport, *supra* note 50, at 7.

interoperability can be helpful. However, mandating interoperability in every segment of the IoT market is bound to be counterproductive. First, such mandate is unlikely to be technology-neutral, prematurely favoring one emerging technology over another. Second, joint industry efforts such as one led by oneM2M can broaden adoption of common solutions (including privacy and security standards) across industrial sectors and countries. This will lead to greater interoperability than having multiple jurisdictions impose various IoT regulations. Finally, as some economists have pointed out, despite efficiency gains from network effects in having one system, the existence of two or more competing systems can promote product variety and innovation, and thus, be more desirable.¹⁹¹ One needs to only consider the competition between iOS and Android to appreciate the resultant speed of innovation in the smartphone OS market. Thus, governments can incentivize industry to move to open systems, but would be well advised to refrain from prematurely mandating broad standards.

191. Michael Katz & Carl Shapiro, *Systems Competition and Network Effects*, 8 J. ECON. PERSPECTIVES 2, 95 (1994).

SHARING ECONOMY MISCLASSIFICATION: EMPLOYEES AND INDEPENDENT CONTRACTORS IN TRANSPORTATION NETWORK COMPANIES

Robert L. Redfearn III[†]

Business activity and consumer participation in the economy have changed drastically with the rise of the Internet and mobile phone applications. One area that reflects this change is the “sharing economy,” which refers to the use of peer-to-peer networks to gain temporary access to products and services on an as-needed basis.¹ In turn, the sharing economy has birthed a now-popular business model in which “an online intermediary [or platform] . . . acts as a market for [peer-to-peer] services and . . . facilitates exchanges by lowering transaction costs.”² For example, a transportation network company (TNC) is a type of sharing economy company that makes ride-sharing more convenient by connecting drivers with potential passengers. A TNC generates revenue by charging users a fee for its matchmaking service.

There are two central ideas behind the sharing economy: reduction of transaction costs and efficient allocation of resources.³ With lower transaction costs due to communication technology and standardized methods of exchange, owners are more willing to provide their under-

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1. See Kurt Matzler et al., *Adapting to the Sharing Economy*, 56 MIT SLOAN MGMT. REV. 71, 71–72 (2015).

2. Vanessa Katz, Note, *Regulating the Sharing Economy*, 30 BERKELEY TECH. L.J. 1067, 1070 (2015); see also Chris J. Martin, *The Sharing Economy: A Pathway to Sustainability or a Nightmarish Form of Neoliberal Capitalism?*, 121 ECOLOGICAL ECON. 149, 158 (2016) (concluding that the sharing economy is “framed” mainly in terms of “economic opportunity”).

3. See Matzler, *supra* note 1, at 72 (asserting that “[t]he central conceit of collaborative consumption is simple: Obtain value from untapped potential residing in goods that are not entirely exploited by their owners”); Katz, *supra* note 2, at 1075; *The Rise of the Sharing Economy*, THE ECONOMIST (Mar. 9, 2013), <http://www.economist.com/news/leaders/21573104-internet-everything-hire-rise-sharing-economy> [<https://perma.cc/292R-368D>] (noting that “technology has reduced transaction costs, making sharing assets cheaper and easier than ever—and therefore possible on a much larger scale”).

utilized assets to platform participants.⁴ Users on both sides of a sharing platform benefit from this transaction—“[o]wners make money from underused assets . . . [and] [r]enters . . . pay less than they would if they bought the item themselves[] or turned to a traditional provider such as a hotel or car-hire firm.”⁵ In this regard, the sharing economy represents “a societal shift to an access model rather than an ownership model.”⁶

Proper regulatory controls of sharing platforms are crucial as these platforms rapidly expand and influence many aspects of daily life. Yet, the legal and regulatory frameworks which purport to govern sharing economy platforms have not kept pace with the changing marketplace.⁷ Among the most challenging legal issues presented by this societal shift is whether certain sharing platform workers should be classified as employees or independent contractors.

This Note focuses on the worker classification issue as presented by TNC drivers. Part I defines TNCs and their surrounding regulatory framework and describes the business model of Uber Technologies, Inc. (“Uber”), the most prominent TNC. Part II examines the difference between employees and independent contractors by tracing the development of the distinction and by describing the current legal test for worker classification. Part III demonstrates how courts apply the worker classification test in practice. First, it analyzes worker classification cases in the context of businesses models analogous to that of a TNC. Next, it discusses the pending misclassification suits against two TNCs, Uber and its main competitor, Lyft, Inc. (“Lyft”). Part IV draws the conclusion that a jury is likely to find, based on the current legal classification test, that the class of Uber drivers certified for trial are Uber’s employees. However, this Note argues that such a blanket classification is inappropriate and will have a significant impact on other sharing economy companies—both in litigation and day-to-day business. Part IV closes by advocating that a new

4. See Katz, *supra* note 2, at 1075; Sofia Ranchordás, *Does Sharing Mean Caring? Regulating Innovation in the Sharing Economy*, 16 MINN. J.L. SCI. & TECH. 413, 416–17 (2015) (observing that “consumers will share goods when transaction costs related to the coordination of economic activities within specific communities are low”).

5. *The Rise of the Sharing Economy*, *supra* note 3.

6. Katz, *supra* note 2, at 1068 n.9; see also Ranchordás, *supra* note 4, at 474 (concluding that “[t]he basic idea of the sharing economy is to own less and have access to more”); *The Rise of the Sharing Economy*, *supra* note 3 (emphasizing that “access trumps ownership”).

7. See Bill Donovan et. al., *Are Workers in the Sharing Economy Independent Contractors or Employees? The Answer Is, It Depends*, INSIDE COUNSEL (June 30, 2015), <http://www.insidecounsel.com/2015/06/30/are-workers-in-the-sharing-economy-independent-con> [<https://perma.cc/458H-ESFZ>].

method of employment classification is needed to account for the complex working relationships in the sharing economy and by exploring possible alternatives.

I. TRANSPORTATION NETWORK COMPANIES

Under California law, a TNC is “an organization . . . that provides prearranged transportation services for compensation using an online-enabled application or platform to connect passengers with drivers using a personal vehicle.”⁸ Essentially, “TNCs provide transportation services analogous to common carriers” through the use of a digital platform.⁹ TNCs are prototypical sharing economy companies: they use online platforms to reduce transaction costs and efficiently allocate resources.

Because of safety concerns, many states have passed legislation designed to regulate TNCs. Generally, such legislation defines the term “TNC,” dictates insurance requirements, provides for driver and vehicle background checks, requires regular vehicle safety inspections, mandates “clear communication” to the rider of her fare, prohibits drivers from taking “hail[ed]” rides, and requires TNC drivers to clearly display the trademark of the TNC service they are providing.¹⁰

To illustrate how a TNC operates in practice, this Note considers the business model of Uber.¹¹ It is important to understand Uber’s operations

8. CAL. PUB. UTIL. CODE § 5431 (West 2015). Other states’ statutory definitions have fallen in line with the California description. For example, the proposed New York definition is nearly identical. *See* S.4108, 2015–2016, Reg. Sess. (N.Y. 2015). Illinois defines a TNC as an organization that “uses a digital network or software application service to connect passengers to transportation . . . between points chosen by the passenger and prearranged with a TNC driver.” 625 ILL. COMP. STAT. ANN. 57/5 (LEXIS through 2015 Pub. Act 098-1173). And while Washington, D.C., legislation refers to TNCs as “[p]rivate vehicle-for-hire compan[ies],” the definition is similar to those previously discussed: “an organization . . . that uses digital dispatch to connect passengers to a network of private vehicle-for-hire operators.” D.C. CODE § 50-301.03(16B) (2016).

9. Katz, *supra* note 2, at 1077.

10. *See* Doug Shinkle, *Riding by the Rules*, STATE LEGISLATURE MAGAZINE (Dec. 1, 2014), <http://www.ncsl.org/research/transportation/riding-by-the-rules.aspx> [<https://perma.cc/4CXQ-29VT>]; CAL. PUB. UTILS. COMM’N, BASIC INFORMATION FOR TRANSPORTATION NETWORK COMPANIES AND APPLICANTS 4 (2015) (requiring TNC vehicles to “display consistent trade dress”); *see generally* PORTLAND DEP’T OF TRANSP., TRANSPORTATION NETWORK COMPANIES REGULATIONS REVIEW & REPORT (2015) (aggregating the regulatory requirements imposed on TNCs by a number of jurisdictions).

11. Other examples include Lyft, SideCar, Summon, Haxi, and Wingz. However, this Note will focus on Uber because of its dominance in the market. *See* Lisa Rayle et al., *App-Based, On-Demand Ride Services: Comparing Taxi and Ridesourcing Trips and User Characteristics in San Francisco* 7 (Univ. of Cal. Transp. Ctr., Working Paper No. UCTC-FR

from two perspectives—that of the consumer or platform user and that of the market viewing Uber as a business entity.

In order to utilize Uber's service, a user downloads the Uber mobile application and creates a profile, which includes the user's name and credit card information. When that user needs a ride, she opens the application and selects one of Uber's multiple service offerings.¹² The application screen displays a map of the user's surrounding area and depicts Uber-associated vehicles near the user. The user enters her location into the application and "requests" a ride. "The app then alerts the [user] when a car has been confirmed, and shows the driver's name and license plate number while also displaying the driver's route and estimated time of arrival."¹³ The user may input her destination into the application, which Uber's software will relay to the driver with accompanying directions. At the end of the ride, Uber automatically charges the user's fare to her credit card in a cashless exchange. Both the user and driver then rate each other on a scale of one to five stars through the application, with more stars representing better feedback. The purpose of this rating system is to incentivize good behavior.¹⁴

From the perspective of the market, Uber positions itself simply as a technology platform that matches car-owning drivers with people who need rides.¹⁵ Yet, within its role as matchmaker, Uber controls much of the ride

-2014-08, 2014), <http://www.uctc.net/research/papers/UCTC-FR-2014-08.pdf> [<https://perma.cc/G8AQ-JBKN>] (illustrating Uber's dominant market share).

12. Basically, different types of vehicles at different price points.

13. See Mary Beth Quirk, *How Do Uber and Lyft Work and Why Should I Even Care?*, CONSUMERIST (Sept. 18, 2014), <http://consumerist.com/2014/09/18/how-do-uber-and-lyft-work-and-why-should-i-even-care/> [<https://perma.cc/VH3P-JJCH>].

14. Quirk, *supra* note 13. This rating system will likely have a significant impact in determining the employment classification of Uber drivers. See *infra* Section IV.A.2. Note also that the drivers, who are also technically platform users, have a good deal of freedom in their work—they determine their own hours, drive their own vehicles, and can choose to accept or decline user ride requests.

15. See *O'Connor v. Uber Techs., Inc.*, 82 F. Supp. 3d 1133, 1137 (N.D. Cal. 2015). However, Uber has also referred to itself as a transportation company in the context of advertising campaigns, touting itself as an "On-Demand Car Service" that acts as "Everyone's Private Driver." *Id.* Such statements lend support to the position that Uber more closely resembles a traditional common carrier rather than a technology company. Indeed, the court in *O'Connor* found that Uber was "certainly a transportation company" based on the "substance of what Uber actually *does* (i.e., enable [sic] customers to book and receive rides)." *Id.* at 1141.

transaction.¹⁶ First, Uber vets the persons (and their vehicles)¹⁷ that apply to be drivers on the Uber mobile application. These vetting mechanisms are quite stringent. For instance, Uber requires that drivers use an approved vehicle model that is no more than ten years old; Uber prohibits drivers from subcontracting their Uber Devices (a smartphone Uber provides to the driver that allows the driver to receive passengers) without Uber's express approval; and Uber mandates that drivers complete a city knowledge exam and personal interview.¹⁸ Second, Uber unilaterally sets fare rates based on its own formulas and takes a cut of the total fare paid to the driver—generally, twenty percent.¹⁹ This allows for a cashless exchange where the user pays Uber directly through the application, and Uber in turn remits a fixed amount of the fare to the driver.²⁰ Additionally, Uber unilaterally introduces “surge pricing” when customer demand is high. Customers are notified of the increased price, which Uber utilizes as “a way to incentivize more drivers to get on the streets to accommodate all [of its] customers.”²¹ Third, Uber regularly monitors driver data, particularly data related to rider ratings, rider feedback, and drivers' ride acceptance rates. Such control makes it difficult for Uber to style itself as a mere intermediary in the transaction.

With a twenty percent cut of each fare, Uber is able to cover its expenses, which remain minimal because it classifies its drivers as independent contractors rather than employees.²² Because of this classification, Uber is not legally required to provide its drivers with car repair expense

16. See Aswath Damodaran, *A Disruptive Cab Ride to Riches: The Uber Payoff*, FORBES (June 10, 2014), <http://www.forbes.com/sites/aswathdamodaran/2014/06/10/a-disruptive-cab-ride-to-riches-the-uber-payoff> [<https://perma.cc/AJP9-MD88>] (observing that much of Uber's value comes from “the screening that it does of the drivers/cars” and “its pricing/payment system”).

17. See *id.* Note that Uber drivers are required to provide their own vehicles. See *O'Connor v. Uber Techs., Inc.*, 2015 U.S. Dist. LEXIS 116482, at *91 (N.D. Cal. Sept. 1, 2015).

18. See Order of the Labor Commissioner of the State of California at 2–4, *Berwick v. Uber Techs., Inc.*, Case No. 11-46739 (Cal. Super. Ct. June 16, 2015) (quoting such vetting mechanisms from an Uber-driver contract); *O'Connor*, 82 F. Supp. 3d at 1136.

19. See *O'Connor*, 82 F. Supp. 3d at 1137.

20. See *Quirk*, *supra* note 13; *O'Connor*, 2015 U.S. Dist. LEXIS 116482, at *62–63.

21. *Quirk*, *supra* note 13; see also *O'Connor*, 2015 U.S. Dist. LEXIS 116482, at *63–65 (clarifying that it is “Uber that sets the price” for both “normal fares” and “surge pricing”).

22. See Damodaran, *supra* note 16 (characterizing Uber's business model as “low-cost”).

reimbursement, a minimum wage, overtime pay, health insurance, and a variety of other benefits.²³

II. EMPLOYEE VERSUS INDEPENDENT CONTRACTOR

Employment law provides a number of safeguards to workers classified as employees that are not provided to workers classified as independent contractors.²⁴ For instance, California Labor Code Section 510 provides that employees must be compensated extra for overtime work.²⁵ The Labor Code, however, does not contain any analogous protections for independent contractors. This is but one example of how a worker's legal classification has a significant impact on her overall well-being and on her employer's obligations to her. An employee is generally one who "works under the direction of a supervisor, for an extended or indefinite period of time, with fairly regular hours, receiving most or all of his income from that one employer."²⁶ On the other hand, an independent contractor typically has the bargaining power "to negotiate a rate for the use of [a special] skill."²⁷ An independent contractor also "serves multiple clients, perform[s] discrete tasks for limited periods, [and] exercis[es] great discretion over the way the work is actually done."²⁸

Consistent with the definitions above, the distinction mainly operates today to equalize the bargaining disadvantage that employees face as compared to independent contractors. Put another way, the distinction is meant to protect workers. The law originally drew the distinction for the discrete purpose of cabining tort liability for worker negligence. But in transitioning between these worker classification goals—from tort liability to bargaining power equalization or worker protection—courts retained the

23. See *Cotter v. Lyft, Inc.*, 60 F. Supp. 3d 1067, 1074 (N.D. Cal. 2015). Uber drivers are actually contracted by Uber's wholly owned subsidiary, Raiser, LLC, though this distinction is irrelevant for the purposes of this Note.

24. Several federal and state laws apply only to employers whose workers are employees, but not to employers whose workers are independent contractors. For example, several provisions of the Internal Revenue Code, the Fair Labor Standards Act, Title VII of the Civil Rights Act of 1964, the Age Discrimination in Employment Act, the Americans with Disabilities Act, the National Labor Relations Act, the Social Security Act, the Family and Medical Leave Act, and the Employment Retirement and Income Security Act only apply to employees. See Myra H. Barron, *Who's An Independent Contractor? Who's An Employee?*, 14 LAB. LAW. 457, 457–59 (1999). Importantly, the Fair Labor Standards Act, along with analogous state law statutes, "requires minimum and overtime wages be paid to employees but not to independent contractors." *Id.* at 457.

25. See CAL. LAB. CODE § 510 (West 2000).

26. *Cotter*, 60 F. Supp. 3d at 1069.

27. *Id.*

28. *Id.*

same common law test for distinguishing employees from independent contractors. The underpinnings of this transition shed light on how workers are classified in practice today. More importantly, a study of this historical development reveals that the courts developing the common law test could not have anticipated the complex working relationships in the sharing economy. This, in turn, highlights the need to revise the classification test.

This Part examines the development of the common law employment classification test, focusing on its adaptation from tort liability to worker protection and the Supreme Court's failed attempt to broaden the scope of the classification test. It then describes the details of the modern common law classification test, focusing on California's approach.

A. THE HISTORICAL DEVELOPMENT OF THE COMMON LAW
DISTINCTION BETWEEN EMPLOYEES AND INDEPENDENT
CONTRACTORS

At common law, the legal principle of respondeat superior held employers liable for the negligence of their employees, but not for the negligence of their independent contractors. In the mid-nineteenth century, courts developed what came to be known as the "control test" to classify workers for such respondeat superior purposes. However, during the New Deal Era, courts imported the control test to classify workers under labor legislation designed to remedy bargaining inequality and to protect workers. The Supreme Court attempted to expand the scope of the control test to account for this wholly distinct classification purpose. But Congress rejected a broader approach and statutorily mandated a return to the traditional common law consideration of control. As a result, the common law control test remains the dominant test of worker classification today. Because the courts developed the classification test for respondeat superior liability and not for worker protection, classification outcomes are sometimes out of sync with real-world employment relationships, a problem only exacerbated by the sharing economy.

1. *Between the Nineteenth and Twentieth Centuries, the Primary Purpose of Worker Classification Transitioned from Negligence to Worker Protection*

The common-law distinction between employees and independent contractors originally arose in the mid-nineteenth century to determine whether an employer should be liable for the tortious conduct of her

workers.²⁹ At that time, the employer-employee relationship was known as that of master and servant.³⁰ Under the doctrine of respondeat superior, courts could hold a master vicariously liable for the conduct of her servants.³¹ The rationale for such liability was that, since she had control over her servant, the master was positioned to minimize the harm caused by the servant in carrying out the master's work.³² By contrast, the master was not positioned to minimize the harm caused by her independent contractors, who had expertise and autonomy in their own work decisions. Accordingly, courts defined the master-servant (or employer-employee) relationship in terms of the master's right of control over a worker. Under the so-called "control test," the more control a master exercised over a worker's performance, the more likely a court would label that worker a servant.³³ Beyond the respondeat superior liability question, though, "worker[]" status was of limited consequence in the largely unregulated working world of the nineteenth century.³⁴

Twentieth century industrialization made employment relationships more complex and impersonal than the traditional master-servant relationship. As a result, employees required statutory protections "as a check against the bargaining advantage employers [had] over [them]—particularly unskilled, lower-wage employees—and the corresponding ability employers would otherwise have [had] to dictate the terms and

29. See SAMUEL ESTREICHER & GILLIAN LESTER, *EMPLOYMENT LAW* 17 (2008); Myra H. Barron, *supra* note 24, at 458–59; Richard R. Carlson, *Why the Law Still Can't Tell an Employee When It Sees One and How It Ought to Stop Trying*, 22 BERKELEY J. EMP. & LAB. L. 295, 304 (2001); Gerald M. Stevens, *The Test of the Employment Relation*, 38 MICH. L. REV. 188, 189–90 (1939); Benjamin S. Asia, *Employment Relation: Common-Law Concept and Legislative Definition*, 55 YALE L.J. 76, 77 (1945).

30. Stevens, *supra* note 29, at 189.

31. *See id.*

32. Liability could thus materialize from a master's actually controlling a worker's negligent activity, from a master's failure to adequately supervise a worker, or even from a master's "careless[] select[ion] [of a] negligent worker." *See* Carlson, *supra* note 29, at 302–04 (noting that "the label 'master-servant' connoted a relationship of very broad authority and control for one party and general subservience for the other").

33. *See* Stevens, *supra* note 29, at 189–94 (tracing the development of the control test); Griffin Toronjo Pivateau, *Rethinking the Worker Classification Test: Employees, Entrepreneurs, and Empowerment*, 34 N. ILL. U. L. REV. 67, 79 (2013) (summarizing the development of the control test). The Supreme Court adopted the control test in *Singer Mfg. Co. v. Rahn*, 132 U.S. 518 (1889) ("[T]he relation of master and servant exists whenever the employer retains the right to direct the manner in which the business shall be done, as well as the result to be accomplished, or, in other words, 'not only what shall be done, but how it shall be done.'").

34. Carlson, *supra* note 29, at 305.

conditions of the work.”³⁵ Independent contractors, by contrast, were presumably in a “far more advantageous position” with respect to bargaining power since they could “readily . . . sever [a] business relationship” when faced with unfair treatment or working conditions.³⁶ New Deal legislation addressed this inequality in bargaining power by providing employees with numerous benefits and protections.

Thus, New Deal legislation “dramatically” increased the consequences of worker status.³⁷ The distinction became more relevant for determining whether a worker fell within the scope of protective labor legislation than for its original purpose of determining respondeat superior liability.³⁸ Despite the change in the purposes and consequences of worker classification—from tort liability to worker protection—courts imported the nineteenth-century control test into twentieth-century classification questions. But the increasing complexity of employment relationships also made it difficult to determine the requisite level of control to establish an employment relationship.³⁹ As a result, courts began to consider additional factors to account for the multitude of working relationships that existed.⁴⁰

35. *Cotter v. Lyft, Inc.*, 60 F. Supp. 3d 1067, 1074 (N.D. Cal. 2015); *see also* *NLRB v. Hearst Publ'ns, Inc.*, 322 U.S. 111, 127 (1944) (internal quotation marks omitted) (discussing the “[i]nequality of bargaining power in controversies over wages, hours and working conditions” that employees face when “dealing with an employer”).

36. *Cotter*, 60 F. Supp. 3d at 1074 (quoting Ruth Burdick, *Principles of Agency Permit the NLRB to Consider Additional Factors of Entrepreneurial Independence and the Relative Dependence of Employees When Determining Independent Contractor Status Under Section 2(3)*, 15 HOFSTRA LAB. & EMP. L.J. 75, 130 (1997)).

37. Carlson, *supra* note 29, at 315.

38. *See id.* at 310; ESTREICHER & LESTER, *supra* note 29, at 17 (“The control test was developed at common law not for the purpose of determining whether individuals fall within the scope of protective labor legislation, but rather for the distinct purpose of determining [tort liability].”); Barron, *supra* note 24, at 459 (noting that while “[t]he control test was devised to establish employer tort liability . . . it has been extended to other areas of the law”).

39. *See* Carlson, *supra* note 29, at 305 (“A highly skilled worker, for example, might be beyond much control by his employer . . . simply because the employer lacks the knowledge that makes the worker a professional.”).

40. *See* Carlson, *supra* note 29, at 310–11 (noting that “[c]ourts were frequently inclined to give added weight to factors other than control when the effect was to extend protection to needy workers rather than to impose tort liability on employers”); *see also* RESTATEMENT (FIRST) OF AGENCY § 220 (1933).

2. *Congress Rejected the Supreme Court's Attempt to Expand the Scope of the Common Law Test and Statutorily Mandated a Return to the Traditional Consideration of Control*

To address the complexity in more modern employment relationships, the Supreme Court attempted to broaden the control test and take a more expansive view of the term “employee” by using additional factors in the consideration of employment status. This broader test, formulated in a series of decisions interpreting New Deal legislation, came to be known as the “economic realities” or “statutory purpose” test.⁴¹ In *National Labor Relations Board v. Hearst Publications*, the Court refused to “import wholesale the traditional common-law” control test in interpreting the term “employee” under the National Labor Relations Act (NLRA).⁴² Instead, the Court found that the term “employee” must be construed in light of the “history, terms and purposes of the” NLRA—“to encourage collective bargaining and to remedy the individual worker’s inequality of bargaining power.”⁴³ Since the workers at issue were “subject, as a matter of economic fact, to the evils the statute was designed to eradicate,” the Court concluded that they were employees for the purposes of the NLRA despite their “technical legal classification.”⁴⁴ The Court revisited the economic realities approach three years later in *United States v. Silk* and in *Rutherford Food Corp. v. McComb*.⁴⁵

Congress, however, did not approve of the more expansive economic realities test and mandated a return to the traditional control test through a

41. See Carlson, *supra* note 29, at 317–20; ESTREICHER & LESTER, *supra* note 29, at 21–23. This test, though, was not a complete departure from common law principles. The Court remained committed to the distinction between employees and independent contractors. It only sought to institute a “modern, policy-oriented method for explaining [that] distinction.” Carlson, *supra* note 29, at 319.

42. NLRB v. Hearst Publ’ns, Inc., 322 U.S. 111, 124–25 (1944).

43. *Id.* at 124–26.

44. *Id.* at 127–28, stating:

[W]hen the particular situation of employment combines these characteristics, so that the economic facts of the relation make it more nearly one of employment than of independent business enterprise with respect to the ends sought to be accomplished by the legislation, those characteristics may outweigh technical legal classification for purposes unrelated to the statute’s objectives and bring the relation within its protections.

45. See generally *United States v. Silk*, 331 U.S. 704 (1947) (using the economic realities test to interpret the term “employee” under the Social Security Act); *Rutherford Food Corp. v. McComb*, 331 U.S. 722 (1947) (using the economic realities test to interpret the term “employee” under the Fair Labor Standards Act).

number of statutory amendments.⁴⁶ Since this congressional directive, the Court has found that when “Congress has used the term ‘employee’ without defining it . . . Congress intended to describe the conventional master-servant relationship as understood by common-law agency doctrine.”⁴⁷ Thus, the common law test, with its primary focus on the employer’s control, remains the dominant test for worker classification.⁴⁸

B. ARTICULATING THE MODERNIZED CONTROL TEST

Section 220 of the Restatement (Second) of Agency is “routinely cited as the embodiment of the modernized common law rule.”⁴⁹ Its primary focus is the putative employer’s right of control, but it also considers a number of non-exclusive factors in determining whether an employment

46. Congress amended the NLRA and its legislative history to underscore its desire that the common law test be used. *See* 29 U.S.C. § 152(3) (2012 & Supp. II 2015) (“The term ‘employee’ . . . shall not include . . . any individual having the status of an independent contractor . . .”); H.R. REP. NO. 80-245, at 18 (1947) (disapproving of *Hearst* explicitly). Congress expressly incorporated the common law definition into the Social Security Act. *See* 26 U.S.C. § 3121(d) (2012 & Supp. II 2015) (defining employee as “any individual who, under the usual common law rules applicable in determining the employer-employee relationship, has the status of an employee”); *see also* ESTREICHER & LESTER, *supra* note 29, at 21. However, Congress never made an analogous amendment to the FLSA, leaving *Rutherford* intact for determining employment status under the FLSA. *See* Carlson, *supra* note 29, at 325–26; ESTREICHER & LESTER, *supra* note 29, at 21–22.

47. *Cnty. for Creative Non-Violence v. Reid*, 490 U.S. 730, 739–40 (1989). There, the Court identified as the primary consideration in the common law control test “the hiring party’s right to control the manner and means by which the [job] is accomplished.” *Id.* at 751–52; *see also* *Nationwide Mut. Ins. Co. v. Darden*, 503 U.S. 318, 322–23 (1992) (affirming the view in *Reid* that, absent express statutory authorization to the contrary, the common law control test is the correct test for analyzing employment classification).

48. *See Darden*, 503 U.S. at 322–23; Barron, *supra* note 24, at 458–60 (noting that the control test governs employment determinations under the Internal Revenue Code, a key federal law governing the employment relationship). States generally use the common law control test as well. *See, e.g.*, 52 N.Y. JUR. 2D EMP’T RELATIONS § 4 (West Feb. 2016) (footnotes omitted) (summarizing that under New York law, “[t]he essential element or sine qua non of the employer-employee relationship is the right of control—that is, the right . . . to direct the manner in which the work is to be done”); *see also* 17 ILL. LAW AND PRAC. EMP’T § 1 (West Feb. 2016); D.C. CODE § 32-1331.04 (2016). However, some states still consider the economic realities test in addition to the control test. *See, e.g.*, *Craig v. FedEx Ground Package Sys., Inc.*, 792 F.3d 818, 819–20 (7th Cir. 2015) (per curiam) (internal quotation marks omitted) (describing Kansas’s employment classification test as “includ[ing] economic reality considerations, while maintaining the primary focus on an employer’s right to control”); *see also* *Slayman v. FedEx Ground Package Sys., Inc.*, 765 F.3d 1033, 1042 (9th Cir. 2014) (discussing Oregon’s classification test).

49. RESTATEMENT (SECOND) OF AGENCY § 220 (1958); Carlson, *supra* note 29, at 328; *see also* Barron, *supra* note 24, at 459.

relationship exists.⁵⁰ This balancing approach problematically results in a cumbersome, ambiguous, and subjective application of the test in practice. California's approach to the classification test is most significant to ongoing TNC cases.⁵¹ While California's common law control test contains a few unique nuances, it closely resembles Section 220, and its rationale for the distinction remains the same—to protect workers and to remedy the bargaining inequality faced by employees.⁵²

As a preliminary matter, when “a plaintiff [presents] evidence that he provided services for an employer, [that individual] has established a prima facie case” of an employment relationship under California law.⁵³ Once this prima facie case is established, the burden shifts to the employer to disprove an employment relationship.⁵⁴ This presumption makes proving independent contractor status particularly difficult at the summary judgment stage given California's “multi-faceted” common law control

50. See RESTATEMENT (SECOND) OF AGENCY § 220 (1958) (considering the following non-exclusive factors in determining whether an employment relationship exists: “(a) the extent of control which . . . the master may exercise over the details of the work; (b) whether or not the one employed is engaged in a distinct occupation or business; (c) the kind of occupation, with reference to whether, in the locality, the work is usually done under the direction of the employer or by a specialist without supervision; (d) the skill required in the particular occupation; (e) whether the employer or the workman supplies the instrumentalities, tools, and the place of work for the person doing the work; (f) the length of time for which the person is employed; (g) the method of payment, whether by the time or by the job; (h) whether or not the work is a part of the regular business of the employer; (i) whether or not the parties believe they are creating the relation of master and servant; and (j) whether the principal is or is not in business”); see also RESTATEMENT OF THE LAW, EMPLOYMENT LAW § 1.01 (2014) (identifying the employer's “control[ing] the manner and means by which the individual renders services” as a key factor in determining employment status).

51. See generally Order of the Labor Commissioner of the State of California, *Berwick v. Uber Techs., Inc.*, Case No. 11-46739, at 10 (Cal. Super. Ct. June 16, 2015); *O'Connor v. Uber Techs., Inc.*, 82 F. Supp. 3d 1133 (N.D. Cal. 2015); *O'Connor v. Uber Techs., Inc.*, 2015 U.S. Dist. LEXIS 116482 (N.D. Cal. Sept. 1, 2015); *Cotter v. Lyft, Inc.*, 60 F. Supp. 3d 1067 (N.D. Cal. 2015).

52. See *Cotter*, 60 F. Supp. 3d at 1074 (discussing the rationale for worker classification). As previously discussed, “[i]ndependent contractors do not receive these protections because they . . . are not dependent on a single employer in the same all-or-nothing fashion as traditional employees.” *Id.*

53. *Narayan v. EGL, Inc.*, 616 F.3d 895, 900 (citing *Robinson v. George*, 105 P.2d 914, 917 (Cal. 1940)); see also CAL. LAB. CODE § 3357 (West 2016) (establishing a presumption of employment); *Yellow Cab Coop. v. Workers' Comp. Appeals Bd.*, 226 Cal. App. 3d 1288, 1294 (1991) (explaining that section 3357 “creat[es] a presumption that a service provider is an employee unless the principal affirmatively proves otherwise”).

54. See *Narayan*, 616 F.3d at 900 (citing *Cristler v. Express Messenger Sys., Inc.*, 171 Cal. App. 4th 72, 84 (2009); *Bemis v. People*, 109 Cal. App. 2d 253, 263–64 (1952)).

test.⁵⁵ The California classification test then proceeds under what is supposed to be a two-step analysis. The primary question is whether the employer retained a right of control over the presumed employee. Beyond this question, courts look to a number of “secondary indicia” bearing on the nature of an employment relationship. In practice, however, the primary question of control tends to dominate the classification analysis.

1. *The Primary Question of Control Dominates the Employment Classification Test in California*

The primary question in determining if an employment relationship exists is “whether the person to whom service is rendered has the right to control the manner and means of accomplishing the result desired.”⁵⁶ The “right of control need not extend to every possible detail of the work. Rather, the relevant question is whether the entity retains “all necessary control” over the worker’s performance.”⁵⁷ The determinative factor, then, “is not how much control a hirer *exercises*, but how much control the hirer retains the *right* to exercise.”⁵⁸ Thus, an employment relationship “may still exist where ‘[a] certain amount of . . . freedom is inherent in the work.’”⁵⁹ While no one factor is dispositive in determining the extent of an employer’s right of control, the right to terminate a worker at will is “[p]erhaps the strongest evidence of the right to control” because the “power of the

55. *See id.* (noting that the summary judgment hurdle “is particularly difficult for [a defendant] to overcome in light of . . . the multi-faceted test that applies in resolving the issue [of] whether the [plaintiff is an] employee[.]”); *Cotter*, 60 F. Supp. 3d at 1070 (observing that “under California law, the question of how to classify a worker is typically for a jury”).

56. *S.G. Borello & Sons, Inc. v. Dep’t of Indus. Relations*, 769 P.2d 399, 404 (Cal. 1989) (internal quotations omitted). The *Borello* court also asserted that the control test should be “applied with deference to the purposes of the protective legislation.” *Id.* However, the California Supreme Court decided *Borello* less than three months before the Supreme Court decided *Reid*, in which the Court declared that the traditional common law control test was the appropriate means of determining employment classification, absent statutory direction to the contrary. *See id.*; *supra* Section II.A.2. Accordingly, the California Supreme Court later declined to extend the additional consideration of statutory purpose to the control test. *See Ayala v. Antelope Valley Newspapers, Inc.*, 327 P.3d 165, 171 n.3 (Cal. 2014) (explaining that “those further considerations are not part of the common law test for employee status”).

57. *O’Connor v. Uber Techs., Inc.*, 82 F. Supp. 3d 1133, 1138 (N.D. Cal 2015) (quoting *Borello*, 769 P.2d at 408 (establishing that a “business entity may not avoid its statutory obligations [to an employee] by carving up its production process into minute steps, then asserting that it lacks ‘control’ over the exact means by which one such step is performed by the responsible workers”).

58. *Ayala*, 327 P.3d at 172 (emphasis in original).

59. *Cotter*, 60 F. Supp. 3d at 1076 (quoting *Air Couriers Int’l v. Emp’t Dev. Dep’t*, 150 Cal. App. 4th 923, 934 (2007)).

principal to terminate the services of the agent gives him the means of controlling the agent's activities."⁶⁰

2. *The Secondary Indicia Are Generally Not Dispositive in California Employment Classification Cases*

Although control is the “most important” or “most significant” consideration, courts also “recognize a range of secondary indicia . . . that may in a given case evince an employment relationship.”⁶¹ These “individual factors cannot be applied mechanically as separate tests; they are intertwined and their weight depends often on particular combinations.”⁶² Courts must weigh the secondary factors knowing they “are not of uniform significance.”⁶³ Indeed, “many secondary factors ‘are mer[e]ly evidentiary indicia of the right to control’ and may be of ‘minute consequence’” in a particular case.⁶⁴ In general, no secondary factor is dispositive to the employment classification question.⁶⁵ The following study of selected California classification cases provides a better understanding of how courts apply this two-pronged approach.

III. APPLYING THE CONTROL TEST: WORKER CLASSIFICATION CASES

A number of worker classification cases demonstrate how courts apply California's common law control test in practice. The circumstances of the workers in cases involving worker classification for delivery service businesses and taxi cab companies—both of which have business models analogous to that of TNCs—present a backdrop against which to analyze the similar situation of TNC drivers. The class action suit currently pending against Uber provides a useful opportunity to analyze the classification of

60. *Ayala*, 327 P.3d at 171–72 (internal quotation marks omitted) (noting, additionally, that “[w]hether a right of control exists may be measured by asking whether or not, if instructions were given, they would have to be obeyed on pain of at-will discharge[] for disobedience”); *see also Cotter*, 60 F. Supp. 3d at 1076 (quoting *Borello*, 769 P.2d at 404) (observing that “[t]he right to terminate at will, without cause, is ‘[s]trong evidence in support of an employment relationship’”).

61. *Borello*, 769 P.2d at 404; *Ayala*, 327 P.3d at 171. These secondary indicia are factors “derived principally from the Restatement Second of Agency.” *See Borello*, 769 P.2d at 404 (listing the secondary indicia); *Ayala*, 327 P.3d at 171 (same). The *Borello* court also approved of six additional factors developed by other jurisdictions which shared “many points of individual similarity” to the Restatement factors. *See Borello*, 769 P.2d at 407.

62. *Borello*, 769 P.2d at 404 (internal quotation marks and citation omitted); *see also Ayala*, 327 P.3d at 176–77.

63. *Ayala*, 327 P.3d at 176.

64. *Id.* at 177.

65. *See O'Connor v. Uber Techs., Inc.*, 82 F. Supp. 3d 1133, 1140 (N.D. Cal. 2015).

workers in the sharing economy and will likely result in a blanket classification of the class of Uber drivers as employees. Such a wholesale outcome will more significantly affect TNCs and other types of sharing economy companies—both in pending or future litigation and in day-to-day business—than would a similar finding for a single driver.

A. ANALOGIZING WORKER CLASSIFICATION: DELIVERY SERVICE BUSINESSES AND TAXI CAB COMPANIES

Delivery service businesses act as intermediaries to allow for the delivery of packages or other cargo. These businesses are analogous to TNCs, which act as intermediaries and providers of on-demand ride services. Two cases illustrate particularly well how California courts have applied the common law control test to delivery service businesses.

First, in *Alexander v. FedEx Ground Package System, Inc.*,⁶⁶ the plaintiff FedEx drivers asserted claims for unreimbursed employment expenses and unpaid wages on the grounds that FedEx misclassified them as independent contractors rather than employees.⁶⁷ The Ninth Circuit held that the FedEx drivers were employees as a matter of California law.⁶⁸ The court was able to make such a determination as a matter of law because the parties did not dispute that the drivers' contracts with FedEx, in conjunction with FedEx's written policies and procedures, dictated the working relationship between the drivers and FedEx. Accordingly, the issue was only the "extent to which those documents [gave] FedEx the right to control its drivers."⁶⁹ Second, in *Air Couriers International v. Employment Development Department*,⁷⁰ a

66. *Alexander v. FedEx Ground Package Sys., Inc.*, 765 F.3d 981 (9th Cir. 2014).

67. *Id.* at 987.

68. *See id.* at 997. The Ninth Circuit reversed the holding of the Northern District of Indiana that the drivers were independent contractors as a matter of California law. The Indiana court acted as the multidistrict litigation (MDL) court for similar suits filed against FedEx in approximately forty different states. The MDL court held "that plaintiffs were independent contractors as a matter of law in each state where employment status [was] governed by common-law agency principles." *See id.* at 987–88; *see generally In re FedEx Ground Package Sys., Inc., Emp't Practices Litig.*, 758 F. Supp. 2d 638 (N.D. Ind. 2010). In addition to *Alexander*, a number of other appeals from the MDL court have been litigated, though the results have been mixed. *See, e.g., Gray v. FedEx Ground Package Sys., Inc.*, 799 F.3d 995, 997 n.1 (8th Cir. 2015) (summarizing and providing examples that "[s]ome courts, in various legal and procedural postures, have found employee status . . . [o]ther courts, again in various postures, have found independent-contractor status . . . [and] [s]till others have concluded simply that summary judgment was inappropriate").

69. *See Alexander*, 765 F.3d at 988. The court was able to answer this question as a matter of law because "[i]n California, the meaning of a contract . . . is a question of law." *Id.*

70. *Air Couriers Int'l v. Emp't Dev. Dep't*, 150 Cal. App. 4th 923 (2007).

plaintiff delivery service company, Sonic, sued to recover employment taxes it paid to the Employment Development Department.⁷¹ Sonic argued that the Department “incorrectly levied [the taxes] against independent contractor drivers,” as California law only required employers to remit tax payments for employee drivers.⁷² The appellate court, however, affirmed the trial court’s finding that an employment relationship existed between Sonic and its drivers.⁷³

In both of these cases, the ultimate conclusions of employee status primarily rested on findings that the employers exerted all necessary control over the drivers and that, viewing the operations as a whole, the drivers were integral and essential to the employers’ businesses.⁷⁴ There are four common factors which supported those conclusions. First, the employers controlled the appearance of both the drivers and the drivers’ vehicles. For instance, in *Alexander*, FedEx required the drivers to wear FedEx approved clothing “from their hats down to their shoes and socks” and stressed that they should be “clean shaven, hair neat and trimmed, [and] free of body odor.”⁷⁵ FedEx also required that the driver-provided vehicles be painted “FedEx white,” be marked with the distinctive FedEx logos, and contain interior shelving

71. *Id.* at 926.

72. *Id.* at 931–32.

73. *Id.* at 926.

74. *See Alexander*, 765 F.3d at 991–96; *Air Couriers*, 150 Cal. App. 4th at 937–39. Two additional cases provide outlier examples of delivery service cases. *See generally* *JKH Enters., Inc. v. Dep’t of Indus. Relations*, 142 Cal. App. 4th 1046 (2006) (finding employee status); *Millsap v. Fed. Express Corp.*, 227 Cal. App. 3d 425 (1991) (finding independent contractor status). In *JKH*, the state appellate court upheld a finding that JKH delivery drivers were employees for the purposes of workers’ compensation. *See JKH*, 142 Cal. App. 4th at 1066–67. There, the court determined that JKH retained all necessary control over the drivers and the operation as a whole by “obtaining the clients in need of [delivery] service and providing the workers to conduct it.” *Id.* at 1064. JKH did “not govern[] [its drivers] by particular rules”—such as requiring them to wear uniforms or to mark their vehicles with a JKH logo—and did not direct its drivers “about how to perform the delivery task.” *Id.* at 1051. In fact, JKH’s only requirement was that drivers deliver the packages within two to four hours. *Id.* This case represents an outlier because the court found an employment relationship after merely determining that the company controlled the whole delivery operation. In *Millsap*, by contrast, the state appellate court affirmed a finding that a FedEx delivery driver was an independent contractor in the context of a tort liability claim against FedEx. *Millsap*, 227 Cal. App. 3d at 435. The court reasoned that the driver used his own car, “was paid on a ‘per route’ basis,” and, “[o]ther than to say ‘be careful’ or to give him directions to a particular location[, the delivery company] . . . did not instruct [the driver] as to how to make the deliveries or how to drive his car.” *Id.* at 431. This case represents an outlier because the court considered whether an employment relationship existed for tort purposes and did not reference *Borello* or the “all necessary control” standard.

75. *Alexander*, 765 F.3d at 989 (internal quotation marks omitted).

consistent with FedEx specifications.⁷⁶ Likewise, in *Air Couriers*, Sonic “encouraged drivers to wear uniforms[] and provided identification badges and vehicle placards.”⁷⁷

Second, the employers effectively controlled their drivers’ hours and operating routes. In *Alexander*, the driver contracts did not allow FedEx to control driver hours. However, FedEx required drivers to arrive at the delivery terminals at a specified time each morning and return at a specified time each night; FedEx also retained the right to restructure the workload of each driver.⁷⁸ The result was that FedEx cornered drivers into making deliveries “9.5 to 11 hours every working day.”⁷⁹ Similarly, in *Air Couriers*, the drivers “worked a regular schedule” with “regular daily routes.”⁸⁰ Though Sonic claimed that drivers determined their own schedules, driver testimony indicated that “drivers were terminated if they proved unreliable.”⁸¹

Third, the employers controlled “aspects of how and when drivers deliver[ed] their packages” because the employers negotiated directly with the customers. The drivers “delivered packages to [the employers’] customers, not their own customers” and the employers “set the rates charged to customers, billed the customers, and collected payment.”⁸² Such a dynamic indicated that the drivers were in fact an integral part of the employers’ businesses. Fourth, “the simplicity of the [drivers’] work (take this package from point A to point B) made detailed supervision, or control, unnecessary.”⁸³ The question of control was determinative in both cases, and thus overshadowed the analysis of the secondary indicia.⁸⁴

76. *Id.*

77. *Air Couriers*, 150 Cal. App. 4th at 931.

78. *See Alexander*, 765 F.3d at 985, 989–90.

79. *Id.* at 990.

80. *Air Couriers*, 150 Cal. App. 4th at 937.

81. *See id.* at 926–31.

82. *See Alexander*, 765 F.3d at 990–93; *Air Couriers*, 150 Cal. App. 4th at 938.

83. *Air Couriers*, 150 Cal. App. 4th at 937; *see Alexander*, 765 F.3d at 995 (finding that the lack of skill required of the drivers favored employee status).

84. *See Alexander*, 765 F.3d at 994; *Air Couriers*, 150 Cal. App. 4th at 938–39. In *Alexander*, the court nonetheless analyzed the secondary indicia in detail. *See Alexander*, 765 F.3d at 994–98. The court’s analysis of two factors is particularly interesting for comparison to TNCs. First, the “distinct occupation or business” factor favored employment status because “the work performed by the drivers [was] wholly integrated into FedEx’s operation. The drivers look[ed] like FedEx employees, act[ed] like FedEx employees, [and were] paid like FedEx employees.” *Id.* at 995. Second, the question of “whether the work [was] part of the principal’s regular business” also favored employment status. “The work that the drivers perform[ed], the pickup and delivery of packages, [was] ‘essential to FedEx’s core business.’” *Id.* at 996.

Similar to those for delivery service businesses, taxi cab company worker classification cases act as a fitting primer for TNC classification cases. The relationship between a taxi cab company and its drivers presents an obvious analogy to the relationship between a TNC and its drivers. Two cases illustrate particularly well how courts have applied California's common law control test to taxi cab companies.

First, in *Yellow Cab Cooperative v. Workers' Compensation Appeals Board*, the state appellate court upheld a finding that lessee cab drivers were employees.⁸⁵ There, Yellow Cab operated a system in which drivers leased cabs from Yellow Cab for ten-hour shifts and paid Yellow Cab a flat rate per shift for the benefit of using such taxi cabs.⁸⁶ The court found that the drivers were employees because their conduct "was undertaken for [Yellow Cab's] benefit and was under [Yellow Cab's] discretion and control."⁸⁷ Second, in *Ali v. U.S.A. Cab Limited*, the state appellate court affirmed a denial of class certification among cab drivers who claimed to be employees rather than independent contractors.⁸⁸ There, the drivers operated under lease agreements whereby U.S.A. Cab was only a "taxi dispatch service."⁸⁹ Cab driver declarations "undercut" the assertion that U.S.A. Cab "pervasive[ly] control[led]" its drivers.⁹⁰ Importantly, in affirming that there was no "predominance of common questions of fact" as to whether the drivers were employees, *Ali* suggested that while some cab drivers might be employees, others might not be.⁹¹

Four common factors of the working relationships between the cab companies and their drivers were determinative of the control analysis in both cases. First, the courts considered whether the company required drivers to follow instructions from the dispatcher and whether the company could fire the drivers at will. In *Yellow Cab*, the drivers could only pick up customers assigned by the dispatcher, a rule that "was apparently designed to coerce drivers into accepting assignments whether or not they found them profitable enough to deserve their attention."⁹² Moreover, the

85. *Yellow Cab Coop., Inc. v. Workers' Comp. Appeals Bd.*, 226 Cal. App. 3d 1288, 1291 (1991).

86. *Id.* at 1291–92.

87. *Id.* at 1293–94.

88. *Ali v. U.S.A. Cab Ltd.*, 176 Cal. App. 4th 1333, 1337 (2009).

89. *Id.* at 1349–50.

90. *Id.* at 1337–40.

91. *See id.* at 1349–50. This notion should be kept in mind during the discussion of the class certification of Uber drivers. In particular, *Ali* supports the argument that a blanket classification of Uber drivers as either employees or independent contractors is inappropriate. *See infra* Section IV.B.

92. *Yellow Cab*, 226 Cal. App. 3d at 1298.

dispatchers “instructed [the drivers] on matters of behavior toward the public, personal appearance, and keeping their cabs clean.”⁹³ A driver’s failure to follow such directions from the dispatcher could result in Yellow Cab’s terminating that driver’s lease at will.⁹⁴ Effectively, Yellow Cab’s dispatchers controlled the drivers’ every move. By contrast, in *Ali*, U.S.A. Cab did not require its drivers to use the U.S.A. Cab dispatcher. In fact, some drivers “used it for between [twenty] and [sixty] percent of their business, many used it infrequently, and some chose not to use it at all.”⁹⁵

Second, and related to the question of dispatch instruction, the courts considered whether the drivers were free to drive for other companies. While Yellow Cab prohibited its drivers from working for other companies, U.S.A. Cab had no such ban.⁹⁶ Instead, many of the drivers in *Ali* “independently advertised and promoted their own services on Web sites and in phonebooks, and [gave] out business cards and their personal cell phone numbers.”⁹⁷

Third, the courts considered whether the drivers could set their own fares. In *Yellow Cab*, the drivers “did not set their own rates but were paid according to the number and distance of fares they carried,” whereas in *Ali*, many drivers set their own rates, such as “such as flat rates for trips, or rates below the standard metered rate.”⁹⁸ Fourth, the courts considered whether the drivers could set their own hours and work schedules. Yellow Cab assigned “shifts” to drivers “so that it could lease each cab to more than one driver in one day.”⁹⁹ This arrangement “significantly restricted [the drivers’] independence.”¹⁰⁰ On the contrary, U.S.A. Cab allowed its drivers to set their own schedules.¹⁰¹

Ultimately, U.S.A. Cab did not seem to retain pervasive control over its entire operation, whereas Yellow Cab did retain such control. The essence of Yellow Cab’s business was not merely cab leases—it had an interest in the entire cab operation and thus “had an obvious interest in the drivers’ performance *as drivers*,” not just as lessees.¹⁰² To protect that interest, Yellow Cab retained all necessary control over the operation by “soliciting

93. *Id.*

94. *Id.*

95. *Ali*, 176 Cal. App. 4th at 1349.

96. *See Yellow Cab*, 226 Cal. App. 3d at 1298; *Ali*, 176 Cal. App. 4th at 1349.

97. *Ali*, 176 Cal. App. 4th at 1349.

98. *See Yellow Cab*, 226 Cal. App. 3d at 1301; *Ali*, 176 Cal. App. 4th at 1349.

99. *Yellow Cab*, 226 Cal. App. 3d at 1298.

100. *Id.* at 1299.

101. *See Ali*, 176 Cal. App. 4th at 1340–41.

102. *Yellow Cab*, 226 Cal. App. 3d at 1299 (emphasis in original).

riders, processing requests for service through a dispatching system, [and] distinctively painting and marking the cabs.”¹⁰³

These cases illustrate the fact-intensive, subjective approach courts must take in administering the common law control test. Courts have struggled to apply this onerous balancing test to TNC worker classification questions.

B. A SQUARE PEG IN A ROUND HOLE: APPLYING CALIFORNIA’S CONTROL TEST TO TRANSPORTATION NETWORK COMPANIES

Several TNC drivers have launched suits alleging Uber and Lyft improperly classified them as independent contractors rather than employees. Thus, the plaintiff drivers’ primary claim is that they are owed unpaid wages and reimbursement of expenses, among other things, depending on the case. These suits are embodied in three cases, each of which is in a different phase of litigation.

First, in *Berwick v. Uber Technologies, Inc.*, the California Labor Commissioner¹⁰⁴ ruled that Berwick, a former Uber driver, was an Uber employee and not an independent contractor.¹⁰⁵ Second, in *Cotter v. Lyft, Inc.*, the court denied summary judgment to both Lyft and its former drivers, noting that “a reasonable jury could go either way” given California’s complex classification framework.¹⁰⁶ Third, in *O’Connor v. Uber Technologies, Inc.*, the court denied Uber’s motion for summary judgment “because a number of facts . . . remain[ed] in dispute” regarding how much control Uber exercised over its drivers.¹⁰⁷ However, the *O’Connor* court did

103. *Id.* at 1293.

104. The California Labor Commissioner’s Office, also known as the Division of Labor Standards Enforcement (DLSE), is responsible for enforcing statutes and regulations regarding employee wages and other working conditions. *A Short Course on Labor Commissioner Hearings*, WILKE, FLEURY, HOFFELT, GOULD & BIRNEY, LLP (May 6, 2007), <http://www.wilkefleury.com/blog/a-short-course-on-labor-commissioner-hearings> [<https://perma.cc/N897-F4AW>]. Once an employee files a claim with the DLSE, the Commissioner may take one of three actions: “decide that the employee’s claim is facially meritless, and take no action,” “pursue a civil action against the employer,” or “hold an administrative hearing on the matter.” *Id.* If the Commissioner decides to proceed with an administrative hearing, either party may appeal an order therefrom “[w]ithin 10 days . . . by filing an appeal to the superior court, where the appeal shall be heard *de novo*.” CAL. LAB. CODE § 98.2(a) (West 2014) (emphasis added). In other words, a court owes the Commissioner’s decision no deference.

105. Order of the Labor Commissioner of the State of California, *Berwick v. Uber Techs., Inc.*, Case No. 11-46739, at 10 (Cal. Super. Ct. June 16, 2015).

106. *Cotter v. Lyft, Inc.*, 60 F. Supp. 3d 1067, 1070 (N.D. Cal. 2015).

107. *O’Connor v. Uber Techs., Inc.*, 82 F. Supp. 3d 1133, 1135 (N.D. Cal. 2015) (denying summary judgment). The court did find, however, that since “Uber’s drivers render[ed] service to Uber . . . [they] are Uber’s presumptive employees” as a matter of law.

certify a class of Uber drivers for trial on the “threshold employment classification question.”¹⁰⁸ The details of these cases comprise the remainder of this Part. However, more focus will be given to *O’Connor* than to *Cotter* or *Berwick* because the class certification in *O’Connor* means that its outcome will more significantly affect other TNCs and sharing economy companies than would the same outcome for a single driver.

In *Berwick*, the Commissioner had little difficulty finding employee status under California law. The Commissioner noted that Uber’s relationship with its drivers was “very similar” to Yellow Cab’s relationship with its drivers.¹⁰⁹ Like Yellow Cab, Uber “retained all necessary control over the operation as a whole” by “obtaining the clients in need of [transportation] service[s] and providing the workers to conduct” such services.¹¹⁰ Additionally, Uber conducted driver background checks, “control[led] the tools the drivers use[d],” prohibited non-registered drivers from using Uber technology, and paid drivers “a non-negotiable service fee.”¹¹¹ The Commissioner asserted that “[t]he modern tendency [was] to find employment when the work being done is an integral part of the regular business of the employer” and that Uber’s business “would not exist” without its drivers.¹¹² While this ruling is not binding in court,¹¹³ it is the first California decision to hold that a TNC misclassified a driver as an independent contractor. The opinion could be viewed as persuasive and provide an impetus for courts to rule this way in the future.

The *Cotter* and *O’Connor* courts, by contrast, struggled to apply California’s common law control test to the TNCs. Ultimately, both courts declined to decide on employee status as a matter of law, concluding that the TNC classification question was more appropriate for a jury. Both courts recognized that, while the common law control test was “outmoded” in the context of TNC worker classification, they are bound to apply that test until the legislature enacts rules more fitting for the sharing economy.¹¹⁴

Id. at 1145. This means that the burden will be on Uber at trial “to disprove an employment relationship.” *Id.*

108. *O’Connor v. Uber Techs., Inc.*, 2015 U.S. Dist. LEXIS 116482, at *9 (N.D. Cal. Sept. 1, 2015) (granting in part class certification).

109. *Berwick*, Case No. 11-46739, at 7; *see generally* *Yellow Cab Coop., Inc. v. Workers’ Comp. Appeals Bd.*, 226 Cal. App. 3d 1288 (1991).

110. *Berwick*, Case No. 11-46739, at 8.

111. *Id.* at 9.

112. *Id.* at 8.

113. *See* CAL. LAB. CODE § 98.2(a) (West 2014).

114. *See* *O’Connor v. Uber Techs., Inc.*, 82 F. Supp. 3d 1133, 1153 (N.D. Cal. 2015); *Cotter v. Lyft, Inc.*, 60 F. Supp. 3d 1067, 1081–82 (N.D. Cal. 2015).

The *Cotter* court astutely observed that “the jury in this case will be handed a square peg and asked to choose between two round holes.”¹¹⁵

In *O'Connor*, four primary factual disputes led the court to deny summary judgment. First, it was unclear whether Uber had the right to fire drivers at will.¹¹⁶ Second, the parties disagreed on whether Uber required drivers to “accept any ‘leads’ generated by [the] Uber” application.¹¹⁷ Third, the parties disputed the extent to which Uber enforced the “suggestions” presented in the Uber Driver Handbook. These suggestions included carrying an umbrella for passengers, dressing professionally, and keeping the radio on “soft jazz or NPR.”¹¹⁸ The main point of dispute on the suggestions was whether the star rating system constituted enough “monitoring to warrant an inference of an employment relationship.”¹¹⁹ Fourth, the court questioned the relevance of the drivers’ ability to control their own working hours. The court noted that “freedom to choose one’s days and hours of work . . . [did] not in itself preclude a finding of an employment relationship.”¹²⁰ It noted that “the relevant inquiry [that a jury will ultimately need to consider] is how much control Uber [had] over its drivers *while they [were] on duty*.”¹²¹

Although the *O'Connor* court declined to grant summary judgment, it did certify a class of drivers for trial on the employment classification question after concluding that Uber’s “right to control [was] common with

115. *Cotter*, 60 F. Supp. 3d at 1081. At the time of the writing of this Note, the *Cotter* plaintiffs were in the process of seeking class certification. See Stipulation and Order Regarding Supplemental Briefing Schedule, *Cotter v. Lyft, Inc.*, No. 3:13-04065 (N.D. Cal. Feb. 17, 2016), ECF No. 175. If such certification is granted, the impact of the outcome in *Cotter* on other sharing economy companies will be similar to the impact this Note expects the *O'Connor* decision to have.

116. See *O'Connor*, 82 F. Supp. 3d at 1149.

117. *Id.*

118. *O'Connor*, 82 F. Supp. 3d at 1149 (internal quotation marks omitted).

119. *Id.* at 1151. The court noted that in *Alexander*, the “ride-alongs by [FedEx] management representatives up to four times each year” were strong evidence of an employment relationship because during such ride-alongs, “the drivers were scrutinized on minute details of their performance.” *Id.* Given the factual differences between the monitoring conducted by FedEx (i.e., physical monitoring conducted at defined yearly intervals) and that by Uber (i.e., constant remote monitoring via “Uber’s application data”), the court concluded that “it [was] not immediately clear that Uber drivers are subject overall to less monitoring than the employees in *Alexander*.” *Id.*

120. *Id.* at 1152 (citing *Air Couriers Int’l v. Emp’t Dev. Dep’t*, 150 Cal. App. 4th 923, 926 (2007); *JKH Enters., Inc. v. Dep’t. of Indus. Relations*, 142 Cal. App. 4th 1046, 1051 (2006)).

121. *Id.* (emphasis in original).

respect to class members.”¹²² Importantly, the certification decision did not turn on “what degree of control [Uber actually] retained over the manner and means of its drivers’ performance.” Rather, certification turned on whether Uber’s “right of control over its [drivers], whether great or small, [was] sufficiently uniform to permit classwide assessment.”¹²³ The court found commonality among the putative class primarily based on six factors related to Uber’s right of control.¹²⁴ These six factors are discussed in detail below, where this Note uses them to conclude that a jury will likely determine that Uber drivers are employees under California’s common law control test.¹²⁵

Certification of the class raised the stakes in this trial. A finding that a class of Uber drivers are employees or independent contractors is more important than such a finding for a single driver would be. The outcome of this trial will have long-lasting consequences for future litigation involving TNCs and other sharing economy companies and will affect the way those companies conduct business and interact with their workers on a day-to-day basis.¹²⁶

122. *O’Connor v. Uber Techs., Inc.*, 2015 U.S. Dist. LEXIS 116482, at *37 n.6 (N.D. Cal. Sept. 1, 2015). The class was limited to “[a]ll UberBlack, UberX, and UberSUV drivers who have driven for Uber in the state of California at any time since August 16, 2009, and” (1) who drove individually for Uber and were paid personally (as opposed to those drivers who worked directly for a third-party transportation company contracted by Uber) and (2) “who are *not* bound to one of Uber’s more recent contracts” unless “the driver timely opted-out of that contract’s arbitration agreement.” *Id.* at *32 n.5, *125, *134–35. The court certified the class on the threshold employment classification and on plaintiffs’ tip reimbursement claim. However, the court did not certify a class on plaintiffs’ expense reimbursement claim. *See id.* at *9–10.

123. *Id.* at *58–59 (internal quotation marks omitted) (discussing the California standard for class certification in employment classification suits as articulated in *Ayala v. Antelope Valley Newspapers, Inc.*, 327 P.3d 165, 172 (Cal. 2014)).

124. *See id.* at *59–79. The court also concluded that “every single *Borello* secondary factor [could] be adjudicated on a classwide basis using common proof.” *Id.* at *80.

125. *See infra* Section IV.A.

126. *See* Benjamin Means & Joseph Seiner, *Navigating the Uber Economy*, THE CLS BLUE SKY BLOG (Nov. 9, 2015), <http://clsbluesky.law.columbia.edu/2015/11/09/navigating-the-uber-economy/> [<https://perma.cc/6TXE-9X9P>] (noting, in reference to the lawsuits against Uber and Lyft, that “[a]t stake are the prospects . . . for a nascent, multi-billion dollar ‘on-demand’ economy that relies upon independent contractors to offer goods and services as varied as home cleaning, software development, household errands, personal training, and apartment or home rentals”). The Means & Seiner blog post is a preview of their forthcoming law review article of the same name to be published in the UC Davis Law Review. *See* Benjamin Means & Joseph Seiner, *Navigating the Uber Economy*, 49 U.C. DAVIS L. REV. (forthcoming 2016).

IV. O'CONNOR'S LIKELY OUTCOME AND THE NEED FOR A NEW CLASSIFICATION TEST

As both the *Cotter* and *O'Connor* courts have noted, the employment classification of Uber and Lyft drivers at trial will depend on California's common law control test, regardless of whether that test is the appropriate classification test for sharing economy workers.¹²⁷ Analyzing the facts surrounding *O'Connor* yields the conclusion that a jury will likely find the Uber drivers to be employees.¹²⁸ From a normative approach, however, the application of the control test to TNCs is problematic, and a new method of employment classification is needed for sharing economy workers.

A. O'CONNOR WILL LIKELY RESULT IN A BLANKET CLASSIFICATION OF UBER DRIVERS AS EMPLOYEES

A jury will likely conclude that the Uber drivers in *O'Connor* are employees. There are six features¹²⁹ of Uber's relationship with its drivers that will be key to the jury's determination of whether Uber retains the requisite control over its drivers to establish an employment relationship. First, Uber's right to terminate its drivers at will strongly favors employee status. Second, Uber's right to monitor driver data can be construed as de facto control over the details of the drivers' work. The jury's view of this feature of the Uber-driver relationship may determine the outcome of the trial, as such de facto control could undercut the factors that favor independent contractor status. A jury will likely conclude that Uber's monitoring evinces control and thus favors employee status. Third, Uber's unilateral right to set the rate for each ride strongly favors employee status.

127. See *Cotter v. Lyft, Inc.*, 60 F. Supp. 3d 1067, 1081–82 (N.D. Cal. 2015); *O'Connor v. Uber Techs., Inc.*, 82 F. Supp. 3d 1133, 1153 (N.D. Cal. 2015). Notably, the burden at trial will be on Uber to prove that an employment relationship does not exist, as the court determined as a matter of law that Uber drivers provide a service to Uber. See *O'Connor*, 82 F. Supp. 3d at 1145. Lyft will likely be in a similar position at trial. While the *Cotter* court did not explicitly declare, as a matter of law, that the presumption of employment had been triggered, it bluntly stated that “the argument that Lyft is merely a platform, and that drivers perform no service for Lyft, is not a serious one.” *Cotter*, 60 F. Supp. 3d at 1078.

128. This analysis will focus on the *O'Connor* case (and therefore on Uber) rather than on the *Cotter* case due to the recent class certification in *O'Connor*. The outcome of *O'Connor* will have a wide-reaching impact on future litigation involving TNCs and other sharing economy companies and on how those companies conduct business on a daily basis. Additionally, the facts between the two cases and Lyft's and Uber's treatment of their drivers are substantially similar, such that a prediction of the outcome of *Cotter* can reasonably be drawn from an analysis of *O'Connor*.

129. See *O'Connor*, 2015 U.S. Dist. LEXIS 116482, at *59–79; see also *supra* Section III.B.

Fourth, that Uber does not dictate its drivers' working schedules or hours weighs in favor of independent contractor status. Fifth, that Uber does not dictate its drivers' routes and territories is at best neutral to the classification question. Sixth, that Uber does not restrict drivers from engaging in other occupations weighs in favor of independent contractor status. A jury is likely to conclude that these factors together and on balance indicate that Uber retains sufficient control (i.e., all necessary control) over its drivers such that an employment relationship exists.

1. *Uber's Right to Terminate Its Drivers at Will Favors Employee Status*

Uber retains the right to terminate its drivers at will.¹³⁰ Since the right to terminate a worker at will is “[p]erhaps the strongest evidence of the right to control,”¹³¹ Uber's retention of this right is thus strong evidence of an employment relationship. In particular, drivers are likely to follow the Uber Driver Handbook suggestions more closely when deviation from Uber's suggestions could result in termination from the Uber Platform. Uber's unfettered right to fire is of particular importance in analyzing the next feature of Uber's relationship with its drivers—Uber's right to monitor driver data.

2. *Uber's Right to Monitor Driver Data Will Likely Be Construed as De Facto Control over the Details of the Drivers' Work*

Uber collects and monitors “extensive performance data regarding all of its drivers.”¹³² This data monitoring can be broken down into two main categories for the purposes of this Note—user feedback on driver performance and driver ride acceptance rates. As a preliminary matter, it is important to underscore the significance that this feature of the Uber-driver relationship may hold at trial. Ultimately, a jury will need to determine to what extent, if any, Uber's data monitoring, in conjunction with its ability to terminate drivers at will, gives Uber de facto control over the small details (i.e., the manner and means) by which drivers complete their rides. This aspect of Uber's relationship with its drivers may control the outcome of a jury trial on the merits, as the small details of how the drivers conduct their

130. *See id.* at *72–79. Importantly, the court, in construing the pertinent Uber-driver employment contracts, made this determination as a matter of law. *See id.* Lyft's relationship with its drivers appears to have the same feature. Lyft's “Terms of Service state that ‘Either You or We may terminate Your participation in the Lyft Platform . . . at any time, for any or no reason, without explanation. . . .’” *Cotter*, 60 F. Supp. 3d at 1072.

131. *See Ayala v. Antelope Valley Newspapers, Inc.*, 327 P.3d 165, 171 (Cal. 2014).

132. *O'Connor*, 2015 U.S. Dist. LEXIS 116482, at *70 (emphasis in original).

rides are at the heart of the control test. This twenty-first century sharing economy form of control—effective control through the leveraging of data analytics—will likely lead a jury to find employee status for Uber drivers.¹³³

In the first category of data monitoring, Uber has implemented a system that allows users to provide feedback on drivers through a five-star rating scale. That system also permits users to provide free-form, written feedback when the user rates a driver below a certain star level. There is evidence that Uber regularly terminates drivers whose ratings fall below a certain threshold and that it “discipline[s]” drivers based on feedback from riders.¹³⁴ As a result, Uber’s monitoring puts into dispute the extent to which drivers are free to control how they give rides to users (i.e., the manner and means by which the drivers get a passenger from point A to point B)¹³⁵ and indicates that drivers instead might be de facto bound by the Uber Driver Handbook, which contains a number of “suggestions” on how drivers should conduct themselves while giving rides.¹³⁶ Among other things, the Handbook instructs drivers to dress professionally, “make sure the radio is off or on soft jazz or NPR,” open the doors for passengers, and carry umbrellas for passengers.¹³⁷ These instructions do not address the results Uber seeks (i.e., completion of a ride) but the manner and means by which its drivers accomplish that result.

Given Uber’s propensity to terminate drivers for falling below a certain star rating or for receiving negative written feedback from riders,¹³⁸ Uber drivers have a strong incentive to follow the Uber Driver Handbook suggestions as closely as possible. Other courts have found that a putative employer’s concern with such minute details indicates a level of control consistent with an employment relationship. For example, in *Alexander*, FedEx required drivers to follow “detailed specifications” as to their “fashion choices and grooming” and particular shelving and painting schemes for their trucks.¹³⁹ Additionally, FedEx managers conducted performance

133. This outcome illustrates why the common law control test is outdated, and this Note will argue that the test should be updated to accommodate sharing economy workers. See *infra* Section IV.B.

134. See *O’Connor v. Uber Techs., Inc.*, 82 F. Supp. 3d 1133, 1151 (N.D. Cal. 2015); see also *Cotter*, 60 F. Supp. 3d at 1071 (describing an analogous practice by Lyft).

135. See *O’Connor*, 82 F. Supp. 3d at 1151–52.

136. As the *O’Connor* court observed, these “suggestions” appear to be “written in the language of command.” *Id.* at 1149.

137. See *id.* at 1149–50. Lyft also provides similar “suggestions” to its drivers. See *Cotter*, 60 F. Supp. 3d at 1078–79.

138. See *O’Connor*, 82 F. Supp. 3d at 1150–51.

139. *Alexander v. FedEx Ground Package Sys., Inc.*, 765 F.3d 981, 989–90 (9th Cir. 2014).

evaluation ride-alongs with drivers up to four times a year, during which the managers were to “observe and record small details about” the delivery drivers’ performance and provide the drivers with “immediate feedback.”¹⁴⁰ The *Alexander* court found adequate control for an employment relationship even though FedEx did “not require the drivers to follow managers’ recommendations after ride-along evaluations.”¹⁴¹

Still, there are details of driving from point A to point B that Uber does not control, distinguishing this case from *Alexander* and other delivery service cases. For example, FedEx maintained strict appearance requirements for both its drivers and their vehicles that “clearly constitute[d] control over its drivers.”¹⁴² By contrast, Uber drivers are vaguely instructed to “dress professionally” and, aside from the initial qualifying attributes viewed at the screening stage, Uber imposes no appearance requirements on its drivers’ vehicles.¹⁴³

In the second category of data monitoring, Uber collects data on its drivers’ trip acceptance rate. Uber strongly encourages drivers to “work towards” an acceptance rate of eighty percent.¹⁴⁴ While Uber claims that drivers never have to accept ride requests, the Uber Driver Handbook explains that drivers are expected to accept all rides and that “[r]ejecting too many trips’ [is] a performance issue that could lead to possible termination.”¹⁴⁵ Courts have recognized a driver’s effective inability to turn down rides due to potential adverse consequences as a sign of control.¹⁴⁶ Accordingly, to the extent Uber terminates drivers for low acceptance rates,

140. *Id.* at 985 (internal quotation marks omitted). The details which the managers recorded were minute, including whether a driver used a “dolly or cart to move packages, demonstrate[d] a sense of urgency, and [p]lace[d] [his or her] keys on [the] pinky finger of [his or her] nonwriting hand after locking the delivery vehicle.” *Id.*

141. *Id.* at 990; *cf.* *Yellow Cab Coop., Inc. v. Workers’ Comp. Appeals Bd.*, 226 Cal. App. 3d 1288, 1298 (1991) (finding that Yellow Cab’s instructing drivers “on matters of behavior toward the public, personal appearance, and keeping their cabs clean,” among other factors, constituted necessary control).

142. *Alexander*, 765 F.3d at 989.

143. Note that the Uber window logo and Lyft mustache must be displayed on drivers’ vehicles per California Public Utilities Commission regulation. *See* CAL. PUB. UTILS. COMM’N, *supra* note 10, at 4 (requiring TNC vehicles to “display consistent trade dress”). Accordingly, any such trade dress drivers have on their cars is not indicative of Uber or Lyft’s right of control. Indeed, the fact that the Uber and Lyft trade dress is removable distinguishes it from the FedEx truck painting requirements.

144. *See* *O’Connor v. Uber Techs., Inc.*, 82 F. Supp. 3d 1133, 1149 (N.D. Cal. 2015).

145. *Id.*

146. *See supra* Section III.A (discussing *Yellow Cab*, 226 Cal. App. 3d at 1298–99; *Air Couriers Int’l v. Emp’t Dev. Dep’t*, 150 Cal. App. 4th 923, 927–30 (2007)).

this signals control.¹⁴⁷ The argument that an Uber driver may simply turn off the application if she does not wish to accept a certain ride will likely miss the mark at trial. The “relevant inquiry [will be] how much control Uber has over its drivers *while they are on duty* for Uber.”¹⁴⁸

3. *Uber’s Unilateral Right to Set the Rate for Each Ride Favors Employee Status Because It Deprives Drivers of the Ability to Negotiate Payment*

Uber unilaterally sets the rate for each ride. Although drivers are compensated on a per-ride basis, which might indicate independent contractor status,¹⁴⁹ the drivers have no power to negotiate the amount of that payment.¹⁵⁰ Instead, Uber pays drivers a flat rate of eighty percent of the fare that Uber independently calculates. “[W]here the putative employer maintains a unilateral right to control the hiree’s ‘salary,’ this supports a finding of employee status.”¹⁵¹ One of the key distinctions between employees and independent contractors is the lack of bargaining power employees possess as compared to independent contractors. Accordingly, it is unimportant that the drivers are paid by the job; it is important that they are paid a fixed, non-negotiable amount.

4. *That Uber Does Not Dictate Its Drivers’ Working Schedules or Hours Weighs in Favor of Independent Contractor Status*

In discussing the drivers’ abilities to determine their own schedules or hours, this Note refers to the drivers’ decisions to turn on the Uber application versus not logging in on any particular day.¹⁵² With this in mind,

147. Lyft “tells drivers that an acceptance rate ‘well below the community standard’ will result in an email warning, and after three such warnings the driver’s account will be deactivated.” See *Cotter v. Lyft, Inc.*, 60 F. Supp. 3d 1067, 1071 (N.D. Cal. 2015).

148. See *O’Connor*, 82 F. Supp. 3d at 1152 (emphasis in original) (citing as authority for this proposition *JKH Enters. Inc. v. Dep’t of Indus. Relations*, 142 Cal. App. 4th 1046, 1051 (2006); *Air Couriers Int’l*, 150 Cal. App. 4th at 937).

149. See *Millsap v. Fed. Express Corp.*, 227 Cal. App. 3d 425, 431 (1991) (considering payment to a delivery driver “on a ‘per route’ basis” as a factor indicating independent contractor status). *Millsap*, however, is not controlling here as it does not indicate whether the driver *negotiated* the per-route payment. See *id.*

150. See *O’Connor v. Uber Techs., Inc.*, 2015 U.S. Dist. LEXIS 116482, at *62 (N.D. Cal. Sept. 1, 2015).

151. See *id.* (citing *Ruiz v. Affinity Logistics Corp.*, 754 F.3d 1093, 1101 (9th Cir. 2014)). The *Ruiz* court observed that the employee “drivers [at issue] could not negotiate for higher rates, as independent contractors commonly can.” *Ruiz*, 754 F.3d at 1101.

152. When the drivers are logged onto the application, Uber strongly suggests that their drivers “work towards” an acceptance rate of eighty percent. See *O’Connor*, 82 F. Supp. 3d at 1149; see also *Cotter*, 60 F. Supp. 3d at 1071. This aspect of the Uber-driver relationship is discussed above. See *supra* Section IV.A.2.

Uber drivers are not required to work a regular schedule, a requirement which other courts have found weighs in favor of employee status.¹⁵³ One study estimates that only seventeen percent of Uber drivers keep roughly consistent hours from week to week, meaning that drivers commonly take advantage of the flexible scheduling Uber offers.¹⁵⁴ Accordingly, that Uber does not dictate its drivers' working schedules or hours weighs in favor of independent contractor status.¹⁵⁵

5. *That Uber Does Not Dictate Its Drivers' Routes and Territories Is at Best Neutral to the Classification Question*

Uber's purported lack of control over the routes its drivers take seems to weigh in favor of independent contractor status; however, this fact is at best neutral to the employment classification question since driving from point A to point B is a simple task. Uber does not need to exert control over the exact routes its drivers take to "retain[] all necessary control over the overall [transportation] operation."¹⁵⁶

Uber's lack of control over driver territories runs into an analogous issue. While Uber does not directly slot its drivers to certain territories, it arguably retains all necessary control over where its drivers are located through its surge pricing practice.¹⁵⁷ Uber admits that the purpose of the surcharge is to "incentivize more drivers to get on the streets to accommodate all [of its]

153. See *Alexander v. FedEx Ground Package Sys., Inc.*, 765 F.3d 981, 990 (9th Cir. 2014) (finding that FedEx's right to restructure drivers' schedules such that they were essentially required "to work 9.5 to 11 hours every working day" evidenced an employment relationship); *Air Couriers*, 150 Cal. App. 4th at 928–30, 937 (concluding that Sonic forced drivers into working a regular schedule by refusing work to drivers who rejected jobs, and that such a dynamic evidenced an employment relationship).

154. See Jonathan V. Hall & Alan B. Krueger, *An Analysis of the Labor Market for Uber's Driver-Partners in the United States* 20 (Princeton University, Industrial Relations Section, Working Paper No. 587) (Jan. 2015), <http://dataspace.princeton.edu/jspui/handle/88435/dsp010z708z67d> [<https://perma.cc/FSF3-892W>] (finding that, from August 31, 2014 through November 22, 2014, "[o]nly [seventeen] percent of driver-partners tend[ed] to drive within [ten] percent of the amount of time that they drove in the previous week"). Note that Krueger, an economics professor at Princeton University, "acknowledge[d] working on this report under contract with Uber," but maintained that he had "full discretion over the content of the report." *Id.* at n.2.

155. Though "UberBlack drivers [must] give at least one ride every thirty days, and UberX drivers [must] give at least one ride every 180 days" to remain on the Uber platform, this minor assertion of "control" is insignificant for the purposes of this analysis as "both parties agree that Uber does not control any of its drivers'[] schedules." See *O'Connor*, 2015 U.S. Dist. LEXIS 116482, at *60.

156. See *Air Couriers*, 150 Cal. App. 4th at 937.

157. See *Alexander*, 765 F.3d at 990 (noting that FedEx's "limiting drivers to a specific service area with specific delivery locations" evidenced control).

customers.”¹⁵⁸ By incentivizing drivers to log on to the application and to move from a normal pricing area to a surge pricing area, Uber ensures a certain level of driver availability for its customers at any given time.

6. *That Uber Does Not Restrict Drivers from Engaging in Other Occupations Weighs in Favor of Independent Contractor Status*

Uber does not restrict drivers from “engaging in any other occupation or business,” including working for other TNCs, such as Lyft.¹⁵⁹ Courts have often identified independent contractors as having multiple clients and not being subject to the bargaining disadvantage faced by an employee that works for a single employer. If the terms are unfavorable, an independent contractor can sever her relationship with a particular client. One study estimates that sixty-two percent of Uber drivers engage in another occupation,¹⁶⁰ supporting the assertion that Uber lacks control over its drivers’ outside business activities. This factor accordingly cuts in favor of independent contractor status.

The secondary factors are not likely to impact the outcome of this case. As both the *O’Connor* and *Cotter* courts have noted, while some of the secondary factors weigh toward independent contractor status—for example, drivers use their own vehicles and driving for a TNC requires no special skill—none of these secondary factors is determinative and many are “ambiguous” or “equivocal.”¹⁶¹ As such, the question of control is likely to dominate a jury’s classification decision. And, as described above, a jury is likely to conclude that Uber exercised enough control over the manner and means of its drivers’ work to establish an employment relationship.

This result seems probable because the classification question is couched in terms of a traditional common law test that focuses almost exclusively on control. The implications of such a finding will have long-lasting impacts on both TNCs and sharing economy companies more broadly. With such repercussions, the employment classification test should be tailor-made for the working relationships of the sharing economy. “Control” does not seem to fit the bill.

158. Quirk, *supra* note 13.

159. See *O’Connor*, 2015 U.S. Dist. LEXIS 116482, at *66–67 n.18.

160. See Hall & Krueger, *supra* note 154, at 17.

161. See *O’Connor v. Uber Techs., Inc.*, 82 F. Supp. 3d 1133, 1152–53 (N.D. Cal. 2015); *Cotter v. Lyft, Inc.*, 60 F. Supp. 3d 1067, 1079–81 (N.D. Cal. 2015).

B. THE SHARING ECONOMY REQUIRES AN UPDATED CLASSIFICATION TEST

The control test is not the appropriate classification test for sharing economy workers. Problematically, the case law defining the relevant parameters of the control test developed largely in an era that could not have predicted the innovations and working relationships brought about by the sharing economy. Even if the test produces the “right” outcome in the case of Uber (and by extension, other TNCs), the common law control test might produce the wrong result in future cases involving other types of sharing economy companies.

1. *A Blanket Classification for All Uber Drivers in the Certified Class Ignores Their Differing Circumstances*

The conclusion that *all* Uber drivers are employees (or even independent contractors) does not make practical sense. The underlying rationale of the common law distinction is to protect “true” employees from the bargaining disadvantage they encounter with their employers. Independent contractors are not at such a disadvantage and, in any event, “are not dependent on a single employer in the same all-or-nothing fashion as traditional employees.”¹⁶² Uber drivers on the whole do not fit into either traditional mold. While they may not have the bargaining power to negotiate rates and other aspects of their work, Uber drivers are not in the same burdened position as traditional employees; on the contrary, Uber drivers generally have little contact with management and have significant flexibility in how they accomplish their work. Hall and Krueger estimate that eighty percent of Uber drivers were working full- or part-time before they began working for Uber.¹⁶³ This suggests that the great majority of drivers did not start out completely dependent on Uber for financial support, but instead joined for the flexibility and supplemental income that Uber offers.¹⁶⁴ That study also posited that easier access to health insurance provided by the Affordable Care Act has made people more likely to “take advantage of the flexibility and income-generating potential made possible by the sharing economy.”¹⁶⁵ Thus, many Uber drivers may not be “dependent on [Uber] in the same all-or-nothing fashion as traditional employees.”¹⁶⁶

162. *Cotter*, 60 F. Supp. 3d at 1074.

163. *See* Hall & Krueger, *supra* note 154, at 10.

164. Most drivers are not solely dependent on Uber: over sixty percent of drivers maintain full- or part-time employment after they begin with Uber. *See id.* at 17.

165. *See id.* at 3.

166. *See Cotter*, 60 F. Supp. 3d at 1074.

But this is not to say that there are no drivers dependent on Uber and in need of the statutory protections provided to employees. Indeed, many drivers likely fall into that category as well. For instance, Hall and Krueger estimate that approximately one fourth of all Uber drivers rely on Uber as their sole source of income.¹⁶⁷ Accordingly, a blanket employment classification of all Uber drivers is inappropriate. Instead, drivers should be classified individually.

2. *Courts or Legislatures Need to Develop a New Approach to Employment Classification for Sharing Economy Workers*

A new approach to employment classification is needed—one tailored for the dynamic working relationships in the sharing economy. However, given the nuances of the classification inquiry, formulating an entirely new test is not an easy task. This Note identifies four possible alternatives.

First, the D.C. Circuit has veered away from the control test “in favor of a more accurate proxy” for capturing the distinction between employees and independent contractors.¹⁶⁸ In *FedEx Home Delivery v. National Labor Relations Board*, the court proclaimed that, “while all the considerations [of the] common law [control test] remain in play,” the focus of the inquiry should be on “whether the putative independent contractors have significant entrepreneurial opportunity for gain or loss.”¹⁶⁹ There, the court found that a group of FedEx delivery drivers were independent contractors based on the entrepreneurial opportunities inherent in the drivers’ ability to subcontract, sell, or trade their assigned routes.¹⁷⁰ However, some scholars have criticized the decision as arbitrary and too simplistic, and the Ninth Circuit explicitly rejected this approach in *Alexander*.¹⁷¹

167. Hall & Krueger, *supra* note 154, at 11.

168. See *FedEx Home Delivery v. NLRB*, 563 F.3d 492, 497 (D.C. Cir. 2009).

169. *Id.* (internal quotation marks omitted).

170. See *id.* at 497–500. The circumstances of FedEx’s employment with these drivers was nearly identical to the situation in *Alexander*. See *Alexander v. FedEx Ground Package Sys., Inc.*, 765 F.3d 981, 984–87 (9th Cir. 2014).

171. See Jeffrey M. Hirsch, *Employee or Entrepreneur?*, 68 WASH. & LEE L. REV. 353, 364–67 (2011) (arguing that the D.C. Circuit’s decision “makes one long for the far-from-perfect common-law analysis” due in large part to its simplicity, as “[a]ny new [employment classification] analysis must maintain some form of multi-factored test to be effective”); Micah Prieb Stoltzfus Jost, *Independent Contractors, Employees, and Entrepreneurialism Under the National Labor Relations Act: A Worker-by-Worker Approach*, 68 WASH. & LEE L. REV. 311, 334 (2011) (asserting that the D.C. Circuit’s “conclusion—that entrepreneurial potential as the essence of independent contractor status—[was] just as arbitrary as the control analysis”); *Alexander*, 765 F.3d at 993–94.

Second, Benjamin Means and Joseph Seiner advocate that classification should be “shaped” by the amount of “flexibility” inherent in the working relationship.¹⁷² The most important justification for this approach is that it provides a “nuanced basis for analysis and avoids sweeping all workers in the [sharing] economy into one category or the other.”¹⁷³ However, this approach is similar to the common law test in that it focuses on just a single factor, flexibility.

Third, each state’s labor commission could define employment classification based on objective standards. For example, in Uber’s case, the California Labor Commission could determine employment status based on objective driver statistics or criteria—such as hours worked, whether driving for Uber was the driver’s only job, etc. The Commission could institute a test period upon which it would determine each driver’s initial classification. It would then review that classification for appropriate updates at regular intervals. Of course, this approach might be too costly or administratively burdensome to successfully implement. Additionally, this could incentivize drivers to change their working habits to fit into a particular classification, resulting in the “wrong” classification outcome in certain cases.

Fourth, the legislature could create a hybrid categorization for sharing economy workers that incorporates attributes of both employee and independent contractor status.¹⁷⁴ However, this would be administratively difficult and time consuming for the legislature to construct and would present issues of legal interpretation for the courts. Additionally, if defined poorly, this hybrid categorization might only prove to be a stopgap that is unable to address the next technological innovation.

172. Means & Seiner, *supra* note 126; *see also* Jost, *supra* note 171, at 335–36 (summarizing a number of additional “solutions” to the classification issue proposed by various scholars).

173. *See* Means & Seiner, *supra* note 126. Means and Seiner assert three additional justifications for their approach. First, it would not require additional legislation, as “flexibility clarifies the economic reality of labor arrangements” which many courts already consider. Second, flexibility is one of the single most important characteristics of a working relationship many sharing economy participants seek. Third, it “comports with intuitive judgments about fairness” by ensuring that workers who have more independence and flexibility than traditional employees are not able to improperly avail themselves to the statutory protections conferred upon employees. *Id.*

174. *See, e.g.*, Chris Opfer, *Uber Economy Could Spawn New Worker Classification*, BLOOMBERG BNA (Nov. 9, 2015), <http://www.bna.com/uber-economy-spawn-n57982063732> [<https://perma.cc/8RLE-44YN>] (“The solution . . . may be to add a third classification to cover workers who fall somewhere between traditional employees entitled to a full range of protections and benefits and independent contractors treated as self-employed entrepreneurs.”).

Despite their shortcomings, each of these four alternatives is a move in the right direction—they all attempt to tailor classification to the dynamic working relationships present in the sharing economy while retaining the individualized inquiry necessary to correctly classify workers. Although the first two alternatives still largely focus on a single factor, entrepreneurial opportunity and flexibility, respectively, each of these factors is more in tune with the working relationships in the sharing economy than is the dominant common law factor of control. The streamlined approach of the third alternative would alleviate the problem of subjective balancing inherent in the common law control test. The fourth approach is perhaps ideal, as the legislature could narrowly tailor the hybrid categorization to fit the needs of the sharing economy and also construct that categorization to be flexible enough to adapt to changing technological circumstances.

V. CONCLUSION

TNCs are representative of sharing economy business models; that is, those defined by “an online intermediary [or platform] that . . . acts as a market for [peer-to-peer] services and . . . facilitates exchanges by lowering transaction costs.”¹⁷⁵ Problematically, the legal and regulatory frameworks that purport to govern sharing economy businesses have not kept pace with the changing marketplace. In particular, sharing economy workers are currently classified as employees or independent contractors based on a common law test that developed in the nineteenth century to determine employer tort liability. This common law test could not have accounted for the innovations and novel working relationships brought about by the sharing economy. The outcome of the *O'Connor* case, which will undoubtedly have long-lasting implications for both Uber and sharing economy companies generally, depends on this outmoded test. As a result, the court will charge a jury with broadly classifying all Uber drivers in the certified class as either employees or independent contractors. But such a blanket result does not make practical sense. In reality, some Uber drivers should be classified as independent contractors, while others should be classified as employees (at least in the absence of a hypothetical hybrid categorization). As such, it is clear that courts or legislatures need to refocus, or even replace, the common law control test in the context of sharing economy companies. The updated classification test should encompass an individualized approach tailored to the dynamic working relationships in the sharing economy.

175. Katz, *supra* note 2, at 1070.

PROTECTING THE GOOD, THE BAD, AND THE UGLY: “EXPOSURE” DATA BREACHES AND SUGGESTIONS FOR COPING WITH THEM

Yasmine Agelidis[†]

Samuel Warren and Justice Louis Brandeis recognized the right to be “let alone” in their famous article *The Right to Privacy* over a century ago.¹ They discussed “the desirability—indeed . . . the necessity—of some such protection” for all persons in their private affairs.² While the majority of state legislatures have passed security breach notification (SBN) laws to help protect victims from the economic harms that flow from identity theft data breaches,³ none have enacted protocols to shield individuals from the newer family of “exposure” data breaches. Today, hackers are turning to exposure breaches—hacks involving the public disclosure of private information resulting in reputational harm to victims—with growing frequency.⁴ Because reputational harms leave victims’ private information accessible to others for a very long time, if not indefinitely, the law should protect individuals from exposure breaches. The exposure breach family consists of extortion hacks, in which hackers threaten to expose individuals’ private information in an effort to make money, and hacktivist attacks, which cover the broad category of hacking for a social or political purpose.⁵ Unlike identity theft data breaches, exposure breaches implicate victims’ reputations. Given the permanent nature of Internet content, this harm

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1. Samuel D. Warren & Louis D. Brandeis, *The Right to Privacy*, 4 HARV. L. REV. 193, 195, 205 (1890).

2. *Id.* at 196.

3. See *Security Breach Notification Laws*, NATIONAL CONFERENCE OF STATE LEGISLATURES (Jan. 4, 2016), <http://www.ncsl.org/research/telecommunications-and-information-technology/security-breach-notification-laws.aspx> [<https://perma.cc/3H2A-4DJA>].

4. While anecdotal evidence may be offered in support, see Part II, *infra*, it is difficult to find statistical support for this assertion because data breaches often go unreported. “One of the main problems in quantifying the precise impact of cybercrime is that computer attacks are not always detected, or reported.” Alvaro Cardenas et al., *An Economic Map of Cybercrime 1* (Aug. 15, 2009) (conference paper presented at TPRC), http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1997795 [<https://perma.cc/8Z7N-2B4N>].

5. See TIM JORDAN & PAUL TAYLOR, *HACKTIVISM AND CYBERWARS 1* (2004).

remains with the victim practically forever. Thus, exposure breaches result in harm that simply cannot be undone.

This Note proposes an expansion of data security protocols to account for the permanent reputational damage that flows from exposure data breaches. Because these data breaches implicate permanent reputational concerns as opposed to just repairable economic ones, the ex-post approach SBN laws set forth cannot correct the harm from these attacks. But exercising ex-ante approaches such as establishing mandatory heightened security protocols for companies, state legislatures, and the Federal Trade Commission (FTC) can prevent reputational harm before it occurs. Using the “public disclosure of private information” privacy tort proposed by the Restatement (Second) of Torts as a foundation, the FTC should consider formally adopting a broadened definition for personally identifiable information (PII) that can account for reputation-implicating information. This updated definition can serve to put entities on notice of the significant threat exposure breaches pose. Also, the updated definition can provide a launching point for the FTC to police companies under its Section 5 Authority for unfair or deceptive data management practices involving reputation-implicating information. Moreover, because exposure breaches will likely continue to occur even with heightened security protocols in place, state legislatures should consider the ex-post approach of requiring companies to enroll in cyber liability insurance. This measure would ensure that victims of exposure breaches at least have the opportunity to recover financially for reputational harms resulting from disclosure.

Part I of this Note describes the laws currently governing data breaches and briefly discusses privacy tort law. These frameworks might be helpful for the FTC to consider in reassessing its Section 5 enforcement authority under the modern data breach landscape. Part II explains what extortion breaches and hacktivist attacks are, how they came about, and the harms that flow from them. Finally, Part III proposes a primarily ex-ante legal framework that better protects potential victims of exposure breaches from reputational harms that are practically impossible to correct.

I. LAWS GOVERNING DATA BREACHES

The data security⁶ framework in the United States is largely governed by state laws and the FTC. Almost all state legislatures have enacted SBN

6. Data security is traditionally considered through the lens of a three-pronged “CIA” framework: confidentiality, integrity, and availability. Ioannis V. Koskosas & Ray J. Paul, *Information Security Management in the Context of Goal-Setting*, 6 RISK MANAGEMENT 19, 21 (2004). A hacker compromises confidentiality if she gains

laws that govern an entity's obligations when hackers successfully break into its security network.⁷ Under these laws, breached entities must notify affected parties if certain information was, or could have been, disclosed.⁸ In addition, the FTC has authority under Section 5 of the Federal Trade Commission Act to protect consumers from "unfair" or "deceptive" data security practices, and carries out this mission by, in part, bringing enforcement actions.⁹ Moreover, while current data security protocols do not rely on privacy tort law, it can be a helpful launching point for developing a framework to address exposure data breaches.

A. SECURITY BREACH NOTIFICATION LAWS

The vast majority of states have enacted SBN laws to address the economic harms that flow from identity theft data breaches, the oldest and most prevalent type of data breach.¹⁰ Identity thief hackers steal personal information and exploit the data to mimic the victim's identity, or sell it to someone who can.¹¹ They are interested in accessing "another person's social security number, date of birth, or other personal information [to assume] the data subject's identity in order to secure goods and services on the data subject's accounts."¹² As long as individuals, companies, and governments use credit cards, Social Security numbers (SSNs), and driver's licenses and store financial and medical information online, the practice of identity theft will remain profitable.¹³

SBN laws address the economic harms flowing from identity theft data breaches by requiring companies and government agencies to notify all affected individuals when a breach has occurred and stored PII was or could

unauthorized access to information, threatens integrity by altering or deleting information, and compromises availability by overloading a network, such as in a denial of service attack. See NICK GIFFORD, INFORMATION SECURITY: MANAGING THE LEGAL RISKS 7–10 (2009).

7. See *Security Breach Notification Laws*, *supra* note 3.

8. See David L. Silverman, *Data Security Breaches: The State of Notification Laws*, 19 INTELL. PROP. & TECH. L.J. 5, 6 (2007).

9. Federal Trade Commission Act, 15 U.S.C. §§ 41–58 (1914).

10. See *Security Breach Notification Laws*, *supra* note 3; GEMALTO, FINDINGS FROM THE BREACH LEVEL INDEX, 2015: FIRST HALF REVIEW 3 (2015), http://www.gemalto.com/brochures-site/download-site/Documents/Gemalto_H1_2015_BLI_Report.pdf [<https://perma.cc/AWX6-BV6L>].

11. See Cardenas et al., *supra* note 4, at 8.

12. Timothy Skinner, *California's Database Breach Notification Security Act: The First State Breach Notification Law Is Not Yet a Suitable Template for National Identity Theft Legislation*, 10 RICH. J. L. & TECH. 1, 3 (2004).

13. See Cardenas et al., *supra* note 4, at 1, 11.

have been compromised.¹⁴ These laws vary from state to state, but all typically define PII as a last name, or first name and last initial, in combination with one of four pieces of unencrypted information: (1) SSN, (2) driver's license or state identification number, (3) account, credit card, or debit card number with any password or code required to access the account, or (4) protected health information, which is any information relating to an individual's health status, health care, or payment for health care.¹⁵ For example, California, a leader in privacy and data security, has an SBN law stating in part:

Any agency that owns or licenses computerized data that includes personal information shall disclose any breach of the security of the system following discovery or notification of the breach in the security of the data to any resident of California whose unencrypted personal information was, or is reasonably believed to have been, acquired by an unauthorized person. The disclosure shall be made in the most expedient time possible and without unreasonable delay, consistent with the legitimate needs of law enforcement, . . . or any measures necessary to determine the scope of the breach and restore the reasonable integrity of the data system.¹⁶

The logic behind these disclosure laws is that notification allows the individual to dissociate herself from the stolen PII and essentially walk away from the breach unharmed.¹⁷ For instance, an identity theft victim can cancel credit cards, flag a driver's license, freeze an SSN, or monitor medical information. State SBN laws represent the primary legislative protection for victims of data breaches. In addition, enforcement agencies like the FTC regulate how entities store and manage personal information.

B. FTC REGULATION OF ENTITIES STORING PERSONAL INFORMATION

Congress tasks the FTC with “protect[ing] consumers’ personal information and ensur[ing] that consumers have the confidence to take advantage of the many benefits offered in the marketplace.”¹⁸ In *FTC v. Wyndham Worldwide Corp.*, the Third Circuit confirmed that the FTC has

14. See Silverman, *supra* note 8, at 6.

15. See *id.* at 5; CAL. CIV. CODE § 1798.29(a) (2016).

16. § 1798.29(a).

17. Paul Schwartz and Edward Janger note that, arguably, the primary purpose of SBN laws is “to allow the customer to take steps to safeguard her data.” Paul M. Schwartz & Edward J. Janger, *Notification of Data Security Breaches*, 105 MICH. L. REV. 913, 937 (2007).

18. FED. TRADE COMM’N, PRIVACY AND DATA SECURITY UPDATE (2014) 2 (2015).

authority to bring enforcement actions against companies regarding their data security practices.¹⁹ The FTC holds a breached entity accountable for achieving a level of data security that is “reasonable in light of the sensitivity and volume of consumer information it holds, the size and complexity of its data operations, and the cost of available tools to improve security and reduce vulnerabilities.”²⁰ Although in theory hackers could be held accountable for their unlawful actions, it is impractical to do so because identifying, locating, and charging hackers can pose significant practical and jurisdictional concerns.²¹

The FTC’s primary legal authority comes from Section 5 of the Federal Trade Commission Act, which prohibits unfair and deceptive practices.²² The FTC carries out its mission in part by “bring[ing] enforcement actions to stop law violations and requir[ing] companies to take affirmative steps to remediate the[ir] unlawful behavior.”²³ The FTC has brought over fifty law enforcement actions against breached entities thus far, all resulting in “settlements—no findings have been made by a court—and the specifics of the orders apply just to those companies.”²⁴ So, while these orders hold the force of law for the specific companies they refer to, they simply provide guidance to other entities.²⁵

Under Section 5, the FTC has authority to bring an enforcement action against an entity if the company has deceptive or unfair practices, meaning that “the act or practice causes or is likely to cause substantial injury to consumers which is not reasonably avoidable by consumers themselves and not outweighed by countervailing benefits to consumers or to competition.”²⁶ The FTC has more readily relied on the deception prong, under which it “has developed a theory of deception that not only includes broken promises of privacy and security, but also a general theory of

19. 10 F. Supp. 3d 602 (3d Cir. 2014).

20. *Data Security*, FED. TRADE COMM’N, <https://www.ftc.gov/datasecurity> [<https://perma.cc/3GCC-94XM>].

21. Robert J. Scigliampaglia, Jr., Comment, *Computer Hacking: A Global Offense*, 3 PACE Y.B. INT’L L. 199, 208–11 (1991).

22. PRIVACY AND DATA SECURITY UPDATE (2014), *supra* note 18, at 1; 15 U.S.C. §§ 41–58.

23. PRIVACY AND DATA SECURITY UPDATE (2014), *supra* note 18, at 1.

24. FED. TRADE COMM’N, START WITH SECURITY: A GUIDE FOR BUSINESS 1 (2015).

25. *Id.*

26. 15 U.S.C. § 45(n) (2012); see Daniel J. Solove & Woodrow Hartzog, *The FTC and the New Common Law of Privacy*, 114 COLUM. L. REV. 583, 628 (2014).

deception in obtaining personal information and deception due to insufficient notice of privacy-invasive activities.”²⁷

Importantly, the FTC does not necessarily fault entities for all data breaches; rather, it “usually faults companies for failures to implement promised procedural protections, such as security protocols.”²⁸ Satisfying a showing of deception requires that there be “(1) an act (representation, omission, or practice), (2) the likelihood of a reasonable consumer’s deception, and (3) materiality.”²⁹ The “broken promises of privacy and security” language has developed into a key source of authority for the FTC in bringing enforcement actions against entities on the basis of data security concerns.³⁰ Moreover, under the “general theory of deception” language, the FTC has found companies liable for inducing disclosure of personal information.³¹

By contrast, the FTC has taken a much more limited approach under the unfairness prong.³² An unfair trade practice “causes or is likely to cause substantial injury to consumers which is not reasonably avoidable by consumers themselves and not outweighed by countervailing benefits to consumers or to competition.”³³ In *FTC v. Wyndham Worldwide Corp.*, the Third Circuit held that the FTC has authority under the unfairness prong of Section 5 to bring an enforcement action against a company whose failure to protect sensitive data has resulted in financial harm to consumers.³⁴

The FTC also has authority to investigate and prosecute privacy violations under a variety of sector- and information-specific laws.³⁵ For instance, under the Financial Services Modernization Act of 1999 (Gramm-Leach-Bliley Act), financial institutions have an affirmative duty to protect customers’ personal information and must provide customers

27. Solove & Hartzog, *supra* note 26, at 628.

28. *Id.* at 630. Likewise, “[e]ven vague promises of security such as providing ‘reasonable security measures to protect against unauthorized access to or unauthorized alteration, disclosure or destruction of personal information’ can be the basis of an FTC action.” *Id.* at 636.

29. *Id.* at 628.

30. *Id.* at 628–29.

31. *Id.* at 630.

32. *Id.* at 638 (“The FTC has exercised its unfairness enforcement power judiciously when it comes to privacy and security.”).

33. 15 U.S.C. § 45(n) (2012); *see also* Solove & Hartzog, *supra* note 26, at 628.

34. 10 F. Supp. 3d 602 (3d Cir. 2014). For a more in-depth discussion of the FTC’s authority to enforce data security, see William J. Binkley, Note, *Fair Notice of Unfair Practices: Due Process in FTC Data Security Enforcement After Wyndham*, 31 BERKELEY TECH L.J. 1079 (2016).

35. *See* PRIVACY AND DATA SECURITY UPDATE (2014), *supra* note 18, at 5.

with written notice about their privacy practices.³⁶ Under the Health Insurance Portability and Accountability Act (HIPAA), entities must notify covered individuals of a breach of unsecured protected health information.³⁷ Further, the Disposal Rule, which applies to entities that receive consumer information such as credit reports and employee background screens, requires that the company “properly dispose of any such information stored on its digital copier, just as it would properly dispose of paper information or information stored on computers.”³⁸

Importantly, unlike state legislatures, the FTC has not explicitly set out a definition for PII. However, the FTC’s treatment of the term suggests that it has adopted a narrow definition comparable to the definition set out in SBN laws.³⁹ As such, the FTC’s treatment of PII does not cover reputation-implicating information. Accordingly, the FTC has yet to bring an enforcement action against a breached entity specifically on the basis of deceptive or unfair practices regarding reputation-implicating personal information, and it has yet to incorporate reputational personal information into its data breach protection framework.

SBN laws and the FTC govern identity theft data breaches. However, privacy tort law can provide a possible framework for governing a relatively new class of data breaches that has emerged in recent years: exposure breaches.

36. Pub. L. 106-102, 113 Stat. 1338 (codified at 15 U.S.C. §§ 6801–6809 (1999)).

37. Pub. L. 104-191, 110 Stat. 1936 (1996). “Covered entities and business associates must only provide the required notifications if the breach involved unsecured protected health information. Unsecured protected health information is protected health information that has not been rendered unusable, unreadable, or indecipherable to unauthorized persons through the use of a technology or methodology specified by the Secretary in guidance.” *Breach Notification Rule*, U.S. DEP’T OF HEALTH & HUMAN SERVS., <http://www.hhs.gov/hipaa/for-professionals/breach-notification/index.html> [<https://perma.cc/AQF9-FG4R>].

38. FED. TRADE COMM’N, *COPIER DATA SECURITY: A GUIDE FOR BUSINESSES* 8 (2010).

39. See FED. TRADE COMM’N, *PROTECTING PERSONAL INFORMATION: A GUIDE FOR BUSINESS* 5 (2011) (“Different types of information present varying risks. Pay particular attention to how you keep personally identifying information: Social Security numbers, credit card or financial information, and other sensitive data. That’s what thieves use most often to commit fraud or identity theft.”); *START WITH SECURITY: A GUIDE FOR BUSINESS*, *supra* note 24, at 2 (offering examples of PII throughout the guide, such as “personal data on employment applications to network files with customers’ credit card numbers,” without setting out a specific definition of PII).

C. PRIVACY TORT LAW

In 1960, William Prosser solidified privacy law into the four “invasion of privacy” torts recognized by the Restatement (Second) of Torts:⁴⁰ (1) intrusion upon the plaintiff’s seclusion or solitude, or into his private affairs;⁴¹ (2) public disclosure of embarrassing private facts about the plaintiff;⁴² (3) publicity which places the plaintiff in a false light in the public eye;⁴³ and (4) appropriation, for the defendant’s advantage, of the plaintiff’s name or likeness.⁴⁴ Most relevant to protection against exposure data breaches is the “public disclosure of private life” tort because it speaks to the private yet truthful nature of the embarrassing information at the center of these breaches. The Restatement (Second) of Torts defines the “public disclosure of private life” tort:

One who gives publicity to a matter concerning the private life of another is subject to liability to the other for invasion of his privacy, if the matter publicized is of a kind that (a) would be highly offensive to a reasonable person, and (b) is not of legitimate concern to the public.⁴⁵

Courts have determined a matter to “concern[] the private life of another” if the information is not a widely known fact⁴⁶ and the plaintiff has retained a reasonable expectation of the privacy of that information.⁴⁷ Moreover, the Restatement recognizes “publicity” as communication “to the public at large” or “to so many persons that the matter must be regarded as substantially certain to become one of public knowledge.”⁴⁸ By contrast, communicating the information “to a single person or even a small group of persons” does not constitute “publicity.”⁴⁹ The means of communication

40. See William L. Prosser, *Privacy*, 48 CALIF. L. REV. 383, 389 (1960); RESTATEMENT (SECOND) OF TORTS § 652(b)–(e) (1977).

41. RESTATEMENT (SECOND) OF TORTS § 652(d).

42. *Id.* at § 652(b).

43. *Id.* at § 652(e).

44. *Id.* at § 652(c).

45. *Id.* at § 652(d).

46. See *Fisher v. Ohio Dep’t of Rehab. & Corr.*, 578 N.E.2d 901, 903 (Ohio Ct. Cl. 1988) (holding that plaintiff telling four co-workers about encounters with her child that carried sexual overtones meant that the information was no longer private).

47. See *Y.G. v. Jewish Hosp.*, 795 S.W.2d 488, 502–03 (Mo. Ct. App. 1990) (finding that plaintiffs retained an expectation of privacy because even though hospital employees knew they were pursuing *in vitro* fertilization, they had not told their friends or fellow churchgoers).

48. RESTATEMENT (SECOND) OF TORTS § 652(d) cmt. a.

49. *Id.*

“may be oral, written or by any other means.”⁵⁰ Further, the “highly offensive to a reasonable person” standard is evaluated according to the relative customs of the time, place, occupation and habits of the plaintiff and “his neighbors and fellow citizens.”⁵¹ Interestingly, jurisdictions vary considerably in their interpretations of “custom.”⁵² Finally, “matters of legitimate concern to the public” are deemed newsworthy and therefore not subject to the tort.⁵³ So, the tort in its full form would not protect published information that is deemed to be newsworthy as a matter of law.⁵⁴ However, because data breach law is focused on protecting *all* stored PII, not just that which is not newsworthy,⁵⁵ this prong ought to be reconsidered in this context.

Privacy tort law offers a helpful framework that can be applied to the data breach context. Yet, because applying the “public disclosure of private life” tort in its traditional ex-post sense would not help to prevent reputational harm from occurring in the first place, potential victims would be better protected if the underlying principles of the tort were absorbed into an ex-ante FTC enforcement framework. Accordingly, the “public disclosure of private life” privacy tort may not itself be able to address reputational harm, but it can offer a launching point for coping with the reputational harm that flows from exposure data breaches.

50. *Id.*

51. *Id.* at cmt. c.

52. *Compare* Gill v. Hearst Publ’g Co., 253 P.2d 441, 445 (Cal. 1953) (finding that “there [does not] appear to be anything ‘uncomplimentary’ or discreditable in the photograph” of a young couple showing affection in a confectionary shop), *with* Daily Times Democrat v. Graham, 162 So. 2d 474, 477 (Ala. 1964) (noting that a photo taken of a woman’s exposed undergarment would be highly offensive to a reasonable person because she had not consented to the publicity of this involuntary conduct).

53. *Compare* Shulman v. Group W. Prods., Inc., 18 Cal. 4th 200, 228 (Cal. 1998) (finding that the public broadcast of a nurse’s private conversation with a patient in an emergency situation was newsworthy because it was germane to the telling of the story), *with* Haynes v. Alfred A. Knopf, Inc., 8 F.3d 1222, 1234–35 (7th Cir. 1993) (noting that even though personal facts published in a book were newsworthy because they were germane to the book’s subject matter, protection would not extend to publication of “intimate physical details the publicizing of which would be not merely embarrassing and painful but deeply shocking to the average person”).

54. *See id.*

55. *See* Schwartz & Janger, *supra* note 17, at 916 (noting that data breach statutes “seek to punish the breached entity and protect consumers by mandating corporate information disclosure” based only on the fact that the data falls into the PII category, and regardless of the data’s specific content).

II. UNDERSTANDING EXPOSURE BREACHES

Identity theft continues to make up the largest portion of data breaches,⁵⁶ but a new family of breaches is on the rise: exposure breaches. Exposure breaches include both extortion data breaches, which offer simpler methods than identity theft for hackers to make money,⁵⁷ and hacktivism data breaches, which offer a means for achieving social or political goals.⁵⁸

A. EXTORTION DATA BREACHES

Although identity theft may be profitable, it is more inefficient and burdensome than an onlooker might anticipate,⁵⁹ so some hackers have turned to extortion to profit from data breaches.

1. *The Drawbacks of Identity Theft*

Identity thieves face two critical drawbacks. First, turning stolen information into tangible cash involves several parties and a significant amount of time and effort.⁶⁰ Second, because of the nature of the stolen information, the hacked victim can dissociate herself from the kind of data that identity theft hackers are interested in, which renders the information useless to hackers looking to profit.⁶¹ So, the kind of information identity theft hackers steal generally has only a finite lifespan before the victim dissociates herself from it and it becomes valueless.

Addressing the first drawback of identity theft, a hacker must gain access to the right type of information to profit.⁶² There are many types of PII, and a hacker must transform each one from binary code to liquid cash

56. See GEMALTO, *supra* note 10, at 3.

57. See *infra* Section II.A.

58. See *infra* Section II.B. Hacking grew out of intellectual curiosity, but as the technological means became available, it developed into a tool to make money and promote social objectives. SUSAN BRENNER, *CYBERCRIME AND THE LAW: CHALLENGES, ISSUES, AND OUTCOMES* 17–18 (2012). “The popularization of hacking was the result of two innovations: One was the Internet, a new network that could support an unlimited number of computers and was available to anyone who could log on. . . . The other innovation was the personal computer: though the term first appeared in print in 1962, personal computers did not become a reality until the end of the 1970s.” *Id.*

59. See Cardenas et al., *supra* note 4, at 2–8.

60. See *id.*

61. See Daniel J. Solove, *Identity Theft, Privacy, and the Architecture of Vulnerability*, 54 HASTINGS L.J. 1227, 1248 (2002) (acknowledging that identity theft law “allows individuals to fix the damage caused by identity theft,” but that these processes are “complicated by the profound lack of power individuals have over controlling their personal information”).

62. See Cardenas et al., *supra* note 4, at 3–7.

in a different way.⁶³ Each of these processes is unique and time-consuming. For instance, the hacker may need to advertise the data through an online bulletin board; create fake credit cards; use the data to withdraw account funds from a local bank branch; file for unemployment benefits or a tax refund; urge banks and stores to open new accounts or make purchases over the phone; or use medical policy numbers, diagnosis codes, and billing information to create fake IDs to buy medical equipment or prescription drugs for resale.⁶⁴ In some ways, identity theft simply replaces a lawful nine-to-five job with an illicit one, making it a poor choice for those looking to make easy money.

Addressing the second major drawback of identity theft, a victim can strip the stolen information of its value at any time.⁶⁵ PII's economic value comes from its association with the individual victim; once victims learn that their information has been compromised—perhaps thanks to mandatory disclosure policies in place by SBN laws—victims can dissociate themselves from stolen PII.⁶⁶ It is true that some PII can be more difficult for victims to dissociate from than others. Cancelling a credit card just takes a phone call, and the payment processor or bank often reimburses the victim for the fraudulent transaction,⁶⁷ whereas getting a new SSN requires a more significant showing of fraud.⁶⁸ Even so, if the victim can prove that her SSN was stolen and improperly used, the government can place a fraud alert or security freeze on her number and she can monitor her credit reports regularly.⁶⁹ Likewise, even though an individual remains associated with her medical information, a victim of a medical data breach can monitor her medical records and related documents to confirm that her files remain accurate.⁷⁰ If she recognizes any fraudulent incidents or claims, such as false benefit cards or insurance reimbursement claims in her name, she can

63. *See id.* at 8–9.

64. *See id.*

65. *See* Solove, *supra* note 61, at 1248.

66. *See id.*

67. Moreover, the Fair Credit Billing Act and the Electronic Fund Transfer Act place a cap on the amount of money an individual victim of identity theft can be held liable for following a retailer's data breach, like the one Target experienced in 2013. *See* 15 U.S.C. § 1693(g) (2012); Kara Brandeisky, *4 Reasons Why You Should Shop at Stores That Got Hacked*, TIME, (Oct. 20, 2014), <http://time.com/money/3524447/data-breach-target-home-depot-holiday-shopping> [<https://perma.cc/K3ZK-B97D>].

68. *See* PRIVACY RIGHTS CLEARINGHOUSE, *Fact Sheet 17b: How to Deal with a Security Breach*, <https://www.privacyrights.org/how-to-deal-security-breach#dl> [<https://perma.cc/ZRV4-RJRA>].

69. *See id.*

70. *See id.*

contact her provider and dissociate from those claims.⁷¹ So, the identity theft hacker's significant investment of time and resources may prove futile in the end.

2. *The Ease of Extortion*

Extortion breaches solve both of the drawbacks identity theft presents. First, extortion involves fewer steps and is more straightforward than identity theft. Second, and more importantly, victims cannot dissociate themselves from information stolen through extortion breaches.

Unlike identity theft, extortion involves few steps and parties. In order to profit from the hacked information, the extortionist need only communicate to the victim that unless she pays up, the hacker will publicly disclose her embarrassing information. The hacker typically requests payment in a virtual currency that she can then turn into cash.⁷² Extortion hackers take advantage of personal information that the data owner would pay to keep private; accordingly, the hacker can demand huge sums in exchange for keeping the information out of the public eye.

Whereas victims of identity theft can dissociate from the stolen information, victims of exposure breaches, including extortion breaches, cannot.⁷³ Because of the nature of the information exploited in extortion hacks, the hacker does not have to worry that the stolen information will suddenly become useless because it retains its value as long as the victim has an interest in not being exposed. For instance, a hacker can feel confident that unsavory information regarding a potential victim's online browser history will be profitable today as well as ten years from now, particularly if the potential victim chooses to run for public office. Because extortion breach information has a longer life, it is not surprising that hackers are turning to extortion as an alternative or supplement to identity theft hacks.

Moreover, although these extortion data breaches likely come within the legal definition of extortion, this cause of action suffers from the same weakness as SBN laws—addressing reputational harm after the fact is less effective than mandating preventive measures. Extortion typically “consists

71. See Laura Shin, *Why Medical Identity Theft is Rising and How to Protect Yourself*, FORBES (May 29, 2015), <http://www.forbes.com/sites/laurashin/2015/05/29/why-medical-identity-theft-is-rising-and-how-to-protect-yourself> [<https://perma.cc/39RT-5369>].

72. For instance, she may request payment in Bitcoin, which can then be bought and sold for traditional currency while bypassing bank charges and exchange rates. Misha Tsukerman, Note, *The Block is Hot: A Survey of the State of Bitcoin Regulation and Suggestions for the Future*, 30 BERKELEY TECH. L.J. 1127, 1147 (2015).

73. See *infra* Section II.A.3 (discussing the Ashley Madison and Sony Pictures breaches as examples).

of a verbal or written or printed communication which is made maliciously and threatens to (1) accuse another of a crime, (2) injure another's person or property, or (3) use unlawfully one's power as a police officer . . . with the intent to extort money or any pecuniary advantage or compel any person to do any act against his will."⁷⁴ Courts are divided over whether a threat to a person's reputation or mental well-being constitutes a "threat to the person" within the meaning of federal and state extortion statutes.⁷⁵ However, "the weight of modern authority . . . includes a threat to one's mental well-being as a threat of injury to the person."⁷⁶ Extortion data breaches would likely be covered by these ex-post extortion laws; yet these laws would not provide an adequate remedy because victims would nevertheless remain permanently and publicly associated with their leaked information. Likewise, the target of these extortion laws, here the hacker, is difficult to locate and charge, so enforcing these extortion laws introduces other practical concerns.⁷⁷

3. *Examples of Extortion Data Breaches*

The 2015 Ashley Madison breach is a prime illustration of an extortion data breach. In that case, a group of hackers self-titled The Impact Team stole the account and credit card information of thirty million Ashley Madison users who believed they were participating on the adultery website under private and secure conditions.⁷⁸ Over the course of several data dumps, the hackers posted the stolen user information online, and reached out to individual users requesting payment in exchange for removing the compromising information.⁷⁹ Moreover, once The Impact Team posted the user information online, secondary hackers echoed The Impact Team's efforts and extended the same extortive threats to users.⁸⁰ Hackers typically demanded several hundred dollars in Bitcoin in order to keep victims' association with the adultery website private.⁸¹

Similarly, in December 2014, the hacker group Guardians of Peace (GOP) targeted Sony Pictures Entertainment ("Sony"), and over the course

74. 14A Mass. Prac., Summary of Basic Law § 7:223 (5th ed.).

75. *Id.*

76. Thomas B. Merritt, *Injury to Reputation or Mental Well-Being as Within Penal Extortion Statutes Requiring Threat of "Injury to the Person,"* 87 A.L.R. 5th 715, 715 (2001).

77. See Scigliompaglia, *supra* note 21, at 208–11.

78. David Bisson, *The Ashley Madison Hack—A Timeline (Updated 9/10/15)*, TRIPWIRE (Sept. 1, 2015), <http://www.tripwire.com/state-of-security/security-data-protection/cyber-security/the-ashley-madison-hack-a-timeline> [<https://perma.cc/N4B3-BVXK>].

79. *See id.*

80. *See id.*

81. *See id.*

of several data dumps, released a wide range of private information about the company, its employees, and its partners.⁸² The stolen data included the names, addresses, SSNs, bank account and credit card information, medical diagnoses, disability codes, and medical ID numbers of employees; details about Sony's operations and communications; and five Sony films, four of which were previously unreleased.⁸³ One of the most notorious aftereffects of the hack was the release of extremely sensitive email chains. One included an exchange between Sony executives discussing whether President Obama's favorite films included African-American actors.⁸⁴ Another email thread revealed that Sony paid certain top female actresses less than their male counterparts.⁸⁵ Accompanying the information dumps were several threatening messages in which GOP promised to continue to disclose private information unless Sony agreed not to release the film *The Interview*.⁸⁶ GOP continued to disclose private information until Sony released a statement that it would no longer be releasing the film.⁸⁷ Sony postponed the film's release, but ultimately released *The Interview* in select theaters and via Video On Demand.⁸⁸

These two data breaches affected thousands of individuals and several companies and received tremendous media attention. However, hackers can also carry out simple, small-scale extortion breaches. For instance, a hacker could threaten to expose someone's embarrassing browser history, broadcast that the victim shopped at a retailer that might place the individual in a bad light, or expose incriminating email or text messages unless the victim pays up. These disclosures can impact the careers and reputations of politicians, military personnel, and regular citizens.

82. See Kaleigh Simmons, *The Sony Data Breach: Full Timeline*, RIPPLESHOT BLOG (Jan. 6, 2015), <http://info.rippleshot.com/blog/the-sony-data-breach-full-timeline> [<https://perma.cc/6U9P-6ZRW>].

83. *See id.*

84. See THR Staff, *Sony Hack: Amy Pascal and Scott Rudin Joked About Obama's Race in Leaked Emails*, THE HOLLYWOOD REPORTER (Dec. 10, 2014), <http://www.hollywoodreporter.com/news/sony-hack-amy-pascal-scott-756438> [<https://perma.cc/UXC2-JJ3W>].

85. Bryce Covert, *Sony Executive Blames Female Actresses For Their Own Unequal Pay*, THINK PROGRESS (Feb. 13, 2015), <http://thinkprogress.org/economy/2015/02/13/3622743/sony-wage-gap-amy-pascal> [<https://perma.cc/JC49-MFA7>].

86. David Robb, *Sony Hack: A Timeline*, DEADLINE (Dec. 22, 2014), <http://deadline.com/2014/12/sony-hack-timeline-any-pascal-the-interview-north-korea-1201325501> [<https://perma.cc/ERT6-XDBJ>].

87. *Id.*

88. *Id.*

Individuals, governments, and businesses today are relaying highly private information over less-than-secure channels. Even though many of these technology users are sophisticated and often recognize that cloud-based applications, email, and instant messaging are not wholly secure pathways, many nevertheless participate in online activities that, if exposed publicly, could harm their reputation. Hackers have recognized the simplicity of extortion hacks, and they will most likely turn to them with growing frequency.

B. HACKTIVISM DATA BREACHES

In hacktivism data breaches, hacktivists engage in hacking for a social or political purpose by exposing private information to harm their victims' reputations.⁸⁹ Although the reasoning behind hacktivist attacks can be difficult to discern—they can feel logical, straightforward, and justifiable or appear to make no sense at all⁹⁰—these breaches are analogous to extortion in the broader security breach context. Hacktivists embarrass their victims by disclosing compromising information; moreover, once this information is disclosed, it effectively remains in the public sphere forever.

For example, in 2006, Julian Assange is credited with launching Wikileaks, “an online repository for holding and publishing secret documents by whistle-blowers and journalists.”⁹¹ The premise behind the online forum is that “those in possession of confidential documents of public interest, which their governments or institutions wanted to hide from public scrutiny, would be able to upload them anonymously on the website for worldwide circulation and publicity.”⁹² In another case, the infamous hacker group Anonymous broke into the computer system at Stratfor Global Intelligence, a United States security agency, on Christmas Day in 2011 and exposed client lists, emails, and credit card information.⁹³ The hackers then used the credit card data to donate to a variety of charities, adding to the confusion around the hackers' motivations.⁹⁴

All exposure breach victims experience the potential for reputational harm, but there are no legal frameworks in place working to prevent these

89. See JORDAN & TAYLOR, *supra* note 5, at 1.

90. See Dorothy Denning, *Cyberwarriors: Activists and Terrorists Turn to Cyberspace*, 23 HARV. INTL. REV. 70, 70 (2001).

91. *The Brave New World of Wikileaks*, 45 ECON. & POLITICAL WEEKLY 7, 7 (Dec. 11, 2010).

92. *Id.*

93. See Nicole Perlroth, *Hackers Breach the Website of Stratfor Global Intelligence*, N.Y. TIMES (Dec. 25, 2011), <http://www.nytimes.com/2011/12/26/technology/hackers-breach-the-web-site-of-stratfor-global-intelligence.html> [<https://perma.cc/4M42-9LHG>].

94. *Id.*

breaches from occurring in the first place. There are also no measures that can help make individuals whole once they have been made victims. Privacy tort law is one possible framework that can assist potential exposure breach victims.

III. A NEW LEGAL FRAMEWORK FOR EXPOSURE BREACHES

SBN laws necessarily adhere to an ex-post philosophy where entities are subject to affirmative duties only *after* PII has been compromised, or possibly compromised,⁹⁵ but this approach may not be particularly effective in addressing exposure data breaches. Victims of exposure breaches, unlike identity theft victims, face reputational harm that cannot be undone, and ex-post approaches are not capable of preventing this reputational damage from occurring in the first place. Thus, the emergence of exposure breaches calls for more robust ex-ante protocols that may help minimize the occurrence of reputational harm.

Accordingly, one effective measure may be for the FTC to hold entities accountable under a broadened definition of PII. This would put entities on notice of the threat of reputational harm from exposure breaches and incentivize companies to adopt stronger security protocols to limit the occurrence of breaches. In line with this ex-ante approach, state legislatures should consider adopting legislation requiring entities to establish heightened security when they relay reputation-implicating information in the course of business. These ex-ante measures can reduce the number of exposure breaches and thereby prevent reputational harm before hackers have the opportunity to affect people's lives.

A. SBN LAWS AND OTHER EX-POST APPROACHES FAIL TO ADDRESS REPUTATIONAL HARM

Because exposure breaches, unlike identity theft, result in permanent reputational consequences,⁹⁶ ex-post approaches to these attacks are not particularly effective. As noted in Section I.A, SBN laws fall under this ex-post approach. First, SBN laws would likely rarely be triggered by the release of exposure breach information because the valuable, reputation-implicating information at the center of exposure breaches could be practically anything, and need not be SBN-triggering PII.

95. See Silverman, *supra* note 8, at 6.

96. For instance, compare the reputational harm of being publicly exposed in affiliation with an adultery website with the economic harm and frustration from the leak of a SSN online. See Bisson, *supra* note 78; see also *Fact Sheet 17b: How to Deal with a Security Breach*, *supra* note 68.

Second, SBN laws would not correct the reputational harm that flows from exposure breaches. SBN laws do not require the removal of reputation-harming material posted through exposure breaches. Even if they did, they would be of limited use because removing such material from the Internet—and it is questionable whether that is possible—does not remove it from the minds or computers of anyone who saw or downloaded the material. Preventing such material from being posted in the first place is the only way to completely prevent reputational harm.

B. EX-ANTE APPROACHES CAN BETTER ADDRESS REPUTATIONAL HARM

The permanence of disclosed information at the center of exposure data breaches dictates the reliance on ex-ante protocols to help prevent data breaches from occurring in the first place.⁹⁷ First, by broadening the FTC's definition of PII and requiring certain entities to adopt the FTC's updated definition of PII as a baseline, the FTC can put entities on notice that it may bring Section 5 enforcement actions for deceptive or unfair practices regarding how entities store and manage reputation-implicating information. Second, state legislatures should consider enacting legislation requiring entities that store data falling into this broadened definition of PII to maintain heightened security measures for storing that data. These ex-ante measures echo the FTC's own statement that "[n]o one can steal what you don't have."⁹⁸ While an in-depth discussion of the FTC's authority to bring enforcement actions to protect consumers from reputational harm under the Administrative Procedure Act and other relevant administrative law is beyond the scope of this Note, these proposed measures represent steps toward protecting citizens against exposure breaches.⁹⁹

1. *The FTC Should Hold Entities Accountable Under a Broadened Definition of PII*

As noted in Section I.B, the FTC's implicitly adopted definition for PII is confined to information at the center of identity theft breaches. However, as demonstrated in Part II, the data underpinning exposure breaches varies drastically from that at the center of identity theft breaches. As such, the FTC should consider formally broadening its definition of PII to more accurately reflect the latest data privacy concerns.

97. For a more in-depth discussion on the distinction between ex-post and ex-ante laws, see Barbara H. Fried, *Ex Ante/Ex Post*, 13 J. CONTEMP. LEGAL ISSUES 123 (2003).

98. FED. TRADE COMM'N, *supra* note 24, at 2.

99. For more background on this debate, see Jeffrey S. Lubbers, *It's Time to Remove the "Mossified" Procedures for FTC Rulemaking*, 83 GEO. WASH. L. REV. 1979 (2014).

One possibility is to broaden the definition of PII according to the already-accepted “public disclosure of private life” tort proposed by the American Law Institute. Under this approach, one possible definition of PII might be: “any personally identifiable information that concerns the private life of another such that its public disclosure would be highly offensive to a reasonable victim.”¹⁰⁰ This definition is particularly well-suited here because it is broad enough to catch the reputation-based information at the heart of exposure breaches, but also sufficiently limited by the objective “highly offensive” standard.¹⁰¹

The FTC’s formal adoption of this definition can serve two key purposes. First, it can help draw attention to the prevalence and significance of the exposure data breach family. Second, it can provide a launching point for the FTC to update the reach of its Section 5 authority to the modern data security environment. More specifically, the FTC should consider publishing a notice to all companies stating that the term PII, when used by any company in its privacy policies or communications with customers, encompasses the FTC’s new, broadened definition as a baseline. This measure would ensure that entities consider consumers’ reputational information in their privacy practices and would put companies on notice that the FTC can bring enforcement actions based on the deceptive or unfair treatment of reputational information under its Section 5 authority.

Practically speaking, the FTC should draft an updated data security guide for businesses, perhaps modeled closely on its publication *Start with Security: A Guide for Business*, with the revised definition of personal information in mind.¹⁰² At the highest level, this guide can direct companies’ attention toward the threat of exposure breaches. More specifically, it can urge companies to train their employees to identify sensitive information and learn how to manage it. The FTC can continue to emphasize that entities encrypt sensitive data and regularly and securely delete unnecessary information from their servers.¹⁰³

The Ashley Madison breach provides an illustration of how the FTC could exercise this enforcement authority. Prior to the breach, Ashley Madison users were given the opportunity to delete their accounts for

100. See RESTATEMENT (SECOND) OF TORTS § 652(d) (1977); see *supra* Section I.C.

101. See RESTATEMENT (SECOND) OF TORTS § 652(d).

102. FED. TRADE COMM’N, *supra* note 24.

103. See *id.*

nineteen dollars.¹⁰⁴ However, the data breach demonstrated that while users' email addresses and phone numbers were deleted, their GPS coordinates, gender, ethnicity, relationship status, and other information about the users' sexual interests were not deleted.¹⁰⁵ Under the standard set out above, the FTC might have had authority to hold Ashley Madison accountable for deceptive or unfair practices regarding the storage of this reputation-implicating information.

In sum, by broadening the definition of PII, the FTC can bring awareness to the importance of exposure breaches and more effectively protect consumers.

2. *State Legislatures Should Adopt Legislation Requiring Businesses to Implement Heightened Security for PII Used in the Course of Business*

In conjunction with the proposed broadened definition for PII, state legislatures should consider enacting legislation requiring businesses to adopt heightened security measures when the information they store or manage in the regular course of business might carry reputation-implicating consequences and be highly offensive to a reasonable victim if disclosed. Legislative action addressing the reputational harms from data breaches can complement legislatures' similar involvement in passing SBN laws. Such action would therefore both strengthen security systems for consumers and validate the existence and significance of exposure data breaches and reputational harm.

The Ashley Madison case provides a relatively clear-cut illustration of how this legislation might look in practice. The company's business model is built on providing a secret forum for users to engage in behavior that would be highly offensive to a reasonable victim if made public.¹⁰⁶ Accordingly, under this statute, Ashley Madison would be required to invoke heightened security protocols for all systems storing or managing PII, according to the FTC's updated definition. These measures might include encryption and regular, secure deletion of unnecessary or archived information.

Likewise, in the Sony case, the embarrassing email correspondence between executives exposing the company's pay discrimination was related

104. Team Register, *What Ashley Madison Did and Did NOT Delete if You Paid \$19— and Why it May Cost it \$5m+*, THE REGISTER (Aug. 25, 2015), http://www.theregister.co.uk/2015/08/25/us_class_action_ashley_madison [<https://perma.cc/V7V6-ML64>].

105. *Id.*

106. *See id.*

to Sony's business.¹⁰⁷ Under this proposed legislation, Sony would be responsible for enacting heightened security for these messages.¹⁰⁸ By contrast, under this proposal, Sony may not have been required to more securely store the email correspondence in which Sony executives guessed whether President Obama's favorite films are those starring African-American actors because this correspondence does not relate directly to Sony's course of business.¹⁰⁹

Given that reputation-implicating information, once released, essentially remains in the public sphere forever, ex-ante data security measures offer a suitable approach to managing exposure data breaches. By focusing on preventing the harms in the first place—via a minor reworking of the FTC's treatment of personal information and comparable state legislative action—ex-ante protocols can reduce data breaches and the reputational harms that flow from them altogether.

3. *Addressing Counter-Arguments to Ex-Ante Measures*

Admittedly, these ex-ante approaches introduce vagueness and judgment into what has traditionally been a cut-and-dry process of notifying affected parties that their easily defined PII has or could have been compromised. Nevertheless, in practice, the introduction of this case-by-case rule will likely push entities to achieve heightened security for *all* stored data, arguably a beneficial consequence.

The financial costs associated with invoking heightened security measures might pose a significant concern to companies and legislatures. Specifically, smaller, less profitable entities might feel the financial burden of these measures more than large, profit-driven companies. Moreover, this burden might have a chilling effect on start-up companies that are considering entering into data-intensive industries. These are genuine concerns. However, the financial and reputational impacts of data breaches have become increasingly palpable in today's society, and legislatures must allocate these legitimate concerns sufficient weight when balancing interests. In this environment, the financial implications of data security protocols may simply be one of the costs of doing business in a modern market.

107. See Covert, *supra* note 85.

108. Although this information would likely meet the newsworthiness standard set out in the original public disclosure tort, as noted in Section I.C, because data breach law, unlike privacy tort law, protects the security of data, whether the data here is "of legitimate concern to the public" is beside the point, and the tort should be modified accordingly when used in this context. Data breach law is interested in protecting *any* PII, regardless of its content. See Schwartz & Janger, *supra* note 17, at 916.

109. See THR Staff, *supra* note 84.

Finally, there is no denying that hackers will likely always find ways to permeate systems and that these data security protocols will need to continually evolve in response to hackers' increasing sophistication. This means that even with these measures, people will continue to be made victims of identity theft and exposure data breach. Although not ideal, the reality of hackers' persistence and sophistication cannot outweigh the costs of trying.

In sum, like practically any data security approach, these ex-ante measures have costs. However, the hacker and data breach realities today call for a more robust security approach, which these ex-ante measures ultimately provide.

C. MAKING VICTIMS OF EXPOSURE BREACHES WHOLE

While ex-ante security protocols help to decrease the incidence of exposure breaches, ex-post measures are well suited to help make individuals whole when they are made victims of an exposure breach.¹¹⁰ Cyber liability insurance can be one way to do this. Cyber liability insurance can cover a variety of risks related to doing business electronically that may not be covered under commercial general liability policies.¹¹¹ By requiring that all entities purchase cyber liability insurance, state legislatures can ensure that exposure breach victims may recover monetarily, even if this cannot fully repair the reputational harm inflicted.

IV. CONCLUSION

Exposure data breaches are one of the latest manifestations of the continually evolving field of cybercrime. Unlike identity theft, exposure breaches result in the public disclosure of private information that implicates reputational concerns for individuals and companies. Because it is impossible to un-ring a bell, an ex-ante approach focusing on establishing strengthened security for all entities storing or managing possibly reputation-implicating information can give individuals the greatest opportunity to live free from the threat of exposure breaches.

The FTC can broaden its treatment of the term PII to accommodate the modern data breach landscape through its Section 5 authority. State legislatures can similarly require all entities storing or managing PII

110. For a more in-depth discussion of the broader legal debate surrounding making tort victims whole, see Stephen D. Sugarman, *Doing Away with Tort Law*, 73 CALIF. L. REV. 555, 591–596 (1985).

111. GPSolo, *Making Cents*, 17 NEGOTIATION 8, 8 (Oct./Nov. 2000). For a more in-depth discussion of cyber liability insurance policies see David R. Cohen & Roberta D. Anderson, *Insurance Coverage for "Cyber-Losses"*, 35 TORT & INS. L.J. 891 (2000).

(according to the FTC's updated definition) in the course of regular business to adopt heightened security protocols. These ex-ante measures can help to build a stronger security framework, and hopefully to minimize the occurrence of exposure breaches. Finally, states can require all entities to enroll in cyber insurance as an additional precautionary measure so that affected exposure breach victims at the very least have an opportunity to recover financially when their personal information is at the center of an extortion breach or hacktivist attack.

The proposed ex-ante framework offers a possible solution to coping with exposure breaches. These breaches will likely play a progressively larger role in the affairs of businesses and individuals as technology continues to evolve, and shifting from an after-the-fact focus to an anticipatory approach is a crucial step in managing these breaches over the long term.

FAIR NOTICE OF UNFAIR PRACTICES: DUE PROCESS IN FTC DATA SECURITY ENFORCEMENT AFTER *WYNDHAM*

J. William Binkley[†]

Section 5 of the Federal Trade Commission Act (“FTC Act”) prohibits “unfair or deceptive acts or practices in or affecting commerce” and authorizes the Federal Trade Commission (FTC) to prevent such practices.¹ Since 2002, the FTC has brought more than fifty enforcement actions against businesses for using data security practices that were allegedly unfair or deceptive.² Businesses rarely challenged these enforcement actions in court—instead, most settled and entered into consent agreements requiring the company to take certain steps to improve its data security measures. As a result, there had been no explicit ruling on whether the FTC’s enforcement of data security exceeded the scope of its Section 5 authority.³ *FTC v. Wyndham Worldwide Corp.*⁴ is the first case to directly address this question.

In 2012, the FTC sued the Wyndham Hotels chain following a data breach in which hackers obtained the financial information of thousands of Wyndham customers.⁵ Wyndham moved to dismiss the complaint, arguing that its conduct was not unfair, that the FTC lacked authority to regulate

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1. 15 U.S.C. § 45(a) (2012) (codifying Section 5 of the FTC Act).

2. See FED. TRADE COMM’N, COMMISSION STATEMENT MARKING THE FTC’S 50TH DATA SECURITY SETTLEMENT (Jan. 31, 2014), <https://www.ftc.gov/system/files/documents/cases/140131gmrstatement.pdf> [<https://perma.cc/Y8Z2-HSAU>] (announcing the FTC’s fiftieth data security settlement in enforcement actions brought under its authority to “protect[] consumers from deceptive and unfair commercial practices”).

3. See, e.g., *In re* BJ’s Wholesale Club, Inc., 140 F.T.C. 465 (2005) (consent order based on unfair trade practices); *In re* Twitter, Inc., 151 F.T.C. 162 (2011) (consent order based on deceptive trade practices).

4. 799 F.3d 236 (3d Cir. 2015). In one other case, the respondent in an administrative proceeding sued in district court to challenge the FTC’s data security enforcement authority, but the case was dismissed on jurisdictional grounds. See *LabMD, Inc. v. FTC*, 776 F.3d 1275, 1277 (11th Cir. 2015) (upholding the district court’s dismissal of LabMD’s complaint).

5. See First Amended Complaint for Injunctive and Other Equitable Relief at 17–19, *FTC v. Wyndham Worldwide Corp.*, No. 12-cv-1365 (D. Ariz. Aug. 9, 2012).

data security under Section 5, and that Wyndham had not been given fair notice of the particular data security standards it was required to meet. On appeal, the Third Circuit affirmed the district court's dismissal of the motion.⁶ Wyndham has since settled charges with the FTC.⁷

This result generally supports the approach the FTC has taken in targeting inadequate data security as an “unfair” commercial practice under Section 5. The case raises important questions, however, about the fair notice issue. Due process requires that defendants—whether in a criminal, civil, or administrative proceeding—be given fair notice of what the law requires. And the fair notice standard is more stringent in cases where an administrative agency acts under its own interpretation of a statute. Circuit courts have defined this as the “ascertainable certainty” standard: regulated parties must be able to ascertain what conduct is required or prohibited under an agency's interpretation.⁸

Some scholars have argued that the FTC's past data security complaints and consent orders form a body of “common law” that defines data security practices the agency considers to be unfair or deceptive.⁹ Others have argued that these complaints and consent orders are arbitrary and provide little guidance to companies trying to avoid liability.¹⁰ Against this backdrop, the

6. *Wyndham*, 799 F.3d at 259.

7. See Stipulated Order for Injunction at 1–2, *FTC v. Wyndham Worldwide Corp.*, No. 13-1887 (D.N.J. Dec. 11, 2015).

8. See, e.g., *Sec'y of Labor v. Beverly Healthcare-Hillview*, 541 F.3d 193, 202 (3d Cir. 2008); *Gen. Elec. Co. v. EPA*, 53 F.3d 1324, 1329 (D.C. Cir. 1995); *Georgia Pac. Corp. v. Occupational Safety & Health Review Comm'n*, 25 F.3d 999, 1005 (11th Cir. 1994).

9. See, e.g., Daniel J. Solove & Woodrow Hartzog, *The FTC and the New Common Law of Privacy*, 114 COLUM. L. REV. 583, 608 (2014) (“FTC enforcement has certainly changed over the course of the past fifteen years, but the trajectory of development has followed a predictable set of patterns . . . [W]e argue that the body of FTC settlements is the functional equivalent of privacy common law.”); Christopher Wolf, *Targeted Enforcement and Shared Lawmaking Authority As Catalysts for Data Protection in the United States*, 15 ELECTRONIC COM. & L. REP. (BNA) No. 47, 58 (Dec. 15, 2010) (“FTC enforcement . . . has created a ‘common law of consent decrees,’ producing a set of data protection rules for businesses to follow.”).

10. See, e.g., Gerard M. Stegmaier & Wendell Bartnick, *Physics, Russian Roulette, and Data Security: The FTC's Hidden Data-Security Requirements*, 20 GEO. MASON L. REV. 673, 719 (2013) (“Entities have not been given proper notice of what data-security practices are ‘reasonable’ and ‘adequate’ and thus ‘have little hope of confidently ensuring that they have successfully complied with Section 5.’”); Michael D. Scott, *The FTC, the Unfairness Doctrine, and Data Security Breach Litigation: Has the Commission Gone Too Far?*, 60 ADMIN. L. REV. 127, 183 (2008) (arguing that FTC data security complaints are “seemingly filed at random, without any guidelines, and without any advance notice to the respondents that their actions might violate Section 5 of the FTC Act. The complaints and consent orders entered into in these cases provide limited guidance as to what a company should do (or not do)” in the data security realm.).

Wyndham decision's treatment of the fair notice issue is somewhat unclear. The Third Circuit's analysis suggested that past complaints and guidelines could provide notice of what practices the FTC interprets to be unfair, but it held that *Wyndham* had notice based solely on the statute, regardless of any interpretation by the FTC.

This Note argues that courts should analyze fair notice in FTC data security cases according to a three-part framework: (1) past complaints and guidelines can provide "ascertainable certainty" of the FTC's interpretation where they identify the same pattern of alleged conduct; (2) consent orders do not satisfy the fair notice requirement but may still provide useful guidance to companies; and (3) where past complaints and guidelines do not cover the alleged conduct in a case, courts should look to the statute without reference to FTC interpretation, and a less stringent fair notice standard should apply. The Note begins with an overview of the FTC's general rulemaking and enforcement authority, the history of FTC data security enforcement, and the fair notice doctrine as it applies to administrative agency enforcement. Part II describes the facts, procedural history, and reasoning of the *Wyndham* case in more detail. Part III argues that although the Third Circuit reached the correct conclusion, the court's analysis of the fair notice issue is somewhat unclear; it then goes on to outline the three-part framework.

I. BACKGROUND

In order to analyze the significance of the Third Circuit's holding in *Wyndham*, it is important to understand the FTC's general statutory authority to regulate unfair and deceptive trade practices, and how the agency has exercised this authority in the data security context. This Part will also address the fair notice doctrine, in general and as it applies to agency interpretations, to assess *Wyndham*'s fair notice arguments.

A. THE FTC'S ENFORCEMENT AUTHORITY

The broad language of the FTC Act gives the Commission significant authority to prevent unfair and deceptive practices that injure consumers. Although the FTC can create regulations that define particular acts as unfair or deceptive, it rarely does so because the rulemaking procedure is so burdensome; instead, the agency typically files complaints alleging a violation of the statute rather than a violation of any regulation.

1. *Statutory Authority Under Section 5 of the FTC Act*

The FTC Act gives the Commission authority to regulate a broad range of commercial activity in order to protect consumers from “unfair or deceptive acts or practices.”¹¹ Section 5(a) of the FTC Act provides that:

(1) Unfair methods of competition in or affecting commerce, and unfair or deceptive acts or practices in or affecting commerce, are hereby declared unlawful.

(2) The Commission is hereby empowered and directed to prevent persons, partnerships, or corporations . . . from using unfair methods of competition in or affecting commerce and unfair or deceptive acts or practices in or affecting commerce.¹²

The history of the statute over the past century is one of significant expansion.¹³ Congress created the Commission in 1914 as an antitrust enforcement agency.¹⁴ The 1938 Wheeler-Lea Act¹⁵ later gave the agency authority to regulate consumer protection issues beyond the area of competition. In 1975, the Magnuson-Moss Warranty-Federal Trade Commission Improvement Act (“Magnuson-Moss”) further expanded the FTC’s jurisdiction to cover unfair or deceptive acts or practices, and unfair methods of competition, in commerce “*or affecting* commerce.”¹⁶ Magnuson-Moss also provided a rulemaking process through which the FTC could issue regulations to define specific acts as unfair or deceptive.¹⁷

The FTC has faced a number of legal challenges to the scope of its Section 5 enforcement authority, and the outcome of these cases further established the wide reach of the agency’s regulatory powers. “Unfair” methods and practices may be defined broadly and are not limited to any

11. See 15 U.S.C. § 45(a); see also STEPHANIE W. KANWIT, 1 FEDERAL TRADE COMMISSION 1:1 (2015) (describing the FTC’s mandate as “broader in scope than that of any other governmental agency” and affecting “virtually every business in the country, from local furniture stores to ‘Fortune 500’ corporations”).

12. § 45(a).

13. See generally CHRIS JAY HOOFNAGLE, FEDERAL TRADE COMMISSION PRIVACY LAW AND POLICY 3–81 (2016) (describing the FTC’s growth as a series of “pivots” and reactions as the agency’s jurisdiction expanded).

14. 38 Stat. 719 (1914) (prohibiting “unfair methods of competition in commerce”).

15. 52 Stat. 111 (1938) (adding language prohibiting “unfair or deceptive acts or practices”).

16. Pub. L. No. 93-637, 88 Stat. 2183 (1975) (emphasis added). Magnuson-Moss is codified at 15 U.S.C. §§ 57a, 2301–2312 (2012).

17. See § 57a(a)–(b).

set of specifically prohibited acts.¹⁸ Likewise, the FTC can consider public policies other than competition in defining what is an unfair or deceptive act or practice.¹⁹

Section 5(n) of the FTC Act, added in 1994, imposes an important limitation on FTC enforcement authority. It provides that the FTC may not find an act or practice to be unfair or deceptive “unless the act or practice *causes or is likely to cause substantial injury* to consumers which is not reasonably avoidable by consumers themselves and not outweighed by countervailing benefits to consumers or to competition.”²⁰ The FTC may consider public policy when determining whether a practice is unfair, but “[s]uch public policy considerations may not serve as a primary basis for such determination.”²¹ Under Section 5, therefore, an act or practice can only be unfair or deceptive if it is unreasonable in balancing harms and benefits.

2. *The FTC's Use of Rulemaking Processes*

Congress has granted the FTC the authority to create and enforce regulations in support of the agency's mission. To promulgate a new regulation, the FTC must go through the steps of a rulemaking process prescribed by Congress. The process varies according to the particular

18. See *FTC v. R.F. Keppel & Bro., Inc.*, 291 U.S. 304, 314 (1934) (“It is unnecessary to attempt a comprehensive definition of the unfair methods which are banned, even if it were possible to do so . . . New or different practices must be considered as they arise in the light of the circumstances in which they are employed.”); see also *Sears, Roebuck & Co. v. FTC.*, 258 F. 307, 311–12 (7th Cir. 1919) (finding that, by using the general term “unfair methods” without defining it, Congress charged the FTC with determining what specific acts fit the definition).

19. See *FTC v. Sperry & Hutchinson Co.*, 405 U.S. 233, 239 (1972) (Section 5 “empower[s] the Commission to proscribe practices as unfair or deceptive in their effect upon consumers regardless of their nature or quality as competitive practices or their effect on competition.”).

20. 15 U.S.C. § 45(n) (2012) (emphasis added). Substantial injury can arise from an “act or practice” that causes a “small harm to a large number of people, or if it raises a significant risk of concrete harm.” *FTC v. Neovi, Inc.*, 604 F.3d 1150, 1157 (9th Cir. 2010) (quoting *Am. Fin. Servs. Ass'n v. FTC*, 767 F.2d 957, 972 (D.C. Cir. 1985)).

21. § 45(n). In effect, Section 5(n) codified a limit on the definition of “unfairness” that the Commission had articulated in a 1980 policy statement. See Letter from Michael Pertschuk, Chairman, Fed. Trade Comm'n to Wendell H. Ford, Chairman, and John C. Danforth, Ranking Minority Member, S. Comm. on Commerce, Science, and Transp. (Dec. 17, 1980), *appended to Int'l Harvester Co.*, 104 F.T.C. 949, 1070–76 (1984) (“To justify a finding of unfairness the injury must satisfy three tests. It must be substantial; it must not be outweighed by any countervailing benefits to consumers or competition that the practice produces; and it must be an injury that consumers themselves could not reasonably have avoided.”).

statute under which the agency is operating, however, and the FTC must follow an especially burdensome process to promulgate regulations under Section 5. As a result, the FTC virtually never uses the rulemaking process to define particular acts and practices as unfair or deceptive.

In some instances, Congress directs the FTC to follow the notice-and-comment rulemaking procedures set forth in the Administrative Procedure Act (“APA”) when promulgating new regulations.²² As discussed in Section I.B.1 below, the Gramm-Leach-Bliley Act (“GLBA”)²³ authorized the FTC to create rules, following APA notice-and-comment procedures, to govern certain financial institutions’ use of customers’ personal information.²⁴ Likewise, the Children’s Online Privacy Protection Act (“COPPA”)²⁵ required the FTC to promulgate regulations concerning online services’ use of children’s personal information, again following the APA’s notice-and-comment rulemaking procedures.²⁶

But if the FTC wishes to promulgate a regulation under Section 5 of the FTC Act—that is, to “define with specificity acts or practices which are unfair or deceptive”—the Magnuson-Moss Act requires the Commission to follow a more burdensome rulemaking process.²⁷ In addition to the notice-and-comment requirements of the APA, the FTC must provide additional notice at several stages: advance notice to House and Senate committees; advance notice in the Federal Register of “the area of inquiry under consideration, the objectives which the Commission seeks to achieve, and possible regulatory alternatives;” and a notice with the full text of the

22. See 5 U.S.C. § 553 (2012). The APA requires that an agency seeking to make a new rule publish a notice of proposed rulemaking that states the time, place, and nature of the rulemaking proceedings; the legal authority for the proposed regulation; and “either the terms or substance of the proposed rule or a description of the subjects and issues involved.” *Id.* § 553(b). The agency must give the public an opportunity to submit “written data, views, or arguments.” *Id.* § 553(c). After considering public comments, the agency must publish the final rule in the Federal Register with a “concise general statement of [the rule’s] basis and purpose.” *Id.*

23. Pub. L. No. 106-102, 113 Stat. 1338 (1999). The Gramm-Leach-Bliley Act is codified at 15 U.S.C. §§ 6801–6809, 6821–6827.

24. See § 6804(a).

25. Pub. L. No. 105-277, 112 Stat. 2681-728 (1998). The Children’s Online Privacy Protection Act is codified at 15 U.S.C. §§ 6501–6506.

26. See § 6502(b)(1) (requiring the FTC to “promulgate regulations under section 553 of title 5”).

27. See generally *id.* § 57a; FED. TRADE COMM’N, OPERATING MANUAL § 7, <https://www.ftc.gov/sites/default/files/attachments/ftc-administrative-staff-manuals/ch07rulemaking.pdf> [<https://perma.cc/NBA3-QQ3S>] (describing the rulemaking process in detail).

proposed rule including any alternatives.²⁸ The FTC must also determine that the regulated activity is “prevalent”²⁹ and must hold a hearing and give interested parties, at a minimum, the opportunity to be heard and to present evidence.³⁰ Once the agency promulgates a Magnuson–Moss regulation, it must publish statements regarding the “prevalence of the acts or practices,” the “manner and context in which such acts or practices are unfair or deceptive,” and the “economic effect of the rule.”³¹ Interested parties may also challenge the regulation in court; a judge must vacate the rule if it is not supported by “substantial evidence in the rulemaking record” or if limits on cross-examination prevented the disclosure of “disputed material facts . . . necessary for [a] fair determination.”³²

Because the Magnuson–Moss rulemaking process is so lengthy and cumbersome, it is rarely used.³³ Instead of promulgating new regulations to define particular acts and practices as unfair or deceptive, the FTC can bring enforcement actions under the language of the statute. The APA explicitly makes an exception to the notice-and-comment rules for “interpretative rules, general statements of policy, or rules of agency organization, procedure, or practice.”³⁴ Thus, agencies may state their own policies and procedures, and state what they believe a statute already requires or forbids, without going through the rulemaking process. At the FTC, these interpretations can take the form of official policy statements, industry guidelines, public reports, or advisory opinions.³⁵ Unlike regulations,

28. § 57a(b).

29. *See id.* § 57a(b)(3).

30. *See id.* § 57a(c) (providing interested parties the opportunity to be heard and the possibility of cross-examining witnesses in certain circumstances).

31. *Id.* § 57a(d).

32. *Id.* § 57a(e).

33. *See Solove & Hartzog, supra* note 9, at 620 (describing the Magnuson–Moss rulemaking process as “largely ineffective”); *America’s Top Consumer Protection Cop Needs Better Weapons in its Arsenal*, CTR. FOR DEMOCRACY & TECH. (Feb. 5, 2010), <https://cdt.org/blog/america%E2%80%99s-top-consumer-protection-cop-needs-better-weapons-in-its-arsenal> [<https://perma.cc/2XMK-5TR3>] (“The FTC cannot adequately respond to conduct in the marketplace that harms consumers by crafting rules that take 8–10 years to promulgate . . . [A]s a result, the FTC regularly avoids Magnuson–Moss rulemaking altogether.”).

34. 5 U.S.C. § 553(b)(3)(A) (2012). On one occasion when the FTC did engage in Magnuson–Moss rulemaking, the agency received over 20,000 pages of public comments and generated an additional 18,000 pages of transcripts and exhibits over fifty-two days of hearings—the process began in 1972 but did not produce a final rule until 1984. *See Harry & Bryant Co. v. FTC*, 726 F.2d 993, 996 (4th Cir. 1984).

35. *See generally* FED. TRADE COMM’N, OPERATING MANUAL § 8, <https://www.ftc.gov/sites/default/files/attachments/ftc-administrative-staff-manuals/ch08industryguidance.pdf>

however, agency interpretations do not have the force of law—an agency bringing an enforcement action must plead a violation of the underlying statute rather than a violation of that particular interpretation.³⁶

3. *Enforcement Procedures at the FTC*

The FTC has two possible avenues for bringing an enforcement action under Section 5 of the FTC Act: administrative trials and judicial enforcement in a federal district court. Filing a complaint in federal court is somewhat more common, since it allows the FTC to seek permanent injunctions to prevent future conduct by the defendant, but each approach has its own procedural and strategic advantages.

Under Section 5(b), the Commission may file an administrative complaint against a person or entity if there is “reason to believe” it has engaged in an unfair or deceptive act or practice, and if it appears the proceeding would be in the public interest.³⁷ The commissioners must vote on whether to issue a complaint.³⁸ When a complaint has been filed, the respondent may elect to settle the charges, agree to the entry of a final order, and waive the right to judicial review.³⁹ If the respondent chooses instead to contest the complaint, the dispute is adjudicated in a hearing before an administrative law judge (ALJ), who makes an initial decision on the case.⁴⁰ Either the respondent or the FTC may appeal the ALJ’s decision to the full Commission; the parties then have the opportunity to submit briefs and give oral argument before the commissioners.⁴¹ Once the Commission enters a final decision, the respondent may petition a circuit court for review of the order.⁴² The administrative process can only result in a cease-and-desist order, however, so the Commission may not impose other penalties when it issues a final order.⁴³ If a respondent has knowingly violated a final cease-

[<https://perma.cc/5Y3M-PSB8>] (discussing the scope, characteristics, and procedures of various forms of guidance the FTC provides).

36. *See id.* § 8.3.2.

37. 15 U.S.C. § 45(b).

38. 16 C.F.R. § 3.11(a) (2015).

39. *See A Brief Overview of the Federal Trade Commission’s Investigative and Law Enforcement Authority*, FED. TRADE COMM’N (July 2008), <https://www.ftc.gov/about-ftc/what-we-do/enforcement-authority> [<https://perma.cc/Q7LV-6MXK>] (describing the FTC’s administrative and judicial enforcement procedures).

40. *Id.*

41. *Id.*

42. 15 U.S.C. § 45(c).

43. *See id.* § 45(b).

and-desist order, then the FTC may bring a civil suit in district court seeking a monetary penalty or other equitable relief for the violation.⁴⁴

The administrative process is somewhat shorter where the FTC is enforcing a regulation it has issued through notice-and-comment or Magnuson-Moss rulemaking. The FTC may file a complaint in district court for the violation of a rule without first conducting hearings before an ALJ or the full Commission.⁴⁵ If the court finds that the defendant has violated a rule, it may impose monetary penalties or other equitable relief, just as it would for violation of a cease-and-desist order.⁴⁶ Thus, the rulemaking process can be an alternative to pursuing cease-and-desist orders against individual respondents through administrative hearings.

Alternatively, the FTC can seek judicial enforcement for violation of the FTC Act by filing a civil suit directly with a federal district court. The Commission must have reason to believe that a “person, partnership, or corporation is violating, *or is about to violate*” a law enforced by the FTC and that such a proceeding would be in the public interest.⁴⁷ Judicial enforcement proceedings can therefore target prospective violations as well as past conduct, and a court may order a permanent injunction as a remedy.⁴⁸ Because of the advantages this approach offers, “most consumer protection enforcement is now conducted directly in court . . . rather than by means of administrative adjudication.”⁴⁹ Nevertheless, there are advantages to using the administrative process instead. In an administrative hearing, the FTC “has the first opportunity to make factual findings and articulate the relevant legal standard,” and a court reviewing a final decision by the Commission must give “substantial deference” to the FTC’s interpretation.⁵⁰

B. FTC ENFORCEMENT IN THE DATA SECURITY CONTEXT

The FTC’s authority to regulate data security stems from two sources: specific data security legislation and its general authority under Section 5 to regulate “unfair or deceptive” acts and practices. Importantly, the FTC has not engaged in the rulemaking process to promulgate data security

44. *Id.* § 45(l).

45. *Id.* § 45(m); *see also* FED. TRADE COMM’N, *supra* note 39 (describing the enforcement of promulgated trade regulations “[i]n lieu of administrative adjudications against individual respondents”).

46. § 45(m).

47. 15 U.S.C. § 53(b) (2012) (emphasis added).

48. *Id.*

49. FED. TRADE COMM’N, *supra* note 39.

50. *Id.* (noting that, as a result, “where a case involves novel legal issues or fact patterns, the Commission has tended to prefer administrative adjudication”).

regulations under Section 5. Because the agency has not issued regulations to define specifically what practices are required or prohibited, its regulation of unfair and deceptive data security practices rests on its interpretation of the broad language of the statute.

1. *Sector-Specific Data Security Statutes*

Congress has enacted several statutes that provide for FTC regulation of data security within specific areas. The 1999 GLBA⁵¹ stated that Congress's policy in enacting the legislation was to ensure "that each financial institution has an affirmative and continuing obligation to respect the privacy of its customers and to protect the security and confidentiality of those customers' nonpublic personal information."⁵² The statute required a number of agencies, including the FTC, to set standards that financial institutions must meet to safeguard the confidentiality of customer records, protect the security and integrity of such records, and protect against unauthorized access or use.⁵³ The FTC has issued a Safeguards Rule under the statute that defines more specifically the standards for financial institutions under the agency's jurisdiction.⁵⁴

COPPA is a privacy and data protection statute that applies to the operators of websites and other online services "who collect[] or maintain[] personal information" of children under the age of thirteen.⁵⁵ Like GLBA, COPPA required the FTC to create a rule for regulated entities to follow. Specifically, it directed the FTC to promulgate regulations prohibiting online service operators from collecting children's personal information without providing notice and obtaining parental consent.⁵⁶ The FTC's COPPA Rule details with more specificity the standards that online services must meet, including "establish[ing] and maintain[ing] reasonable procedures to protect the confidentiality, security, and integrity of personal information collected from children" and taking "reasonable steps to release children's personal information only to service providers and third parties

51. 15 U.S.C. §§ 6801–6809, 6821–6827 (2012).

52. *Id.* § 6801(a).

53. *Id.* § 6801(b).

54. *See generally* 16 C.F.R. § 314 (2015). The regulation requires financial institutions to "develop, implement, and maintain a comprehensive information security program" that includes "reasonably designed" safeguards, and it identifies several elements that data security programs must meet. *Id.* § 314.3–314.4.

55. 15 U.S.C. § 6501 (2012).

56. 15 U.S.C. § 6502(b)(1)(A) (2012).

who are capable of maintaining the confidentiality, security and integrity of such information.”⁵⁷

The Fair Credit Reporting Act (“FCRA”)⁵⁸ also delegates data security enforcement authority to the FTC within a particular area. FCRA governs the use and disclosure of credit reports, and it requires credit-reporting agencies to follow “reasonable procedures” for protecting the “confidentiality, accuracy, relevancy, and proper utilization” of consumer credit information.⁵⁹ Congress gave the FTC authority to enforce compliance with the statute, including against violators who would otherwise not satisfy the jurisdictional requirements of the FTC Act.⁶⁰

These statutes and their accompanying regulations clearly direct the FTC to enforce data security requirements within certain domains. The scope of specific legislation is limited, however, to the narrow areas defined in each statute. Congress has never passed legislation to require general data security or privacy protections outside these narrow areas, although such legislation has been proposed on numerous occasions.⁶¹ The FTC has also recommended that Congress enact broader data security legislation and give the agency additional rulemaking authority.⁶²

57. 16 C.F.R. § 312.8 (2015).

58. 15 U.S.C. §§ 1681–1681x (2012).

59. *Id.* § 1681(b).

60. *See id.* § 1681s(a)(1) (providing that “a violation of any requirement or prohibition imposed under this subchapter shall constitute an unfair or deceptive act or practice . . . irrespective of whether that person is engaged in commerce or meets any other jurisdictional tests under the Federal Trade Commission Act”).

61. *See, e.g.*, Data Security Act of 2015, S. 961, 114th Cong. (2015) (proposing to establish “uniform national data security and breach notification standards for electronic data”); Data Security and Breach Notification Act of 2015, S. 177, 114th Cong. (2015) (seeking to “protect consumers by requiring reasonable security policies and procedures to protect data containing personal information, and to provide for nationwide notice in the event of a breach of security”); Consumer Privacy Protection Act of 2015, S. 1158, 114th Cong. (2015) (proposing a regulatory system to protect “against security breaches, fraudulent access, and misuse of personal information”). Similar bills were also introduced in prior years but none have been enacted. *See, e.g.*, Data Security and Breach Notification Act of 2014, S. 1976, 113th Cong. (2014); Personal Data Privacy and Security Act of 2014, S. 1897, 113th Cong. (2014).

62. *See* FED. TRADE COMM’N, DATA BREACH ON THE RISE: PROTECTING PERSONAL INFORMATION FROM HARM, at 9–11 (Apr. 2, 2014) (recommending, to the U.S. Senate Committee on Homeland Security and Governmental Affairs, data security legislation that would expand the FTC’s jurisdiction and grant it APA rulemaking authority in the area of data security).

2. *Enforcement Actions the FTC Has Brought Under Section 5*

In areas that do not fall within the sector-specific statutes described above, the FTC conducts its data security enforcement under the general language of Section 5. The agency has filed numerous complaints characterizing certain data security practices as “unfair” or “deceptive,” and the vast majority of these enforcement actions have resulted in settlements and entries of consent orders. As demonstrated below, the content of complaints and consent orders differs in important ways.

Since 2002, the FTC has brought more than fifty such enforcement actions for allegedly unfair or deceptive data security practices under Section 5. The earliest cases operated under the “deception” prong of the statute: the FTC argued, for example, that Microsoft’s privacy policy related to its .NET Passport service misrepresented the level of security protecting user data.⁶³ More recently, the FTC has targeted data security practices as “unfair”—in such cases, the FTC has argued that lax security measures unfairly put personal information at risk, whether or not the company deceived consumers by publishing a misleading privacy policy.⁶⁴

A deceptive act or practice can also be unfair, and the FTC in some cases has argued that a defendant’s conduct violated both prongs. In *Wyndham*, for example, the FTC alleged both that Wyndham misrepresented the strength of its data security measures and that the company’s failure to employ “reasonable and appropriate measures to protect personal information” was unfair.⁶⁵

These cases, whether premised on deception or unfairness, have overwhelmingly resulted in settlement and the entry of a consent order, without adjudication on the merits. The content of these consent orders varies from case to case; typically, however, they require the defendant to

63. *In re* Microsoft Corp., 134 F.T.C. 709, 711–12 (2002) (“[Microsoft] represented, expressly or by implication, that it maintained a high level of online security by employing sufficient measures reasonable and appropriate under the circumstances to maintain and protect the privacy and confidentiality of personal information obtained from or about consumers In truth and in fact, [Microsoft] did not maintain a high level of online security.”).

64. *See, e.g., In re* BJ’s Wholesale Club, Inc., 140 F.T.C. 465, 466–68 (2005) (complaint alleging that failure to secure in-store wireless network when transmitting customer credit card information, together with other security failures, was an unfair practice); *In re* DSW Inc., 141 F.T.C. 117, 119–20 (2006) (complaint alleging that use of unencrypted files on insecure network, together with other security failures, was an unfair practice).

65. First Amended Complaint for Injunctive and Other Equitable Relief at 18–19, *FTC v. Wyndham Worldwide Corp.*, No. 12-cv-1365 (D. Ariz. Aug. 9, 2012).

implement reasonable data security measures and to comply with monitoring and reporting requirements for a fixed period of time.⁶⁶ Companies often have strong incentives to settle after a complaint is filed, rather than fight in an administrative or judicial proceeding: settlement allows companies to avoid admitting liability, and the price of settling may be less than the costs of litigation.⁶⁷

Comparing a typical FTC complaint with a consent order helps to illustrate the way in which each type of document might provide notice of the agency's interpretation of what the statute requires. In 2010, the FTC filed an administrative complaint against Dave & Busters, Inc.⁶⁸ The complaint alleged that the company's unfair data security practices had allowed hackers to access customer credit card information.⁶⁹ Specifically, it alleged that the following practices, taken together, were unfair: (1) failure to use sufficient measures to detect, prevent, and investigate unauthorized network access; (2) failure to limit third-party access to networks; (3) failure to identify and block unauthorized personal information exported from the network; (4) failure to use "readily available" means such as firewalls to isolate the card payment system or limit access between networks in the store; and (5) failure to use "readily available" means to limit wireless network access.⁷⁰

Dave & Buster's settled and entered into an agreement and consent order with the FTC but admitted no liability.⁷¹ The consent order required the company to "establish and implement, and thereafter maintain, a comprehensive information security program . . . contain[ing] administrative, technical, and physical safeguards appropriate to respondent's size and complexity, the nature and scope of respondent's activities, and the sensitivity of the personal information collected from or about consumers."⁷² The data security program was to include (1) a designated employee to coordinate the program; (2) a risk assessment; (3) "the design and implementation of reasonable safeguards" to address those risks; (4) development of a system to ensure that service providers safeguarded personal information; and (5) adjustments to the program in light of any

66. See, e.g., BJ's Wholesale Club, 140 F.T.C. at 470–75 (requiring implementation of a data security program "reasonably designed to protect the security, confidentiality, and integrity of personal information collected from or about consumers").

67. See Solove & Hartzog, *supra* note 9, at 611–13.

68. See *In re Dave & Buster's, Inc.*, 149 F.T.C. 1449 (2010).

69. *Id.* at 1451–52.

70. *Id.* at 1451.

71. *Id.* at 1453.

72. *Id.* at 1455.

future developments or circumstances.⁷³ The order further required Dave & Buster's to obtain and submit regular reports on its data security program from a "qualified, objective, independent third-party professional," and to comply with other reporting requirements for a period of ten years.⁷⁴

Several differences are apparent between the allegations of the complaint and the requirements of the consent order. The complaint identified specific data security failures—failure to monitor networks, use firewalls, protect wireless access, etc.—that were allegedly a violation of Section 5 when taken as a whole. The consent order, on the other hand, imposed more general requirements, including the development and implementation of a security program, reporting duties, and certification by a third-party professional. This type of remedy, known as "fencing-in relief," imposes additional duties beyond merely ceasing and desisting from the conduct alleged in the complaint.⁷⁵ The consent order also contains no allegation or admission that the company's past data security practices actually violated the statute. Because it alleges no violation, mandates additional conduct beyond ceasing the practices alleged in the complaint, and is limited to the party involved, the consent order provides little guidance about what data security practices the FTC actually requires. Again, the contents of this complaint and consent order are typical of most FTC data security enforcement actions.

3. *Other Forms of Data Security Guidance Issued by the FTC*

In addition to the complaints and consent orders that emerge from enforcement actions, the FTC has published data security guidelines and other documents that can shed light on the agency's understanding of what practices are unfair under Section 5.

Several FTC guidebooks offer data security advice. The 2015 Start with Security guide, for example, outlines ten security principles that "touch on vulnerabilities that could affect [a] company, along with practical guidance on how to reduce the risks they pose."⁷⁶ These principles are "[d]istill[ed]" from FTC cases and advise companies to use secure passwords and authentication, encrypt data in transmission and at rest, and monitor

73. *Id.* at 1455–56.

74. *Id.* at 1456–57.

75. *See* FTC v. National Lead Co., 352 U.S. 419, 431 (1957) ("[T]hose caught violating the [FTC] Act must expect some fencing in.").

76. FED. TRADE COMM'N, START WITH SECURITY: A GUIDE FOR BUSINESS 1 (2015), <https://www.ftc.gov/system/files/documents/plain-language/pdf0205-startwithsecurity.pdf> [<https://perma.cc/X32U-CG6B>].

network access, among other measures.⁷⁷ Likewise, the 2011 Protecting Personal Information guide provides “checklists” that companies can follow in creating a data security plan.⁷⁸ The guide is structured around five “key principles” for keeping data secure.⁷⁹ The guide includes more detailed advice under each principle, such as “[i]f some computers on your network store sensitive information while others do not, consider using additional firewalls to protect the computers with sensitive information.”⁸⁰ Other reports the FTC has published include similar guidance.⁸¹

In sum, then, there are three categories of documents that might provide notice of the FTC’s interpretation of what particular data security practices violate Section 5: complaints, consent orders, and other published guidelines. This Note will next discuss the fair notice doctrine—both as a general constitutional requirement and as the doctrine applies to federal agency interpretations of a statute—to lay the groundwork for analyzing the extent to which each category of document may satisfy the fair notice requirement.

C. THE FAIR NOTICE DOCTRINE

The fair notice standard that a court will apply depends on the context. A stricter fair notice standard applies in criminal cases, and a less strict standard applies in cases involving civil penalties and economic regulation.⁸²

77. *Id.* at 1–8.

78. FED. TRADE COMM’N, PROTECTING PERSONAL INFORMATION: A GUIDE FOR BUSINESS 3 (Nov. 2011), https://www.ftc.gov/system/files/documents/plain-language/bus69-protecting-personal-information-guide-business_0.pdf [<https://perma.cc/9HRY-WC2C>]. The Third Circuit in *Wyndham* cited an earlier edition of this guidebook, noting that the guide “counsel[ed] against many of the specific practices alleged here.” *FTC v. Wyndham Worldwide Corp.*, 799 F.3d 236, 256 (3d Cir. 2015).

79. FED. TRADE COMM’N, *supra* note 78, at 3 (“1. Take stock. Know what personal information you have in your files and on your computers. 2. Scale down. Keep only what you need for your business. 3. Lock it. Protect the information that you keep. 4. Pitch it. Properly dispose of what you no longer need. 5. Plan ahead. Create a plan to respond to security incidents.”).

80. *Id.* at 15.

81. *See, e.g.*, FED. TRADE COMM’N, INTERNET OF THINGS: PRIVACY & SECURITY IN AN INTERCONNECTED WORLD (Jan. 2015), <https://www.ftc.gov/system/files/documents/reports/federal-trade-commission-staff-report-november-2013-workshop-entitled-internet-things-privacy/150127iotrpt.pdf> [<https://perma.cc/TFY3-P3QF>] (staff report summarizing FTC recommendations for securing data in networked consumer devices); FED. TRADE COMM’N, MOBILE APP DEVELOPERS: START WITH SECURITY (Feb. 2013), <https://www.ftc.gov/tips-advice/business-center/guidance/mobile-app-developers-start-security> [<https://perma.cc/366T-96VU>] (offering guidance for implementing “reasonable data security” in mobile applications).

82. *See infra* Section I.C.1.

Where an agency is enforcing its own interpretation of a statute, however—even if it concerns economic regulation—this moves the analysis back to a stricter standard.⁸³

1. *Due Process Includes a General Right to Fair Notice*

As a constitutional matter of due process, defendants are entitled to “fair notice” that their conduct may subject them to liability.⁸⁴ The level of notice required in a particular case falls along a spectrum: the requirement is stricter when criminal penalties are imposed and less strict in cases involving civil penalties or economic regulation.

In criminal law, a statute violates due process if it “fails to provide a person of ordinary intelligence fair notice of what is prohibited, or is so standardless that it authorizes or encourages seriously discriminatory enforcement.”⁸⁵ There is a concern that “[v]ague laws may trap the innocent” without warning or “impermissibly delegate[] basic policy matters” to law enforcement, judges, and juries.⁸⁶ Fair notice principles also apply to civil statutes, but courts are more tolerant of vagueness where the consequences are less severe than criminal penalties.⁸⁷ And economic regulation is “subject to a less strict vagueness test because its subject matter is often more narrow, and because businesses . . . can be expected to consult relevant legislation in advance of action.”⁸⁸ When an agency enforces a civil statute concerning economic regulation, therefore, the applicable fair notice standard is quite deferential.⁸⁹

83. *See infra* Section I.C.2.

84. *See* FCC v. Fox Television Stations, 132 S. Ct. 2307, 2317 (2012) (“A fundamental principle in our legal system is that laws which regulate persons or entities must give fair notice of conduct that is forbidden or required.”).

85. *United States v. Williams*, 553 U.S. 285, 304 (2008) (citing *Hill v. Colorado*, 530 U.S. 703, 732 (2000)).

86. *Grayned v. City of Rockford*, 408 U.S. 104, 108–09 (1972).

87. *See* *Vill. of Hoffman Estates v. Flipside, Hoffman Estates, Inc.*, 455 U.S. 489, 498–99 (1982) (noting that the Supreme Court has “expressed greater tolerance with civil rather than criminal penalties because the consequences of imprecision are qualitatively less severe”).

88. *Id.* at 498.

89. *See* *United States v. Midwest Fireworks Mfg. Co.*, 248 F.3d 563, 568 (6th Cir. 2001) (“[Economic] statutes and regulations will not become impermissibly vague simply because it may be difficult to determine whether marginal cases fall within their scope.”) (internal quotation marks omitted); *Ass’n of Int’l Auto. Mfrs., Inc. v. Abrams*, 84 F.3d 602, 614 (2d Cir. 1996) (“A civil statute is not impermissible under this [notice] standard unless its commands are ‘so vague and indefinite as really to be no rule or standard at all.’”) (quoting *Boutilier v. INS*, 387 U.S. 118, 123 (1967)); *United States v. Sun & Sand Imports, Ltd., Inc.*, 725 F.2d 184, 188 (2d Cir. 1984) (noting that “[o]nly a reasonable degree of certainty is necessary” in economic regulation).

2. *A Stricter Fair Notice Standard of “Ascertainable Certainty”
Applies to Agency Interpretations*

A stricter standard applies, however, when an agency has issued a particular interpretation of a statute and acts under that interpretation. Several circuit courts have termed this the “ascertainable certainty” standard: fair notice exists “[i]f, by reviewing the regulations and other public statements issued by the agency, a regulated party acting in good faith would be able to identify, with ‘ascertainable certainty,’ the standards with which the agency expects parties to conform.”⁹⁰ An agency’s statement that it has adopted a particular interpretation can take various forms, but it must be “publicly accessible” and not merely private or informal.⁹¹ In effect, agency interpretation takes the fair notice analysis out of the deference that usually applies to economic regulation and moves it closer to the strict standard that applies in criminal cases.⁹²

Two examples will help illustrate the situations in which courts are likely to find that an agency’s interpretation has not provided adequate notice. In *FCC v. Fox Television Stations, Inc.*, the Supreme Court held that the FCC had not given television broadcasters fair notice that a “fleeting expletive”

90. *Gen. Elec. Co. v. EPA*, 53 F.3d 1324, 1329 (D.C. Cir. 1995); *see also* *Sec’y of Labor v. Beverly Healthcare-Hillview*, 541 F.3d 193, 202 (3d Cir. 2008) (noting that the Third Circuit has endorsed the “ascertainable certainty” fair notice standard); *Georgia Pac. Corp. v. Occupational Safety & Health Review Comm’n*, 25 F.3d 999, 1005 (11th Cir. 1994) (applying the “ascertainable certainty” standard to interpretation of workplace safety regulation); *Diamond Roofing Co., Inc. v. Occupational Safety & Health Review Comm’n*, 528 F.2d 645, 649 (5th Cir. 1976) (finding that the Secretary of Labor “has the responsibility to state with ascertainable certainty what is meant by the standards he has promulgated”). Some circuit courts apply a less stringent standard than “ascertainable certainty” to agency interpretations. *See, e.g., Texas E. Products Pipeline Co. v. Occupational Safety & Health Review Comm’n*, 827 F.2d 46, 50 (7th Cir. 1987) (holding that an agency interpretation fails to provide adequate notice only if the interpretation is “incomprehensively vague”). This Note argues, however, that the FTC’s complaints and other documents can satisfy even a strict fair notice standard.

91. *See City of Arlington v. FCC*, 133 S. Ct. 1863, 1874 (2013) (noting that an agency can establish an interpretation through its adjudication or rulemaking procedures); *United States v. Lachman*, 387 F.3d 42, 57 (1st Cir. 2004) (“The non-public or informal understandings of agency officials concerning the meaning of a regulation are . . . not relevant” for establishing an agency’s interpretation.).

92. It is not entirely clear whether courts treat the “ascertainable certainty” standard as identical to the strict standard that applies in criminal cases. One commentator has argued that “the fair notice test currently applied to civil regulations by the D.C. Circuit and the Fifth Circuit is nearly as stringent, if not as stringent, as that in criminal cases.” Albert C. Lin, *Refining Fair Notice Doctrine: What Notice Is Required of Civil Regulations?*, 55 BAYLOR L. REV. 991, 1011 (2003).

or brief nudity could subject them to liability.⁹³ The agency's position, that such broadcasts violated a prohibition on "obscene, indecent, or profane language," contradicted earlier adjudications and policy statements without first providing notice that the agency's interpretation had changed.⁹⁴ Similarly, the D.C. Circuit found that the EPA failed to provide fair notice of its interpretation of an environmental regulation where the interpretation was never clearly stated and appeared to contradict the plain language of the regulation.⁹⁵

In other cases, courts have found that agency interpretations satisfied the ascertainable certainty fair notice standard. Even broad agency interpretations can satisfy the standard, so long as they are sufficiently clear from past policy statements, adjudications, or other publications. In *Beverly Healthcare-Hillview*,⁹⁶ for example, the Third Circuit rejected a fair notice challenge to the Department of Labor's interpretation of a workplace health and safety standard that required employers to provide treatment "at no cost" to employees who had been exposed to a bloodborne pathogen.⁹⁷ The court found that an opinion letter and prior administrative trials had made clear that the Department of Labor interpreted "at no cost" broadly to include travel costs and compensation for time spent receiving treatment.⁹⁸ Likewise, the D.C. Circuit rejected a fair notice challenge to the Occupational Safety and Health Review Commission's interpretation of safety regulations related to "outrigger scaffolds."⁹⁹ The defendant construction company had argued that it lacked notice that its structures fell within the definition of outrigger scaffolds and therefore had to comply with certain safety requirements.¹⁰⁰ But the court found that the definition in the regulations, as well as a number of illustrations the agency had provided, made clear that the regulations applied to the structures at issue.¹⁰¹

93. 132 S. Ct. 2307, 2320 (2012).

94. *See id.* at 2312, 2318.

95. *See Gen. Elec. Co.*, 53 F.3d at 1331–34 (finding that there is not fair notice if the agency's "policy statements are unclear . . . the [agency's] interpretation is reasonable, and . . . the agency itself struggles to provide a definitive reading of the regulatory requirements").

96. *Sec'y of Labor v. Beverly Healthcare-Hillview*, 541 F.3d 193 (3d Cir. 2008).

97. *Id.* at 194.

98. *Id.* at 204–05.

99. *AJP Constr., Inc. v. Sec'y of Labor*, 357 F.3d 70, 76 (D.C. Cir. 2004).

100. *Id.*

101. *Id.*

Finally, it is important to distinguish the fair notice doctrine from the *Chevron* standard of deference that courts give to agency interpretations.¹⁰² Under *Chevron*, courts must defer to an agency's interpretation of an ambiguous statute that the agency is tasked with enforcing so long as the interpretation is reasonable.¹⁰³ When the plain language of a statute does not clearly answer a particular question, "the court does not simply impose its own construction on the statute, as would be necessary in the absence of an administrative interpretation. . . . [T]he question for the court is whether the agency's answer is based on a permissible construction of the statute."¹⁰⁴ Thus, the *Chevron* standard gives agencies significant leeway to interpret ambiguous statutes, and courts must defer to these interpretations. The fair notice doctrine, on the other hand, requires that parties be able to ascertain with certainty what an agency's interpretation is. There is a sort of trade-off here: courts will defer to reasonable agency interpretations under *Chevron*, but agencies must make their interpretations especially clear to satisfy fair notice.

II. *FTC V. WYNDHAM WORLDWIDE CORP.*

Wyndham is one of the first cases to directly challenge the FTC's enforcement of data security practices under Section 5. In district court proceedings, Wyndham sought to dismiss the FTC's complaint, arguing in part that the agency had not provided fair notice of its interpretation of unfair data security practices. The district court rejected Wyndham's arguments, and the Third Circuit ultimately affirmed on interlocutory appeal.

A. FACTS OF THE CASE

Wyndham Worldwide Corporation and its subsidiaries operate hotels, sell timeshares, and license the Wyndham brand name to a number of independently owned hotels.¹⁰⁵ As alleged in the FTC's complaint, there were numerous flaws in Wyndham's handling of customer data and its own network infrastructure: (1) Wyndham hotels stored unencrypted credit card information; (2) management systems could be accessed with easy-to-guess passwords; (3) management systems were not protected by firewalls; (4) hotel servers could connect to the company's network without adequate

102. *See Chevron, U.S.A., Inc. v. Natural Res. Def. Council, Inc.*, 467 U.S. 837, 864–66 (1984).

103. *Id.*

104. *Id.* at 843.

105. *FTC v. Wyndham Worldwide Corp.*, 799 F.3d 236, 240 (3d Cir. 2015).

security precautions; (5) third-party vendors were granted network access without adequate restrictions; (6) reasonable measures to detect and investigate unauthorized access were not taken; and (7) Wyndham did not monitor its network for malware used in previous attacks.¹⁰⁶

According to the FTC, hackers succeeded in accessing Wyndham's network on three occasions in 2008 and 2009. In April 2008, hackers gained access to the local network of a hotel in Phoenix, Arizona, and they were then able to guess the login and password for an administrator account on Wyndham's network.¹⁰⁷ The administrator account allowed the hackers to "obtain[] unencrypted information for over 500,000 accounts, which they sent to a domain in Russia."¹⁰⁸ The second attack occurred in March 2009, when malware left behind in the previous attack gave hackers access to an administrator account.¹⁰⁹ "[T]he hackers obtained unencrypted credit card information for approximately 50,000 customers from the management systems of 39 hotels."¹¹⁰ In a third attack in late 2009, hackers again used an administrator account to obtain information for 69,000 customers from the systems of 28 hotels.¹¹¹ This series of breaches led to over \$10 million of fraudulent charges on the compromised credit cards.¹¹²

B. PROCEDURAL HISTORY

In June 2012, the FTC filed suit in the District of Arizona, alleging that Wyndham had engaged in unfair and deceptive trade practices in violation of Section 5 of the FTC Act.¹¹³ The case was transferred to the District of New Jersey, and Wyndham then filed a Rule 12(b)(6) motion to dismiss both the unfairness and deception claims.¹¹⁴ The district court denied the motion, and it certified its decision on the unfairness claim—but not the deception claim—for interlocutory appeal. The Third Circuit granted the appeal and ultimately affirmed the district court's decision.¹¹⁵ Wyndham and the FTC have now settled the case, and a consent order was filed on December 11, 2015.¹¹⁶

106. *Id.* at 240–41.

107. *Id.* at 241–42.

108. *Id.* at 242.

109. *Id.*

110. *Id.*

111. *Id.*

112. *Id.*

113. *Id.*

114. *Id.*

115. *Id.* at 240–42. Wyndham did not seek review on the deception claim.

116. *See generally* Stipulated Order for Injunction, *FTC v. Wyndham Worldwide Corp.*, No. 12-cv-1887 (D.N.J. Dec. 11, 2015).

C. THE THIRD CIRCUIT'S ANALYSIS

The Third Circuit considered three arguments in support of Wyndham's motion: (1) that Wyndham's practices did not fall within the plain meaning of "unfair;" (2) that Congress excluded data security from the FTC's general authority by passing sector-specific data security legislation; and (3) that Wyndham lacked fair notice of the specific standards it was required to meet.

The court rejected Wyndham's contention that its alleged conduct did not meet the definition of unfair. Conduct does not need to be "unscrupulous" or "unethical" in order to be unfair.¹¹⁷ And although Wyndham cited a dictionary definition of "unfair" conduct as "not equitable" or "marked by . . . deception," the court found that it would be both inequitable and deceptive to publish a privacy policy and then expose customers to "substantial financial injury" by failing to enact that policy, as Wyndham allegedly did.¹¹⁸ Unfairness claims may also be brought against a business "on the basis of likely rather than actual injury," even if the business itself was the victim of a criminal act.¹¹⁹ Finally, the court rejected a "*reductio ad absurdum*" argument that a broad definition of unfairness would give the FTC such expansive authority that it could "sue supermarkets that are 'sloppy about sweeping up banana peels.'"¹²⁰ If a company left out so many banana peels that it caused "619,000 customers [to] fall," the court suggested, that conduct might indeed be prohibited under Section 5.¹²¹

The court also held that recent legislation enacted by Congress did not exclude the FTC from regulating data security issues. Wyndham had argued that GLBA, COPPA, and FCRA granted the FTC authority within limited areas and that such grants would be redundant if the FTC could already regulate data security under Section 5.¹²² The court found, however, that each piece of legislation provided for additional powers or requirements beyond those contained in Section 5.¹²³ FCRA, for example, "requires (rather than authorizes) the FTC to issue [certain] regulations [and] . . . expands the scope of" the Commission's enforcement authority to include

117. *Wyndham*, 799 F.3d at 244–45 (citing *FTC v. R.F. Keppel & Bro., Inc.*, 291 U.S. 304 (1934) and *FTC v. Sperry & Hutchinson Co.*, 405 U.S. 233, 239–40 (1972)).

118. *Id.* at 245.

119. *Id.* at 246 (internal quotation marks omitted).

120. *Id.*

121. *Id.* at 247.

122. *Id.*; see *supra* Section I.B.1 (discussing sector-specific data security statutes).

123. *Id.* at 248.

unfair and deceptive acts beyond the usual jurisdictional tests of the FTC Act.¹²⁴

Finally, the court rejected Wyndham's argument that it had insufficient notice of the specific data security standards it was required to meet.¹²⁵ Because the FTC was merely applying a statute, rather than interpreting its own regulations or filling in statutory "gaps," a less stringent notice standard than "ascertainable certainty" applied.¹²⁶ Wyndham only needed to have fair notice of what the statute itself required to be liable. The fact that this was a civil case concerning the regulation of economic activity also supported a lower notice standard.¹²⁷ It was therefore sufficient that Wyndham could have "reasonably foresee[n]" that "a court could construe [Wyndham's] conduct as falling within the meaning of the statute."¹²⁸

In addition, the court noted that the FTC had issued a guidebook in 2007 that described a data security plan "checklist" for companies to follow.¹²⁹ The guidebook encouraged practices like data encryption, strong passwords, and the use of firewalls that Wyndham failed to implement; the guidebook therefore could have helped Wyndham determine in advance that the FTC would view its data security measures as inadequate.¹³⁰ Furthermore, the court noted that the FTC had previously issued numerous complaints and consent orders in cases involving data security unfairness claims. These complaints could indicate the sort of conduct the FTC commissioners believed to be prohibited under Section 5.¹³¹ In this case, the individual allegations contained in previous complaints closely resembled Wyndham's alleged practices, so Wyndham could not argue that such complaints were impermissibly vague.¹³² These findings "reinforce[d] [the court's] conclusion that Wyndham's fair notice challenge fail[ed]."¹³³

III. HOW TO EVALUATE FAIR NOTICE CLAIMS IN FTC DATA SECURITY ENFORCEMENT ACTIONS

This Part analyzes the Third Circuit's treatment of the fair notice issue and argues that past complaints and other guidance can satisfy the

124. *Id.*

125. *See id.* at 255.

126. *Id.* at 253–55.

127. *See id.* at 255.

128. *Id.* at 256.

129. *Id.*

130. *Id.* at 256–57.

131. *Id.* at 257–58. Consent orders, on the other hand, are "of little use . . . in trying to understand the specific requirements imposed by § 45(a)." *Id.* at 257 n.22.

132. *See id.* at 258.

133. *Id.* at 256.

“ascertainable certainty” fair notice standard in data security enforcement actions, even though the court applied a lower fair notice standard.

A. THE COURT’S TREATMENT OF THE DUE PROCESS ISSUE

The Third Circuit applied the lower fair notice standard that normally applies to economic regulation, finding that Wyndham could have had notice that the alleged data security practices were unfair based only on the statute. The court’s discussion of FTC guidance suggested that the agency might satisfy the stricter ascertainable certainty standard as well.

1. *The Court Suggested—but Did Not Explicitly Find—that Prior FTC Complaints Would Satisfy a Stricter Notice Standard*

The Third Circuit’s treatment of Wyndham’s fair notice argument did not clearly address whether the FTC’s past complaints, guidelines, or consent orders would have satisfied due process requirements under the stricter ascertainable certainty standard.

The court found that a lower standard applied because the FTC was merely applying the statute.¹³⁴ The relevant question was therefore “whether Wyndham had fair notice that its conduct could fall within the meaning of the statute” and not whether Wyndham had fair notice of the FTC’s particular interpretation of the statute.¹³⁵ This may have been a consequence of the position Wyndham had taken during the litigation: the court emphasized that Wyndham had repeatedly asserted, in briefs and at oral argument, that the FTC had issued no rules or interpretations on data security that merited deference.¹³⁶ Wyndham therefore made the contradictory argument that the FTC had not issued any interpretations but that the notice standard for agency interpretations should apply. Because the court found that the statute itself provided notice that the alleged conduct was unfair, it did not need to reach the question of whether the FTC’s had provided “ascertainable certainty” as to its interpretations on data security.¹³⁷

134. *Id.* at 255.

135. *Id.*

136. *See id.* at 253 (“Wyndham’s position is unmistakable: the FTC has not yet declared that cybersecurity practices can be unfair; there is no relevant FTC rule, adjudication or document that merits deference; and the FTC is asking the federal courts to interpret § 45(a) in the first instance to decide whether it prohibits the alleged conduct here.”).

137. *See id.* at 255 (“If later proceedings in this case develop such that the proper resolution is to defer to an agency interpretation that gives rise to Wyndham’s liability, we leave to that time a fuller exploration of the level of notice required.”).

After concluding that Wyndham had fair notice under the language of the statute, however, the court went on to state that the FTC's past complaints and a guidebook on data security "reinforce our conclusion that Wyndham's fair notice challenge fails."¹³⁸ This seems unnecessary to the court's holding. If the applicable standard requires only looking to the statute without reference to the agency's interpretation, then it would not matter what statements the FTC had made about unfair data security practices. The treatment of such materials was therefore ambiguous. They would seem to be irrelevant if notice depended only on the statute. At the same time, the court avoided finding explicitly that these materials would provide ascertainable certainty if they were treated as agency interpretations.

This ambiguity leaves potential uncertainty for both future enforcement actions and for businesses attempting to avoid liability. The FTC has articulated that it does intend to inform businesses through its guidelines and adjudications of what practices it considers unfair.¹³⁹ But it is unclear whether the agency can rely on such materials to target the same patterns of "unfair" conduct in the future, or if it must instead depend on judicial construction of Section 5 in new enforcement actions. Likewise, this ambiguity means it is unclear whether businesses must avoid the particular data security practices identified in past complaints, or must only avoid practices that are "unfair" as a court would construe the statute.

2. Wyndham's Due Process Claim Would Likely Fail Even Under a Stricter Fair Notice Standard

Although the Third Circuit did not explicitly find that prior complaints and publications would satisfy the ascertainable certainty standard, it easily could have. The *Wyndham* opinion includes a table comparing the allegations against the hotel chain to allegations in a previous FTC complaint against CardSystems Solutions.¹⁴⁰ The table demonstrates close similarities between the unfair practices alleged in each action, and the court noted that "all of the allegations in at least one of the relevant four or five

138. *See id.* at 256–58.

139. *See, e.g.*, FEDERAL TRADE COMM'N, *supra* note 2 ("The Commission's fifty data security settlements have . . . raised awareness about the risks to data . . . and the types of security failures that raise concerns."); FEDERAL TRADE COMM'N, *supra* note 76, at 1 ("There's another source of information about keeping sensitive data secure: the lessons learned from the more than 50 law enforcement actions the FTC has announced so far. These are settlements . . . [b]ut learning about alleged lapses that led to law enforcement can help your company improve its practices.").

140. *Wyndham*, 799 F.3d at 258–59 (citing Complaint, *In re CardSystems Solutions, Inc.*, No. C-4168 (F.T.C. 2006), 2006 WL 2709787).

complaints [filed prior to Wyndham's alleged conduct] have close corollaries here."¹⁴¹

Comparing *Wyndham* to other cases where courts applied the ascertainable certainty standard also helps demonstrate that the standard would be satisfied here. This is not a case where the agency's interpretation contradicts a prior statement, since the FTC did not previously indicate that it considered any of Wyndham's alleged data security failures to be "fair."¹⁴² Indeed, as the CardSystems Solutions complaint demonstrates, the FTC has consistently stated that failing to protect data using secure passwords, encryption, and firewalls may be unfair.¹⁴³ This interpretation is not at odds with the language of Section 5, either, and the FTC has repeated it in numerous complaints and guidelines.¹⁴⁴ The unfair data security practices that FTC complaints allege provide the kind of notice of agency interpretation that courts have upheld elsewhere: although they are not narrowly defined, they are well-illustrated by numerous examples from published guidelines and past adjudications.

As the next Section argues, courts should state clearly that FTC complaints and guidelines can provide ascertainable certainty of the agency's interpretation of unfair data security practices under Section 5. The approach in the next Section would comport with the fair notice doctrine, and would clarify the significance of FTC interpretations, without imposing an undue burden on regulated entities.

B. A FRAMEWORK FOR EVALUATING FAIR NOTICE

The following framework would provide a sensible approach to analyze fair notice issues in future FTC data security enforcement actions. It defines three categories of notice, depending on the type of interpretive guidance the FTC has provided, that fall along a scale.

At one end of the scale, the agency has provided notice through complaints and guidelines that it considers certain practices to be unfair. If a company's data security program has the same flaws the FTC has targeted

141. *Id.*

142. *Cf.* FCC v. Fox Television Stations, 132 S. Ct. 2307, 2320 (2012) (FCC failed to give fair notice to broadcasters that, contrary to prior statements, the agency's indecency policy prohibited broadcast of fleeting expletives and brief nudity).

143. *See Wyndham*, 799 F.3d at 258–59.

144. *See, e.g., In re DSW Inc.*, 141 F.T.C. 117, 119–20 (2006) (alleging, among other security failures, insecure passwords, unencrypted files, and a lack of firewalls); FED. TRADE COMM'N, *supra* note 78 (providing recommendations for reasonable security measures); *cf.* Gen. Elec. Co. v. EPA, 53 F.3d 1324, 1332–34 (D.C. Cir. 1995) (EPA failed to give notice of an interpretation that appeared to contradict the plain language of the regulation).

in the past, the company should know with “ascertainable certainty” that its conduct may be an unfair practice.

At the other end of the scale, the FTC’s consent orders do not satisfy the fair notice standard. The security measures in these orders include more than the minimum necessary to avoid liability—they are too expansive to provide fair notice of what the FTC believes the statute requires—but companies can look to these orders for guidance on data security “best practices.”

In between the two is the zone of reasonableness. Under the statute, companies have notice that they may be liable if their data security practices create risks to consumers that outweigh any benefits and cause or are likely to cause “substantial injury.”¹⁴⁵

1. *FTC Complaints and Guidelines Provide an Interpretation that Can Satisfy the Ascertainable Certainty Standard*

At one end of the spectrum, the FTC’s prior complaints, guidebooks, and other statements define certain patterns of behavior as unfair. As discussed in Section III.A.2, circuit courts’ analysis in other cases suggests that these materials would satisfy the ascertainable certainty standard. Companies engaging in the same patterns of conduct that the FTC has previously identified as unfair would have notice that they may be liable under Section 5.

Treating these materials as agency interpretations has several implications. The process of establishing an interpretation through enforcement allows that interpretation to evolve over time, as new complaints define conduct as unfair in response to novel technology or threats. This is particularly valuable in the context of data security, since rapid changes in technology may require new protective measures. If the FTC were required to set standards through a rulemaking process—particularly under the burdensome Magnuson-Moss procedures that apply to Section 5—any rules might become quickly outdated. Such rules might also provide little concrete guidance beyond requiring “reasonable” security, which the FTC’s data security complaints and guides already emphasize.

At the same time, this leaves the agency’s power constrained in important ways. Section 5(n) of the FTC Act limits unfairness enforcement to conduct that causes, or is likely to cause, “substantial injury” that outweighs any countervailing benefits and that consumers cannot avoid

145. See 15 U.S.C. § 45(n) (2012).

themselves.¹⁴⁶ This can be difficult to prove in data breach cases: for example, an administrative law judge recently dismissed the FTC's case against LabMD because the agency failed to show a likelihood of substantial consumer injury.¹⁴⁷ Agency interpretation would also be limited to the patterns of conduct previously alleged in complaints or described in other published guidelines. Furthermore, the *Chevron* standard allows courts to defer only to "reasonable" agency interpretations.¹⁴⁸ The FTC cannot interpret data security practices to be prohibited if such a reading of the statute is unreasonable. If the agency wishes to target a new data security act or practice as unfair, such an interpretation must be a reasonable reading of the statute and must be clearly announced in advance.

2. *Consent Orders Provide Some Guidance but Do Not Satisfy the Ascertainable Certainty Standard*

The Third Circuit in *Wyndham* found that, unlike complaints, "consent orders, which admit no liability and which focus on prospective requirements on the defendant, were of little use to it in trying to understand the specific requirements imposed by [Section 5]."¹⁴⁹ This is an important distinction. Commentators often group complaints and consent orders together as sources of data security guidance from the FTC.¹⁵⁰ The contents of each type of document differ, however, with consequences for the fair use analysis. Unlike the FTC's data security complaints, consent orders do not allege any particular conduct that violated Section 5. Nor do the orders admit any liability.¹⁵¹ The requirements of such orders are also too expansive to provide clear guidance of what the FTC believes the statute requires. For example, consent orders typically require that a third-party

146. *Id.*

147. Initial Decision at 87, *In re LabMD Inc.*, No. 9357 (F.T.C. Nov. 11, 2015), https://www.ftc.gov/system/files/documents/cases/151113labmd_decision.pdf [<https://perma.cc/FW3G-2LST>].

148. *See Chevron, U.S.A., Inc. v. Natural Res. Def. Council, Inc.*, 467 U.S. 837, 864–66 (1984).

149. *FTC v. Wyndham Worldwide Corp.*, 799 F.3d 236, 257 n.22 (3d Cir. 2015).

150. *See, e.g., Solove & Hartzog, supra* note 9, at 608 (arguing that "the body of FTC settlements is the functional equivalent of privacy common law"); David Alan Zetoony, *The 10 Year Anniversary of the FTC's Data Security Program: Has the Commission Finally Gotten Too Big for Its Breaches?*, 2011 STAN. TECH. L. REV. 12, ¶¶ 8, 19 (2011) (noting that practitioners monitor both complaints and consent orders for insight into the FTC's enforcement policy); Scott, *supra* note 10, at 183 (arguing that complaints and consent orders taken together "provide limited guidance as to what a company should do (or not do) to avoid being the target of an unfairness action").

151. *See supra* Section I.B.2 (comparing the content of consent orders with that of complaints).

professional certify a company's data security program, but this is clearly not a necessary condition for companies to avoid liability under Section 5. For these reasons, consent orders cannot provide notice of an agency's interpretation that would satisfy the ascertainable certainty standard.

Nevertheless, the FTC's consent orders can provide useful guidance to companies. If a company looks to the requirements in such orders and implements a data security program that is professionally certified, with "administrative, technical, and physical safeguards appropriate to [its] size and complexity, the nature and scope of [its] activities, and the sensitivity of the personal information collected from or about consumers," this should ensure that the program is not unfair under Section 5.¹⁵² Consent orders can thus indicate data security "best practices," even if they do not satisfy the fair notice requirement applicable to agency interpretations.

3. *Companies Always Have Notice Under the Statute that They May Be Liable for Security Practices that Are Unreasonable*

Where the FTC has not provided an interpretation through complaints or other guidelines that would satisfy fair notice, companies must still maintain reasonable data security. In this area, the FTC can target conduct that it has not previously identified as unfair, but courts will rely on the language of Section 5 without reference to any agency interpretation. This strikes a balance, limiting the deference the FTC receives while still allowing the agency to identify new kinds of unfair conduct in its enforcement actions.

Again, the FTC's enforcement authority is subject to the limits of Section 5(n).¹⁵³ In some cases, it may be difficult to prove that a defendant's practices were unreasonable. When the cost of a security measure is weighed against the benefit of reducing the risk of hacking, it may be hard to establish whether a company was reasonable or unreasonable in its security choices. This limitation helps protect businesses from arbitrary enforcement, especially where the agency has not provided notice that it considers a particular data security practice to be unfair.

IV. CONCLUSION

In the absence of general data security legislation or expanded rulemaking authority, the FTC is likely to continue enforcing data security

152. *See In re Dave & Buster's, Inc.*, 149 F.T.C. 1449, 1455 (2010).

153. *See* 15 U.S.C. § 45(n) (2012) (providing that the FTC does not have authority to sue for violation of Section 5 "unless the act or practice causes or is likely to cause substantial injury to consumers which is not reasonably avoidable by consumers themselves and not outweighed by countervailing benefits to consumers or to competition").

as an unfair or deceptive trade practice as it has done for the past fifteen years. *Wyndham* supports this approach by affirming that the FTC's Section 5 authority does extend to data security and by rejecting the argument that the agency's enforcement efforts violated due process. Although the Third Circuit reached the correct result in the case, its fair notice analysis could have been clearer. By stating explicitly what role FTC complaints and guidelines play in establishing the agency's interpretation of unfair data security practices, and whether those materials would have satisfied a stricter fair notice standard, the court could have provided important guidance for the FTC and businesses.

The proposed framework in this Note aims to clarify the application of fair notice principles to data security enforcement. This approach has the benefit of recognizing that past complaints can provide notice of what data security practices the FTC believes to be unfair, a point on which the *Wyndham* opinion is ambiguous. It makes room for both the FTC's ability to define unfair practices and for a flexible reasonableness standard tailored to a company's particular security risks and costs. It also distinguishes between complaints, which can clearly define the FTC's interpretation, and consent orders, which may indicate best practices but do not provide notice of what the law actually requires.

The technological tools available to companies for protecting consumer data, and to hackers seeking to obtain that data, will no doubt continue to evolve rapidly. This dynamic security environment poses challenges for regulators and regulated entities alike: what is the appropriate balance between prescriptive data security rules and flexible standards, and how should those rules or standards be enforced fairly? The FTC has emphasized that a flexible reasonableness standard is the "touchstone" of its enforcement approach, but its complaints and guidelines also indicate particular patterns of conduct the Commission considers to be unfair.¹⁵⁴ Companies may continue to question whether the FTC gets this balance right or whether, instead, its enforcement efforts are overzealous and unpredictable. In the future, however, companies that wish to challenge FTC data security complaints resembling those the agency has previously filed are more likely to find success by arguing that their particular practices were in fact

154. See FED. TRADE COMM'N, *supra* note 2 (stating that "[t]he touchstone of the Commission's approach to data security is reasonableness" and that "[t]hrough its settlements, testimony, and public statements, the Commission has made clear that . . . reasonable and appropriate security is a continuous process of assessing and addressing risks The Commission has also provided educational materials to industry and the public about reasonable data security practices.").

reasonable, or that there was no substantial consumer injury, than by claiming a lack of fair notice.

ELONIS V. UNITED STATES: THE NEXT TWELVE YEARS

Jing Xun Quek[†]

First Amendment speech protections are broad and strong. One exception to its nearly blanket protection is for true threats¹—those threats that arise when someone makes an honest threat to harm another. In a 2003 case, *Virginia v. Black*,² the Supreme Court reaffirmed the true threat doctrine. It remained silent, however, on the requisite mens rea for establishing a true threat. In the twelve years that followed, lower courts have been sharply divided on how to apply the doctrine. This question finally reached the Supreme Court in *Elonis v. United States*, where a criminal defendant was accused of posting threatening rap lyrics on Facebook. The Court, however, did not rule on the First Amendment question, instead limiting its decision to the statutory requirements of 18 U.S.C. § 875. What will follow is potentially another twelve years of an unclear true threat doctrine, until the Court chooses to address the mens rea and intent questions in a more direct manner.

“Congress shall make no law . . . abridging the freedom of speech”³ The First Amendment, perhaps more than any other element of American jurisprudence, has come to characterize the tremendous freedoms guaranteed by United States law. Many forms of expression are permitted simply by virtue of First Amendment protection. Commentators both local and abroad have often been surprised by our Supreme Court’s protection for flag burning,⁴ campaign contributions,⁵ and offensive protests.⁶ As

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1. *Watts v. United States*, 394 U.S. 705, 707 (1969) (“What is a threat must be distinguished from what is constitutionally protected speech.”).

2. 538 U.S. 343 (2003).

3. U.S. CONST. amend. I.

4. *Texas v. Johnson*, 491 U.S. 397, 420 (1989) (finding in a flag burning case that “Johnson was convicted for engaging in expressive conduct”).

5. *See Citizens United v. FEC*, 558 U.S. 310, 339 (2010) (“Section 441b’s prohibition on corporate independent expenditures is thus a ban on speech.”).

6. *See Snyder v. Phelps*, 562 U.S. 443, 461 (2011) (“As a Nation we have chosen . . . a different course—to protect even hurtful speech on public issues to ensure that we do not stifle public debate.”).

Justice Brennan noted in *Texas v. Johnson*: “If there is a bedrock principle underlying the First Amendment, it is that the government may not prohibit the expression of an idea simply because society finds the idea itself offensive or disagreeable.”⁷ Yet as wide and far reaching as it may seem, freedom of speech is not an absolute right. Statutes and case law have created exceptions to broad First Amendment protections. Categories of speech such as obscenity,⁸ defamation,⁹ and (most relevant to the case at hand) true threats¹⁰ have all been held to fall outside the umbrella of First Amendment protection. Thus, they are subject to prosecution or liability.

In *Virginia v. Black*, the Supreme Court reaffirmed its earlier decision in *Watts v. United States*,¹¹ and established that the First Amendment does not protect true threats. Thus, makers of true threats are subject to prosecution and liability.¹² Since *Black*, however, lower courts have been sharply divided in their handling of true threat cases. In particular, the standard of intent necessary to sustain a true threat conviction is unclear.¹³ A circuit split arose among the Courts of Appeal; the Seventh, Ninth and Tenth Circuits required a showing of subjective intent,¹⁴ while the other Circuits adhered to the long-established objective standard.¹⁵ State Supreme Courts have similarly conflicted.¹⁶

7. *Johnson*, 491 U.S. at 414.

8. *See* *Miller v. California*, 413 U.S. 15, 18 (1973) (“[T]he States have a legitimate interest in prohibiting dissemination or exhibition of obscene material . . .”).

9. *See* *N.Y. Times Co. v. Sullivan*, 376 U.S. 254, 268 (1964) (“[T]he Constitution does not protect libelous publications.”).

10. *See* *Chaplinsky v. New Hampshire*, 315 U.S. 568, 571–72 (1942) (“There are certain . . . classes of speech [which are not constitutionally protected, including] ‘fighting’ words—those which by their very utterance inflict injury or tend to incite an immediate breach of the peace.”).

11. 394 U.S. 705 (1969).

12. *See* *Virginia v. Black*, 538 U.S. 343, 359 (2003) (“[T]he First Amendment also permits a State to ban a ‘true threat.’”).

13. Jennifer E. Rothman, *Freedom of Speech and True Threats*, 25 HARV. J.L. & PUB. POL’Y 283, 302 (2001) (noting that the “Supreme Court’s minimal guidance has left each circuit to fashion its own test,” and courts have applied either a subjective or objective intent standard).

14. *See* *United States v. Bagdasarian*, 652 F.3d 1113, 1117 (9th Cir. 2011); *United States v. Parr*, 545 F.3d 491, 500 (7th Cir. 2008); *United States v. Magleby*, 420 F.3d 1136, 1139 (10th Cir. 2005).

15. Paul T. Crane, “*True Threats*” and the Issue of Intent, 92 VA. L. REV. 1225, 1243 (2006) (“[T]he preferred approach of the lower courts, by an overwhelming margin, was the objective test.”).

16. Petition for a Writ of Certiorari at 16, *Elonis v. United States*, 135 S. Ct. 2001 (2015) (No. 13-983) (“State courts of last resort are likewise in conflict.”).

In addition to judicial disparities, there is significant variance among statutory treatment of true threats at both the federal and state level. For example, the federal statute at issue in *Elonis v. United States*,¹⁷ 18 U.S.C. § 875(c), does not explicitly state what level of intent is required to convict a defendant for transmitting interstate threats; the majority position merely required an objective standard.¹⁸ In contrast to § 875(c), § 871(a) begins with the phrase “[w]hoever knowingly and willfully,”¹⁹ providing the applicable mens rea. State laws are similarly varied.²⁰ This inconsistency in the statutory language results not only in confusion among lower courts, but also means that similar cases will be treated differently based simply on the jurisdiction in which a defendant is charged.²¹

Facing this uncertain doctrinal backdrop, *Elonis* represented a golden opportunity for the Supreme Court to clarify the true threat doctrine, especially in light of the jurisdictional split that arose in the twelve years since *Virginia v. Black*. *Elonis* presented two crucial questions: (1) what mens rea is required for federal true threat conviction, and (2) do First Amendment protections require a heightened standard for such cases?²² Given that *Elonis* communicated his alleged threats exclusively over social media,²³ the holding could have also considered how true threats should be prosecuted in the realm of the Internet in general, and social media in particular.²⁴

Unfortunately, the Court’s extremely narrow holding turned on statutory interpretation more than mens rea doctrine, and did not reach the First Amendment question at all.²⁵ The Court also was silent on the topic

17. 135 S. Ct. 2001 (2015).

18. 18 U.S.C. § 875(c) (2012) (“Whoever transmits in interstate . . . commerce any communication containing . . . any threat to injure the person of another . . .”).

19. *Id.* § 871(a) (dealing with threats made against the president of the United States).

20. *See* Petition for a Writ of Certiorari, *supra* note 16, at 16 (“[S]tate and federal courts in *eight* states take opposing views . . .”) (emphasis in original).

21. *Id.* at 16–17 (“[T]he breadth of First Amendment protection turns on the happenstance of which prosecutor brings charges.”).

22. *Elonis*, 135 S. Ct. at 2004 (“[W]hether the statute [§ 875(c)] also requires that the defendant be aware of the threatening nature of the communication, and—if not—whether the First Amendment requires such a showing.”).

23. Anthony Elonis posted the statements in question on his Facebook wall.

24. P. Brooks Fuller, *Evaluating Intent in True Threats Cases: The Importance of Context in Analyzing Threatening Internet Messages*, 37 HASTINGS COMM. & ENT. L.J. 37, 39 (2015) (“[Elonis] promises to clarify the issue of whether the First Amendment requires courts to consider the subjective intent of the speaker to uphold a conviction under all true threats statutes.”).

25. *Elonis*, 135 S. Ct. at 2012 (“Given our disposition, it is not necessary to consider any First Amendment issues.”).

of how, if at all, the rise of the Internet and social media has affected true threat doctrine. In the wake of the Court's decision in *Elonis*, lower courts have already begun to show signs of renewed confusion.²⁶

Part I of this Note summarizes the true threat and intent doctrines, two key areas of law involved in *Elonis*. Part II details the facts in *Elonis*, as well as its procedural history and the Supreme Court decision. Part III discusses some of the uncertainty left in the wake of the *Elonis* decision, and highlights subsequent cases that show its narrow application as precedent. Part IV switches gears to examine how the Court's view of the Internet might be antiquated, and how the evolving social media era might require a different look at true threat doctrine.

I. FIRST AMENDMENT DOCTRINE

The two statutes often revisited in the cases below are § 875(c) and § 871(a). § 875(c) states that “[w]hoever transmits in interstate or foreign commerce any communication containing any threat to kidnap any person or any threat to injure the person of another” shall be criminally liable,²⁷ and § 871(a) concerns threats made against the president and vice president.²⁸ The latter has an intent requirement (knowingly and willfully) written into the statute,²⁹ while the former lacks it.

A. THE TRUE THREAT DOCTRINE

The Supreme Court defines true threats as “statements where the speaker means to communicate a serious expression of an intent to commit an act of unlawful violence to a particular individual or group of individuals.”³⁰ *Chaplinsky v. New Hampshire* placed true threats outside broad First Amendment protection, holding that “[t]here are certain well-defined and narrowly limited classes of speech, the prevention and punishment of which have never been thought to raise any Constitutional

26. See generally *United States v. Wright-Darrisaw*, 617 F. App'x 107 (2d Cir. 2015) (deferring consideration until after the Supreme Court decided *Elonis*; the Second Circuit considered subjective intent to have been considered by the different statutory language of § 871(a)); *Cole v. Barnes*, No. 1:13-cv-00052, 2015 WL 5178050 (M.D. Tenn. Sept. 4, 2015) (following the *Elonis* decision, the district court simultaneously considered both objective and subjective standards, and found that the speech in question was protected under either); *People v. Murillo*, 238 Cal. App. 4th 1122 (2015) (requesting that the parties brief the effect of the *Elonis* decision, the Court of Appeal of California then distinguished the case at bar because charges had been filed under a different, state statute).

27. 18 U.S.C. § 875(c) (2012).

28. 18 U.S.C. § 871(a) (2012).

29. *Id.*

30. *Virginia v. Black*, 538 U.S. 343, 359 (2003).

problem . . . includ[ing] . . . the insulting or ‘fighting’ words—those which by their very utterance inflict injury.”³¹ In *Chaplinsky*, the Supreme Court considered a state statute prohibiting the “use of offensive words when addressed by one person in a public place,” and applied a reasonableness standard when considering whether a statement constituted a true threat.³² *Chaplinsky* placed true threats outside the scope of constitutional protection, and allowed their prosecution and conviction under criminal statutes.³³ While the Court did not examine how the statements hurt the victim, true threats were held instead to constitute a prima facie infliction of harm.³⁴ However, *Chaplinsky* did not elaborate much on how true threats should be prosecuted, leaving open questions about intent, context, and effect to be addressed by later cases.

In 1969, *Watts v. United States* clarified true threat convictions, and established that threatening statements should not be examined in isolation.³⁵ In reversing a conviction for making threats against the president, the Court held that although the statute in question (§ 871(a), which made it a crime to threaten the president) itself was constitutional, the context in which the offending statements were made rendered them not a true threat.³⁶ Instead, it considered the statements expressions of political opinion, a category of speech protected under the First Amendment.³⁷ However, this case is distinguishable from *Elonis* by virtue of the statutory language in § 871(a): “knowingly and willfully” sets out a mens rea requirement notably absent from § 875(c).³⁸ Nevertheless, *Watts* is instructive in that it directs a court to consider the totality of the circumstances surrounding a particular expression to determine whether it constitutes a true threat or not.³⁹

31. *Chaplinsky v. New Hampshire*, 315 U.S. 568, 571–72 (1942).

32. *Id.* at 568. “The test is what men of common intelligence would understand.” *Id.* at 573.

33. *Id.* at 572.

34. *Id.* (finding that true threats are “those which by their very utterance inflict injury”).

35. 394 U.S. 705 (1969); *see also* *Brandenburg v. Ohio*, 395 U.S. 444 (1960) (making imminence more relevant in examining intent in First Amendment cases).

36. *Watts*, 394 U.S. at 707 (applying § 871(a)).

37. *Id.* at 708 (“Taken in context, and regarding the expressly conditional nature of the statement and the reaction of the listeners, we do not see how it could be interpreted otherwise.”).

38. 18 U.S.C. § 871(a); *see also* *Watts*, 394 U.S. at 706; *Elonis*, 135 S. Ct. at 2004.

39. *Watts*, 394 U.S. at 708 (“Taken in context . . . we do not see how it could be interpreted otherwise.”); *see also* *Cohen v. California*, 403 U.S. 15 (1971) (holding that citizens must be put on notice as to what actions constitute unlawful behavior).

Prior to *Elonis*, the most recent Supreme Court case regarding the true threat doctrine under the First Amendment was the 2003 case *Virginia v. Black*,⁴⁰ in which the concept of “fighting words” laid out in *Chaplinsky* was further developed into “true threats” as a categorical exemption from First Amendment protections.⁴¹ The Court found that a statute holding cross burning as “prima facie evidence of intent to intimidate” was unconstitutional,⁴² but noted that “a State, consistent with the First Amendment, may ban cross burning carried out with the intent to intimidate.”⁴³

The Supreme Court laid the groundwork for the true threat doctrine, noting that “[i]ntimidation in the constitutionally proscribable sense of the word is a type of true threat, where a speaker directs a threat to a person or group of persons with the intent of placing the victim in fear of bodily harm or death.”⁴⁴ Finding that the “prima facie evidence provision . . . ignores all of the contextual factors that are necessary to decide whether a particular cross burning is intended to intimidate,” the Court once again highlighted the importance of context in determining whether a statement constitutes a true threat.⁴⁵

There (as in *Elonis*), the Court acted with caution to prevent accidental convictions, and the restrictions on free speech those would entail.⁴⁶ Yet, the Court declined to lay out what standard of intent was required to sustain a true threat conviction.⁴⁷ That remaining open question caused inconsistent application of *Black* in the lower courts.⁴⁸ By 2015, as many as eight opposing views existed among state and federal courts.⁴⁹

This conflict set the stage for *Elonis*. *Elonis* provided an opportunity for the Supreme Court to revisit the limits of First Amendment protections as

40. 538 U.S. 343 (2003).

41. *Id.* at 359 (“True threats’ encompass those statements where the speaker means to communicate a serious expression of an intent to commit an act of unlawful violence to a particular individual or group of individuals.”).

42. *Id.* at 348.

43. *Id.* at 347.

44. *Id.* at 360.

45. *Id.* at 367.

46. *Id.*

47. *Black* repeatedly mentions “intent to intimidate,” but never discusses specifics of the level of criminal intent required.

48. See Rothman, *supra* note 13, at 302; see also United States v. Bagdasarian, 652 F.3d 1113, 1117 (9th Cir. 2011); United States v. Parr, 545 F.3d 491, 500 (7th Cir. 2008); United States v. Magleby, 420 F.3d 1136, 1139 (10th Cir. 2005).

49. See Petition for a Writ of Certiorari, *supra* note 16, at 16 (“Indeed, the need for this Court’s review is particularly acute because the state and federal courts in *eight* states take opposing views.”) (emphasis in original).

they extend to true threats, an issue that had been left unanswered for more than a decade. *Elonis* “promise[d] to clarify the issue of whether the First Amendment requires courts to consider the subjective intent of the speaker to uphold a conviction under all true threat statutes.”⁵⁰

B. THE INTENT DOCTRINE

Yet instead of considering the true threat doctrine, the Supreme Court’s narrow holding in *Elonis* revolved around criminal intent.⁵¹ The Court rejected the approach taken by the majority of circuit courts,⁵² which had held that negligence or a “reasonable person” standard was sufficient to convict an individual of making a true threat.⁵³ However, the Court left unclear if the higher standard of recklessness would be sufficient for a true threat conviction.⁵⁴

Negligence is the lowest standard of criminal intent.⁵⁵ The Model Penal Code defines negligence as when an individual “should be aware of a substantial and unjustifiable risk” that the offense will occur.⁵⁶ Placed in context, the individual’s actions must represent a deviation from the standard of care a reasonable person would observe in his situation (therefore it is also known as a “reasonable person” standard).⁵⁷

The next level of intent is recklessness, which functions as a sort of middle ground for intent between negligently on the low end of the spectrum and knowingly and purposefully on the high end. The Model Penal Code defines recklessness as when an individual “consciously disregards a substantial and unjustifiable risk.”⁵⁸ Recklessness differs from negligence in that the defendant must actually be aware of the risk posed; to be negligent, he merely *should* have been aware.⁵⁹ *Elonis* left unclear whether a finding of recklessness would allow a conviction⁶⁰ for making

50. Fuller, *supra* note 24, at 39.

51. *Elonis v. United States*, 135 S. Ct. 2001, 2012 (2015) (“Given our disposition, it is not necessary to consider any First Amendment issues.”).

52. *Id.* at 2013 (“[N]egligence is not sufficient to support a conviction under [§] 875(c).”).

53. Crane, *supra* note 15, at 1243.

54. *Elonis*, 135 S. Ct. at 2012 (“Neither *Elonis* nor the [g]overnment has briefed or argued [whether recklessness is sufficient intent], and we accordingly decline to address it.”).

55. MODEL PENAL CODE § 2.02(2)(d) (AM. LAW INST. 1962).

56. *Id.*

57. *Id.*

58. MODEL PENAL CODE § 2.02(2)(c).

59. *Id.* at § 2.02(2)(d) (“he should be aware”).

60. *Elonis* is currently on remand before the Third Circuit.

threatening statements. Although the concurrence and dissent believed it should be sufficient, the majority opinion declined to address the issue, noting that neither party had satisfactorily argued it in their briefs.⁶¹

The highest⁶² standard of intent is “purposefully”—under the Model Penal Code, this standard is met when the defendant consciously wants to cause a certain result.⁶³ This is a hard standard to prove in court, and possibly inappropriate for true threat cases—if purposefulness were required for true threat prosecutions, it would make it difficult to prosecute a prohibited category of speech outside the First Amendment umbrella. This would make it very difficult to prosecute individuals for threat crimes, defined in *Black* as statements that cause injury by their very communication, with the question of subjective intent still unresolved.⁶⁴ Meeting the purposefulness standard makes it more likely that a conviction will be sustained. The majority opinion in *Elonis* makes it clear that a finding of purposeful intent would be sufficient for § 875(c).⁶⁵ The Court’s opinion in *Elonis* allowed for “knowing” intent to also be sufficient to support a true threat conviction.⁶⁶ The Model Penal Code defines “knowingly” as when an individual “is practically certain that his conduct will cause such a result.”⁶⁷

These various standards of intent⁶⁸ raise an interesting question. Should true threat convictions run along a scale, instead of being simply black or white? In other words, should we have “degrees” of threatening statements? These intentional gradations are most famous for their use in the various degrees of homicide charges; the higher up you go on the scale, the more serious the offense, and the harder the prosecution has to work to prove it.⁶⁹ It is possible to argue that such gradations could be useful in thinking about true threat cases. Given similar contexts, one expects the statement: “I am

61. *Elonis*, 135 S. Ct. at 2012–13.

62. In this particular common spectrum.

63. MODEL PENAL CODE § 2.02(2)(a)(i).

64. *Virginia v. Black*, 538 U.S. 343, 360 (2003).

65. *Elonis*, 135 S. Ct. at 2012 (“There is no dispute that the mental state requirement in [§] 875(c) is satisfied if the defendant transmits a communication for the purpose of issuing a threat.”).

66. *Id.* (explaining that mens rea “is satisfied if the defendant transmits a communication . . . *with knowledge* that [it] will be viewed as a threat”) (emphasis added).

67. MODEL PENAL CODE § 2.02(2)(b)(ii).

68. Standards of intent include negligently, recklessly, and purposely.

69. See generally Chad S.C. Stover, Best Practices in Proving Specific Intent and Malice (Apr. 2014) (conference paper presented at the American Bar Association Section on Litigation Annual Conference), http://www.americanbar.org/content/dam/aba/administrative/litigation/materials/2014_sac/2014_sac/best_practices.authcheckdam.pdf [<https://perma.cc/25TY-TVMD>].

going to unlock the door with my key, walk up the stairs, and shoot you with the gun in the closet” to cause more fear and harm than the statement “I am going to kill you.”⁷⁰ These gradations would also have the effect of guaranteeing a “floor” for true threat prosecutions. A prosecutor can still get some sort of penalty even if he finds it difficult to cross a higher intent threshold, which would still meet the policy goal of providing a deterring effect on threatening speech. Unfortunately, the Court in *Elonis* offered little guidance on this issue.

II. *ELONIS V. UNITED STATES*

Following the above discussion regarding true threats and intent, the doctrinal framework surrounding *Elonis* is clearer. *Elonis* progressed from the fact pattern that inspired the initial charges under § 875(c), through *Elonis*’s trial at the Eastern District of Pennsylvania, up to appeal to the Third Circuit, and finally to the Supreme Court.

A. THE FACTS OF *ELONIS*

In 2010, Anthony Douglas *Elonis*’s wife left him and he lost custody of his two children.⁷¹ Following the breakup, *Elonis* changed his Facebook user name to “Tone Dougie”—presumably, he did this to mimic similar rap-style nicknames and distinguish his real life “from his on-line persona.”⁷² He began using Facebook as a platform to post allegedly threatening statements in the guise of “self-styled rap lyrics.”⁷³ The situation escalated rapidly, starting with a Halloween photo (in which he appeared to threaten a co-worker with a toy knife), and ending with him posting “lyrics” about being “ready to turn the Valley into Fallujah” in a post threatening an FBI agent.⁷⁴ *Elonis* also frequently posted “lyrics” that included “crude, degrading, and violent material about his soon-to-be ex-wife.”⁷⁵ In one instance, he even posted an accurate diagram of the area surrounding his wife’s house, with accompanying “lyrics” encouraging others to fire a mortar into the house.⁷⁶

70. The level of specificity makes the threat appear more legitimate and immediate.

71. *Elonis*, 135 S. Ct. at 2004.

72. *Id.* at 2005 (internal quotation marks omitted).

73. *Id.* (internal quotation marks omitted).

74. *Id.* at 2005–07.

75. *Id.* at 2005.

76. *Id.* at 2005–06.

Elonis claimed that the “writing [was] therapeutic,” that it helped him deal with the pain, and often included disclaimers that “the lyrics were fictitious, with no intentional resemblance to real persons.”⁷⁷

From a purely textual standpoint, Elonis’s “lyrics” did appear similar to commercial rap lyrics. Taken at face value, this supports his contention that he had posted “nothing . . . that ha[d]n’t been said already,”⁷⁸ specifically alleging that his posts emulated the lyrics of the well-known professional rapper Eminem.⁷⁹ For example, in his 2000 track “Kim,” Eminem wrote: “Don’t you get it, b****, no one can hear you? Now shut the f*** up and get what’s coming to you.”⁸⁰ He wrote this song about his on-again, off-again wife, and the record was described by *Entertainment Weekly* as “[an] enactment of domestic violence so real it chills.”⁸¹ These commercial lyrics bear more than a thematic resemblance to Elonis’s Facebook entry titled “Little Agent Lady,” in which he wrote; “Little Agent lady stood so close/Took all the strength I had not to turn the b**** ghost.”⁸² The similarities go on.⁸³

B. DISTRICT COURT TRIAL

Elonis was indicted by a federal grand jury on five separate counts under § 875(c) for threatening to injure patrons and employees of the park where he had worked, his ex-wife, police officers, a kindergarten class, and the FBI agent who had been investigating him.⁸⁴ Section 875(c) reads: “Whoever transmits in interstate or foreign commerce any communication containing any threat to kidnap any person or any threat to injure the person of another, shall be fined under this title or imprisoned not more than five years, or both.”⁸⁵

At trial in the Eastern District of Pennsylvania, Elonis argued that his statements should be examined under the subjective test, that is, whether he

77. *Id.* at 2005 (internal quotation marks omitted).

78. *Id.* at 2007.

79. *Id.* Eminem is a stage name; the rapper’s real name is Marshall Mathers. The author admits to more than a passing familiarity with Mr. Mathers’s work.

80. EMINEM, *Kim*, on THE MARSHALL MATHERS LP (Aftermath/Interscope 2000). For the lyrics to the song *Kim*, see *Eminem Lyrics — Kim*, AZLYRICS, <http://www.azlyrics.com/lyrics/eminem/kim.html> [<https://perma.cc/36BS-6477>].

81. Will Hermes, *The Marshall Mathers LP*, ENT. WKLY. (May 24, 2000), <http://www.ew.com/article/2000/05/24/marshall-mathers-lp> [<https://perma.cc/T3ZG-M7J8>].

82. *Elonis*, 135 S. Ct. at 2006.

83. The Supreme Court reproduced a good deal of Elonis’s posts in its opinion.

84. *Id.* at 2007.

85. 18 U.S.C. § 875(c).

intended them as threats.⁸⁶ He repeatedly claimed that his words were not subjectively intended as threats, and alleged that the government had failed to demonstrate that “he had intended to threaten anyone.”⁸⁷ Elonis requested the jury be instructed that “the government must prove that he intended to communicate a true threat.”⁸⁸ But the District Court sided with the government, which presented evidence that Elonis’s wife and co-workers viewed his posts as “serious threats.”⁸⁹ In their closing argument, the government also emphasized that Elonis’s subjective mental state was irrelevant—the District Court agreed with this assessment.⁹⁰ The court instructed the jury that § 875(c) is “a general intent crime,” and that the prosecution only had to prove that the act itself was “performed knowingly and intentionally.”⁹¹ The jury convicted him on four out of the five counts, acquitting him only on the charge of threatening park patrons and employees.⁹² Elonis was then sentenced to almost four years in prison.⁹³

C. APPEAL TO THE THIRD CIRCUIT COURT OF APPEALS

Elonis appealed to the Third Circuit to challenge his conviction under § 875(c) based on the jury instruction.⁹⁴ On appeal, the Third Circuit held that the District Court did not err in instructing the jury to use a reasonable person standard in examining Elonis’s alleged threats.⁹⁵ He argued that “the Supreme Court decision in *Virginia v. Black* requires that a defendant subjectively intend to threaten.”⁹⁶ The Third Circuit disagreed, holding that “the reasonable person standard does encompass context to determine whether the statement was a serious expression of intent,” and noted that “[t]he majority of circuits that have considered this question have not found the Supreme Court decision in *Black* to require a subjective intent to

86. *Elonis*, 135 S. Ct. at 2007 (“Elonis requested a jury instruction that ‘the government must prove that he intended to communicate a true threat.’”).

87. *Id.*

88. *Id.*

89. *Id.*

90. *United States v. Elonis*, 897 F. Supp. 2d 335, 341 (E.D. Pa. 2012), *rev’d*, 135 S. Ct. 2001 (2015) (“It is not required that the defendant intend to make a threat.”).

91. *Id.* at 341.

92. *Id.* at 338.

93. *Elonis*, 135 S. Ct. at 2007.

94. *United States v. Elonis*, 730 F.3d 321, 323 (3d Cir. 2013), *rev’d*, 135 S. Ct. 2001 (2015).

95. *Id.* at 330 (“We do not find that . . . the true threats exception requires a subjective intent to threaten.”).

96. *Id.* at 327.

threaten.”⁹⁷ The Third Circuit affirmed the lower court’s decision and held that no showing of subjective intent is required under § 875(c).⁹⁸

D. PETITION FOR A WRIT OF CERTIORARI

In his certiorari petition, Elonis argued that proof of subjective intent to threaten was required under the First Amendment’s exception for true threats.⁹⁹ He noted that the First Amendment protected offensive, ill-thought out speech, and that it was just such vitality of protection that gave “constitutionally protected speech . . . enough ‘breathing space to survive.’”¹⁰⁰ He asserted that the use of an objective standard would allow one to be convicted of making threatening statements by accident, which would be “fundamentally inconsistent with basic First Amendment principles.”¹⁰¹

The government argued that the objective reasonable person standard was appropriate, and that the nature of the criminal trial allows statements to be properly placed in context, providing a safeguard against accidental true threat convictions.¹⁰² The government further asserted that requiring proof of subjective intent would undermine the very purpose of the true threat doctrine, and that as long as actual harm resulted, the intent of the speaker was irrelevant.¹⁰³

In granting certiorari, the Supreme Court instructed the parties to additionally brief and argue “[w]hether, as a matter of statutory interpretation, conviction of threatening another person under § 875(c) requires proof of the defendant’s subjective intent to threaten.”¹⁰⁴ In briefing the matter, neither side dealt with whether a finding of recklessness would suffice; this issue was only briefly raised at oral argument.¹⁰⁵

The question posed to the Court was as follows: “whether the statute [§ 875(c)] also requires that the defendant be aware of the threatening

97. *Id.* at 330.

98. *Id.* (“[T]he . . . objective intent standard applies to this case and the District Court did not err in instructing the jury.”).

99. Petition for a Writ of Certiorari, *supra* note 16, at 28–29.

100. *Id.* at 29 (quoting *NAACP v. Button*, 371 U.S. 415, 433 (1963)).

101. *Id.* at 30 (“The notion that one could commit a ‘speech crime’ *by accident* is chilling.”) (emphasis in original).

102. Brief for The United States in Opposition at 14, *Elonis v. United States*, 135 S. Ct. 2001 (2015) (No. 13-983) (“The jury instructions here already screened out statements that constituted ‘idle or careless talk, exaggeration, something said in a joking manner or an outburst of transitory anger.’”).

103. *Id.* at 15.

104. *Elonis v. United States*, 134 S. Ct. 2819 (2014) (mem.) (granting certiorari).

105. See Transcript of Oral Argument at 8, *Elonis v. United States*, 135 S. Ct. 2001 (2015) (No. 13-983).

nature of the communication, and—if not—whether the First Amendment requires such [awareness]?”¹⁰⁶ This raised two distinct elements the Court could potentially address: First, what is the mens rea requirement for true threats under § 875(c), and second, do First Amendment protections require a heightened standard?¹⁰⁷ *Elonis* argued that the statute required such a finding, relying on dictionary definitions of the word “threat.”¹⁰⁸ The government, by contrast, maintained that as the other subsections of the same statute contained explicit references to an “intent to extort,” and that the lack of similar language in § 875(c) should prevent courts from requiring such a showing of intent to sustain a conviction.¹⁰⁹

E. *ELONIS AT THE SUPREME COURT*

The Supreme Court reversed the Third Circuit decision on June 1, 2015, in an eight-to-one decision, with Justice Alito concurring in part and dissenting in part.

1. *The Majority Opinion*

Writing for the majority, Chief Justice Roberts first noted the statutory language of § 875(c), which made it a crime “to transmit in interstate commerce ‘any communication containing any threat . . . to injure the person of another.’”¹¹⁰ The statute does not, however, indicate the mental state required to sustain a conviction, nor whether “the defendant must intend that his communication contain a threat.”¹¹¹

The Court found both *Elonis* and the government unconvincing, and noted that neither side had given “any indication of a particular mental state requirement.”¹¹² The Court held that *Elonis*’s exclusive focus on the author’s intent ignored the fact that a message intended as a joke can still be threatening if misunderstood,¹¹³ and that the government’s argument went too far in suggesting that Congress intended to “exclude a requirement that a defendant act with a certain mental state.”¹¹⁴

Turning to general principles of criminal law, the Court found that “wrongdoing must be conscious to be criminal,” and that a defendant “must

106. *Elonis v. United States*, 135 S. Ct. 2001, 2004 (2015).

107. *Id.*

108. *Id.* at 2009.

109. *Id.* at 2008.

110. *Id.* at 2002 (quoting § 875(c) (2012)) (omission in original).

111. *Id.* at 2008.

112. *Id.* at 2008–09.

113. *Id.* at 2008.

114. *Id.*

be ‘blameworthy in mind’ before he can be found guilty.”¹¹⁵ Drawing from various precedent, the Court held that ignoring such a specific intent requirement could potentially criminalize “a broad range of apparently innocent conduct,”¹¹⁶ and that in cases where federal criminal statutes did not indicate a required mental state, the judiciary should imply “only that *mens rea* which is necessary to separate wrongful conduct from ‘otherwise innocent conduct.’”¹¹⁷ The Court found that for statutory purposes, what separated “legal innocence from wrongful conduct” was the fact that the communication was threatening in nature.¹¹⁸ Therefore, the *mens rea* should “apply to the fact that the communication contains a threat.”¹¹⁹

The Court took issue with *Elonis*’s conviction, as it was “premised solely on how his posts would be understood by a reasonable person.”¹²⁰ Justice Roberts wrote that the Court has “long been reluctant to infer that a negligence standard was intended in criminal statutes,” and denied the government’s characterization of its position as requiring anything else.¹²¹

The Court held that the implicit *mens rea* requirement for a conviction under § 875(c) would be satisfied if the defendant subjectively intended his communication as a threat, or had “knowledge that the communication will be viewed as a threat.”¹²² This standard appears very similar to the intent requirement in § 871(a), which requires that a defendant perform his actions “knowingly and willfully.”¹²³ The Court declined to go further; neither party had briefed or argued as to whether a finding of recklessness—disregarding a risk of harm of which he is aware—would be sufficient to sustain a conviction.¹²⁴ The Court also avoided any First Amendment analysis, given that it decided the case on a statutory basis before reaching the constitutional question.¹²⁵ The majority opinion justified its relatively narrow scope, and dismissed the dissent’s concerns, by noting that the Court

115. *Id.* at 2009 (quoting *Morissette v. United States*, 342 U.S. 246, 252 (1952)).

116. *Id.* (citing *Liparota v. United States*, 471 U.S. 419, 426 (1985)).

117. *Id.* at 2010 (citing *Carter v. United States*, 530 U.S. 255, 269 (2000)).

118. *Id.* at 2011.

119. *Id.*

120. *Id.* This refers to the standard of negligence that *Elonis* was convicted under.

121. *Id.* (quoting *Rogers v. United States*, 422 U.S. 35, 47 (1975) (Marshall, J., concurring)).

122. *Id.* at 2012.

123. 18 U.S.C. § 871(a) (dealing with threats made against the president).

124. *Elonis*, 135 S. Ct. at 2012.

125. *Id.* (“Given our disposition, it is not necessary to consider any First Amendment issues.”).

declined “to be the first appellate tribunal” to address whether a finding of recklessness satisfies the mens rea required under § 875(c).¹²⁶

2. *Justice Alito’s Concurrence*

In his concurrence, Justice Alito agreed with the action taken, but dissented from some of the reasoning in the majority opinion.¹²⁷ He noted that what he perceived to be the lack of a bright line rule (regarding the sufficiency of a recklessness finding) would create the potential for confusion among lower courts.¹²⁸ He agreed with the majority that a criminal conviction requires a finding of specific intent, but opined that recklessness should meet that requirement, noting that the Court had previously “described reckless conduct as morally culpable.”¹²⁹ He would have sustained a conviction if the defendant “consciously disregard[ed] the risk that the communication transmitted w[ould] be interpreted as a true threat.”¹³⁰

Justice Alito also examined the case through the lens of First Amendment free speech protections.¹³¹ He rejected Elonis’s argument that “to require no more than recklessness . . . would violate the First Amendment,” noting that “the Constitution does not protect true threats.”¹³² He wrote that simply having a “therapeutic or cathartic” purpose for making threatening statements should not make such speech constitutionally protected,¹³³ and also dismissed Elonis’s assertions that his threats were “constitutionally protected works of art,” noting that “[s]tatements on social media that are pointedly directed at their victims” could still cause harm.¹³⁴ Finally, Justice Alito noted that the Third Circuit should be allowed to uphold the conviction on harmless error grounds.¹³⁵

126. *Id.* at 2013.

127. *Id.* at 2017 (Alito, J., concurring in part and dissenting in part) (“I would . . . remand for the Court of Appeals to decide in the first instance whether Elonis’s conviction could be upheld under a recklessness standard.”).

128. *Id.* at 2013–14.

129. *Id.* at 2015.

130. *Id.* at 2016.

131. *Id.*

132. *Id.*

133. *Id.*

134. *Id.*

135. *Id.* at 2018.

3. *Justice Thomas's Dissent*

Justice Thomas dissented, sharing concerns similar to those Justice Alito expressed in his concurrence.¹³⁶ Justice Thomas believed that the opinion overruled the majority view held by the circuits without replacing it with a bright-line rule.¹³⁷ While understanding the majority's policy concerns regarding overly-broad threat prosecutions, he felt it inappropriate to abandon the "traditional approach to state-of-mind requirements in criminal law."¹³⁸ He would have affirmed the conviction because Elonis's communications were "true threats" and fell completely outside the scope of First Amendment protections, and further argued that proof of general intent was sufficient to support a conviction under § 875(c).¹³⁹ He found it "difficult to conclude that the Congress [intended § 875(c) to contain] an implicit mental-state requirement apart from general intent."¹⁴⁰

Justice Thomas further sought to differentiate his position from a requirement of mere negligence.¹⁴¹ He argued that negligence does not require intent to commit a specific act, while general intent requires intent to commit said act, but "no mental state . . . concerning the 'fact' that certain words meet the legal definition of a threat."¹⁴² Justice Thomas concluded his dissent by noting that had Elonis instead mailed obscene materials to his ex-wife and the kindergarten class, his intent to offend (or a reckless disregard of the possibility of causing offense) would have been irrelevant to the prosecution.¹⁴³ He bemoaned the fact that in *merely* threatening to kill them, Elonis's intent "suddenly becomes highly relevant."¹⁴⁴

III. UNCERTAINTY IN THE WAKE OF *ELONIS*

The *Elonis* decision will play a role in case law going forward, as some subsequent cases make apparent. Less than a year later, some confusion is evident; the usefulness of *Elonis* as precedent is also in question.

136. *Id.* (Thomas, J., dissenting).

137. *Id.* (Thomas, J., dissenting). ("[T]he Court casts aside the approach used in nine Circuits and leaves nothing in its place.")

138. *Id.*

139. *Id.* at 2021.

140. *Id.*

141. *Id.* at 2022 ("Requiring general intent in this context is not the same as requiring mere negligence.")

142. *Id.* (emphasis omitted).

143. *Id.* at 2028. An interesting juxtaposition, considering that most would consider receiving obscene material preferable to receiving death threats.

144. *Id.*

A. UNCLEAR PRECEDENT

A case steeped in First Amendment issues, and heralded as the first look at true threat doctrine in more than a decade, resulted in a majority holding with no significant free speech analysis.¹⁴⁵ The Court's narrow holding in *Elonis* raises more questions than it answers, and does little to alleviate the confusion among the lower courts in the wake of *Virginia v. Black*.¹⁴⁶ It leaves unanswered questions about the constitutional status of true threats, and how they should be handled in the era of social media. For a case that deals with threats made over Facebook, the Court declined to consider anything outside of the criminal intent issue.¹⁴⁷ The word "Internet" never even appears in the opinion. Nevertheless, because context represents a key element in considering the severity of the threat,¹⁴⁸ courts will have to grapple with the different circumstances surrounding online speech. The majority opinion from the *Elonis* Court avoided such consideration because they resolved the case on statutory interpretation alone.¹⁴⁹

It is worth noting that the majority's hesitance to engage with First Amendment issues might stem from a desire to avoid judicial overreach. Here, presented with an opportunity to decide the case on statutory rather than constitutional grounds, the Court opted for the narrower approach.¹⁵⁰ However, the fact that some of the Justices wanted to touch on First Amendment issues¹⁵¹ suggests there was perhaps room for the Court as a whole to do so.

While the Court reversed and remanded *Elonis*'s case, it is unclear exactly what the government will have to prove on remand to get a conviction.¹⁵² The Court ruled that mere negligence was an insufficient level of intent to support a conviction for making true threats in general, and

145. *Id.*

146. *See id.* at 2015; 538 U.S. 343 (2003).

147. *See Elonis*, 135 S. Ct. at 2012 ("Given our disposition, it is not necessary to consider any First Amendment issues.").

148. *See generally* *Watts v. United States*, 394 U.S. 705, 708 (1969) ("Taken in context . . . we do not see how it could be interpreted otherwise.").

149. *Elonis*, 135 S. Ct. at 2012 ("Given our disposition, it is not necessary to consider any First Amendment issues.").

150. *Id.* at 2013 (describing this decision as "prudence"). It is worth noting that the Court almost always decides cases on the narrowest grounds possible to avoid overreach. However, in doing so the Court declined to resolve the intent requirements causing the circuit split, thus leaving in place an issue the Court may have taken the case to resolve.

151. *Id.* at 2016 ("There remains the question whether interpreting § 875(c) to require no more than recklessness . . . would violate the First amendment . . . I would reject that argument.").

152. Specifically, whether a finding of recklessness will suffice.

under § 875(c) in particular.¹⁵³ This is the reasonable person standard that was the majority opinion among the circuit courts prior to *Elonis*, a standard that the Court explicitly rejected.¹⁵⁴ In its place, the Court required a showing of either subjective intention to threaten, or knowledge that the communication would be viewed as a threat.¹⁵⁵

The first standard appears similar to regular criminal intent. At trial, the prosecution would rely on statements made by the defendant to cohorts, and assembling different pieces of evidence, in order to convince the fact finder that the defendant possessed specific intent to commit a particular crime.¹⁵⁶

The second standard, knowledge that the communication would be viewed as a threat, however, is less clear. Proving that a defendant had knowledge the communication would be viewed as a threat is a test very much based on contextual factors.¹⁵⁷ Close contextual analysis would be necessary, reinforcing the importance of context to true threat doctrine. Indeed, the history of true threat doctrine is replete with reference to contextual analysis.¹⁵⁸

Notably, the problem with the initial conviction in *Virginia v. Black* was due to the fact that a prima facie standard explicitly declines to consider context in assigning guilt.¹⁵⁹ In order to engage in contextual analysis of any given case, however, one must necessarily refer to how the average person views the context of a communication.¹⁶⁰ The alternative would be to allow

153. *Elonis*, 135 S. Ct. at 2013 (“Our holding makes clear that negligence is not sufficient to support a conviction under [§] 875(c).”).

154. *Id.* (noting its decision was “contrary to the view of nine Courts of Appeals”).

155. *Id.* at 2012 (“[T]he mental state requirement . . . is satisfied if the defendant transmits a communication for the purpose of issuing a threat, or with knowledge that the communication will be viewed as a threat.”).

156. See generally *Stover*, *supra* note 69.

157. Contextual factors may include, for example, the medium of the communication, the speaker’s relationship with the victim, and the tone and level of specificity.

158. See generally *Virginia v. Black*, 538 U.S. 343 (2003) (ruling as unconstitutional a statute that stated flag burning was prima facie evidence of intent to threaten); *Watts v. United States*, 349 U.S. 705 (1969) (examining allegedly threatening statements in context); *Chaplinsky v. New Hampshire*, 315 U.S. 568 (1942) (analyzing threatening statements as “fighting words,” which necessarily involve context).

159. *Black*, 538 U.S. at 347–48. The act in question was cross-burning, an action full of historical significance and undertones of meaning. *Id.* at 352–53. Nevertheless, the Court held that even under such circumstances, context still warranted consideration. *Id.* at 367 (“The prima facie evidence provision in this case ignores all of the contextual factors that are necessary . . .”).

160. *Elonis*, 135 S. Ct. at 2016 (“[C]ontext matters . . . [s]tatements on social media that are pointedly directed at their victims . . . are much more likely to be taken seriously.”).

defendants to escape liability simply by proclaiming, at trial, that they did not intend to threaten, and did not know that their communication would be viewed as such. This would extend free speech protection to a previously unprotected category of communications, and perhaps protect speech that should not be allowed as a matter of policy and constitutional interpretation.¹⁶¹

In examining context, however, it seems likely that questions of reasonableness would inevitably creep in. For example, it would be unfair to let an individual claim she did not subjectively know a communication would be viewed as a threat, after her partner had let her know he or she felt threatened, and had perhaps already gone to law enforcement or the judicial system for protection. The fact finder in such a situation would have to consider context before reaching any sort of conclusion.

The Court's second standard (knowing that a communication will be interpreted as a threat) is a slightly higher requirement than recklessness. Instead of consciously disregarding a significant possibility, it asks for actual knowledge.¹⁶² As mentioned above, the Court is silent on whether a finding of recklessness would be sufficient.¹⁶³ Justices Alito and Thomas certainly believe that it would be enough.¹⁶⁴

B. SUBSEQUENT CASES

Subsequent cases are already demonstrating a continued lack of clarity among lower courts as to the standard of intent they should apply to true threat cases. In *Cole v. Barnes*,¹⁶⁵ the district court acknowledged the subjective standard intent requirement from *Elonis*. However, in analyzing the plaintiff's speech (a threatening display on plaintiff's front porch including a toilet bowl), the court found it unnecessary to "choose between an objective and subjective standard."¹⁶⁶ The court found that "no reasonable person would have expected viewers to interpret the message as a true threat

161. See generally *Chaplinsky*, 315 U.S. at 572 (holding that the statute's purpose was to "preserve the public peace").

162. *Elonis*, 135 S. Ct. at 2012 (holding that § 875(c) is satisfied only if the threat is issued purposely or knowingly).

163. *Id.* at 2013 (declining to be the first appellate tribunal to decide whether recklessness is sufficient for liability in these circumstances).

164. *Id.* at 2017–18. Justice Alito would remand to decide whether "Elonis's conviction could be upheld under a recklessness standard," and Justice Thomas would affirm the Third Circuit's judgment finding that negligence was sufficient. *Id.*

165. No. 1:13-cv-00052, 2015 WL 5178050 at *12 (M.D. Tenn. Sept. 3, 2015).

166. *Id.* Plaintiff had also left a banner saying "F*** you" and "special place in hell for u [sic]," mentioning the officer who had conducted the search by name; this resulted in the charge of communicating a true threat. *Id.*

of serious harm,” calling into question which standard was ultimately used in deciding the case.¹⁶⁷

The court addressed the subjective standard, but on the strength of plaintiff’s testimony, held that the plaintiff “did not intend her statements to threaten serious harm to anyone.”¹⁶⁸ If under the subjective standard individuals can avoid liability by simply saying they did not intend the statements as threats, the possibility raises questions about how such threats will be prosecuted in the future. Does the prosecution have to engage in a lengthy and comprehensive intent analysis to disprove statements that certain communications were not intended as threats? This would appear to afford protection to a category of speech clearly outside of current First Amendment protections, and make it more likely that true threats would go unpunished.

Additional subsequent cases include *United States v. Wright-Darrisaw*¹⁶⁹ and *People v. Murillo*,¹⁷⁰ both of which show the narrow value of *Elonis* as precedent. In both instances above, the courts distinguished the case from *Elonis* by noting that the statutory language was different; both contained explicit references to a required level of intent for conviction.¹⁷¹ This highlights the importance of close reading of statutory language, and again raises the issue presented in the original certiorari petition for *Elonis*: criminal liability could end up being dependent on where the suit is brought.¹⁷² This issue takes on even more importance when the Internet and social media are used as a platform. Especially if a communication was aimed at a class rather than an individual, prosecutors could simply forum shop to find the jurisdiction with the lowest statutory intent burden and bring the case there.¹⁷³

167. *Id.*

168. *Id.*

169. 617 F. App’x 107, 108 (2d Cir. 2015) (“In this case, the Supreme Court’s holding in *Elonis* does not significantly alter the standard by which we determine whether a threat is a true threat . . .”).

170. 238 Cal. App. 4th 1122, 1129 (2015) (“Therefore, we do not discuss *Elonis*.”).

171. 18 U.S.C. § 871(a); CAL. PENAL CODE § 140 (2012); *Wright-Darrisaw*, 617 F. App’x at 108 (“knowingly and willfully”); *Murillo*, 238 Cal. App. 4th at 1127 (“[S]ection 140 requires a general intent and not a specific intent.”).

172. Petition for a Writ of Certiorari, *supra* note 16, at 41 (noting that it “increases the risk of opportunistic behavior by law enforcement officials, who would have an incentive to prosecute the case in whichever jurisdiction applied the objective test”).

173. *Id.* The unequal protections afforded by a patchwork of different state and federal laws, especially their different intent requirements, also raises Fourteenth Amendment issues.

The Supreme Court has yet to resolve all of the disputes between the circuits, and we will likely see this issue back in front of the Court soon. In striking down the negligence standard in *Elonis*,¹⁷⁴ the opinion simply left too many unanswered questions, and lower courts are unsure how to proceed. Cases subsequent to *Elonis* show that courts either try to address both levels of intent (objective and subjective), or simply distinguish their present case from *Elonis* when state and local statutes impose a different standard from § 875(c).¹⁷⁵ Neither of these approaches is optimal, and the Court might be compelled to take a similar case to clarify both the split among lower courts, as well as the variations in statutory language across federal and state laws.

IV. THE COURT'S VIEW OF THE INTERNET

A question related to the Court's treatment of the *Elonis* decision may inform future First Amendment jurisprudence: should the nature of the medium (i.e., the Internet in general, and social media in particular) affect the nature of the true threat doctrine going forward?

A. CHANGING VIEW OF THE INTERNET

New communication technologies, which have dramatically changed the dynamics of social relationships, compound the potential harm of true threats. Online social media platforms have blurred the line between online and offline personas. In *Reno v. ACLU*, the Rehnquist Court wrote that accessing “the Internet requires a series of affirmative steps more deliberate and directed than merely turning a dial,”¹⁷⁶ and considered the Internet as merely a kind of barrier-less broadcast media, with the ability to turn “any person with a phone line [into] a town crier.”¹⁷⁷ Far from being the one-directional broadcast medium contemplated by the Supreme Court in 1997,¹⁷⁸ an individual's activities and experiences online increasingly affect their offline existence.

174. *Elonis v. United States*, 135 S. Ct. 2001, 2013 (2015) (“[N]egligence is not sufficient to support a conviction under [§] 875(c) . . .”).

175. *See Murillo*, 238 Cal. App. 4th at 1127 (noting that the statute in question, CAL. PENAL CODE § 140 (2012), has an explicit intent requirement).

176. 521 U.S. 844, 854 (1997).

177. *Id.* at 870 (using of the phrase “town crier” reinforces the idea that the Internet merely facilitates information transfer).

178. *See id.* at 844.

Cases like *Kowalski v. Berkeley County Schools*,¹⁷⁹ *United States v. Drew*,¹⁸⁰ and *State v. Melchert-Dinkel*¹⁸¹ have, sometimes tragically, shown that actions and words in the online realm can just as easily cause harm as their real-world counterparts. Indeed, the ease with which such threats can be made over the Internet, coupled with the inherent anonymity of the medium acting as a shield against retaliation, has made it far easier for an individual to threaten another in a manner that causes actual harm.¹⁸²

The nature of Elonis's threats raises a third question, especially in light of the Court's landmark decision in *Reno*¹⁸³: does the nature of the Internet require a different standard for online speech? In *Elonis*, a case dealing with threats made over the Internet on a social media website, it was surprising that the opinion failed to mention the word "Internet" a single time.¹⁸⁴ Furthermore, the majority opinion only referred to "social networking" once.¹⁸⁵ There does not seem to be any engagement with the fact that through the use of the Internet and social media, the traditional framework for thinking about true threat cases may no longer hold true.

The blurring of the lines between online and offline personas may mean that the Court's conception of the Internet in *Reno* is no longer accurate.¹⁸⁶ In light of the damage that results when such blurring inevitably occurs,¹⁸⁷ it might be necessary to apply a different standard of intent in order to update true threat doctrine for the rapidly evolving era of social media.

179. 652 F.3d 565 (4th Cir. 2011) (addressing a situation where one student created a website alleging that a fellow student had herpes).

180. 259 F.R.D. 449 (C.D. Cal. 2009) (addressing a situation where a student's mother created an online profile to bully her daughter's schoolmate, and thus contributed to the suicide of said schoolmate).

181. 844 N.W.2d 13 (Minn. 2014) (addressing a situation where defendant encouraged and advised others to commit suicide).

182. See also Nina Burleigh, *Sexting, Shame and Suicide*, ROLLING STONE (Sept. 17, 2013), <http://www.rollingstone.com/culture/news/sexting-shame-and-suicide-20130917> [<https://perma.cc/3SKP-XA2J>].

183. *Reno v. ACLU*, 521 U.S. 844 (1997).

184. *Elonis*, 135 S. Ct. at 2001. This was likely an intentional choice, guided by the decision to root the opinion in statutory analysis.

185. *Id.* at 2004 ("Anthony Douglas Elonis was an active user of the *social networking* Web site Facebook.") (emphasis added).

186. *Reno*, 521 U.S. at 849–55. The Court characterized the Internet as a one-directional broadcast medium that required a series of affirmative steps to access content. Furthermore, most people's social media accounts list their real name and picture, making it even harder to distinguish between the two.

187. See, e.g., *United States v. Drew*, 259 F.R.D. 449 (C.D. Cal. 2009). A student's mother created an online profile to bully her daughter's schoolmate, and thus contributed to the suicide of said schoolmate.

In *Reno*, the Court characterized the Internet as facilitating the one-directional flow of information, from sources on the Internet to an individual accessing online materials.¹⁸⁸ In addressing provisions of the Communications Decency Act¹⁸⁹ and whether they impinged too strongly on free speech protections, the Court noted that unlike in broadcast media, multiple affirmative steps were necessary to access the Internet.¹⁹⁰ The Internet was seen as a benign, huge trove of information, and any consideration of its potential for networking was limited to the ability of an individual to reach a large number of people fairly easily.¹⁹¹

In *Elonis*, the context is entirely different. Social media sites have become far more popular, which has changed the dynamic of how the Internet interacts with off-line, “real world” lives. As of 2014, seventy-four percent of adults with Internet access utilize some form of social networking, and seventy-one percent of those used Facebook.¹⁹² That number climbs to ninety percent for the for adults aged eighteen to forty-nine (as of 2013).¹⁹³ In addition, more than fifty percent of cell phone users aged eighteen to forty-nine used a social networking site on their cell phone (as of 2012).¹⁹⁴

Those percentages reflect millions of people (admittedly at varying levels of engagement) living portions of their lives on the Internet. They suggest that far from being a personal research terminal of sorts, the Internet has become intertwined with “real life.”¹⁹⁵ With such blurring comes a greater potential for actions in one to have an effect in the other. In *Elonis*, Facebook was the sole medium for allegedly communicating interstate threats.¹⁹⁶ There, lower courts were willing to find that a “communication”

188. *Reno*, 521 U.S. at 853 (“The Web is thus comparable . . . to both a vast library . . . and a sprawling mall.”).

189. 47 U.S.C. § 609 (2012). This statute imposed criminal sanctions for indecency on the Internet; portions of it were struck down as unconstitutional. *Reno*, 521 U.S. at 882 (“[T]he CDA places an unacceptably heavy burden on protected speech . . .”).

190. *Reno*, 521 U.S. at 854.

191. *Id.* at 851 (“Anyone with access to the Internet may take advantage of a wide variety of communication and information retrieval methods.”).

192. Pew Research Center, *Social Networking Fact Sheet*, <http://www.pewinternet.org/fact-sheets/social-networking-fact-sheet> [<https://perma.cc/7Q8B-MXCK>].

193. *Id.* This is significant also because younger people tend to have more difficulty disassociating their “real” lives from their online experiences.

194. *Id.*

195. *Id.*

196. *Elonis v. United States*, 135 S. Ct. 2001, 2004–07 (2015). Cyberbullying is another recent phenomenon where actions taken solely online can cause drastic harm offline.

occurred, despite Elonis posting the offending “lyrics” solely on his own Facebook wall.¹⁹⁷

B. INCREASING POPULARITY OF SOCIAL MEDIA

Social media platforms like Facebook and Myspace have made possible avenues of communication that were difficult to imagine a mere decade ago. Posts on a user’s Facebook wall,¹⁹⁸ for example in *Elonis*,¹⁹⁹ may be closer to the broadcast platform envisioned by the Court in *Reno*,²⁰⁰ although the notifications feature alerting “friends” to the post complicate that analysis. If people use social media not just as a communication platform but also as a part of their day-to-day activities, having a notification pop up represents more of a personal intrusion than a sign on someone’s lawn or a headline in a newspaper—it bridges the gap between a “broadcast,” and a directed communication.

Individuals are also more likely to place greater emphasis on communications from other social media users, as compared to broadcasts through traditional media, because the former feel more individually addressed and personal. They are likely to give more weight to a message from “Josh Evans”²⁰¹ who they see as a real person using Myspace, than they are to a pamphlet or mailer addressed to “resident.” This gives the individual behind “Josh Evans” a heightened ability to influence the thoughts and emotions of the victim, as the nature of the platform implicitly cloaks them in the veneer of personhood. For Megan Meier,²⁰² the communications from “Josh Evans” were real and direct, and appeared to come from a discrete person²⁰³—this masquerade would not have been possible without the advent of social media.

A closely-linked point is the tremendous measure of perceived anonymity that the Internet grants its users, an anonymity that does not

197. Brief for the Petitioner at 5, *Elonis v. United States*, 135 S. Ct. 2001 (2015) (No. 13-983) (“This case arises out of posts petitioner made . . . [on] Facebook [which] provides its users with a home page on which a user can post . . .”).

198. A location on a user’s page where people can post messages, including videos and images, for others to see.

199. *Elonis*, 135 S. Ct. at 2004–07.

200. *Reno v. ACLU*, 521 U.S. 844, 849–53 (1997).

201. This was the name attached to the fake Myspace profile Lori Drew used to communicate with Megan Meier. *United States v. Drew*, 259 F.R.D. 449, 452 (C.D. Cal. 2009).

202. The student who committed suicide following Lori Drew’s communications while pretending to be “Josh Evans.”

203. *Drew*, 259 F.R.D. at 452.

always extend in both directions.²⁰⁴ For example, in *Drew*, Megan Meier never knew that the individual behind the “Josh Evans” account, who had contacted and flirted with her on Myspace, was not a sixteen-year-old male, but instead the mother of a classmate.²⁰⁵ Drew herself, however, had no trouble identifying Meier on the Myspace platform, where the latter listed her real name along with other identifying characteristics.²⁰⁶ A similar dynamic took place in *State v. Melchert-Dinkel*, where the defendant, in using a number of different usernames, adopted a false persona in order to encourage people around the globe to commit suicide.²⁰⁷ In both these cases, the victims accurately represented themselves on the Internet, while the respective defendants manufactured personalities that were accepted as being true.

From the perspective of the true threat doctrine, the age of social media has changed the threshold of what can cause injury. In the past, communications had to be directed to an individual and detailed enough for someone to feel threatened; this also made proving intent far easier. For example, if Elonis had appeared at his ex-wife’s window and shouted his threatening statements there, prosecution would have been far more straightforward. Posting them on his Facebook wall can be analogized more to putting a sign up on his lawn—a form of speech protected in the 1994 case *City of Ladue v. Gilleo*.²⁰⁸ However, the fact that it was on social media changed the context around the posting; rather than reaching the handful of people who drove past a lawn every day, everyone with a connection to Elonis’s Facebook page was able to see it, including his ex-wife. The message thus not only reached far more people, but was also communicated through a more personal medium.

Also, certain features about social media make true threat statements less harmful than if they were delivered in person. Internet communications can be blocked in numerous ways that in-person statements cannot be. Online communications also take place in differing contexts, which may lessen the “threatening” nature of a missive. It can be hard to take seriously

204. See generally *id.* It is worth noting that while people presume that their online actions remain anonymous, it might be easier to track communications on the Internet than to figure out who threw a rock through your window.

205. *Id.*

206. *Id.* at 453 (noting that users would “register by filling in personal information (such as name, email address, date of birth, country/state/postal code, and gender)”).

207. *State v. Melchert-Dinkel*, 844 N.W.2d 13, 16–17 (Minn. 2014).

208. 512 U.S. 43, 49 (1994) (“[S]igns are a form of expression protected by the Free Speech Clause . . .”).

a statement made in the context of a wide-ranging chatroom discussion, while the same statement taken in a vacuum appears to be a true threat.

Yet it is also far easier to make threatening statements online than in person. It takes not only a high level of intentionality to go up to someone and threaten them in person, but also great commitment; there is the real possibility of a violent reaction from the threatened individual.²⁰⁹ The possibility of a violent result acts as a natural inhibitor against threatening words in person. While internet use does bring with it certain inhibitions, those inherent in social media use offer markedly less deterrence than real-life consequences. While people should and do work to protect their online reputations just as they do their offline reputations, there is a difference between being worried that others might have a negative opinion of you, and the fear that someone will respond to your words with physical violence. Furthermore, not only are communications on the Internet transmitted far more easily, but senders get to cloak themselves in anonymity, as well as distance themselves from any potential hostile reactions. For their part, victims are placed in a somewhat helpless situation.

Not all these factors (most significantly, despite *Elonis*'s online nickname, anonymity was not an issue) were present in *Elonis*.²¹⁰ After all, it was clear to all parties who exactly was making the postings that the district court and Third Circuit found threatening.²¹¹ Furthermore, not every element inherent to social media exacerbates the threatening nature of online communications. However, it is concerning that the Supreme Court's opinion in *Elonis* failed to engage with any of these nuances. When the Court revisits this issue, it will have to address exactly how the Internet changes the communication of threatening statements.²¹²

V. CONCLUSION

The Supreme Court, in penning its majority opinion, declined to engage with First Amendment issues or consider recent technological developments that have affected the modern application of true threat doctrine. The narrow holding in *Elonis* makes sense from a standpoint of judicial prudence, though. The Court had to balance First Amendment free speech protections against limiting true threats, and in so doing try to avoid

209. *Chaplinsky v. New Hampshire*, 315 U.S. 568, 573 (1942). After all, *Chaplinsky* originally described this category of speech as "fighting words."

210. *Elonis v. United States*, 135 S. Ct. 2001 (2015).

211. *Id.* at 2004–07. It was not disputed that the posts at issue were written by *Elonis*.

212. See generally Jerry Berman & Daniel J. Weitzner, *Abundance and User Control: Renewing the Democratic Heart of the First Amendment in the Age of Interactive Media*, 104 YALE L.J. 1619 (1995).

over- or under-criminalizing threatening statements made under § 875(c). Any action the Court took would have had unanticipated ripple effects on true threat prosecution, in ways that the Court might not have been prepared to consider. The advent of the Internet and the incredible growth of social media have also changed the way our judicial system thinks about true threats in unclear ways. Perhaps the Court was unwilling to use *Elonis* to engage with the changes since *Reno* in 1997.

Nevertheless, the Court will likely have to revisit this issue in the near future. The primary deficiency in the holding seems to be the majority's failure to address whether a finding of recklessness would be enough to sustain a conviction under § 875(c). Recklessness might be a more appropriate standard; applying a negligence standard raises issues of community and interpretation, and could potentially over-criminalize true threats. For example, statements could be made in one community and transmitted over the Internet to another that finds them offensive; a "reasonable person" standard could find the communication to be a threat in the latter community. With the immense potential audience that can be reached over the Internet, such a standard would over-criminalize true threats and risk chilling free speech to an unacceptable level. Requiring a higher level of intent such as "knowingly," however, could risk under-criminalizing threatening communications, a dangerous prospect when the nature of social media exacerbates the dangers inherent in true threats.

A clearer holding would also have addressed the jurisdictional differences that exist in true threat statutes. *Elonis* offers some clarity to prosecutions under § 875(c), but subsequent cases have already distanced themselves from this precedent by finding differences in statutory language. *Elonis* offered the Court a chance to address these concerns, and the failure to do so here suggests that the Court will have to revisit the issue in the future.

CITY OF LOS ANGELES V. PATEL:
THE FOURTH AMENDMENT’S “SPECIAL NEEDS”
IN THE INFORMATION AGE

Maximilian Sladek de la Cal[†]

“[T]he Founders did not fight a revolution to gain the right to government agency protocols.”¹

Chief Justice Roberts

The Supreme Court’s recent decisions in *United States v. Jones*² and *Riley v. California*³ show that at least some Justices recognize the heightened potential for governmental overreach in an age when digital records are kept on nearly every aspect of our lives. But searches and seizures by police officers during investigations and arrests—like those at issue in *Jones* and *Riley*—make up a relatively small portion of government actions that implicate the Fourth Amendment.⁴ Consider the countless security checks

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1. *Riley v. California*, 134 S. Ct. 2473, 2491 (2014).

2. 132 S. Ct. 945 (2012) (Sotomayor, J., concurring). In *Jones*, five Justices concluded that prolonged electronic location monitoring by the government, even when limited to public places, violated the Fourth Amendment. *Id.* at 955–58. The majority opinion determined it did not need to address the “reasonable expectation of privacy” question—it held that placing a GPS tracker on the defendant’s car amounted to a physical trespass in violation of the Fourth Amendment—but explicitly stated that “[s]ituations involving merely the transmission of electronic signals without trespass would *remain* subject to *Katz* analysis.” *Id.* at 949–53.

3. 134 S. Ct. 2473 (2014). In a unanimous opinion by Chief Justice Roberts, *Riley* held that police must obtain a warrant to search the contents of an arrestee’s cell phone, carving out an exception to the longstanding rule exempting searches-incident-to-arrest from the warrant requirement. *Id.* at 2493–95. The Court approvingly cited Justice Sotomayor’s concurrence in *Jones*, reasoning that “[c]ell phones differ in both a quantitative and a qualitative sense from other objects that might be kept on an arrestee’s person,” and therefore deserve special Fourth Amendment protections. *Id.* at 2489–90.

4. The number of airport screenings alone far eclipses the number of arrests: Over 650 million passengers boarded airplanes in the U.S. in 2015, and in 2012 (the most recent year with complete statistics), just over twelve million arrests were made. *See TransStats*, U.S. DEP’T OF TRANSP., <http://www.transtats.bts.gov> [<https://perma.cc/8D28-6MLR>]; FBI, UNIFORM CRIME REPORT: CRIME IN THE UNITED STATES, 2012 (2013), <https://www.fbi.gov/about-us/cjis/ucr/crime-in-the-u.s/2012/crime-in-the-u.s.-2012/persons-arrested/arrestmain.pdf> [<https://perma.cc/YL8W-QW86>].

that happen every day at airports, the drug tests that occur in government-run schools and workplaces, and the regulatory inspections to enforce health, safety, and business codes. These kinds of searches, which have been labeled “administrative” or “special needs” searches,⁵ all implicate Fourth Amendment rights. Yet these searches have been exempted from the Fourth Amendment’s strongest check on government behavior—that government searches require a warrant supported by probable cause. As a result, the administrative and special needs doctrines function as a broad license for the government to conduct searches free from meaningful constitutional limitation.

Now more than ever, because of their heightened vulnerability to government abuse in the Information Age, administrative and special needs searches deserve careful scrutiny.⁶ Public and private records about nearly every aspect of our lives are stored digitally and owned by a range of actors. In a world connected by the “Internet of Things,”⁷ government records inspections can reveal more about individuals than physical searches of houses, papers, and effects ever could. Furthermore, such inspections are particularly prone to government abuse. Unlike traditional physical searches and real-time communications surveillance, records searches are not space- or time-limited—searches can encompass years’ worth of records and can occur until the records are deleted.⁸ In addition, inspections in which the government aims to discover would-be perpetrators rather than identified subjects are likely to lead to harassment of disfavored groups.⁹ Therefore, if

5. Professor Wayne LaFave categorizes this broad umbrella of searches under the single heading of “inspections and regulatory Searches.” See WAYNE LAFAVE, 5 SEARCH AND SEIZURE: A TREATISE ON THE FOURTH AMENDMENT, 3–5 (4th ed. 2004). A portion of this Note is devoted to explaining the doctrinal confusion that surrounds the “administrative” and “special needs” labels. See *infra* Section I.B.

6. Cf. Jack M. Balkin, *The Constitution in the National Surveillance State*, 93 MINN. L. REV. 1, 16 (2008) (“The more powerful and effective our technologies of surveillance and analysis become, the more pressure the government will feel to route around warrant requirements and other procedural hurdles so that it can catch potential troublemakers more effectively and efficiently before they have a chance to cause any harm.”).

7. The term “Internet of Things” refers generally to the increasingly large network of objects equipped with sensors, software, and Internet connectivity that collect and exchange data. See generally Scott R. Peppet, *Regulating the Internet of Things: First Steps Toward Managing Discrimination, Privacy, Security, and Consent*, 93 TEX. L. REV. 85 (2014) (Part I describes the types of Internet of Things devices currently available to consumers); see also Swaroop Poudel, Note, *Internet of Things: Underlying Technologies, Interoperability, and Threats to Privacy and Security*, 31 BERKELEY TECH. L.J. 997 (2016).

8. See Mark Andrejevic & Kelly Gates, *Big Data Surveillance: Introduction*, 12 SURVEILLANCE & SOC’Y 185, 187 (2014).

9. See CHRISTOPHER SLOBOGIN, *PRIVACY AT RISK: THE NEW GOVERNMENT SURVEILLANCE AND THE FOURTH AMENDMENT*, 191–95 (2007) (discussing the

the administrative and special needs doctrines are left unchecked and unclarified, warrantless, suspicionless searches of digital records have the potential to undermine any meaningful protection afforded by the Fourth Amendment.

In *City of Los Angeles v. Patel*,¹⁰ the Supreme Court confronted the administrative and special needs doctrines for the first time in over a decade. *Patel* received some attention from scholars¹¹ and privacy advocates,¹² but it was by no means a “classic” Fourth Amendment case.¹³ A group of hotel owners brought a suit against the City of Los Angeles, claiming that an ordinance requiring them to hand over their guest records for inspection by police violated the Fourth Amendment. The hotel guests’ privacy rights were not at issue in the case,¹⁴ and the questions presented were ostensibly unrelated to information technology.

In a 5–4 opinion in favor of the hotel owners, Justice Sotomayor made four notable rulings: (1) facial challenges under the Fourth Amendment are allowed and not disfavored; (2) businesses have Fourth Amendment interests in records they are required to keep; (3) the special Fourth Amendment exception for “closely regulated” industries is much more

problem of “mission creep” associated with “event-driven” (as opposed to “target-driven”) surveillance).

10. 135 S. Ct. 2443 (2015).

11. The little attention that *Patel* was afforded by scholars focused on the fact that the hotel owners challenged the ordinance “on its face,” as opposed to challenging it “as-applied” in a particular search. See *infra* Section II.B.1 for a discussion of the facial challenge issue in *Patel* and reactions from scholars.

12. See, e.g., Conor Friedersdorf, *A Motel-Sized Victory for Privacy at the Supreme Court*, ATLANTIC (June 23, 2015), <http://www.theatlantic.com/politics/archive/2015/06/an-motel-sized-victory-for-privacy-at-the-supreme-court/396542> [https://perma.cc/3NTC-PRRL] (lauding Justice Sotomayor’s commitment to protecting privacy, but remaining skeptical of the overall impact of *Patel*).

13. Fourth Amendment scholar Scott E. Sundby has contrasted searches by police officers during the course of arrests and investigations—the kind of “classic” government-citizen encounters that “raise our Fourth Amendment ire”—with the more mundane, routine inspections often involved in special needs cases, which are unlikely to “rally the citizenry to the Fourth Amendment barricades.” See Scott E. Sundby, *Protecting the Citizen “Whilst He is Quiet”: Suspicionless Searches, Special Needs and General Warrants*, 74 MISS. L. J. 505, 505–06 (2005). Sundby’s observation helps explain why the *Jones* and *Riley* decisions garnered so much attention, while the *Patel* case went largely unnoticed.

14. In fact, in its discussion of the merits of the case, nowhere does the *Patel* majority opinion even address the privacy expectations of the hotel and motel operators. Indeed, at oral argument, the owners themselves focused on how the ordinance disturbed their “tranquility,” not privacy. Oral Argument at 30:45, *Patel*, 135 S. Ct. 2443 (No. 13-1175), http://www.oyez.org/cases/2010-2019/2014/2014_13_1175 [https://perma.cc/2RVR-KRRY]. But see *infra* Section II.B.2 for a discussion of how the Ninth Circuit addressed the privacy interests at stake in the case.

limited than lower courts had interpreted; and (4) precompliance review procedures are necessary for records inspection schemes.¹⁵ Despite the apparent clarity of these rules, however, the Court did not take advantage of the much-needed opportunity to address key threshold questions regarding the administrative and special needs doctrines. As a result, it is unclear how *Patel* will apply to a vast array of future cases.¹⁶

Part I of this Note provides background on the Fourth Amendment, including an overview of search and seizure law related to the rights of businesses and a brief history of the administrative and special needs doctrines. Part II summarizes the Court's holdings and reasoning in *Patel*. Part III examines the crucial questions the Court left unanswered in its opinion. Part IV calls for renewed emphasis on the administrative and special needs doctrines in the Information Age to address the questions *Patel* left unanswered.

I. FOURTH AMENDMENT BACKGROUND: COMMERCIAL PREMISES, BUSINESS RECORDS, “ADMINISTRATIVE SEARCHES,” AND THE “SPECIAL NEEDS” DOCTRINE

This Part will first provide an overview of Fourth Amendment protections for commercial premises and business records, both of which were at issue in *Patel*. Thereafter, it will summarize the evolution of the administrative and special needs doctrines.

A. FOURTH AMENDMENT PROTECTIONS FOR COMMERCIAL PREMISES AND BUSINESS RECORDS

In two separate clauses, the Fourth Amendment establishes “[t]he right of the people to be secure in their persons, houses, papers, and effects against unreasonable searches and seizures,” and provides that “no Warrants shall issue, but upon probable cause.”¹⁷ A “search” occurs, and therefore the Fourth Amendment applies, when the government violates a “reasonable

15. See *infra* Section II.B for a summary of the key holdings.

16. The Court also did not address the implications of its holding for the “third-party doctrine,” which makes sense considering that hotel owners, not guests, challenged the ordinance. See *infra* Section I.A for a discussion of the third-party doctrine. Nor did the Court engage in novel substantive interpretation of Fourth Amendment rights. *But cf.* Luke M. Milligan, *The Right “To Be Secure”*: Los Angeles v. Patel, 2015 CATO SUP. CT. REV. 251, 251 (2015) (arguing that “the *Patel* majority was quietly influenced by the ‘to be secure’ text of the Fourth Amendment”).

17. U.S. CONST. amend. IV.

expectation of privacy,”¹⁸ but the Court has noted that there is “a particular concern for government trespass” upon the areas enumerated by the Amendment (persons, houses, papers, and effects).¹⁹ Especially noteworthy for administrative and special needs cases, the Fourth Amendment protection “against certain arbitrary and invasive acts by officers of the Government,”²⁰ applies to *all* agents of the government—civil as well as criminal.²¹ Therefore, the Fourth Amendment’s protection against unreasonable searches and seizures applies to a broad range of actors beyond law enforcement officers,²² and “without regard to whether the government actor is investigating crime or performing another function.”²³

Interpreted literally, the Amendment requires neither a warrant for each search, nor probable cause for a search to be “reasonable.”²⁴ However, the Supreme Court has deemed “searches conducted outside the judicial process . . . *per se* unreasonable . . . subject only to a few specifically established and well-delineated exceptions,”²⁵ and has generally required probable cause for warrantless searches.²⁶ But the Court has also called probable cause “a fluid concept” that must be determined by an analysis of the totality of

18. *Katz v. United States*, 389 U.S. 347, 360–61 (1967) (Harlan, J., concurring). Expectations of privacy are considered “reasonable” if they satisfy a two-pronged test: the expectation of privacy must (1) be subjectively held by the individual, and (2) considered objectively reasonable in the eyes of society. *See id.*

19. *United States v. Jones*, 132 S. Ct. 945, 950 (2012).

20. *City of Ontario v. Quon*, 560 U.S. 746, 755–56 (2010) (citing *Skinner v. Ry. Labor Execs. Ass’n*, 489 U.S. 602, 613–14 (1989)) (internal quotations omitted).

21. *See Grady v. North Carolina*, 135 S. Ct. 1368, 1371 (2015) (per curiam) (“It is well settled . . . that the Fourth Amendment’s protection extends beyond the sphere of criminal investigations, and the government’s purpose in collecting information does not control whether the method of collection constitutes a search.” (quoting *Ontario v. Quon*, 560 U.S. 746, 755 (2010))).

22. *See, e.g., Ferguson v. City of Charleston*, 532 U.S. 67, 76 (2001) (holding that state hospital employees are government actors subject to Fourth Amendment restrictions); *New Jersey v. T.L.O.*, 469 U.S. 325, 336 (1985) (finding that public school officials are government actors for Fourth Amendment purposes because “they act in furtherance of publicly mandated . . . policies”); *Andrews v. Hickman Cnty.*, 700 F.3d 845, 859 (6th Cir. 2012) (holding that state social workers are government actors under the Fourth Amendment), *U.S. v. Doe*, 61 F.3d 107, 109 (1st Cir. 1995) (finding that the Fourth Amendment applies to nongovernmental personnel manning airport security checkpoints).

23. *Quon*, 560 U.S. at 755–56.

24. *See Vernonia Sch. Dist. 47J v. Acton*, 515 U.S. 646, 653 (1995) (“[A] warrant is not required to establish the reasonableness of *all* government searches; and when a warrant is not required . . . probable cause is not invariably required either.”)

25. *Arizona v. Gant*, 556 U.S. 332, 338 (2009) (quoting *Katz v. United States*, 389 U.S. 347, 357 (1967)).

26. *See Carroll v. U.S.*, 267 U.S. 132, 155–56 (1925) (noting that probable cause is a “reasonableness” standard for warrantless searches and seizures).

circumstances surrounding the intrusion.²⁷ In a number of cases, it has held “reasonable suspicion”²⁸ of unlawful activity enough to justify a search when the privacy intrusion is outweighed by an important governmental interest.²⁹

Moreover, some categories of searches have been held to be reasonable without any individualized suspicion whatsoever. This may be because they are routine and minimally intrusive to privacy interests,³⁰ or because they involve “special needs” beyond the normal need for law enforcement, such as public safety.³¹ Finally, while the Supreme Court has long interpreted Fourth Amendment rights to extend to commercial premises and business records, over time, constitutional protections for businesses have been eroded.³² The Court has recognized some Fourth Amendment interests in commercial premises not open to the public, but not if the business is deemed “closely regulated.”

In *See v. City of Seattle*, the Court required a warrantless inspection of a commercial warehouse to comply with reasonable legislative or administrative standards.³³ But the Court also cautioned that its decision in no way implied that “business premises may not reasonably be inspected in

27. *Illinois v. Gates*, 462 U.S. 213, 232 (1983).

28. Reasonable suspicion exists when there are “specific and articulable facts which, taken together with rational inferences from those facts, reasonably warrant [the] intrusion.” *Terry v. Ohio*, 392 U.S. 1, 21 (1968).

29. *See, e.g.*, *Safford Unified Sch. Dist. No. 1 v. Redding*, 557 U.S. 364, 376–77 (2009) (reasonable suspicion that student possessed contraband justified search of outer clothing, but more intrusive strip search ruled unlawful); *Terry*, 392 U.S. at 22–24 (reasonable suspicion that individual was engaged in criminal activity justified brief investigatory detention and reasonable suspicion that individual was armed justified pat-down search).

30. *See, e.g.*, *United States v. Ramsey*, 431 U.S. 606, 616 (1972) (involving searches of international mail, and claiming that “searches made at the border . . . are reasonable simply by virtue of the fact that they occur at the border”); *Colorado v. Bertine*, 479 U.S. 367, 375–76 (1987) (holding an inventory search of an impounded vehicle without a warrant or probable cause reasonable because it was exercised “according to standard criteria”).

31. *See infra* Section I.B.2 for an explanation of the “special needs” doctrine.

32. For a recent discussion of corporations’ Fourth Amendment rights (including a brief mention of *Patel*), see Kayla Robinson, Note, *Corporate Rights and Individual Interests: The Corporate Right to Privacy as a Bulwark Against Warrantless Government Surveillance*, 36 CARDOZO L. REV. 2283, 2300–09 (2015) (arguing that Supreme Court jurisprudence establishes that “corporations have baseline Fourth Amendment privacy rights,” and that coupled with lower court cases, corporations “have a constitutional right to privacy in some commercially sensitive information”).

33. 387 U.S. 541, 543–45 (1967) (observing that “[t]he businessman, like the occupant of a residence, has a constitutional right to go about his business free from unreasonable official entries upon his private commercial property”).

many more situations than private homes.”³⁴ And as privacy expectations came to replace property principles at the center of Fourth Amendment analysis,³⁵ the Court began to further differentiate between residential and commercial premises. In *Donovan v. Dewey*, for example, the Court found that there is “greater latitude to conduct warrantless inspections of commercial property” because “the expectation of privacy that the owner of commercial property enjoys in such property differs significantly from the sanctity accorded an individual’s home.”³⁶ Consequently, virtually all businesses are subject to certain governmental inspections to ensure regulatory compliance.

Inspections of businesses require neither the traditional quantum of probable cause nor individualized suspicion.³⁷ Furthermore, in the case of commercial spaces open to the public, such as the dining area of a restaurant or the lobby of a motel, there is no Fourth Amendment protection³⁸ because there is no “reasonable expectation of privacy in the areas of the store where the public [are] invited to enter and to transact business.”³⁹

Similar logic regarding diminished privacy interests applies in cases involving searches of “closely regulated” industries, which the Court has held to a relaxed Fourth Amendment standard.⁴⁰ The Court has determined

34. *Id.* at 546.

35. This shift is traditionally attributed to the “reasonable expectation of privacy” test established in *Katz*. See *Katz v. United States*, 389 U.S. 347, 360–61 (1967) (Harlan, J., concurring). Some scholars have argued though that recent Fourth Amendment decisions reflect a “re-emergence of property.” See THOMAS K. CLANCY, *THE FOURTH AMENDMENT: ITS HISTORY AND INTERPRETATION* 106–15 (2d ed. 2014).

36. 452 U.S. 594, 598–99 (1981).

37. See *infra* Section I.B.1 (discussing the administrative search doctrine, which guides Fourth Amendment analysis of regulatory inspection schemes); see also Jack M. Kress & Carole D. Iannelli, *Administrative Search and Seizure Whither the Warrant?*, 31 VILL. L. REV. 705 (1986) (exploring Fourth Amendment precedent related to administrative inspections).

38. See *Donovan v. Lone Steer, Inc.*, 464 U.S. 408, 413–14 (1984) (entering the public lobby of a motel and restaurant to serve a subpoena did not implicate the Fourth Amendment because they were areas open to the public).

39. *Maryland v. Macon*, 472 U.S. 463, 469 (1987). Note, however, that areas where only employees are allowed *do* invoke Fourth Amendment analysis. See *Lo-Ji Sales, Inc. v. New York*, 442 U.S. 319, 329 (1979) (“[T]here is no basis for the notion that because a retail store invites the public to enter, it consents to wholesale searches and seizures that do not conform to Fourth Amendment guarantees.”).

40. See *Marshall v. Barlow’s, Inc.*, 436 U.S. 307, 313 (1978).

that liquor sales,⁴¹ firearms dealing,⁴² mining,⁴³ and automobile junkyards⁴⁴ have such a history of government oversight and regulation that “no reasonable expectation of privacy could exist for a proprietor over the stock of such an enterprise.”⁴⁵ Therefore, statutorily authorized government inspections of “closely regulated” businesses require no warrants, even the kind contemplated in *See*.

When it comes to business records, the Fourth Amendment provides some—but not much—constitutional protection for information a business keeps private.⁴⁶ The government conducts a Fourth Amendment “search” whenever it compels a business to hand over records in which the business holds a legitimate privacy interest, but searches of business records rarely require a warrant supported by probable cause to be reasonable. They are typically authorized by subpoena,⁴⁷ which has a curious status exempt from the Amendment’s central requirements.⁴⁸ Before handing over any documents, businesses may move to quash the subpoena on grounds that it

41. *See* *Colonnade Catering Corp. v. United States*, 397 U.S. 72, 77 (1970).

42. *See* *United States v. Biswell*, 406 U.S. 311, 311–12 (1972).

43. *See* *Donovan v. Dewey*, 452 U.S. 594, 606 (1981).

44. *See* *New York v. Burger*, 482 U.S. 691, 703–06 (1987).

45. *Marshall*, 436 U.S. at 313.

46. Just as an individual’s “papers” are protected by the Fourth Amendment if the individual holds a reasonable expectation of privacy in them, business records that are kept private trigger some constitutional protection. *See* *G.M. Leasing Corp. v. United States*, 429 U.S. 338, 352–53 (1977) (finding that the seizure of corporate records implicated the company’s Fourth Amendment privacy interests); *See v. City of Seattle*, 387 U.S. 541, 544–45 (holding that the Fourth Amendment applies to the government’s “perusal of financial books and records”); *Hale v. Henkel*, 201 U.S. 43, 76 (1906) (“While a search ordinarily implies a quest by an officer of the law, and a seizure contemplates a forcible dispossession of the owner, still . . . the substance of the offense is the compulsory production of private papers, whether under a search warrant or a *subpoena duces tecum*, against which the person, be he individual or corporation, is entitled to protection.”).

47. *See* Christopher Slobogin, *Subpoenas and Privacy*, 54 DEPAUL L. REV. 805, 805 (2005) (“[A]s an investigative tool, subpoenas are probably more important than physical searches of homes, businesses, and effects.”). Document subpoenas can be issued by courts or administrative agencies (both at the federal and state level), and are generally deemed valid if the records requested are “relevant” to an investigation conducted for a “legitimate purpose,” namely authorized by statute. *United States v. Powell*, 379 U.S. 48, 57–58 (1964).

48. *See* *Okla. Press Pub. Co. v. Walling*, 327 U.S. 186, 208 (1946) (finding that “if applicable” to subpoenas for the production of corporate records, the Fourth Amendment “at the most guards against abuse only by way of too much indefiniteness or breadth”); *see generally* CHRISTOPHER SLOBOGIN, *PRIVACY AT RISK: THE NEW GOVERNMENT SURVEILLANCE AND THE FOURTH AMENDMENT*, 154–64 (2007) (summarizing arguments for why the Fourth Amendment offers little protection against document subpoenas, namely because subpoenas are seen to be less intrusive than other types of searches).

lacks sufficient particularity, or is otherwise overbroad or burdensome,⁴⁹ but the chances of a successful challenge are slight.⁵⁰ There are also certain categories of businesses that are subject to inspections of records that they are required by law to keep.⁵¹

Crucially, when it comes to protections for business records, the Fourth Amendment interests of a business must be analyzed separately from the interests of its customers. Under the “third-party doctrine,” if customers voluntarily convey personal information to businesses, the customers are considered to have largely forfeited their Fourth Amendment protections in the information.⁵² The Court has reasoned that a customer “takes the risk, in revealing his affairs to another, that the information will be conveyed by that person to the government.” Therefore, the customer possesses no cognizable expectation of privacy in the information.⁵³ This holds true “even if the information is revealed on the assumption that it will be used only for a limited purpose and the confidence placed in the third party will not be betrayed.”⁵⁴

In sum, in a large number of business records search cases, the reasonableness of a search is determined by simply balancing the nature of the government’s intrusion against the interests served by the intrusion. As a result, the Fourth Amendment allows levels of government intrusion in the context of searches of commercial premises and business records beyond

49. See *Fisher v. United States*, 425 U.S. 391, 401 (1976) (holding that the Fourth Amendment protects against overbroad subpoenas); *United States v. Morton Salt Co.*, 338 U.S. 632, 652 (1950) (ruling that a subpoena is valid, if *inter alia*, “the demand is not too indefinite”); *Okla. Press Pub. Co. v. Walling*, 327 U.S. 186, 208–09 (1946) (limiting the Fourth Amendment’s safeguards against subpoenas, but maintaining that the Amendment still protected against “too much indefiniteness or breadth” in what the document subpoena described).

50. In *Morton Salt Co.*, the Court went as far as to say that a subpoena may pass constitutional scrutiny even when it seeks to satisfy “nothing more than official curiosity.” 338 U.S. 632, 652 (1950). See also Christopher Slobogin, *Subpoenas and Privacy*, 54 DEPAUL L. REV. 805, 806 (2005) (describing how the low standards set by the Court have made subpoenas “extremely easy to enforce”).

51. See, e.g., *Cal. Bankers Ass’n v. Schultz*, 416 U.S. 21, 37, 76 (1974) (upholding the record-keeping and reporting provisions of the Bank Secrecy Act of 1974, which were designed to obtain financial information with a “high degree of usefulness in criminal, tax, or regulatory investigations”).

52. See *United States v. Miller*, 425 U.S. 435, 443 (1976). Noteworthy in the context of the *Patel* case, in *United States v. Cormier* the Ninth Circuit relied on *Miller* to establish that hotel guests do not have a reasonable expectation of privacy in guest registry information. 220 F.3d 1103, 1108 (9th Cir. 2000).

53. *Miller*, 425 U.S. at 443.

54. *Id.*

those allowed in the context of ordinary criminal investigations.⁵⁵ And when it comes to customers' privacy interests in business records, the third-party doctrine obviates Fourth Amendment analysis.

B. THE EVOLUTION OF THE "ADMINISTRATIVE SEARCH" AND "SPECIAL NEEDS" DOCTRINES

"Administrative" and "special needs" searches fall into the long list of exceptions to the rule that searches conducted outside the judicial process are *per se* unreasonable.⁵⁶ Despite the Court's insistence that warrantless inspection schemes are disfavored,⁵⁷ the types of searches that fall into the "administrative search" or "special needs" exceptions themselves are vast and growing.⁵⁸ Beyond the sorts of business inspection schemes at issue in *Patel*, in the past three decades, courts have held that "special needs" justify warrantless, suspicionless searches in a variety of contexts. Some target

55. William J. Stuntz has noted the irony of this outcome—the Court "giving the government much more leeway when enforcing fairly trivial regulations than it has when enforcing laws against rape or murder"—and argues that it can be fixed by reorienting Fourth Amendment analysis in criminal procedure away from privacy concerns. William J. Stuntz, *Privacy's Problem and the Law of Criminal Procedure*, 93 MICH. L. REV. 1016, 1018–19 (1995).

56. It is commonplace for commentators to note that Fourth Amendment law is "riddled with exceptions." See, e.g., Sean M. Kneafsey, Comment, *The Fourth Amendment Rights of Probationers: What Remains After Waiving Their Right to be Free from Unreasonable Searches and Seizures?*, 35 SANTA CLARA L. REV. 1237, 1243 (1995) ("The requirement that a search or seizure be conducted pursuant to a warrant supported by probable cause is riddled with exceptions.").

57. See *Michigan v. Clifford*, 464 U.S. 287, 291–92 (1984) (reaffirming the Court's position "that administrative searches generally require warrants. . . . [e]xcept in certain carefully defined classes of cases").

58. See STEPHEN J. SCHULHOFER, MORE ESSENTIAL THAN EVER: THE FOURTH AMENDMENT IN THE TWENTY-FIRST CENTURY, 95 (2012) ("The once obscure administrative search doctrine now matters enormously in our daily lives."); Eve Brensike Primus, *Disentangling Administrative Searches*, 111 COLUM. L. REV. 254, 255 (2011) ("For some time . . . Fourth Amendment experts have understood that warrantless searches are in practice common, even if they are officially exceptional. But the magnitude and potential scope of this trend has been greatly underestimated, in large part because of inattention to an increasingly important exception to the probable cause and warrant requirements: the administrative search."); William J. Stuntz, *Implicit Bargains, Government Power, and the Fourth Amendment*, 44 STAN. L. REV. 553, 553 (1992) (explaining special needs cases make up a "growing category of cases"); Jennifer Y. Buffaloe, Note, *"Special Needs" and the Fourth Amendment: An Exception Poised to Swallow the Warrant Preference Rule*, 32 HARV. C.R.-C.L. L. REV. 529, 530–31 (1997) (arguing that the "special needs" exception to the warrant requirement "covers a broad range of situations" and is "so broad and far-reaching that it is poised to turn the warrant preference rule on its head").

categories of persons, such as searches of public school students,⁵⁹ government employees,⁶⁰ probationers⁶¹ and parolees.⁶² Others involve protective sweeps and deterrent efforts, such as sobriety checkpoints,⁶³ airport screenings,⁶⁴ and border searches.⁶⁵ The special needs rationale has even been used to defend the constitutionality of searches in the context of national security.⁶⁶ The evolution of the administrative and special needs doctrines shows how a relatively narrow Fourth Amendment carve-out for regulatory inspection schemes eventually expanded to cover almost any suspicionless search, so long as it serves a “sufficiently vital”⁶⁷ governmental interest “beyond the normal need for law enforcement,”⁶⁸ and a warrant or probable cause is “impracticable.”⁶⁹

1. *The Fourth Amendment Makes Way for the Regulatory State and the Administrative Search Doctrine Is Born*

In the early twentieth century, strict interpretations of the Fourth and Fifth Amendments gave way to allow for the enforcement of new regulatory regimes such as the Sherman Act and the New Deal.⁷⁰ By the mid-

59. See *Vernonia Sch. Dist. 47J v. Acton*, 515 U.S. 646 (1995); *Bd. of Ed. v. Earls*, 536 U.S. 822 (2002).

60. See *Skinner v. Ry. Labor Execs. Ass’n*, 489 U.S. 602 (1989); *Nat’l Treasury Emps. Union v. Von Raab*, 489 U.S. 656 (1989).

61. See *Griffin v. Wisconsin*, 483 U.S. 868, 873–74 (1987).

62. See *Samson v. California*, 547 U.S. 843, 846–47 (2006).

63. See *Mich. Dept. of State Police v. Sitz*, 496 U.S. 444 (1980).

64. See *U.S. v. Aukai*, 497 F.3d 955, 959–60 (2007).

65. See *George v. Rehiel*, 738 F.3d 562 (3d Cir. 2013); *United States v. McCarty*, 648 F.3d 820 (9th Cir. 2011).

66. “National Security Letters” are a form of administrative subpoena. See Ursula Gorham-Oscilowski & Paul T. Jaeger, *National Security Letters, the USA PATRIOT Act, and the Constitution: The Tensions Between National Security and Civil Rights*, 25 GOVT. INFO. QRT. 625, 632 (2008); see also U.S. DEP’T OF JUSTICE, LEGAL AUTHORITIES SUPPORTING THE ACTIVITIES OF THE NATIONAL SECURITY AGENCY DESCRIBED BY THE PRESIDENT 37–38 (2006), https://www.justice.gov/archive/opa/docs/whitepaper_onnsalegalauthorities.pdf [<https://perma.cc/UZM5-3PBV>] (“[T]he warrant requirement [is] inapplicable . . . in circumstances in which the Government faces an increased need to be able to react swiftly and flexibly, or when there are at stake interests in public safety beyond the interests in ordinary law enforcement.”).

67. See *Chandler v. Miller*, 520 U.S. 305, 318 (1997).

68. See *id.* at 313.

69. See *Skinner v. Ry. Labor Execs. Ass’n*, 489 U.S. 602, 619 (1989).

70. In the 1886 landmark case *Boyd v. United States*, the Supreme Court held that complying with a government order to provide investigators with commercial invoices pursuant to a civil forfeiture law was a “search” that violated the Fourth and Fifth Amendments. 116 U.S. 616, 622–35 (1886). And twenty years later, in *Hale v. Henkel*, the Court found that a businessman’s compelled compliance with a subpoena during the investigation of a Sherman Act violation constituted a “search.” 201 U.S. 43, 71 (1906).

twentieth century, the Supreme Court had recognized that law enforcement agencies had a “legitimate right to satisfy themselves that corporate behavior is consistent with the law and public interest.”⁷¹

In 1967, *Camara v. Municipal Court* established what eventually became known as the “administrative search” doctrine.⁷² *Camara* held that warrantless administrative searches of private residences to enforce municipal health and safety codes violated the Fourth Amendment.⁷³ However, just as significantly, the Court validated the issuance of search warrants to inspect residences absent individualized suspicion.⁷⁴ Redefining probable cause as flowing from the “reasonableness” of routine inspections, the *Camara* Court concluded that “it is obvious that ‘probable cause’ to issue a warrant to inspect must exist if reasonable legislative or administrative standards for conducting an area inspection are satisfied.”⁷⁵

Three salient factors figured into the Court’s decision that the search regime at issue was “reasonable” under the Fourth Amendment. First, the Court distinguished the governmental interest in housing inspections from the governmental interest involved in criminal investigations:

Unlike the search pursuant to a criminal investigation, the inspection programs at issue here are aimed at securing city-wide compliance with minimum physical standards for private property. The primary governmental interest at stake is to prevent even the unintentional development of conditions which are hazardous to public health and safety.⁷⁶

However, crucially, in *Hale* the Court determined the search unreasonable only because the subpoena was overbroad, and went on to warn that the holding should not be construed to undermine the government’s subpoena power in such cases. *Id.* at 75–77 (“[W]e do not wish to be understood as holding that an examination of the books of a corporation, if duly authorized by act of Congress, would constitute an unreasonable search and seizure within the Fourth Amendment.”); see also William J. Stuntz, *The Substantive Origins of Criminal Procedure*, 105 YALE L.J. 393, 395, 428–33 (1995) (demonstrating how toward the end of Theodore Roosevelt’s presidency, “the Supreme Court began to erect unprincipled boundaries around Fourth and Fifth Amendment protections in order to limit their restrictive effect on regulatory statutes”).

71. *United States v. Morton Salt Co.*, 338 U.S. 632, 652 (1950) (noting that this principle held true even if the government request for information had been “caused by nothing more than official curiosity”).

72. 387 U.S. 523 (1967).

73. *Id.* (overturning *Frank v. Maryland*, 359 U.S. 360 (1959)).

74. *Id.* at 534–39.

75. *Id.* at 538.

76. *Id.* at 535. The Court also noted that area code-enforcement inspections had “a long history of judicial and public acceptance.” *Id.* at 537.

Second, because the inspections were “neither personal in nature nor aimed at the discovery of evidence of crime,” they involved a “relatively limited invasion of the urban citizen’s privacy.”⁷⁷ And third, the Court found that “the only effective way to seek universal compliance with the . . . municipal codes” was through such periodic inspections.⁷⁸ Having concluded that area inspections did not at their inception violate the Fourth Amendment,⁷⁹ the Court held that area warrants could issue so long as “reasonable legislative or administrative standards” were in place and satisfied in each case.⁸⁰

In the wake of *Camara*, determining the reasonableness of an administrative inspection scheme entailed balancing four factors: the nature of the government’s interest, the level of the privacy intrusion, the necessity of the intrusion to further the government’s interest, and the procedural standards employed by authorities issuing the administrative warrants and executing the searches.⁸¹ But over the years, these four factors have been repackaged into a “special needs” doctrine that has permitted a wide array of suspicionless searches in a variety of contexts.⁸²

2. “Special Needs” Searches Grow Out of the Administrative Search Doctrine (and then Subsume It)

The term “special needs” first appeared in Justice Blackmun’s concurring opinion in *New Jersey v. T.L.O.*⁸³ Justice Blackmun agreed with the majority’s interpretation of *Camara*—that in some cases absent individualized suspicion, a search’s reasonableness could be determined by

77. *Id.* at 537.

78. *Id.* (noting that faulty wiring, for instance, is “not observable from outside the building and indeed may not be apparent to the inexpert occupant himself”).

79. “Unfortunately,” Justice White explained, “there can be no ready test for determining reasonableness other than by balancing the need to search against the invasion which the search entails If a valid public interest justifies the intrusion contemplated, then there is probable cause to issue a suitably restricted search warrant.” *Id.* at 536–37.

80. *Id.* at 538.

81. See CLANCY, *supra* note 35, at 596.

82. Note that while the “repackaging” has entailed reformulating some of the factors discussed in *Camara*, the opinion undoubtedly laid the foundation for the special needs doctrine. See Sundby, *supra* note 13, at 550–56 (2005) (stating *Camara*’s reasonableness-based balancing test spawned later special needs cases and “opened the door to unintended mischief”); Carol S. Steiker, *Counter-Revolution in Constitutional Criminal Procedure? Two Audiences, Two Answers*, 94 MICH. L. REV. 2466, 2501 (1996) (calling *Camara* the “forebear of all the later ‘special needs’ cases”).

83. 469 U.S. 325, 351 (1985) (Blackmun, J., concurring).

“a careful balancing [of] governmental and private interests”⁸⁴—but filed a separate opinion noting that the test should only apply “in those exceptional circumstances in which special needs, beyond the normal need for law enforcement, make the warrant and probable-cause requirement impracticable.”⁸⁵ The purpose of Justice Blackmun’s “special needs” formulation was to articulate a distinction between the ultimate balancing of interests *if* an exception to the traditional warrant and probable cause requirements applies, and the “crucial step” of identifying whether the balancing test should apply in the first place.⁸⁶

In the ten years following *T.L.O.*, the Court invoked Justice Blackmun’s “special needs” locution five times to hold that warrants supported by probable cause were not necessary to satisfy the Fourth Amendment: when an employer searches the office of a government employee;⁸⁷ when a probation officer searches the home of a probationer;⁸⁸ when the government requires certain categories of employees to take drug tests;⁸⁹ and when school officials require random drug testing of portions of a student population.⁹⁰ During this period, the language of “special needs” was embedded into the administrative search doctrine.⁹¹ Indeed, any significant distinction between the administrative and special needs doctrines became difficult to discern in the language of courts⁹² and commentators alike.⁹³

84. *Id.* at 337 (“Although the underlying command of the Fourth Amendment is always that searches and seizures be reasonable, what is reasonable depends on the context within which a search takes place. The determination of the standard of reasonableness governing any specific class of searches requires ‘balancing the need to search against the invasion which the search entails.’” (quoting *Camara*, 387 U.S. at 536–37)).

85. *Id.* at 351 (Blackmun, J., concurring) (emphasis added).

86. *Id.*

87. See *O’Connor v. Ortega*, 480 U.S. 709, 719–23 (1987) (plurality opinion).

88. See *Griffin v. Wisconsin*, 483 U.S. 868, 872–75 (1987).

89. See *Skinner v. Ry. Labor Execs.’ Ass’n*, 489 U.S. 602, 633–34 (1989); *Nat’l Treasury Emps. Union v. Von Raab*, 489 U.S. 656, 667 (1989).

90. See *Vernonia Sch. Dist. 47J v. Acton*, 515 U.S. 646, 664–45 (1995).

91. See *New York v. Burger*, 482 U.S. 691, 702 (1987) (permitting an exception to the warrant requirement for situations of “special need” in “closely regulated” industries, where “the privacy interests of the owner are weakened and the government interests in regulating particular businesses are concomitantly heightened” (quoting *T.L.O.*, 469 U.S. at 353 (Blackmun, J., concurring))).

92. See, e.g., *Griffin v. Wisconsin*, 483 U.S. 868, 873 (1987) (listing the situations where the Court has invoked the special needs exception to the warrant requirement, and explaining that “for similar reasons . . . in certain circumstances government investigators conducting searches pursuant to a regulatory scheme need not adhere to the usual warrant or probable-cause requirements” (citing to administrative search cases)).

93. Some commentators have classified special needs searches as a type of administrative search. See, e.g., Wayne LaFave, *Controlling Discretion by Administrative*

Most significant from a doctrinal perspective, over time Justice Blackmun's two-step framework gave way to another form of analysis. Impracticability was moved from its position as a threshold question and collapsed into the Court's ultimate balancing calculus to determine reasonableness.⁹⁴ Instead of initially deciding whether exceptional circumstances made the warrant or probable cause requirements impracticable, the Court "balance[d] the governmental and privacy interests to assess the practicality of the warrant and probable-cause requirements in the particular context."⁹⁵ Even in *Chandler v. Miller*—where, for the first time, the Court found a search regime invalid when applying the special needs doctrine⁹⁶—the Court appeared to merge the two inquiries.⁹⁷

3. Putting "Special Needs" to the Test

In its more recent decisions applying the special needs doctrine, the Supreme Court has attempted to clarify the first prong of the special needs analysis. In identifying whether a search indeed serves a special need, the Court has considered the nature and extent of the problem that a government search purports to remedy and distinguished between the various purposes a government search regime might serve.

Regulations: The Use, Misuse, and Nonuse of Police Rules and Policies in Fourth Amendment Adjudication, 89 MICH. L. REV. 442, 442–47 (1990). While others have characterized administrative searches as a subset of special needs searches. *See, e.g.*, Russell W. Galloway, Jr., *Basic Fourth Amendment Analysis*, 32 SANTA CLARA L. REV. 737, 755–59 (1992).

94. Dissenting in *O'Connor v. Ortega*, Justice Blackmun criticized the Court for precisely this reason: "Although the plurality mentions the 'special need' step, it turns immediately to a balancing test to formulate its standard of reasonableness. This error is significant because . . . no 'special need' exists here to justify dispensing with the warrant and probable-cause requirements." 480 U.S. 709, 742 (1987) (Blackmun, J., dissenting) (citations omitted).

95. *Skinner v. Ry. Labor Execs.' Ass'n*, 489 U.S. 602, 619 (1989) (emphasis added); *see also Nat'l Treasury Emps. Union v. Von Raab*, 489 U.S. 656, 665–66 (1989) ("[O]ur cases establish that where a Fourth Amendment intrusion serves special governmental needs, beyond the normal need for law enforcement, it is necessary to balance the individual's privacy expectations against the Government's interests to determine whether it is impractical to require a warrant or some level of individualized suspicion in the particular context.").

96. *Chandler v. Miller*, 520 U.S. 305, 323 (1997) (striking down a Georgia statute requiring candidates for public office to undergo drug testing).

97. *See The Supreme Court, 1996 Term — Leading Cases: Suspicionless Drug Testing*, 111 HARV. L. REV. 197, 290 (1997) (arguing that although the Court reached the correct result in *Chandler*, "it misapplied the special needs inquiry by conflating the initial identification of a special need with the ultimate balancing test").

First, in *Chandler*, the Court discussed the types of government interests that can justify applying the special needs exception.⁹⁸ A Georgia law requiring candidates for state office to pass drug tests was held to be invalid because the government had failed to show a need that was “substantial”—a need “important enough to override the individual’s acknowledged privacy interest” and “sufficiently vital to suppress the Fourth Amendment’s normal requirement of individualized suspicion.”⁹⁹ The Court pointed to the lack of any evidence of a “concrete danger” or history of drug use by Georgia public officials,¹⁰⁰ and noted that their positions did not involve high-risk or safety-sensitive work.¹⁰¹

Later, in *City of Indianapolis v. Edmond*¹⁰² and *Ferguson v. City of Charleston*,¹⁰³ the Court addressed the issue of what constituted a non-law enforcement purpose.¹⁰⁴ In both cases, the Court found no special need to justify exempting the programmatic searches at issue. In *Edmond*, the Court held that the Fourth Amendment could not condone suspicionless vehicle checkpoints set up for the purpose of detecting illegal narcotics. Unlike previous cases involving checkpoints for unlicensed¹⁰⁵ and alcohol-impaired drivers,¹⁰⁶ searches for drugs were deemed “ultimately indistinguishable from the general interest in crime control.”¹⁰⁷ A year later, in *Ferguson*, the Court found that tests administered by hospital staff to expectant mothers suspected of drug abuse were not covered by the special needs exception because law enforcement officers were substantially involved in administering the drug testing scheme.¹⁰⁸ In both cases, the Court distinguished between a search’s “ultimate” purpose and its “primary” or “immediate” purpose,¹⁰⁹ but it was relatively unclear how it came to its

98. 520 U.S. 305, 326 (1997).

99. *Id.* at 318.

100. *Id.* at 318–19.

101. The Court contrasted this fact with the two previous cases in which it had upheld suspicionless drug tests, *Skinner v. Ry. Labor Excs.’ Ass’n*, 489 U.S. 602 (1989) (railway employees) and *Nat’l Treasury Emps. Union v. Von Raab*, 489 U.S. 656 (1989) (customs officials). *Id.* at 320–21.

102. 531 U.S. 32 (2000).

103. 532 U.S. 67 (2001).

104. In *Chandler*, the Court had simply stated that special needs were “concerns other than crime detection.” 520 U.S. at 314.

105. *See* *Delaware v. Prouse*, 440 U.S. 648, 656–57 (1979).

106. *See* *Mich. Dept. of State Police v. Sitz*, 496 U.S. 444, 459 (1990).

107. *Edmond*, 531 U.S. at 44.

108. 532 U.S. 67, 79–84 (2001).

109. *Edmond*, 531 U.S. at 46 (distinguishing between “primary” and “secondary” purpose); *Ferguson*, 532 U.S. at 83–84 (distinguishing between “ultimate,” “direct,” and “primary” purpose).

distinction, prompting opinions in both cases questioning the validity of the approach.¹¹⁰

II. CITY OF LOS ANGELES V. PATEL

In *City of Los Angeles v. Patel*, the Court addressed the Fourth Amendment rights of hotel and motel operators, and found that an ordinance requiring operators to make guest registries available to police on demand was facially unconstitutional because it denied them the opportunity for precompliance review.

The facts of *Patel* presented an interesting amalgam of Fourth Amendment issues. The case involved an administrative search regime, but one enforced by police officers to deter crime; both commercial premises and business records were potentially subject to search; inspections were carried out in person, not by subpoena; and the business records in question primarily represented the private information of hotel patrons.¹¹¹ Further complicating the issues, the hotel operators challenged the ordinance on its face, not as applied to a particular factual circumstance.

In a 5–4 majority opinion authored by Justice Sotomayor, the Court first assumed that inspections authorized by the ordinance constituted a Fourth Amendment “search,” implying that the hotel operators had protected privacy interests in their guest records. It then held the search regime constitutionally unreasonable, because without an opportunity for precompliance review, the ordinance failed to sufficiently constrain police officers’ discretion.

A. FACTS AND PROCEDURAL HISTORY

In 2004, the City of Los Angeles (“City”) adopted Los Angeles Municipal Code Section 41.49,¹¹² which required motel and hotel operators to record various types of information about their guests and specified how these records were to be maintained. The operators were required to record the guest’s name and address; the number of people in the guest’s party; the

110. See *Edmond*, 531 U.S. at 49–65 (Rehnquist, J., dissenting); *Ferguson*, 532 U.S. at 86–91 (Kennedy, J., concurring).

111. In some respects, therefore, the case actually did evoke the kind of “classic” government-citizen encounter that raises the ire of privacy advocates—the ordinance essentially authorized police officers to indiscriminately single out businesses and ask for their papers. Cf. *Marshall v. Barlow’s, Inc.* 436 U.S. 307, 311 (1978) (observing that the “particular offensiveness” of the general warrant and writ of assistance abhorred by the Framers “was acutely felt by the merchants and businessmen whose premises and products were inspected”).

112. L.A., CAL., Mun. Code (LAMC) § 41.49 (2004).

make, model, and license plate of any guest's vehicle parked on hotel property; the guest's date and time of arrival and departure; the guest's assigned room number; the rate charged for the guest's room; and the guest's method of payment.¹¹³ Guests who did not have reservations, who paid in cash, or who rented a room for less than twelve hours were required to provide photo identification at check-in, and the statute mandated hotel operators record the number and expiration date of the identifying documentation.¹¹⁴ For guests who checked in using an electronic kiosk, hotels were required to record their credit card information.¹¹⁵ The ordinance required records be maintained in either electronic or paper form in the guest check-in area (or an adjacent office) for at least ninety days.¹¹⁶

The provision at issue in the case, Section 41.49(3)(a), required the hotel records "be made available to any officer of the Los Angeles Police Department for inspection." But it also provided that "[w]henever possible, the inspection shall be conducted at a time and in a manner that minimizes any interference with the operation of the business." Failure to make the records available was classified as a misdemeanor and punishable by up to six months in jail and a \$1000 fine.¹¹⁷

A group of hotel operators and a lodging association sued the City in three consolidated cases challenging the constitutionality of Section 41.49(3)(a). In the original complaint, the respondents asserted a Fourteenth Amendment challenge against the ordinance, on the grounds that its provisions were vague and unfair to a subset of motel owners. The original ordinance did not specify how or where records were to be kept and it singled out "motels," as opposed to applying to all commercial lodging establishments.¹¹⁸ An amended version took effect in late 2006, expanding the scope of the ordinance to include other lodging establishments and also including detailed provisions regarding how and where the records were to

113. § 41.49(2).

114. § 41.49(4).

115. § 41.49(2)(b).

116. § 41.49(3)(a).

117. § 11.00(m) (general provision applicable to entire LAMC). Hotel record-keeping statutes like these are commonplace across the country. *See* Reply Brief for Petitioner at 1, *City of Los Angeles v. Patel*, 135 S. Ct. 2443 (2015) (No. 13-1175).

118. The owners' complaint also specified examples of officers entering premises where the owners resided in order to inspect the guest registries, which would have created a significantly different Fourth Amendment analysis. Complaint at 4, *Patel v. City of Los Angeles*, 2005 WL 5071070 (No. CV05-01571-DSF) (C.D. Cal. 2005).

be kept. The hotel owners subsequently launched a facial challenge to the ordinance on Fourth Amendment grounds.¹¹⁹

At the district court, hotel operators claimed that Section 41.49 failed to provide meaningful protection against police harassment¹²⁰ and allowed pretextual searches in support of criminal investigations.¹²¹ The City, on the other hand, argued that registry inspection schemes were necessary to deter the criminal activity that frequently occurs in hotels, and that the provisions of the statute provided sufficient safeguards against abuse of discretion.¹²² The court, following a bench trial, entered a judgment in favor of the City, holding that the challenge failed because respondents lacked a reasonable expectation of privacy in the guest records.¹²³ The Ninth Circuit affirmed on the same grounds.¹²⁴ But after a rehearing en banc, the court of appeals reversed.¹²⁵ The en banc court first determined that the hotel owners had both property and privacy interests in the guest records, which were “more than sufficient to trigger Fourth Amendment protection.”¹²⁶ Turning to the

119. Thus explaining what commentators saw as the owners’ “odd[.]” choice to bring a facial challenge instead of an as applied one. *See* Nicholas Quinn Rosenkranz, *Los Angeles v. Patel and the Constitutional Structure of Judicial Review*, WASH. POST: VOLOKH CONSPIRACY (July 9, 2015), <https://www.washingtonpost.com/news/volokh-conspiracy/wp/2015/07/09/los-angeles-v-patel-and-the-constitutional-structure-of-judicial-review-2> [https://perma.cc/DT7J-3ZSK].

120. Oral Argument at 30:45, *Patel*, 135 S. Ct. 2443 (No. 13-1175), http://www.oyez.org/cases/2010-2019/2014/2014_13_1175 [https://perma.cc/2RVR-KRRY].

121. Reply Brief for Petitioner at 11, *City of Los Angeles v. Patel*, 135 S. Ct. 2443 (2015) (No. 13-1175).

122. *See id.* (“In the proverbial ‘No Tell Motel,’ a criminal can pay in cash, rent rooms by the hour and without reservations, provide no identifying information, and come and go undetected. Stripped of anonymity, criminals are less likely to use hotels as their transient lairs.”).

123. *Patel v. City of Los Angeles*, No. CV 05-1571 DSF (AJWx), 2008 WL 4382755, at *3 (C.D. Cal. Sept. 5, 2008) (“The Court is not convinced that hotel or motel owners have an ownership or possessory interest—or at least not one that gives rise to a privacy right—in the guest registers.”).

124. 686 F.3d 1085, 1088 (9th Cir. 2012) (“The Patels presented no evidence to support their contention that hotel owners and operators, including themselves, have their own expectation of privacy in the information contained in guest registers . . . Just because information can be used by a business does not mean that the business owner desires to keep the information private, or that society would accept such a desire as objectively reasonable.”).

125. 738 F.3d 1058, 1065 (2013).

126. *Id.* at 1061–62. Note that, relying on the third-party doctrine, the Ninth Circuit quickly dismissed the idea that guests had privacy interests in the records: “To be sure, the *guests* lack any privacy interest of their own in the hotel’s records. But that is because the records belong to the hotel, not the guest, and the records contain information that the guests have voluntarily disclosed to the hotel.” *Id.* at 1062 (citing *United States v. Cormier*, 220 F.3d 1103, 1108 (9th Cir. 2000); *United States v. Miller*, 425 U.S. 435, 440 (1976)).

ordinance, the court held that because the amended provision provided “no opportunity for pre-compliance judicial review of an officer’s demand to inspect a hotel’s guest records,” the searches authorized by the City’s ordinance were unreasonable.¹²⁷ Finally, because “this procedural deficiency affect[ed] the validity of all searches authorized by Section 41.49(3)(a),” the court found facial invalidation of the provision appropriate.¹²⁸ The Supreme Court subsequently granted certiorari.¹²⁹

B. SUPREME COURT OPINION

In a 5–4 opinion, the Supreme Court affirmed the Ninth Circuit’s decision, determining that Section 41.49(3)(a) violated the Fourth Amendment. In the majority opinion, Justice Sotomayor made four notable rulings: (1) facial challenges under the Fourth Amendment are allowed and not disfavored;¹³⁰ (2) businesses have Fourth Amendment interests in records they are required to keep;¹³¹ (3) the special exception for “closely regulated” industries is extremely limited;¹³² and (4) precompliance review procedures are necessary for records inspection schemes.¹³³

Justice Scalia and Justice Alito wrote dissenting opinions. Justice Scalia argued that the statute should have been judged under the “closely regulated” industries standard because of the long history of government regulation of hotels; and consequently, under this less demanding standard of review, the inspection scheme should have been found reasonable.¹³⁴ Joined by Justice Thomas, Justice Alito argued that Section 41.49(3)(a) could not be considered facially invalid because there were situations in which it could be applied without violating the Fourth Amendment.¹³⁵

127. *Id.* at 1063–64.

128. *Id.* at 1065.

129. 135 S. Ct. 400 (Mem).

130. 135 S. Ct. 2443, 2449 (2015).

131. *See infra* Section II.B.2 (explaining how this follows from the Court’s assumption that the records inspection constituted a “search” in the first place).

132. *Id.* at 2455.

133. *Id.* at 2452–53.

134. *Id.* at 2459–60 (Scalia, J., dissenting).

135. *Id.* at 2464–66 (Alito, J., dissenting).

1. *Facial Challenges Under the Fourth Amendment Are Not Disfavored*

In perhaps its most controversial holding,¹³⁶ the *Patel* majority held that facial challenges under the Fourth Amendment are “not categorically barred or especially disfavored.”¹³⁷ While it noted that facial challenges are “difficult . . . to mount successfully,”¹³⁸ the Court pointed to a number of occasions on which it had declared statutes facially invalid under the Fourth Amendment.¹³⁹ The Court then described the proper framework for analyzing such challenges: “[W]hen addressing a facial challenge to a statute authorizing warrantless searches, the proper focus of the constitutional inquiry is searches that the law actually authorizes, not those for which it is irrelevant.”¹⁴⁰ When exceptions to the warrant requirement apply (like in the exigent circumstances Justice Alito described in his dissent),¹⁴¹ the provision at issue does “no work” according to the majority.¹⁴² Therefore, the Court reasoned “the constitutional ‘applications’ that . . . [the City] claim[ed] prevent facial relief . . . are irrelevant . . . because they do not involve actual applications of the statute.”¹⁴³

2. *Businesses Have Fourth Amendment Rights in Records They Are Required to Keep*

At the Supreme Court, the City did not contest that the records inspections were “searches” under the Fourth Amendment, and the *Patel* opinion did not explicitly discuss the privacy interests of the hotel owners. But in affirming the Ninth Circuit’s determination that the inspections pursuant to Section 41.49 infringed the owners’ privacy interests, the Court confirmed that businesses have at least some Fourth Amendment interests in their records even when required by law to keep them. The en banc Ninth Circuit found that the records inspections “involve[d] both a physical intrusion upon a hotel’s papers and an invasion of the hotel’s protected

136. When the Court took the case, there was a circuit split as to whether facial challenges under the Fourth Amendment were proper. *See* Petition for Writ of Certiorari at 6–9, *City of L.A. v. Patel*, 135 S. Ct. 2443 (2015) (No. 13-1175).

137. 135 S. Ct. at 2449.

138. *Id.* (quoting *United States v. Salerno*, 481 U.S. 739, 745 (1987)) (internal quotation marks omitted).

139. *Id.* at 2450 (citing *Chandler v. Miller*, 520 U.S. 305 (1997); *Ferguson v. Charleston*, 532 U.S. 67 (2001); *Payton v. New York*, 445 U.S. 573 (1980); *Torres v. Puerto Rico*, 442 U.S. 465 (1979)).

140. *Id.* at 2451.

141. *See id.* at 2464–65 (Alito, J., dissenting).

142. *Id.* at 2451.

143. *Id.*

privacy interest in those papers,” and therefore constituted a “search’ under either the property-based approach of *Jones* or the privacy-based approach of *Katz*.”¹⁴⁴ Because the guest registries were the hotels’ “private property” and contained information “businesses do not ordinarily disclose,” the court found a reasonable expectation of privacy in the records.¹⁴⁵ Furthermore, the hotel retained that expectation of privacy “notwithstanding the fact that the records are required to be kept by law,”¹⁴⁶ and despite the fact that the records at issue contained mainly information about the hotels’ guests.¹⁴⁷

3. *The “Closely Regulated” Industries Exception Is Cabined*

The Court rejected the City’s claim that the hotel industry should be considered “closely regulated” for Fourth Amendment purposes. But even if it were a “closely regulated” industry, the Court held that Section 41.49 would still have been facially invalid.¹⁴⁸ Beyond the fact that the hotel industry was simply not one of the four industries traditionally held to be “closely regulated,” the Court gave two reasons why it should not be added to the category.¹⁴⁹ First, unlike liquor sales, firearms dealing, mining, and automobile junkyards (the four industries the Court has deemed “closely regulated”), the hotel industry posed no “inherent . . . clear and significant risk to the public welfare.”¹⁵⁰ Second, classifying hotels as closely regulated would “permit what has always been a narrow exception to swallow the rule.”¹⁵¹ If a history of regulation “were sufficient to invoke the closely regulated industry exception,” the Court remarked, “it would be hard to imagine a type of business that would not qualify.”¹⁵²

144. 738 F.3d 1058, 1061–62 (2013).

145. *Id.* The en banc majority also took issue with the idea, expressed in the Ninth Circuit’s previous panel decision in favor of the City, 686 F.3d 1085, 1088 (9th Cir. 2012), that the owners should be required to prove, as a factual matter, their privacy interests in the records. Writing for the en banc majority, Judge Watford definitively stated: “We do not believe business owners are required to prove that proposition, any more than homeowners are required to prove that papers stored in a desk drawer are subject to a reasonable expectation of privacy.” 738 F.3d at 1061–62.

146. *Id.* at 1062 (citing *McLaughlin v. Kings Island, Div. of Taft Broad. Co.*, 849 F.2d 990, 995–96 (6th Cir. 1988); *Brock v. Emerson Elec. Co.*, 834 F.2d 994, 996 (11th Cir. 1987)).

147. *Id.* at 1063.

148. *Patel*, 135 S. Ct. at 2456.

149. *Id.* at 2454–55.

150. *Id.* at 2454.

151. *Id.* at 2455.

152. *Id.* Note that in lower courts, this reasoning had in fact produced such an outcome; in his dissent, Justice Scalia points out the numerous cases where industries as innocuous as barber shops and rabbit dealers had been deemed “closely regulated.” *Id.* at 2461 (Scalia, J., dissenting).

Even assuming hotels were considered closely regulated, the Court noted that the statute would have needed to satisfy four criteria to be reasonable under the Fourth Amendment: “(1) [T]here must be a ‘substantial’ government interest that informs the regulatory scheme pursuant to which the inspection is made; (2) the warrantless inspections must be ‘necessary’ to further [the] regulatory scheme; and (3) the statute’s inspection program, in terms of the certainty and regularity of its application, [must] provid[e] a constitutionally adequate substitute for a warrant.”¹⁵³ The Court explained how the City’s inspection scheme failed the second and third prongs of the test: Because an officer could still effectively conduct a “surprise inspection” by obtaining an *ex parte* warrant, or could guard the registry pending a motion to quash, Section 41.49(3)(a) was not necessary to further the goals of the regulatory scheme.¹⁵⁴ And because it “fail[ed] sufficiently to constrain police officers’ discretion as to which hotels to search and under what circumstances,” the ordinance provided no constitutionally adequate substitute for a warrant.¹⁵⁵

4. *Precompliance Review Procedures Are Necessary for Records Inspection Schemes*

Turning to the merits of the case, the Court affirmed the Ninth Circuit’s en banc ruling and held that Section 41.49(3)(a) was facially invalid because it failed to provide hotel operators with an opportunity for precompliance review.¹⁵⁶

The Court first assumed that the purpose of the record-keeping requirement was to deter criminal activity, not to aid in criminal investigations.¹⁵⁷ And because guest registry inspections involved situations where probable cause warrants would be impractical, they qualified as “administrative searches.”¹⁵⁸ Still, the Court found that the provisions of the ordinance unfairly limited the hotel operators’ choice in handing over the records. Relying on its decisions in *Camara*, *See*, and *Donovan*, the Court established that “absent consent, exigent circumstances, or the like, in order for an administrative search to be constitutional, the subject of the search must be afforded an opportunity to obtain precompliance review before a neutral decisionmaker.”¹⁵⁹ Without such an opportunity, “the ordinance

153. *Id.* at 2456 (quoting *New York v. Burger*, 482 U.S. 691, 702–03 (1987)).

154. *Id.*

155. *Id.*

156. *Id.* at 2452.

157. *Id.*

158. *Id.*

159. *Id.*

creates an intolerable risk that searches authorized by it will exceed statutory limits, or be used as a pretext to harass hotel operators and their guests.”¹⁶⁰ Because the *Patel* statute lacked precompliance review, the Court held it facially invalid.¹⁶¹

Finally, the Court spent significant time discussing how the holding would produce only a minimal burden for law enforcement. The Court did not require that a particular form of precompliance review be established, but said an administrative subpoena would suffice and noted the ease with which one could be obtained.¹⁶² It also underscored the narrow nature of the holding by explaining that “a hotel owner must be afforded an *opportunity* to have a neutral decisionmaker review an officer’s demand to search the registry before . . . fac[ing] penalties for failing to comply.”¹⁶³ Furthermore, the Court explained, if an owner did choose to challenge the inspection, law enforcement would be authorized to seize the records while the motion to quash was pending.¹⁶⁴

III. WHAT *PATEL* MEANS FOR THE ADMINISTRATIVE & SPECIAL NEEDS DOCTRINES

The key takeaways of *Patel* are relatively straightforward, but the holding’s immediate impacts and broader implications for Fourth Amendment doctrine are far from clear. Most importantly, because the Court’s opinion glossed over threshold questions regarding when the administrative and special needs exceptions apply in the first place, it is uncertain how other regulatory inspection schemes will be affected by the decision, and unclear what *Patel*’s impact will be on other categories of special needs searches.

160. *Id.* The Court points to a similar situation created by the inspection ordinance in *Camara v. Mun. Court*, 387 U.S. 523, 532 (1967) (noting that “only by refusing entry and risking a criminal conviction can the occupant at present challenge the inspector’s decision to search,” leaving the “occupant subject to the discretion of the official in the field”).

161. *Id.* at 2451.

162. *Id.* at 2453–54.

163. *Id.* at 2453.

164. *Id.* (also stipulating that to justify the seizure, the officer would need reasonable suspicion).

A. WHAT MAKES A NEED “SPECIAL”?

According to most commentators, the administrative search doctrine is a mess¹⁶⁵ and the special needs exception lacks any objective methodology.¹⁶⁶ Some have attempted to defend the ultimate outcome of the cases,¹⁶⁷ but there is near unanimity that the logic of the doctrine is severely lacking.¹⁶⁸

Professor Wayne LaFave and others take issue with the basic premise that the government’s non-law enforcement purposes should be used to justify a diluted probable cause test or to remove the individualized suspicion requirement. They argue that the Court’s emphasis in *Camara* on the need for “universal compliance” with health and safety codes runs counter to basic Fourth Amendment jurisprudence in the context of

165. See, e.g., Primus, *supra* note 58, at 259 (compiling the lengthy list of critical commentators and claiming that the doctrine is a “mess that has become too consequential to leave alone”).

166. See Marc M. Harrold, *Computer Searches of Probationers—Diminished Privacies, “Special Needs” & “Whilst’ Quiet Pedophiles”—Plugging the Fourth Amendment Into the “Virtual Home Visit,”* 75 MISS. L.J. 273, 339 (2005) (arguing that the special needs exception has grown “increasingly unsound, incoherent, and over-expansive”); Tracy Maclin, *Is Obtaining an Arrestee’s DNA a Valid Special Needs Search Under the Fourth Amendment? What Should (and Will) the Supreme Court Do?* 34 J. L. MED. & ETHICS 165, 170, 178 (2005) (arguing that the special needs cases do not form a “coherent doctrine”); Robert D. Dodson, *Ten Years of Randomized Jurisprudence: Amending the Special Needs Doctrine*, 51 S.C. L. REV. 258, 261, 288 (2000) (arguing that the Court has “not adequately defined what a ‘special need’ or ‘special governmental interest’ is,” and that the handful of cases which have addressed the issue “have done little more than apply the special needs doctrine by waving a magic wand and asserting that a special need exists”); Kenneth Nuger, *The Special Needs Rationale: Creating a Chasm in Fourth Amendment Analysis*, 32 SANTA CLARA L. REV. 89, 90 (1992) (“The special needs rationale lacks any objective methodology, devalues fundamental Fourth Amendment individual privacy rights, and undermines legal stability by requiring ad hoc analysis of the reasonableness of a governmental search.”).

167. See, e.g., William J. Stuntz, *Implicit Bargains, Government Power, and the Fourth Amendment*, 44 STAN. L. REV. 553, 555 (1992) (“In my view, the Court’s ‘special needs’ decisions have it about right; broad deference to government searches is proper in the contexts in which the Court has granted it.”). Note, however, that Stuntz’s assessment comes from a time before a number of other special needs searches were found constitutional.

168. One prominent scholar went so far as to pronounce the Court’s jurisprudence in the area a “conceptual and doctrinal embarrassment of the first order.” Anthony G. Amsterdam, *Perspectives on the Fourth Amendment*, 58 MINN. L. REV. 349, 418 (1974). *But cf.* James Jolley, Comment, *Reemphasizing Impracticability in the Special Needs Analysis in Response to Suspicionless Drug Testing of Welfare Recipients*, 92 N.C. L. REV. 948, 962–63 (2014) (“The framework that the Supreme Court currently uses in special needs cases is relatively clear . . . but the implementation of that balancing test continues to be a problem . . .”).

criminal law.¹⁶⁹ Stated differently, critics wonder why there is a greater public interest in enforcing compliance with housing codes or other regulatory schemes than enforcing criminal law.¹⁷⁰ Why couldn't Justice White's statement in *Camara*, that "the public interest demands that *all* dangerous conditions be prevented or abated,"¹⁷¹ be used to justify suspicionless searches in criminal investigations as well? Without further explanation, the Court's decisions in administrative and special needs cases seem to support the conclusion that someone suspected of a crime has more Fourth Amendment rights than someone not suspected of one.¹⁷²

Beyond the problematic doctrinal justifications for administrative and special needs searches, commentators have also bemoaned the lack of clear rules as to when the exceptions should apply.¹⁷³ Namely, how does one determine whether there is a non-law enforcement purpose in the first place?¹⁷⁴ For example, in *T.L.O.*, the Court phrased the governmental interest at stake as the "need for effective methods to deal with breaches of public order." This hardly seems distinct from "the normal need for law enforcement."¹⁷⁵

169. See LAFAVE, *supra* note 5, at 11 (noting that Justice White's statement that "the public interest demands that *all* dangerous conditions be prevented or abated" flies in the face of the generally accepted philosophy that "a certain level of undetected crime . . . [is] preferable to an oppressive police state").

170. In *Frank*, four Justices who eventually joined in the *Camara* majority opinion had seemed to reach the opposite conclusion: "Health inspections are important. But they are hardly more important than the search for narcotic peddlers, rapists, kidnappers, murderers, and other criminal elements." 359 U.S. 360, 382 (1959) (Douglas, J., dissenting).

171. *Camara v. Mun. Court*, 387 U.S. 523, 537 (1967) (emphasis added).

172. For this reason, before *Camara*, the D.C. Circuit had explicitly refused to relax Fourth Amendment standards for administrative inspections, stating emphatically: "[T]o say that a man suspected of crime has a right to protection against search of his home without a warrant, but that a man not suspected of crime has no such protection, is a fantastic absurdity." *District of Columbia v. Little*, 178 F.2d 13, 16–17 (D.C. Cir. 1949).

173. See, e.g., Edwin J. Butterfoss, *A Suspicionless Search and Seizure Quagmire: The Supreme Court Revives the Pretext Doctrine and Creates Another Fine Fourth Amendment Mess*, 40 CREIGHTON L. REV. 419, 430–32 (2007) (critiquing the Court's failure to specify the type of government purposes that satisfy the administrative search exception); Ric Simmons, *Searching for Terrorists: Why Public Safety is Not a Special Need*, 59 DUKE L.J. 843, 888–89 (2010) (pointing out the "semantic game[s]" played by the Court in special needs case law, resulting in inconsistent jurisprudence).

174. See Scott E. Sundby, *A Return to Fourth Amendment Basics: Undoing the Mischief of Camara and Terry*, 72 MINN. L. REV. 383, 408 (1988) ("Even if the penal versus regulatory distinction could constrain the *Camara* Court's analysis, the government retains inordinate power to dictate which [F]ourth [A]mendment standard applies.").

175. *New Jersey v. T.L.O.*, 469 U.S. 325, 337 (1985).

In cases involving administrative searches, the Court has pointed to “public safety” as integral to justifying an exception to the warrant requirement. But in examining the trend of cases in that area, Stephen J. Schulhofer observes that “[i]nsistence on a substantial need to protect public safety has . . . often given way to acceptance of government objectives remote from any concrete safety concern and barely distinguishable from conventional law enforcement.”¹⁷⁶ Consider *New York v. Burger*, an administrative search case, in which the Court held a warrantless search of an automobile junkyard valid even though police officers executed the search, and its principal objective was to catch those implicated in receiving stolen goods.¹⁷⁷ Similarly, special needs cases have upheld suspicionless checkpoints of automobile drivers where drivers may be subject to arrest for violating roadway regulations.¹⁷⁸ It is difficult to make sense of the Court’s stated distinction between “the imperative of highway safety” and “the general interest in crime control.”¹⁷⁹

In sum, critics of the administrative and special needs doctrines have noted significant flaws in the doctrines’ premises that make it difficult to discern when the government’s purposes in fact justify a departure from the warrant and probable cause requirements.

B. *PATEL*’S LIMITED CONTRIBUTION

In the span of three sentences, Patel manages to contribute some clarity to the administrative and special needs frameworks. However, because the Court neglected to engage in substantive analysis concerning key threshold questions, it is unclear how courts will apply the framework moving forward.

1. *Patel Adds Some Clarity to the “Special Needs” Framework*

After a brief discussion of basic Fourth Amendment principles, Justice Sotomayor lays out the test for deciding whether to apply the special needs exception to the searches authorized by Section 41.49:

Search regimes where no warrant is ever required may be reasonable where “special needs . . . make the warrant and probable-cause requirement impracticable,” and where the “primary purpose” of the searches is “[d]istinguishable from the

176. STEPHEN J. SCHULHOFER, *MORE ESSENTIAL THAN EVER: THE FOURTH AMENDMENT IN THE TWENTY-FIRST CENTURY* 101 (2012).

177. 482 U.S. 691, 716 (1987).

178. *See City of Indianapolis v. Edmond*, 531 U.S. 31 (2000).

179. *Id.* at 39–40 (distinguishing *Mich. Dept. of State Police v. Sitz*, 496 U.S. 444 (1990)).

general interest in crime control.” Here, we assume that the searches authorized by §41.49 serve a “special need” other than conducting criminal investigations: They ensure compliance with the recordkeeping requirement, which in turn deters criminals from operating on the hotels’ premises. The Court has referred to this kind of search as an “administrative searc[h].”¹⁸⁰

This formulation adds clarity in two ways. First, it definitively separates the impracticability and purpose inquiries. In previous decisions, the Court had sometimes combined the two, asking whether the government’s purpose *made* the warrant and probable cause requirements impracticable.¹⁸¹ In contrast, *Patel*’s framework makes clear that for the exception to apply, the government must first establish that “special needs . . . make the warrant and probable-cause requirement impracticable.”¹⁸² Moreover, by placing the impracticability requirement up front, the Court emphasized its centrality as a threshold question, thereby bringing the special needs doctrine closer in line with Justice Blackmun’s rationale in *T.L.O.*¹⁸³

Second, in formulating the “purpose” prong of the test, Justice Sotomayor appeared to deliberately avoid the ambiguous phrase, “beyond the normal need for law enforcement.”¹⁸⁴ Instead, relying on language from *Edmond*, the Court asked whether the purpose of the hotel records inspections was distinguishable from “the general interest in crime control.”¹⁸⁵ And in the next sentence, the Court equated this to asking whether the searches served a need “other than conducting criminal investigations.”¹⁸⁶ Therefore, after *Patel*, the purpose of a programmatic search regime must be distinguishable from the goals of criminal investigation for the special needs exception to apply. While certainly not a

180. *City of Los Angeles v. Patel*, 135 S. Ct. 2443, 2452 (2015) (quoting *Griffin v. Wisconsin*, 483 U.S. 868, 873 (1987); *Indianapolis v. Edmond*, 531 U.S. 32, 44 (2000); *Camara v. Mun. Court*, 387 U.S. 523 (1967)) (some internal quotation marks omitted).

181. *See, e.g., Nat’l Treasury Emps. Union v. Von Raab*, 489 U.S. 656, 665–66 (1989) (“[O]ur cases establish that where a Fourth Amendment intrusion serves special needs . . . it is necessary to balance the individual’s privacy expectations against the Government’s interests to determine whether it is impractical to require a warrant or some level of individualized suspicion in the particular context.” (citing *Skinner v. Ry. Labor Execs.’ Ass’n*, 489 U.S. 602, 619–20 (1989))).

182. 135 S. Ct. at 2452 (internal quotation marks omitted).

183. *See supra* text accompanying note 86.

184. *See New Jersey v. T.L.O.*, 469 U.S. 325, 351 (Justice Blackmun’s oft-cited formulation is an “exceptional circumstance[e] in which special needs, beyond the normal need for law enforcement, make the warrant and probable-cause requirement impracticable.”).

185. 135 S. Ct. at 2452 (quoting *Edmond*, 531 U.S. at 44).

186. *Id.*

high bar for the government, it is a clearer requirement than the oft-used “beyond the normal need for law enforcement” inquiry.

2. *Patel Neglected to Engage in Meaningful Analysis of Key Threshold Questions, Therefore It Is Still Unclear When a Need Qualifies as “Special”*

Although the language and formulation of the test in *Patel* contributed some clarity to the basic framework, the Court did not explain its reasoning for why the special needs exception in fact applied. Therefore, the decision is unlikely to reign in further expansion of the doctrine.

The Court rightly established that for the special needs exception to apply, the warrant and probable cause requirements must first be “impracticable.”¹⁸⁷ But the Court never explains why those requirements would be impracticable in the context of the hotel records inspection scheme. In *Camara*, the Court gave reasons for why traditional warrants were impractical when enforcing building codes; for example, inspectors could not detect violations such as faulty wiring without entering residences in the first place.¹⁸⁸ And in special needs cases involving drug testing, the Court has described the need to “discover . . . latent or hidden conditions.”¹⁸⁹

However, this line of reasoning does not necessarily apply to the inspection scheme in *Patel*. It would be difficult, but far from impossible, for officers to rely on individualized suspicion to enforce the record-keeping requirement—the necessary facts to establish probable cause are not “hidden” in the same way that faulty wires are. Because guest check-in areas are open to the public, officers are not barred from observing receptionists and ascertaining whether they are collecting the appropriate information. Officers could also simply ask guests upon leaving whether or not the hotel required them to provide information.¹⁹⁰

If the Court based its reasoning on the impracticability standard set out in other special needs cases, it is still unclear whether these hypotheticals

187. *See id.*

188. And also note that *Camara* nevertheless maintained administrative “area” warrants were necessary for such inspection schemes to satisfy the Fourth Amendment. 387 U.S. 523, 537–38 (1967).

189. Nat’l Treasury Emps. Union v. Von Raab, 489 U.S. 656, 668 (1989).

190. This, of course, would not necessarily allow officers to know whether the hotels in fact properly kept the records. But the stated purpose of the record-keeping scheme is to deter hotel guests who want to use hotels anonymously, not punish hoteliers for keeping lax records. Furthermore, in this hypothetical scenario, learning from guests that the hotel did not ask them to provide information would be enough for officers to obtain an administrative warrant and check the records themselves.

would have been enough to show that a warrant or probable cause would be “practicable” in *Patel*.¹⁹¹ And that’s precisely the problem. As in *Patel*, the Court’s recent decisions in special needs cases¹⁹² only pay lip service to the impracticability requirement.¹⁹³

The Court also unfortunately declined to engage in meaningful analysis of the ordinance’s “purpose.” In a footnote, the Court noted that because it could find the searches unconstitutional regardless of their purpose, it assumed that the ordinance’s “primary purpose”—“deter[ing] criminals from operating on the hotels’ premises”—was distinguishable from the general interest in crime control.¹⁹⁴

The Court has found deterring criminal activity distinguishable from the interest in crime control in previous special needs cases.¹⁹⁵ But in those cases, the Court had always at least attempted to tie the deterrent effects to another government interest at work. For example, in *Earls*, Justice Thomas analogized the “health and safety” interests furthered by suspicionless drug testing to those furthered by “physical examinations and vaccinations against disease.”¹⁹⁶ Granted, in *Patel*, the Court may have found it difficult to make even a tenuous connection to a non-law enforcement purpose.¹⁹⁷ But the fact that the Court ruled deterrence alone was enough to justify the special needs exception will likely lead to further confusion about what constitutes a government purpose “[d]istinguishable from the general interest in crime control.”¹⁹⁸

191. It is worth noting that in *City of Ontario v. Quon*, a special needs case involving the search of a government employee’s pager, the Court explicitly rejected the Ninth Circuit’s reasoning that a search was unreasonable because the government could have accomplished its objectives through a “host of simple ways” that would not have intruded on the employee’s Fourth Amendment rights. 560 U.S. 746, 763 (2010). The Court said such an approach would be inconsistent with controlling precedent, which had “repeatedly refused to declare that only the ‘least intrusive’ search practicable can be reasonable under the Fourth Amendment.” *Id.* (quoting *Vernonia Sch. Dist. 47J v. Acton*, 515 U.S. 646, 663 (1995)). But, unlike *Patel*, *Quon* did not involve a facial challenge to an administrative search scheme; the Court’s concern was “*post hoc* evaluations” of individual searches. *Id.*

192. See *Jolley*, *supra* note 168, at 952–57 (documenting the lack of meaningful analysis of the impracticability requirement).

193. Note, however, that a discussion at least related to the issue of impracticability happens in dicta, when the Court is assessing the reasonableness of the scheme had it fallen under the closely regulated industries exception. See *Patel*, 135 S. Ct. at 2456.

194. *Id.* at 2452.

195. See, e.g., *Mich. Dept. of State Police v. Sitz*, 496 U.S. 444 (1980).

196. 536 U.S. 822, 824, 830–31 (2002).

197. One could argue that the ultimate purpose of the record inspections was to maintain “public order,” which would be similar to the government’s purpose in special needs cases in the schooling context.

198. *Patel*, 135 S. Ct. at 2452.

In sum, the Court paid scant attention to both prongs of the test it established for deciding when the special needs exception should apply. It neglected to explain why the warrant and probable cause requirements were impracticable, and it assumed away meaningful discussion of how the government's purpose was different from the general interest in crime control. Because it could still determine that the statute failed the ultimate reasonableness test, the Court effectively passed over the threshold inquiry and moved directly to the balancing analysis, leaving unclear how courts should identify a "special need" in the first place.¹⁹⁹ Despite the lack of clarity for the special needs doctrine as a whole, *Patel's* central bright-line ruling—that precompliance review procedures are necessary for administrative searches to satisfy the Fourth Amendment—will impact numerous inspection schemes across the country. Privacy advocates (and many Fourth Amendment scholars) will likely see this as a step in the right direction, but far from a meaningful leap. To paraphrase Chief Justice Roberts, the Founders did not fight a revolution to gain the right to administrative subpoenas.²⁰⁰

IV. CONCLUSION

In debates concerning privacy vis-à-vis the government, we are frequently told there are trade-offs—we allow the National Security Agency to engage in some level of surveillance, and in return the public is kept safe from wrongdoers.²⁰¹ But moving into the era of Big Data, security will be just one of many benefits the government can provide in exchange for privacy.²⁰² The ubiquity of Internet-enabled computing devices and increases in digital storage capacity have allowed companies to collect and aggregate individuals' personal information on an unprecedented scale. If, in addition to the third-party doctrine nullifying individuals' privacy interests in their information, the government can point to "special needs"

199. Note the similarity with the Court's reasoning in *Chandler*, in which Justice Ginsburg declined to discuss the impracticability requirement, but ultimately determined that the searches were unreasonable because the governmental interest did not outweigh the privacy interests. 520 U.S. 305, 322 (1997).

200. See *Riley v. California*, 134 S. Ct. 2473, 2491 (2014) ("[T]he founders did not fight a revolution to gain the right to government agency protocols.").

201. See Scott Shane, *Assessing the Trade-Offs Between Security and Civil Liberties*, N.Y. TIMES (July 24, 2012), <http://thecaucus.blogs.nytimes.com/2012/07/24/assessing-the-trade-offs-between-security-and-civil-liberties> [<https://perma.cc/V3RB-E93C>].

202. See EXECUTIVE OFFICE OF THE PRESIDENT, *Big Data: Seizing Opportunities, Preserving Values* (May 1, 2014), https://www.whitehouse.gov/sites/default/files/docs/big_data_privacy_report_may_1_2014.pdf [<https://perma.cc/9WEF-JLS7>].

beyond criminal law enforcement—such as benefits to public health and safety, economic productivity, and education—to justify the flow of information onto government servers,²⁰³ then the Fourth Amendment will be rendered largely meaningless.

The ostensibly clear and narrow holding in *Patel* belies the importance of the questions it declined to consider. Left unchecked, a special needs doctrine that allows for warrantless, suspicionless searches of business records has the potential to undermine any meaningful protection afforded by the Fourth Amendment. In his famous dissent in *Olmstead v. United States*, Justice Brandeis warned: “Experience should teach us to be most on our guard to protect liberty when the Government’s purposes are beneficent The greatest dangers to liberty lurk in insidious encroachment by men of zeal, well-meaning but without understanding.”²⁰⁴ The Supreme Court should heed this warning, and take a serious look at the Fourth Amendment’s “special needs” in the Information Age.

203. In some respects, this is a trade-off we’ve been making for centuries. After all, the modern regulatory state is only possible through the collection and management of citizens’ information. See generally Edward Higgs, *The Rise of the Information State: The Development of Central State Surveillance of the Citizen in England 1500–2000*, 14 J. HIST. SOC’Y 175 (2001). However, the unprecedented amount of information that can be collected and stored nowadays changes the calculus of the trade-off.

204. 277 U.S. 438, 479 (1928) (Brandeis, J., dissenting).

SURVEY OF ADDITIONAL IP AND TECHNOLOGY LAW DEVELOPMENTS

I. PATENT DEVELOPMENTS

A. *DELANO FARMS CO. V. CALIFORNIA TABLE GRAPE COMM'N*¹

The United States Court of Appeals for the Federal Circuit held that an invention is not in public use if there is an expectation of secrecy,² and it established that use is only public if the invention is given with no limitation, restriction, or “injunction of secrecy.”³ This ruling is distinguished from *Egbert v. Lippmann*, wherein the Supreme Court held that an invention is in public use if it is given to a third party to use, even if nobody else knows the invention is in use.⁴

The plaintiffs, three grape growers from California, filed suit against the United States Department of Agriculture (USDA) and the California Table Grape Commission (“Commission”), alleging that two patents on grapes, namely Scarlet Royal (U.S. Patent No. PP16,229) and Autumn King (U.S. Patent No. PP16,284), were invalid.⁵ The patents were filed on September 28, 2004, making the critical date for public use September 28, 2003.⁶ Before challenging the patents’ validity, the plaintiffs had purchased the patented varieties after they were made commercially available and obtained a license from the Commission, requiring that royalties be paid.⁷ The plaintiffs argued that the contested varieties of grapes had been obtained and grown by two individuals prior to the critical date, thus constituting public use and invalidating the patents.⁸

In initial proceedings before the United States District Court for the Eastern District of California, the USDA was dismissed from the case on the grounds of sovereign immunity.⁹ On appeal, the court held that the USDA waived immunity. As a result, the USDA was reinstated, and the

1. 778 F.3d 1243 (Fed. Cir. 2015).

2. *Id.* at 1248–49.

3. *Id.* at 1248.

4. *Id.* (citing *Egbert v. Lippmann*, 104 U.S. 333, 336 (1881)).

5. *Id.* at 1245.

6. *Id.*

7. *Id.* at 1244.

8. *Id.*

9. *Id.*

case was remanded to the district court.¹⁰ On remand, the district court found that there was no public use of the grapes prior to the critical date, and this ruling was affirmed on appeal to the Federal Circuit.¹¹

As stated in 35 U.S.C. § 102(b), a patent should be found invalid if the invention is “in public use . . . in this country, more than one year prior to the date of the application for patent in the United States.”¹² This provision requires the invention’s use to be “accessible to the public or commercially exploited.”¹³ For an invention to be accessible to the public, the public must reasonably believe that it is freely available, which requires considering the nature of the activity occurring in public, “the public’s access to and knowledge of the public use,” and the existence of a “confidentiality obligation imposed on persons who observed the use.”¹⁴ This holding also applies to unaffiliated third parties, and a patent should not be invalidated if the third party’s use is secret or confidential.¹⁵ But a third party’s use can be invalidating if no attempt is made to maintain confidentiality or to conceal the invention.¹⁶ The public use of the invention is a question of law, which must be shown by clear and convincing evidence.¹⁷

In the case at hand, the use at issue stemmed from the unauthorized growing of vines by two third-party California grape growers, the Ludys.¹⁸ One of the Ludys obtained samples of the patented plants at a convention from an employee of the USDA, Robert Klassen, who was unauthorized to give the samples.¹⁹ Klassen told the Ludys to keep the plants private and not to let it get away from them.²⁰ The growers went so far as to perjure themselves in order to protect Klassen.²¹ The plants were only shared with the other Ludy and the Ludy’s publicist, Richard Sandrini, both of whom were told to keep the plants a secret and not to sell any grapes until they

10. *Id.*

11. *Id.*

12. 35 U.S.C. § 102(b) (2006).

13. *Delano Farms*, 778 F.3d at 1247 (citing *Invitrogen Corp. v. Biocrest Mfg., L.P.*, 424 F.3d 1374, 1380 (Fed. Cir. 2005)).

14. *Id.* (citing *Bernhardt, L.L.C. v. Collezione Europa USA, Inc.*, 386 F.3d 1371, 1379 (Fed. Cir. 2004)).

15. *Id.* at 1247.

16. *Id.* (citing *Dey, L.P. v. Sunovion Pharms., Inc.*, 715 F.3d 1351, 1355 (Fed. Cir. 2013)).

17. *Id.* at 1246–47.

18. *Id.* at 1246.

19. *Id.* at 1245–46.

20. *Id.* at 1246.

21. *Id.*

were made commercially available.²² The plants were visible from a public road but were not marked or labeled, and the variety could not be reliably ascertained from view.²³

The plaintiffs maintained three main arguments to support that the grapes were in public use. The first one is that the plants were shared with the other Ludy without limitation, restriction, or injunction to secrecy and that this constituted a lack of confidentiality.²⁴ This contention was rejected on the grounds that the other Ludy knew and had an incentive to keep the plants a secret.²⁵ Lying to protect Klassen was cited as support.²⁶ No explicit agreement to confidentiality was needed; the expectation of secrecy was enough.²⁷ The court further distinguished the case from *Egbert*, noting that while the inventor in *Egbert* had relinquished control over his invention, the continued confidentiality of the plants underscored the Ludys' control.²⁸

Next, the plaintiffs asserted that disclosing the growth of the grapes to Sandrini was public use.²⁹ This argument was also rejected because Sandrini, like the others, had incentives to keep the plants a secret.³⁰

Finally, the plaintiffs argued that the visibility of the plants from a public road made the use public.³¹ This assertion was also rejected because the variety of the plants could not be reliably ascertained from the road, and there was no evidence that anyone had recognized them.³² The vines were unlabeled, and the amount of growth of the contested plants was minimal relative to the total growth on the Ludys' farms.³³

Based on this reasoning, the Federal Circuit upheld the district court's ruling that the plants were not in public use one year prior to the filing of the patents at issue and that the patents were valid.³⁴

22. *Id.*

23. *Id.* at 1250.

24. *Id.* at 1248.

25. *Id.*

26. *Id.*

27. *Id.* (citing *Dey, L.P. v. Sunovion Pharms., Inc.*, 715 F.3d 1351, 1357 (Fed. Cir. 2013)).

28. *Id.* at 1249.

29. *Id.*

30. *Id.*

31. *Id.*

32. *Id.*

33. *Id.* at 1249.

34. *Id.* at 1250.

B. *HELPERICH PATENT LICENSING, LLC v. NEW YORK TIMES CO.*³⁵

The United States Court of Appeals for the Federal Circuit held that third parties practicing unlicensed claims complementary to licensed technology are not within the scope of the patent exhaustion doctrine.³⁶

In *Helperich Patent Licensing, LLC v. New York Times Co.*, Helperich Patent Licensing, LLC (“Helperich”) licensed its patent portfolio to all mobile handset manufacturers in the United States.³⁷ The claims within Helperich’s portfolio related to the transfer of information to wireless handsets, and were divided between handset claims (“apparatus and methods relating to handsets”) and content claims (“systems and methods for handling information and sending it to handsets”).³⁸ The licenses limited the manufacturers to the use of the handset claims, and explicitly denied any grant of rights with respect to the content claims.³⁹ Helperich filed suit in the United States District Court for the Northern District of Illinois against New York Times, Co. (“NYT”) and various other content providers, alleging infringement of its content claims.⁴⁰ The district court granted summary judgment in favor of NYT on the grounds of non-infringement based on patent exhaustion.⁴¹

The patent exhaustion doctrine is a non-codified rule, which asserts that the authorized sale of a patented item eliminates any legal restrictions on the purchaser or any subsequent user to use or sell that item.⁴² The district court held that, by licensing handset claims to the manufacturers, Helperich exhausted any rights to assert the claims against the handset purchasers and content providers.⁴³ In essence, the court found that because the utility of handset claims is contingent on the use of content claims, the licensing of the handset claims extends patent exhaustion to the content claims as well.⁴⁴

On appeal, the Federal Circuit held that the doctrine of patent exhaustion does not prevent Helperich from asserting rights on the

35. 778 F.3d 1293 (Fed. Cir. 2015).

36. *Helperich Patent Licensing, LLC v. New York Times Co. (Helperich I)*, 778 F.3d 1293 (Fed. Cir. 2015).

37. *Id.* at 1296.

38. *Id.* at 1295.

39. *Id.* at 1297.

40. *Helperich Patent Licensing, LLC v. New York Times, Co. (Helperich II)*, 965 F. Supp. 2d 971, 973 (N.D. Ill. 2013).

41. *Id.* at 981.

42. *Helperich I*, 778 F.3d at 1301.

43. *Id.* at 1295.

44. *Id.* at 1298.

unlicensed content claims, even when their use occurs in conjunction with licensed handset claims.⁴⁵ The Federal Circuit cited the Supreme Court's decision in *Morgan Envelope Co. v. Albany Perforated Wrapping Paper Co.*, which distinguished the application of the doctrine "between situations where related, complementary products are both patented and situations where only one is patented."⁴⁶ Morgan Envelope Co. ("Morgan"), which possessed corresponding patents on a toilet paper dispenser and oval-shaped toilet paper roll, claimed infringement by Albany Perforated Wrapping Paper Co. ("Albany") for its authorized sale of Morgan dispensers with unauthorized Albany toilet rolls.⁴⁷ The Court ultimately invalidated Morgan's toilet roll patent, and held that because the perishable element of its technology was not itself patentable, Morgan had exhausted its right to renewal through the authorized sale of its dispensers.⁴⁸

The Supreme Court explicitly distinguished the facts of *Morgan*, where the perishable technology was unpatentable, from those of *Aiken v. Manchester Print Works*, where two distinct patented inventions were used together.⁴⁹ In *Aiken*, the Circuit Court for the District of New Hampshire held that the authorized sale of a knitting machine and needles did not eliminate infringement liability concerning manufacture of replacement needles, because the needles themselves were separately patentable.⁵⁰

The Federal Circuit synthesized *Morgan* and *Aiken* to mean that an authorized buyer of product X cannot, by virtue of his purchase, prevent patent infringement rights on product Y, despite the fact that Y is essential to X's utility.⁵¹

The Federal Circuit further rejected the policy considerations of "practical enhanced utility," which asserts that patent exhaustion should extend to complementary claims because they are inextricably linked to the utility of the licensed technologies.⁵² The court found that the approach would "extend exhaustion far beyond the doctrine's traditional scope" and

45. *Id.* at 1301.

46. *Id.* at 1303 (citing *Morgan Envelope Co. v. Albany Perforated Wrapping Paper Co.*, 152 U.S. 425, 435 (1894)).

47. *Id.* (citing *Morgan Envelope Co.*, 152 U.S. at 431–32).

48. *Id.*

49. *Id.* at 1304 (citing *Aiken v. Manchester Print Works*, 1 F. Cas. 245 (C.C.D.N.H. 1865)).

50. *Id.* (citing *Aiken*, 1 F. Cas. at 247).

51. *Id.*

52. *Id.* at 1306.

explained how with a “walkie-talkie” example.⁵³ If patent exhaustion were extended based on “practical enhanced utility,” a single licensed purchase of a “walkie-talkie,” whose utilization is dependent on multiple persons owning the same patented device, would extend infringement protection to an entire group of non-purchasers to make, sale, or use unauthorized copies.⁵⁴ The court further held that such an approach would discourage innovation through unachievable patent pricing because patentees will likely set exorbitant prices for the first sales to account for their terminated patent rights to subsequent users.⁵⁵

Therefore, in light of *Morgan* and *Aiken*, as well as policy considerations, the Federal Circuit reversed the district court decision and held that the patent exhaustion doctrine does not extend the elimination of rights against licensed handset claims to complementary content claims against a third party.⁵⁶

C. *PAR PHARMACEUTICAL, INC. V. TWI PHARMACEUTICALS, INC.*⁵⁷

The United States Court of Appeals for the Federal Circuit held that the United States District Court for the District of Maryland erred in its application of the inherency doctrine on Par Pharmaceutical’s (“Par”) U.S. Patent No. 7,101,576 (‘576 patent), and vacated and remanded the district court’s judgment of invalidity.⁵⁸

In 1993, Bristol-Myers Squibb began marketing an oral suspension of micronized megestrol, named Megace OS, for the treatment of patients suffering from anorexia, cachexia, or loss of body mass.⁵⁹ Megace OS proved to be a commercial success.⁶⁰ Par applied for and received approval to market a generic micronized megestrol formulation and further developed megestrol nanoparticles.⁶¹ Par’s nanoscale formulation, Megace ES, exhibited a reduced food effect and was indicated for use “without regard to meals,” which is especially important for AIDS patients who have substantially reduced appetites.⁶² TWi Pharmaceuticals (“TWi”) filed an Abbreviated New Drug Application under the Hatch-Waxman Act,

53. *Id.*

54. *Id.*

55. *Id.*

56. *Id.* at 1311.

57. 773 F.3d 1186 (Fed. Cir. 2014).

58. *Id.* at 1188.

59. *Id.* at 1188–89.

60. *Id.* at 1189.

61. *Id.*

62. *Id.* at 1189–90.

seeking approval to sell a generic version of nanosized megestrol and asserting that the '576 patent was invalid or would not be infringed by the sale of their nanosized megestrol formulation.⁶³

Par initiated a patent infringement action under 35 U.S.C. § 271(e)(2)(A),⁶⁴ and in response, TWi moved for summary judgment.⁶⁵ The district court relied on the inherency doctrine to rule that although TWi had failed to prove that Megace OS's bioavailability problem or food effect was known in the art, the patent challenger had shown that all the elements of the claimed formulation were disclosed in the prior art.⁶⁶ The trial court therefore concluded that the food effect was an inherent feature of nanosized megestrol, even if the existence of a food effect was previously unknown in the prior art.⁶⁷ The court also found that there was sufficient motivation to combine the prior art references to yield the nanoparticles formulation.⁶⁸

The Federal Circuit reviewed the district court's ruling of obviousness *de novo* and its factual findings for clear error.⁶⁹ Obviousness is a question of law based on underlying factual determinations of the *John Deere* factors: (1) the scope and content of prior art; (2) differences between prior art and claims; (3) the level of ordinary skill in the art; and (4) objective indicia of nonobviousness.⁷⁰

The Federal Circuit first addressed whether TWi had satisfied its burden of proof that all claims were in the prior art.⁷¹ It found that the district court had correctly determined that there was no known food effect for megestrol in the prior art, but concluded that the trial court had erred in its inherency determination.⁷² The court recognized that, based on precedent, "inherency may supply a missing claim limitation in an obviousness analysis."⁷³ However, the court further provided that "[a] party must . . . meet a high standard in order to rely on inherency" and noted that "the limitation at issue necessarily must be present, or the natural

63. *Id.* at 1190.

64. *Id.*

65. *Id.* at 1191.

66. *Id.* at 1192.

67. *Id.*

68. *Id.*

69. *Id.* at 1194.

70. *Id.* at 1193 (citing *Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966)).

71. *Id.* at 1194.

72. *Id.*

73. *Id.* at 1194–95.

result of the combination of elements explicitly disclosed by the prior art.”⁷⁴

Applying this standard, the Federal Circuit concluded that the district court’s broad judgment regarding the effect of particle size on bioavailability and food effect were not proportional with the claimed limitations under dispute, because it had not required TWi to offer evidence that a decrease in particle size improves bioavailability.⁷⁵ Based on the record, the court found that TWi had failed to provide clear and convincing evidence to support that the claimed food limitation was necessarily present in the prior art, and therefore vacated the district court’s inherency analysis and remanded the case to determine whether the limitation was inherent in the disputed claim.⁷⁶

The Federal Circuit then analyzed the remaining factors in an obviousness analysis: (1) whether one of ordinary skill in the art would have motivation to combine the prior art to arrive at the claimed invention, and (2) whether one of ordinary skill in the art would have reasonable expectation of success in doing so.⁷⁷ The court affirmed the district court’s ruling that the viscosity and inter-patient variability problems associated with micronized megestrol were motivation to combine megestrol with nanoparticle technology.⁷⁸ The court further affirmed the lower court’s judgment that a person skilled in the art would have had a reasonable expectation of success in using nanoparticle technology with megestrol to improve bioavailability, decrease viscosity, and reduce inter-patient variability.⁷⁹

Finally, the Federal Circuit considered Par’s evidence of objective indicia of nonobviousness.⁸⁰ The court concluded that Par’s claims of unexpected results—reduced food effect and patient weight gain—did not rebut the *prima facie* case of obviousness and the nanosized megestrol formulation did not fulfill a long-felt need.⁸¹

Despite upholding the district court’s rulings on the motivation to combine, reasonable expectation of success, and unexpected results, the Federal Circuit vacated the finding of obviousness and remanded the case

74. *Id.* at 1195–96.

75. *Id.* at 1196.

76. *Id.*

77. *Id.*

78. *Id.* at 1197–98.

79. *Id.* at 1199.

80. *Id.* at 1199–1200.

81. *Id.* at 1200.

to the district court to address if TWi had presented clear and convincing evidence that demonstrates the food effect *as claimed* is *necessarily present* in the prior art combination.⁸²

D. *SUPREMA, INC. v. ITC*⁸³

The United States Court of Appeals for the Federal Circuit, in an en banc opinion, held valid the International Trade Commission's (ITC or "Commission") interpretation of 19 U.S.C. § 1337 ("Section 337") as allowing the exclusion of goods that do not directly infringe on a patent until combined with another product after importation.⁸⁴ The court based its ruling on the well-known *Chevron* standard of review, which gives deference to a federal agency's interpretation of a relevant statute as long as (1) Congress has not directly spoken on the issue at hand and (2) the agency's actions are based on a reasonable and permissible interpretation of the statute.⁸⁵

In May 2010, Cross Match Technologies, Inc. ("Cross Match") filed a patent infringement complaint with the ITC against Suprema and Mentalix for fingerprint scanners sold within the United States.⁸⁶ The complaint alleged Suprema and Mentalix had infringed on Claim 19 of U.S. Patent No. 7,203,344 ('344 patent), which related to a "method for capturing and processing a fingerprint image."⁸⁷ Suprema is a Korean company that manufactured the scanners and imported them to the United States, where Mentalix installed software and then sold the scanners.⁸⁸ The scanners did not work without the installed software and the combination of the physical scanners and the installed software was alleged to have infringed Claim 19.⁸⁹

The ITC found that the scanners equipped with the installed software did directly infringe on Cross Match's patent. By exerting its powers granted under Section 337, the Commission issued a limited exclusion order preventing Suprema from importing the scanners.⁹⁰ It also issued a cease and desist order to prevent Mentalix from selling the scanners.⁹¹ The

82. *Id.*

83. 796 F.3d 1338 (Fed. Cir. 2015).

84. *Id.* at 1340.

85. *Id.* at 1346 (citing *Chevron, U.S.A., Inc. v. Natural Resources Defense Council, Inc.*, 467 U.S. 837 (1984)).

86. *Id.* at 1341.

87. *Id.*

88. *Id.* at 1341–42.

89. *Id.* at 1342.

90. *Id.* at 1343.

91. *Id.* at 1344.

ITC ruled that Mentalix directly infringed on Claim 19 of the '344 patent by integrating the software with the scanners and by its subsequent use within the United States.⁹² The Commission further found Suprema liable for induced infringement through its willful blindness in collaborating with Mentalix to import and sell the scanners.⁹³ Suprema and Mentalix appealed the ITC's decision as well as its exclusion and cease and desist orders.⁹⁴ On appeal, the Federal Circuit reversed the Commission's decision and held that in order for an exclusion order to be enacted, the infringement must occur at the time of the product's importation.⁹⁵ In response, Cross Match and the ITC petitioned for a rehearing en banc.⁹⁶

The disputed issue in the rehearing was whether or not the ITC has the power to issue an exclusion order on products that do not infringe a patent at the time of importation, but only infringe when combined with another necessary component after importation into the United States.⁹⁷ In its decision, the Federal Circuit relied on *Chevron*, which established a two-part test for reviewing an agency's administration of a statute.⁹⁸ The first threshold inquiry is "whether Congress has directly spoken to the precise question at issue."⁹⁹ If the answer is yes, then the agency must follow its unambiguous direction.¹⁰⁰ If the answer is no, however, the court must address the second question of "whether the agency's answer [to the precise question at issue] is based on a permissible construction of the statute."¹⁰¹ If and only if this is found to be the case, the agency's ruling should be upheld.¹⁰²

Applying the first step of the *Chevron* framework, the Federal Circuit examined the language of Section 337,¹⁰³ which permits a stop at the border of "articles that infringe" on a valid United States patent.¹⁰⁴ The court found that there was textual uncertainty as to whether the statute applied to inducement of post-importation infringement, and Congress

92. *Id.* at 1342–43.

93. *Id.* at 1343.

94. *Id.* at 1344.

95. *Id.*

96. *Id.*

97. *Id.* at 1345.

98. *Id.* at 1346.

99. *Id.*

100. *Id.*

101. *Id.*

102. *Id.*

103. *Id.*

104. *Id.* at 1345.

had not provided an unambiguous resolution.¹⁰⁵ Further, the court found that there had been no unambiguous statements on whether this section applied to induced infringement or to direct infringement.¹⁰⁶

In the second part of the analysis, the Federal Circuit considered whether the ITC's interpretation of Section 337 was permissible.¹⁰⁷ The court stressed that the Commission's interpretation did not have to be the best one—it just had to be reasonable.¹⁰⁸ Based on the language of Section 337, the court ruled that the ITC was permitted to look at actions that occurred after the product's importation to determine if it would be sold and thus infringe on the patent.¹⁰⁹ The Federal Circuit further noted that there was nothing in the legislative or statutory history that prevented the ITC from exercising this power to prevent unfair practices and therefore deferred to the Commission's interpretation.¹¹⁰

Based on this reasoning, the Federal Circuit overturned its panel's prior decision to remove the exclusion order and remanded the case.¹¹¹ In his dissent, Judge Dyk criticized the decision on the grounds that the scanners could be used without the software from Mentalix, and thus should not have been excluded.¹¹² Judge O'Malley also dissented, contending that the wording of Section 337 is unambiguous, and therefore the ITC was not entitled to *Chevron* deference.¹¹³

II. COPYRIGHT DEVELOPMENTS

A. *SAM FRANCIS FOUNDATION V. CHRISTIES, INC.*¹¹⁴

The United States Court of Appeals for the Ninth Circuit, in an en banc decision, held that a provision in the California Resale Royalties Act (“the Royalty Act”) regulating sales outside the state of California facially violated the dormant Commerce Clause of the United States Constitution.¹¹⁵ The court further held that the offending clause was

105. *Id.* at 1346.

106. *Id.* at 1348.

107. *Id.* at 1349.

108. *Id.*

109. *Id.*

110. *Id.* at 1350.

111. *Id.* at 1352–53.

112. *Id.* at 1353–54.

113. *Id.* at 1354.

114. 784 F.3d 1320 (9th Cir. 2014).

115. *Id.* at 1322.

severable from the remainder of the Act because it was “grammatically, functionally, and volitionally separable.”¹¹⁶

In 2011, Plaintiffs, artists and estates of artists, brought three class actions against Defendants, two New York auction houses (Sotheby’s, Inc. and Christie’s, Inc.), and an online retailer (eBay, Inc.).¹¹⁷ The class actions alleged that Defendants, acting as agents of art sellers, violated the Royalty Act when they failed to pay mandatory royalties on sales due under the statutory provisions.¹¹⁸ The Royalty Act requires the seller of fine art to withhold five percent of the amount of the sale and pay the artist if (1) the seller is a resident of California or (2) the sale takes place in California.¹¹⁹ If the artist cannot be located within 90 days, the seller or agent must transfer the royalty to the California Arts Council.¹²⁰ The district court dismissed the actions in favor of the auction houses, holding that the entire Royalty Act must be stricken as unconstitutional because the invalid portion of the Act could not be severed.¹²¹ Plaintiffs appealed, and after a three-judge panel heard oral arguments, the Ninth Circuit decided to hear the case en banc.¹²²

The Ninth Circuit en banc affirmed the trial court in part by finding the first clause of the Act, specifically the requirement of payment of royalties to the artist where the seller is a resident of California, violated the dormant Commerce Clause.¹²³ The Commerce Clause of the United States Constitution assigns to Congress the authority “to regulate Commerce with foreign Nations, and among the several States.”¹²⁴ Implicit in this affirmative grant is a negative component, referred to as the dormant Commerce Clause, which places a limitation on the power of states by prohibiting “discrimination against interstate commerce and bars state regulations that unduly burden interstate commerce.”¹²⁵ In effect, the dormant Commerce Clause precludes individual states from applying state statutes to transactions that take place entirely outside the states’ borders.¹²⁶ The Ninth Circuit reasoned that because the first clause of the

116. *Id.* at 1325.

117. *Id.* at 1322.

118. *Id.*

119. *Id.*

120. *Id.*

121. *Id.*

122. *Id.* at 1323.

123. *Id.*

124. *Id.*

125. *Id.* (quoting *Quill Corp. v. North Dakota*, 504 U.S. 298, 312 (1992)).

126. *Id.*

Act requires a California resident to pay royalties to artists for selling their artwork “even if the [artwork], the artist, and the buyer never traveled to, or had any connection with, California,” it regulates sales outside the state borders and thus violates the dormant Commerce Clause.¹²⁷

In reviewing whether the invalid clause could be severed from the rest of the Act, the Ninth Circuit reversed the district court’s decision and held that the clause was severable.¹²⁸ The court first established that severability is a matter of state law, and in California, an invalid provision can be severed as long as it does not affect other valid ones.¹²⁹ Specifically, an invalid provision can be severed if it is “grammatically, functionally, and volitionally separable.”¹³⁰

Applying California’s rule of severance, the court determined that the revised statute would read: “Whenever a work of fine art is sold and . . . the sale takes place in California, the seller or the seller’s agent shall pay to the artist of such work of fine art or to such artist’s agent 5 percent of the amount of such sale” (severed clause replaced with ellipsis).¹³¹ The court reasoned that (1) grammatical separability exists because the invalid part can be removed without affecting the wording or coherence of what remains, (2) functional separability exists because the remainder of the statute is complete in itself, and (3) volitional separability exists because the remainder would have been adopted by legislature had it foreseen the partial invalidation of the statute.¹³² The Ninth Circuit therefore held that the offending provision was severable from the remainder of the Act.¹³³ It then returned the case back to the circuit court’s three-judge panel for further review of the remaining issues.¹³⁴

In a concurring opinion, Judge Berzon agreed that the Act was unconstitutional as applied to out-of-state art sales conducted by out-of-state agents, but questioned the majority’s decision on whether the Act is unconstitutional as applied to out-of-state art sales conducted by California residents.¹³⁵ A partial concurrence, partial dissent by Judge Reinhardt suggested that the majority was beyond scope in its decision by addressing a “question unnecessary to the resolution of the case,” given

127. *Id.*

128. *Id.* at 1325.

129. *Id.*

130. *Id.*

131. *Id.*

132. *Id.* at 1325–26.

133. *Id.* at 1325.

134. *Id.* at 1326.

135. *Id.* at 1334 (Berzon, J., concurring).

that the auction houses were not Californian, and further dissented that the clause obligating California residents to pay royalty on out-of-state transactions remains constitutional.¹³⁶

B. *FOX NEWS NETWORK, LLC V. TVEYES, INC.*¹³⁷

The United States District Court for the Southern District of New York held that TVEyes, a media-monitoring service company, engaged in fair use only within a certain subset of its complementary services.¹³⁸ Fair use is an affirmative defense to copyright infringement, which permits a user to use copyrighted materials without permission of the copyright owner when “necessary to fulfill copyright’s very purpose, ‘[t]o promote the Progress of Science and useful arts.’”¹³⁹ Based on the four guiding factors for a fair use defense, provided by the Copyright Act,¹⁴⁰ the court determined that TVEyes’s archiving function is fair use; its e-mail function, if provided with certain protective measures, may be fair use; but its downloading and “Date-Time Search” functions are not fair use.¹⁴¹

In 2012, Fox News Network, LLC (“Fox News”) brought an action against TVEyes under the Copyright Act, claiming infringement of its copyrighted content and seeking damages and an injunction barring TVEyes from copying and distributing clips of Fox News programs.¹⁴² Particularly, Fox News alleged that, by making its content available to TVEyes subscribers, TVEyes was diverting potential licensees, website visitors, and therefore revenue, from Fox News.¹⁴³ TVEyes asserted the affirmative defense of fair use and, in 2014, the parties cross-moved for summary judgment.¹⁴⁴ The court upheld TVEyes’s fair use defense for its core function, but reserved judgment with respect to the four aforementioned features.¹⁴⁵

136. *Id.* at 1326 (Reinhardt, J., dissenting).

137. 124 F. Supp. 3d 325, 327 (S.D.N.Y. 2015).

138. *Id.*

139. *Id.* at 330.

140. The Copyright Act provides four guiding factors for evaluating a fair use defense: (1) the purpose and the character of the use, and whether the new work is “transformative;” (2) the nature of the copyrighted work; (3) the amount and substantiality of the portion used in the relation to the copyrighted work as a whole; and (4) the effect of the use upon the potential market for or value of the copyrighted work. 17 U.S.C. ch. 1.

141. *Fox News*, 124 F. Supp. 3d at 337.

142. *Id.* at 327.

143. *Id.* at 330.

144. *Id.*

145. *Id.*

To resolve the parties' renewed cross-motions for summary judgment regarding TVEyes's four complimentary services, the court requested additional discovery and renewed briefing from each party to address whether each function in question (1) was integral to TVEyes's transformative purpose, and (2) threatened Fox News's derivative business.¹⁴⁶

With regard to TVEyes's archiving function, the court reasoned that it was transformative because it "convert[ed] copyrighted works into a research tool to further learning," allowing its subscribers to "research, critici[ze], and comment."¹⁴⁷ The court found that TVEyes's ability to archive video clips is integral to its service, because requiring users to go through repeated searches every time they want to view previously identified clips would place "needless obstacles" in the path of prospective users, and would "sharply curtail" the value of TVEyes's service.¹⁴⁸ Further, the court found that TVEyes's practice of archiving video clips to remain stored beyond thirty-two days and to facilitate successive reference was integral to its service and its "transformational purpose of media monitoring."¹⁴⁹ Finally, the court noted that Fox News had failed to identify any actual or potential market harm arising from TVEyes's archiving services.¹⁵⁰

Next, the court found that TVEyes's e-mailing feature may be essential for its users to realize the benefits of its transformative service, but there is also substantial potential for abusive.¹⁵¹ The court acknowledged that e-mailing of URL links allows information to reach the individuals who are about to engage in news reporting, commentary, criticism, teaching, scholarship, research, and other fair uses permitted by the Copyright Act under § 107.¹⁵² However, TVEyes's e-mailing feature did not effectively discriminate between sharing with co-workers and sharing with friends.¹⁵³ Further, the court reasoned that this type of indiscriminate sharing may result in TVEyes becoming a substitute for Fox's own website, which would deprive Fox of its advertising revenue.¹⁵⁴

146. *Id.* at 327.

147. *Id.* at 334 (citing *Fox News Network, LLC v. TVEyes, Inc.*, 43 F. Supp. 3d 379, 394 (S.D.N.Y. 2014)).

148. *Id.* at 333.

149. *Id.* at 334.

150. *Id.*

151. *Id.* at 335.

152. *Id.*

153. *Id.*

154. *Id.* (citing *Campbell v. Acuff-Rose Music, Inc.*, 510 U.S. 569, 590 (1994)).

Therefore, the court held that, unless TVEyes meets its burden by developing necessary protections, its e-mailing function cannot be considered fair use.¹⁵⁵

The court then held that TVEyes's downloading function was not fair use because it went well beyond its transformative services of searching and indexing.¹⁵⁶ Although TVEyes claimed that downloading was "absolutely critical" because it allowed for offline use and improved efficiency by enabling the subscribers to organize related clips into their computers,¹⁵⁷ the court found the downloading function was not "sufficiently related" to TVEyes's valuable functions and poses undue danger to content-owners' copyrights.¹⁵⁸ Moreover, the court commented that, although the downloading function is convenient, "convenience alone is not ground for finding fair use."¹⁵⁹

Finally, the court found that TVEyes's "Date-Time Search" function was also not fair use because it duplicates Fox's existing functionality and is thereby likely to be detrimental to Fox News's website traffic and sales by its licensing agents.¹⁶⁰ Specifically, this function allows users to retrieve videos from a specific network based on the date and time of the broadcast. The court dismissed TVEyes's contention that its "Date-Time Search" was a necessary complement to its keyword search, and instead held that it was a content delivery tool because users need to know in advance what they seek.¹⁶¹ The court therefore held that TVEyes's Date-Time Search function was not transformational, and users should thus purchase the desired clip from Fox News or its licensing agents.¹⁶²

Based on the analysis above, the court concluded that TVEyes' archiving function did qualify as fair use; its e-mailing feature, with specific protective measures, may qualify as fair use; whereas its downloading and "Date-Time Search" functions did not qualify as fair use.

155. *Id.*

156. *Id.* at 336 (citing *New York Times Co., Inc. v. Tasini*, 533 U.S. 483, 498, (2001); *Capitol Records, LLC v. ReDigi, Inc.*, 934 F. Supp. 2d 640, 651 (S.D.N.Y. 2013); *UMG Recordings, Inc. v. MP3.Com, Inc.*, 92 F. Supp. 2d 349, 351 (S.D.N.Y. 2000)).

157. *Id.*

158. *Id.*

159. *Id.*

160. *Id.* at 337.

161. *Id.*

162. *Id.*

C. *SQUARE RING, INC. V. DOE*¹⁶³

The United States District Court for the District of Delaware denied UStream’s motion for summary judgment under the DMCA’s safe harbor provisions against Square Ring, Inc. (“Square Ring”). The court denied the motion because the following three questions of fact still existed: whether UStream was “willfully blind” to the infringement, whether notices provided by Square Ring to Ustream were “red flag knowledge,” and whether UStream’s delayed response violated its need to “act expeditiously” under the Digital Millennium Copyright Act.¹⁶⁴

Square Ring, a promoter of boxing events, filed suit against John Does 1–10, UStream.TV Inc., and UStream.TV.COM (“UStream”), seeking damages and injunctive relief for copyright infringement.¹⁶⁵ Square Ring alleged that UStream transmitted a boxing broadcast to which Square Ring owned the copyright.¹⁶⁶ Square Ring further alleged that UStream did not immediately remove or disable access to that broadcast after being notified of infringement.¹⁶⁷ UStream filed a motion for summary judgment under the DMCA’s safe harbor provisions.¹⁶⁸

Square Ring is a boxing promotional company that acquires the rights of boxing matches and licenses distribution rights to third parties such as television networks, bars, and restaurants.¹⁶⁹ Square Ring thus acquired the copyright of a complete March 21, 2009 boxing broadcast.¹⁷⁰ UStream is a user-generated live-streaming website that allows its users to view and share content through its site and services.¹⁷¹ UStream requires its users to agree to its Terms of Service, has a designated copyright agent pursuant to the DMCA, and has a Content Monitoring Team that processes infringement notices.¹⁷² UStream’s Terms of Service expressly prohibit users from transmitting infringing content and were in place at the time of the broadcast.¹⁷³

Anticipating possible infringing uses of its March 21 broadcast, Square Ring sent an infringement notice to UStream on March 17, 2009,

163. No. CV 09-563 (GMS), 2015 WL 307840 (D. Del. Jan. 23, 2015).

164. *Id.* at *6–7.

165. *Id.* at *1.

166. *Id.*

167. *Id.*

168. *Id.*

169. *Id.*

170. *Id.*

171. *Id.*

172. *Id.* at *1–2.

173. *Id.*

demanding all access to the broadcast be blocked.¹⁷⁴ In the alternative, Square Ring demanded its own content takedown tool or appropriate staffing be made available to promptly remove infringing material upon notice.¹⁷⁵ UStream responded and asked for specific information in order to accurately identify the possibly infringing stream.¹⁷⁶ Square Ring reiterated its demands on March 18, 2009. As a result, UStream employees searched through all content on the website, removing or disabling material identified in response to Square Ring's notices.¹⁷⁷ Square Ring sent an additional email on March 20, 2009 titled "FOURTH INFRINGEMENT NOTICE," claiming UStream had not provided an adequate response to Square Ring's requests for a content takedown tool or appropriate staffing.¹⁷⁸

On March 21, Square Ring's third party monitoring agent detected three URLs streaming the boxing broadcast and sent UStream a takedown notice.¹⁷⁹ On the evening of March 23, UStream disabled all three identified channels.¹⁸⁰ UStream asserted that it should be awarded summary judgment because there was no genuine issue of material fact whether UStream met the safe harbor requirements under the DMCA.¹⁸¹ Square Ring asserted, instead, that a reasonable juror could conclude that UStream did not meet the safe harbor requirements because the March 21 broadcast was not expeditiously removed.¹⁸²

To determine whether a reasonable juror could conclude that UStream did not meet the DMCA's safe harbor requirements, the court relied on precedent from the Second Circuit.¹⁸³ The court found that Congress enacted the DMCA to enforce copyrights on the Internet.¹⁸⁴ The court also rejected Square Ring's assertion that Congress had not intended the DMCA's safe harbor provisions to apply to live streaming.¹⁸⁵ Finally, the court found that UStream met all three threshold requirements needed to qualify for protection under the DMCA's safe harbor provisions.¹⁸⁶ The

174. *Id.* at *2.

175. *Id.*

176. *Id.*

177. *Id.*

178. *Id.* at *2.

179. *Id.* at *3.

180. *Id.*

181. *Id.* at *4.

182. *Id.*

183. *Id.*

184. *Id.*

185. *Id.*

186. *Id.* at *5.

court concluded that UStream was a service provider, had reasonably implemented a policy against repeat infringers, and allowed copyright holders to use standard technical means to identify protected copyright works.¹⁸⁷

The court held that questions of fact still existed regarding the requirements for specific safe harbor protection under 17 U.S.C. § 512(c) for user-generated content.¹⁸⁸ Under these requirements, even if ISPs do not have actual knowledge of infringing content, they can lose their safe harbor protections if they are aware of a high probability of infringement and do not confirm that fact; this is known as willful blindness.¹⁸⁹ If ISPs obtain actual knowledge of claimed infringement, they must work “expeditiously to remove, or disable access to, the material that is claimed to be infringing or to be the subject of infringing activity.”¹⁹⁰ ISPs can only obtain knowledge of infringement with DMCA-compliant takedown notices.¹⁹¹ The court held that material questions of fact still existed with respect to whether UStream was willfully blind or had actual red flag knowledge.¹⁹² Furthermore, because of a complete lack of legal precedent for this factual situation, the court was not willing to make a factual determination on summary judgment as to whether UStream acted expeditiously as required by the DMCA.¹⁹³ Therefore, the court denied UStream’s motion for summary judgment.¹⁹⁴

III. TRADEMARK DEVELOPMENTS

A. *B&B HARDWARE, INC. v. HARGIS INDUSTRIES, INC.*¹⁹⁵

The Supreme Court held that, so long as the ordinary conditions for issue preclusion are met, Trademark Trial and Appeal Board (TTAB) decisions may ground issue preclusion in trademark infringement proceedings.¹⁹⁶

187. *Id.* at *5–6.

188. *Id.* at *7.

189. *Id.* (citing *Viacom Int’l, Inc. v. YouTube, Inc.*, 676 F.3d 19, 35 (2d Cir. 2012)).

190. 17 U.S.C. § 512(c)(1)(C).

191. *Square Ring*, 2015 WL 307840, at *6 (citing *Wolk v. Kodak Imaging Network, Inc.*, 840 F. Supp. 2d 724, 746–47 (S.D.N.Y. 2011)).

192. *Id.*

193. *Id.* at *7.

194. *Id.*

195. 135 S. Ct. 1293 (2015).

196. *Id.* at 1299.

In 2002, B&B Hardware (“B&B”), owner of the registered Trademark “SEALTIGHT,” opposed the registration of Hargis Industry’s (“Hargis”) proposed “SEALTITE” trademark on the grounds that Hargis’s trademark was confusingly similar to its own.¹⁹⁷ B&B manufactures metal fasteners for the aerospace industry, whereas Hargis manufactures metal fasteners for the construction industry.¹⁹⁸ In addition to filing before the TTAB an opposition to Hargis’s trademark registration, B&B also filed a trademark infringement suit in district court.¹⁹⁹

In both proceedings, the central question was whether there was a likelihood of confusion between B&B’s “SEALTIGHT” and Hargis’s “SEALTITE.”²⁰⁰ At trial, Hargis argued that the companies “sell different products, for different uses, to different types of consumers, through different channels of trade,” and therefore the similarity of the proposed trademarks was not likely to cause confusion.²⁰¹ B&B, on the other hand, argued that Hargis’s “SEALTITE” trademark could not be registered because it was extremely similar to their own “SEALTIGHT” trademark.²⁰² This similarity, they argued, was of grave significance because their products were distributed by the same online distributors and consumers had a history of occasionally calling the wrong company.²⁰³

Before the district court ruled on the issue of likelihood of confusion, the TTAB proceeding concluded that “SEALTITE” was confusingly similar to “SEALTIGHT,” and therefore ruled in favor of B&B.²⁰⁴ Subsequently, B&B argued in district court that Hargis should be enjoined from arguing on the issue of likelihood of confusion because the TTAB finding should be given preclusive effect.²⁰⁵ The district court declined to apply issue preclusion because the TTAB was not a court created under Article III of the Constitution.²⁰⁶ In contrast to the TTAB ruling, the trial jury found no likelihood of confusion and returned a

197. *Id.* at 1301.

198. *Id.*

199. *Id.* at 1302.

200. *Id.*

201. *Id.*

202. *Id.* at 1301.

203. *Id.* at 1301–02.

204. *Id.* at 1302.

205. *Id.*

206. *Id.*

verdict in favor of Hargis.²⁰⁷ In response, B&B appealed to the United States Court of Appeals for the Eighth Circuit.²⁰⁸

The Eighth Circuit affirmed the lower court's decision, but declined to apply issue preclusion.²⁰⁹ Unlike the trial court, the circuit court's holding was not based on the fact that the TTAB was not an Article III court, but rather that the TTAB applies different standards than the federal courts in determining likelihood of confusion.²¹⁰ Specifically, the Eighth Circuit noted that (1) the TTAB placed "too much" emphasis on the appearance and sound of the marks, and (2) Hargis had the burden of persuasion before the TTAB, whereas B&B had the burden of persuasion before the district court.²¹¹

In evaluating whether issue preclusion should apply in this case, the Supreme Court explored the history of trademark law and the Lanham Act.²¹² The Court specifically noted the Lanham Act's roots in protecting exclusive rights for trademark holders by allowing them (1) to register trademarks with the PTO and to oppose registration through the TTAB, and (2) to sue for infringement in federal district court.²¹³ The Court also found that both case law and the Restatement make clear that issue preclusion applies not only to issues before two courts, but also to issues before a federal court and an administrative tribunal such as the TTAB.²¹⁴

Further, the Court dismissed Seventh Amendment concerns based on precedent, noting that it "has already held that the right to a jury trial does not negate the issue-preclusive effect of a judgment, even if that judgment was entered by a juryless tribunal."²¹⁵ Similarly, with respect to Article III concerns, the Court pointed to its prior holding that "absent a contrary indication, Congress presumptively intends that an agency's determination . . . has preclusive effect."²¹⁶ The Court also examined the text and structure of the Lanham Act, and found no express reason why the Act itself would prohibit issue preclusion between TTAB findings and trademark infringement proceedings in courts.²¹⁷ Further, the Court

207. *Id.*

208. *Id.*

209. *Id.*

210. *Id.*

211. *Id.*

212. *Id.* at 1299–1301.

213. *Id.* at 1299–1300.

214. *Id.* at 1303.

215. *Id.* at 1304 (citing *Parklane Hosiery Co. v. Shore*, 439 U.S. 322 (1979)).

216. *Id.* at 1304–05 (citing *Univ. of Tenn. v. Elliot*, 478 U.S. 788 (1986)).

217. *Id.* at 1305.

distinguished the present case from *Astoria Federal Savings and Loan Ass'n v. Solimino*,²¹⁸ where a plaintiff first sought relief from an agency and then sued in court for the same alleged conduct.²¹⁹ The Court reasoned that, because registration is not a prerequisite for a trademark infringement action, TTAB analysis on overlapping issues can be preclusive to a court's judgment.²²⁰

After dismissing these initial concerns, the Court then addressed the findings of the Eighth Circuit.²²¹ First, the Court found that the standards used for likelihood of confusion for registration and infringement were substantially the same.²²² The Court also found that the two proceedings were substantially similar from a procedural standpoint, such that the TTAB proceeding could be said to meet the standard for issue preclusion of a trial of "quality, extensiveness, and fairness."²²³ Next, with regard to the issue of over-emphasis on the appearance and sound of the marks, the Court held that such emphasis, which may have led to a wrongly decided case, had no bearing on issue preclusion insofar as both rightly and wrongly decided issues are subject to preclusive effect in subsequent hearings.²²⁴ Lastly, the Court found that B&B had the burden of persuasion in both the TTAB proceeding and the Eighth Circuit proceeding.²²⁵

Based on the above reasoning, the Supreme Court concluded that the Eighth Circuit had erred in denying preclusive effect to the TTAB finding on likelihood of confusion and remanded the case.²²⁶ Further, the Court held that issue preclusion should be applied in future proceedings when the standard elements of issue preclusion are present, and the issue tried by the TTAB is substantially the same as that before the district court.²²⁷ It is possible that this decision will also influence issue preclusion in patent cases.²²⁸

218. 501 U.S. 104 (1991).

219. *B&B Hardware, Inc.*, 135 S. Ct. at 1305.

220. *Id.* at 1305–06.

221. *Id.* at 1306.

222. *Id.* at 1307.

223. *Id.* at 1309.

224. *Id.* at 1308.

225. *Id.* at 1309.

226. *Id.* at 1310.

227. *Id.*

228. For a discussion on preclusion and finality in patent proceedings, see Peggy Ni, Note, *Rethinking Finality in the PTAB Age*, 31 BERKELEY TECH. L.J. 557 (2016).

B. *HANA FINANCIAL, INC. v. HANA BANK*²²⁹

On January 21, 2015, the Supreme Court affirmed the Ninth Circuit's holding that when a jury trial has been requested and the facts of a trademark dispute do not warrant entry of summary judgment or judgment as a matter of law, the question of whether tacking is warranted must be decided by a jury.²³⁰ Under the "tacking" doctrine, U.S. courts have provided that trademark holders may "clothe a new mark with the priority position of an older mark," so that they can make modifications to their marks over time without losing priority.²³¹ The Supreme Court granted certiorari in order to resolve a circuit split on whether the tacking inquiry should be resolved by a judge or jury.²³² While the Ninth Circuit held that tacking should be a question left to the jury, both the Federal and Sixth Circuits evaluated tacking as a question of law to be resolved by judges.²³³

Petitioner, Hana Financial, originally filed suit against Respondent, Hana Bank, in 2007 in the District Court for the Central District of California, alleging that Hana Bank infringed its "Hana Financial" mark.²³⁴ Both parties provide financial services to individuals in the United States.²³⁵ Hana Financial was established in 1994 in California.²³⁶ By 1996, Hana Financial obtained a federal trademark registration for the pyramid logo it utilized in marketing its financial services.²³⁷ Hana Bank, originally established as Korea Investment Finance Corporation in 1971, began representing itself in Korea under the "Hana Bank" moniker in 1991.²³⁸ In 1994, Hana Bank created Hana Overseas Korean Club and used the name in advertisements in the United States.²³⁹ The company changed its name to Hana World Center in 2000 and began operating a bank in the US under the name Hana Bank in 2002.²⁴⁰

229. 135 S. Ct. 907 (2015).

230. *Id.* at 911.

231. *Id.* at 909.

232. *Id.* at 910.

233. *See id.* (citing *Van Dyne–Crotty, Inc. v. Wear–Guard Corp.*, 926 F.2d 1156, 1159 (Fed. Cir. 1991); *Data Concepts, Inc. v. Digital Consulting, Inc.*, 150 F.3d 620, 623 (6th Cir. 1998)).

234. *Id.* at 910.

235. *Id.* at 909.

236. *Id.* at 910.

237. *Id.*

238. *Id.* at 909.

239. *Id.*

240. *Id.*

The district court granted summary judgment for Hana Bank on the infringement claim, but the Ninth Circuit reversed, holding that there were genuine issues of material fact as to the priority of the mark.²⁴¹ On remand, the claim was tried before a jury, which returned a verdict for Hana Bank.²⁴² On appeal, the Ninth Circuit affirmed the lower court's decision and held that while tacking is only applicable in "exceptionally narrow circumstances," it requires "a highly fact-sensitive inquiry" that is "reserved for the jury."²⁴³ The Supreme Court then granted certiorari to address the circuit split.²⁴⁴

In trademark dispute cases, tacking can be available if the original and revised marks are "legal equivalents" that "create the same, continuing commercial impression" so that consumers "consider both as the same mark."²⁴⁵ The Court noted that the determination of whether a mark leaves the same commercial impression is based on consumer perspective, particularly an "ordinary purchaser of these kinds of goods or services."²⁴⁶

The Court noted that the individual impression of an ordinary person or community is a jury-based assessment as "the jury is generally the decisionmaker that ought to provide the fact-intensive answer."²⁴⁷ While a judge is not precluded from ruling on a tacking inquiry, a decision from the bench is not permitted when a jury trial is requested and the facts do not warrant summary judgment or judgment as a matter of law.²⁴⁸

The Court also found unpersuasive the four arguments offered by Hana Financial as to why tacking should be an inquiry resolved by a judge.²⁴⁹ First, the Court reasoned that Hana Financial had no grounds to criticize the district court's instruction to the jury in applying the "legal equivalents" standard, because it was essentially the same instruction Hana Financial had proposed to the court.²⁵⁰ Second, the Court found no reason why a tacking determination would create new law more than any other types of cases left to the determination of a jury verdict.²⁵¹

241. *Id.* at 910.

242. *Id.*

243. *Id.* (citing *Hana Fin., Inc. v. Hana Bank*, 735 F.3d 1158, 1160 (9th Cir. 2013)).

244. *Id.* at 910.

245. *Id.* (citing *Van Dyne-Crotty, Inc. v. Wear-Guard Corp.*, 926 F.2d 1156, 1159 (Fed. Cir. 1991)).

246. *Id.* at 910–11.

247. *Id.* at 911.

248. *Id.*

249. *Id.*

250. *Id.* at 912.

251. *Id.*

Third, the Court found that juries are normally assigned the role of factfinder and saw no persuasive reason from Hana Financial as to why tacking as a fact-intensive inquiry should be made an exception.²⁵² The Court reasoned the argument of jury unpredictability is unpersuasive as such concerns have never halted the use of juries in similar inquiries.²⁵³ Finally, the Court noted that its holding in this case does not preclude judges from making a tacking determination as the petitioner contended.²⁵⁴ Instead, the holding is limited to jury trials whereas the petitioner presented only cases that involved tacking disputes in bench trials.²⁵⁵

Based on its finding that the application of the “tacking” doctrine is a fact-intensive inquiry, and because it found Hana Financial’s arguments unpersuasive, the Supreme Court affirmed the Ninth Circuit’s judgment that, in the absence of summary judgment or judgment as a matter of law, tacking disputes in jury trials should be resolved by juries.²⁵⁶

C. *IN RE LOUISIANA FISH FRY PRODUCTS, LTD.*²⁵⁷

The United States Court of Appeals for the Federal Circuit affirmed a Trademark Trial and Appeal Board decision denying the registration of the mark “LOUISIANA FISH FRY PRODUCTS BRING THE TASTE OF LOUISIANA HOME!” without a disclaimer of “FISH FRY PRODUCTS.”²⁵⁸

The appellant Louisiana Fish Fry (“Company”) filed a use-based application for the mark, identifying seven products for the mark.²⁵⁹ The examining attorney found elements of the mark to be generic, equating the public understanding of “FISH FRY PRODUCTS” to the dictionary, or generic, definition of the phrase: goods used with fried fish meals, such as “sauces, marinades and spices.”²⁶⁰ Due to this finding, the examining attorney stipulated a disclaimer of “FISH FRY PRODUCTS” for registration of the composite mark.²⁶¹ Under Section 6(a) of the Lanham Act, the Patent and Trademark Office (PTO) is authorized to require a

252. *Id.*

253. *Id.*

254. *Id.* at 913.

255. *Id.*

256. *Id.*

257. 797 F.3d 1332 (Fed. Cir. 2015).

258. *Id.* at 1333.

259. *Id.* at 1334.

260. *Id.*

261. *Id.*

disclaimer of “an unregistrable component of a mark otherwise registerable.”²⁶² Moreover, the examining attorney provided alternative grounds for the requirement, noting that the term was “at least, ‘highly descriptive’” and that the Company failed to rebut this finding by meeting its burden of demonstrating acquired distinctiveness.²⁶³ The Company contested the requirement and later appealed to the Trademark Trial and Appeal Board (“Board”).²⁶⁴

The Board determined that because the words “fish fry” and “products” retained their dictionary definitions when combined, “FISH FRY PRODUCTS” was generic.²⁶⁵ The Board further affirmed the examining attorney’s alternative argument that even if the phrase was highly descriptive, not generic, the Company had failed to demonstrate the acquired distinctiveness of the phrase in question, finding that the appellant had only submitted evidence relating to the mark as a whole, rather than evidence related specifically to “FISH FRY PRODUCTS.”²⁶⁶

On appeal, the Company did not challenge the Board’s finding that the term was highly descriptive, instead arguing that the Board had erred in finding the term to be generic and in its consideration of acquired distinctiveness.²⁶⁷ The Federal Circuit reviewed the Board’s findings for substantial evidence, because “[g]enericness and acquired distinctiveness are factual determinations.”²⁶⁸ The Federal Circuit recognized the PTO’s burden to “prove genericness by clear evidence”²⁶⁹ and noted its obligation to “take this heightened burden into account.”²⁷⁰ However, the Federal Circuit declined to reconsider the Board’s ruling on genericness, finding that the Company could not meet the lower threshold of demonstrating the acquired distinctiveness of a highly descriptive mark.²⁷¹ The standard for showing acquired distinctiveness is a demonstration “that in the minds

262. *Id.* at 1339 (citing *In re Hiromichi Wada*, 194 F.3d 1297, 1301 (Fed. Cir. 1999)).

263. *Id.* at 1334–35.

264. *Id.* at 1335.

265. *Id.*

266. *Id.*

267. *Id.* at 1336.

268. *Id.* at 1335 (citing *In re Dial-A-Mattress Operating Corp.*, 240 F.3d 1341, 1344 (Fed. Cir. 2001)).

269. *Id.* (citing *In re Merrill Lynch, Pierce, Fenner & Smith, Inc.*, 828 F.2d 1567, 1571 (Fed. Cir. 1987)).

270. *Id.* at 1339 (citing *In re Hotels.com, L.P.*, 573 F.3d 1300, 1302 (Fed. Cir. 2009)) (internal quotation marks omitted).

271. *Id.* at 1336.

of the public, the primary significance of a product feature or term is to identify the source of the product rather than the product itself.”²⁷²

While evidence such as advertising sales and “length and exclusivity of use” may be cited as support, the Company submitted only two declarations from its president and “five registrations that include the term FISH FRY PRODUCTS.”²⁷³ In his declarations, the president noted that the appellant demonstrated “‘substantially exclusive and continuous use’ of the mark for at least the last five years.”²⁷⁴ The Board did not accept the declaration of continuous use as proof of acquired distinctiveness, and the Federal Circuit affirmed, noting that while Section 2(f) of the Lanham Act allows the PTO to “accept five years of ‘substantially exclusive and continuous’ use as *prima facie* evidence of acquired distinctiveness, the statute does not require the [PTO] to do so.”²⁷⁵ The highly descriptive nature of the phrase in question further supported the PTO’s decision to exercise its discretion and refuse the purported use as *prima facie* evidence of acquired distinctiveness.²⁷⁶ Moreover, the Company’s reliance on prior registrations was dismissed on the grounds that the Board had thoroughly considered the registrations and rejected them as evidence of acquired distinctiveness.²⁷⁷

Based on the above, the Federal Circuit held that the Board had sufficient evidence to determine that the Company had failed to meet its burden of showing that FISH FRY PRODUCTS had acquired distinctiveness and affirmed the PTO’s decision to refuse to register the composite mark without a disclaimer.

In a concurring opinion, Judge Newman argued that the majority should have first considered whether the mark was generic, as genericness completely bars registration.²⁷⁸ Further, he found that the Board did not err in determining that the phrase “fish fry products” is indeed generic and therefore “does not have trademark status and cannot acquire trademark status.”²⁷⁹ Despite diverging from the majority’s rationale, Judge Newman

272. *Id.* (citing *Coach Servs., Inc. v. Triumph Learning LLC*, 668 F.3d 1356, 1379 (Fed. Cir. 2012)).

273. *Id.* at 1336.

274. *Id.*

275. *Id.* at 1336–37.

276. *Id.* at 1337.

277. *Id.*

278. *Id.* at 1338 (Newman, J., concurring) (citing 15 U.S.C. § 1052(f)).

279. *Id.* at 1340.

agreed with the holding that the disclaimer of “FISH FRY PRODUCTS” had been properly required by the Board.²⁸⁰

IV. CYBERLAW AND VENTURE LAW DEVELOPMENTS

A. *MARTIN V. GOOGLE, INC.*²⁸¹

The Superior Court of California dismissed a lawsuit against Google, establishing that Google has discretion over the content of its search results and the placement of advertisements.²⁸² Google met its burden of showing that these activities constitute protected expressions of its First Amendment free speech rights.²⁸³ Consequentially, the burden of demonstrating a probability of success on the merits shifted to plaintiff S. Louis Martin.²⁸⁴ Since Martin failed to file an opposition rebutting Google’s argument, the Complaint was dismissed.²⁸⁵

S. Louis Martin brought an action against Google, Inc., alleging that Google committed antitrust violations and engaged in a “deceptive business practice.”²⁸⁶ Specifically, Martin maintained that Google knowingly discriminated against the website CoastNews.com by not listing it among the search results when relevant keywords were entered.²⁸⁷ While search engines such as Bing and Yahoo! often placed CoastNews.com first on their respective lists when users typed the words “San Francisco Restaurant Guide North Beach,” Google did not list the site among its results.²⁸⁸ Martin claimed that Google favored Google-owned companies and advertisers, thereby hurting small businesses and misleading consumers.²⁸⁹ Additionally, Martin protested that after falsely classifying CoastNews.com as a pornographic website, Google

280. *Id.* at 1341.

281. No. CGC-14-539972, 2014 WL 6478416 (Cal. Super. Ct. 2014).

282. Order Granting Defendant Google Inc. to Strike Plaintiff’s Complaint Pursuant to Civ. Proc. Code § 425.16 at 1, *Martin v. Google, Inc.*, No. CGC-14-539972, 2014 WL 6478416 (Cal. Super. Ct. Nov. 13, 2014) (“Order”).

283. *Id.*

284. *Id.*

285. *Id.*

286. Complaint at 2, 6, *Martin v. Google, Inc.*, No. CGC-14-539972 (Cal. Super. Ct. June 17, 2014), <http://digitalcommons.law.scu.edu/cgi/viewcontent.cgi?article=1761&context=historical> [<https://perma.cc/6PHM-YZTC>].

287. *Id.* at 2–3.

288. *Id.* at 1.

289. *Id.* at 2–4.

discontinued ad delivery to the site, leaving blank sections on webpages and detracting from the site's visual appeal.²⁹⁰

Defendant Google, Inc. argued that the court should apply the anti-SLAPP (strategic lawsuit against public participation) statute²⁹¹ to this case.²⁹² Under the statute, a court may grant a special motion to strike a cause of action if it arises from acts that assert the right of petition or free speech and are therefore protected under the United States Constitution or the California Constitution.²⁹³ In order for the court to strike the cause of action, the defendant's act must also be connected with a public issue, and the plaintiff must not have established a probability of success on the claim's merits.²⁹⁴

Google provided examples of cases where federal courts held that search engine rankings were effectively "opinions," and that they therefore constituted expressions of the constitutionally protected right to free speech.²⁹⁵ These cases follow the precedent set by *Blatty v. N.Y. Times Co.*,²⁹⁶ where the California Supreme Court held that the New York Times's selection of books for its best-seller list constituted an expression protected under the First Amendment.²⁹⁷ Based on *Blatty* and its progeny, Google successfully supported its position that the "editorial discretion" it employed when electing whether or not to place advertisements on a particular website was meritorious of First Amendment protection.²⁹⁸

On the issue of whether its act is connected with a public issue, Google relied on the plaintiff's own complaint; Google used Martin's allegation that Google's practices negatively affect many websites and small businesses to establish that Google's conduct therefore "took place in a public forum and is connected with issues of public interest," satisfying the anti-SLAPP statute's "public issue" requirement.²⁹⁹ Further strengthening its claim that the suit involved a public issue, Google classified its placement of advertisements on websites as "public speech"

290. *Id.* at 9.

291. CAL. CIV. PROC. CODE § 425.16 (West 2014).

292. Memorandum of Points and Authorities in Support of Defendant Google Inc. to Strike Plaintiff's Complaint, *Martin v. Google, Inc.*, No. CGC-14-539972, 2014 WL 6478945 (Cal. Super. Ct. Aug. 29, 2014) ("Def.'s Mem.").

293. CAL. CIV. PROC. CODE § 425.16(b)(1) (West 2014).

294. *Id.*

295. Def.'s Mem.

296. 42 Cal. 3d 1033 (1986).

297. Def.'s Mem.

298. *Id.*

299. Complaint at 2, 11; Def.'s Mem.; CAL. CIV. PROC. CODE § 425.16(b)(1).

and maintained that search engines' search results affected "millions" of users.³⁰⁰

In addition to maintaining that the First Amendment protected Google's conduct, Google cited the Communications Decency Act of 1996,³⁰¹ which "precludes state law claims based on an Internet Service Provider's restrictions of use of its services for objectionable purposes," as support for dismissal.³⁰² Moreover, asserting a contract-based defense, Google maintained that the Terms and Conditions, to which Martin agreed, validated Google's conduct towards CoastNews.com following the site's uploading of a photo containing nudity.³⁰³ Martin explained that the photo was featured in an article about a nudist colony in the Santa Cruz mountains and therefore had no pornographic value.³⁰⁴ Further, per Google's request, Martin removed the ad code from that page within three days, but Google still refused to place advertisements on the site's additional pages.³⁰⁵

The court held that Google has met its burden of showing that Martin's claims arose from Google's constitutionally protected free speech rights, and that, in so doing, Google shifted the burden of establishing a probability that the plaintiff will prevail on its causes of action to Martin.³⁰⁶ As Martin neither filed an opposition to Google's motion, nor produced evidence demonstrating a probability of success, the plaintiff failed to meet this burden.³⁰⁷ Therefore, upon accepting that Google's ranking of search results and placement of advertisements constituted expressions of constitutionally protected rights, the court struck Martin's complaint.³⁰⁸

B. *MATTOCKS V. BLACK ENTERTAINMENT TV LLC*³⁰⁹

On August 20, 2014, the District Court for the Southern District of Florida granted Black Entertainment TV LLC ("BET")'s motion for summary judgment, holding that "likes" on a Facebook Fan Page ("Page")

300. Def.'s Mem.

301. 47 U.S.C. § 230 (1996).

302. Def.'s Mem.

303. *Id.*

304. Complaint at 7.

305. *Id.*

306. Order at 1, *Martin v. Google, Inc.*, No. CGC-14-539972, 2014 WL 6478416 (Cal. Super. Ct. Aug. 29, 2014).

307. *Id.*

308. *Id.*

309. 43 F. Supp. 3d 1311 (S.D. Fla. 2014).

are not the property of the creator of the Page.³¹⁰ The court reasoned that if anyone can claim to own the “likes,” it is the individuals who “like” the Page.³¹¹

In 2008, Plaintiff Stacey Mattocks created a Facebook Fan Page for The Game (“Series”), a television series broadcasted by the CW Network.³¹² Due to Facebook’s Terms and Conditions for unofficial Pages, Mattocks did not post any third-party-owned content from the Series.³¹³ In 2009, BET acquired the syndication and exclusive licensing rights to the Series.³¹⁴ In 2011, BET hired Mattocks part-time to manage the Page she created.³¹⁵ Shortly thereafter, BET displayed its trademarks and logos on the Page, encouraged viewers to “like” the Page, provided Mattocks with exclusive content, and regularly instructed her on what to post.³¹⁶ Mattocks posted most of the content on the Page, but BET members also had the ability to post.³¹⁷ While Mattocks worked for BET, the Page grew from two million “likes” to over six million.³¹⁸

In 2011, BET and Mattocks entered into a Letter Agreement.³¹⁹ BET agreed not to exclude Mattocks from the Page, and in exchange, Mattocks granted BET administrative access to the Page.³²⁰ In June 2012, while BET and Mattocks were negotiating full-time employment status at BET, Mattocks restricted BET’s administrative access to the Page until the parties could reach an “amicable and mutually beneficial resolution” concerning her employment.³²¹ As a result, BET could no longer post content on the Page.³²² BET formally requested that Facebook migrate the six million “likes” from the Page to an official Series Page created by BET.³²³ Facebook granted BET’s request and shut down the Page originally created by Mattocks.³²⁴

310. *Id.* at 1321.

311. *Id.*

312. *Id.* at 1315.

313. *Id.*

314. *Id.* at 1314.

315. *Id.* at 1315–16.

316. *Id.* at 1316.

317. *Id.*

318. *Id.*

319. *Id.*

320. *Id.*

321. *Id.*

322. *Id.*

323. *Id.*

324. *Id.* at 1317.

Mattocks alleged five claims in her complaint: BET tortiously interfered with her contractual relationships with (1) Facebook and (2) Twitter; (3) BET breached the Letter Agreement; (4) BET breached its duty of good faith and fair dealing towards Mattocks; and (5) BET converted Mattocks' business interest in the Facebook Page.³²⁵ In response, BET filed a motion for summary judgment.³²⁶

The court held that under Florida law, BET could not be liable for tortious interference.³²⁷ By revoking BET's administrative access to the Page, Mattock deprived BET of control over its intellectual property on the Page.³²⁸ The court further concluded that BET terminated the Page at least partly in response to the revocation of BET's administrative access.³²⁹ Finally, the court held that Mattocks provided no substantial evidence that Facebook's decision to shut down the Page was based on anything other than Facebook's policy of protecting brand owners' rights.³³⁰

On the claim of breach of contract, BET claimed that their prior agreement with Mattocks was effectively terminated by Mattocks' breach of contract.³³¹ Florida law states that a material breach by one party excuses performance by the other party.³³² The court held that in revoking BET's administrative access to the Page, Mattocks engaged in a material breach of the contract first, thereby excusing BET from its obligations.³³³ The material breach of contract was also found to undercut Mattock's third claim, breach of good faith and dealing.³³⁴

On the issue of conversion, Mattocks alleged that the transfer of Facebook "likes" from the Page she created to BET's new Page converted her business interest in the "likes" and willfully deprived her of business opportunities created through the significant number of "likes" she helped generate.³³⁵ Under Florida law, "conversion is an unauthorized act which deprives another of his property permanently or for an indefinite time."³³⁶ To prove a conversion claim, the plaintiff must provide facts sufficient to

325. *Id.*

326. *Id.*

327. *Id.* at 1319.

328. *Id.*

329. *Id.*

330. *Id.*

331. *Id.*

332. *Id.* at 1319–20.

333. *Id.* at 1320.

334. *Id.*

335. *Id.* at 1321.

336. *Id.*

show 1) ownership of the property, and 2) the wrongfully “asserted dominion” by other party.³³⁷ Here, the court rejected Mattocks’s conversion claim because she could not show a property interest in the Facebook “likes.”³³⁸ The court noted that the individual user has the ability, at any time, to revoke the “like” by clicking the “unlike” button.³³⁹ Thus, if anyone could claim ownership over the “likes,” it would be the individual users responsible for the “likes.”³⁴⁰ The court therefore held that because of the tenuous relationship between the likes on the Page and Mattocks, the “likes” could not be converted in “the same manner as goodwill or other intangible business interests.”³⁴¹ Interestingly, the court did not distinguish between the two million “likes” accumulated by Mattocks before the BET arrangement and allowed all six million “likes” to be transferred to BET’s new Page.

In finding that BET met its burden under FRCP Rule 56(a) by showing all five claims lacked a genuine issue of material fact, the court granted summary judgment to BET.³⁴²

C. *PLANNED PARENTHOOD OF THE HEARTLAND, INC. V. IOWA BOARD OF MEDICINE*³⁴³

On June 19, 2015, the Iowa State Supreme Court held that the Iowa Administrative Code Rule 653—13.10(2-4), which effectively prohibits telemedicine abortions, is unconstitutional.³⁴⁴

Planned Parenthood, one of the nation’s largest abortion providers, has performed telemedicine-assisted abortions in Iowa since 2008.³⁴⁵ Telemedicine allows a doctor to speak with a patient at a satellite facility through a secure connection, review her lab results and ultrasound images, and provide counseling for the abortion procedure. A trained staff member examines the patient and performs an ultrasound to assess risk of complications. The doctor then dispenses the abortion-inducing drugs and oversees buccal administration of the first via live video.³⁴⁶ Planned

337. *Id.*

338. *Id.*

339. *Id.*

340. *Id.*

341. *Id.*

342. *Id.*

343. 865 N.W.2d 252 (2015).

344. *Id.* at 269.

345. *Id.* at 255.

346. *Id.* at 255–56.

Parenthood applies the same protocol to both telemedicine and in-person abortion procedures.³⁴⁷

On June 25, 2013, the Board of Medicine received a petition proposing changes to the standard of care for abortion providers.³⁴⁸ After a public meeting, solicitation of comments, a hearing, and a final vote, the Board implemented the changes, which it justified based on patient safety and promotion of physician-patient relationships.³⁴⁹ The new regulations require the physician to (1) conduct a physical examination of the patient, (2) be physically present when the abortion-inducing drugs are provided, and (3) personally schedule a follow-up appointment.³⁵⁰ These requirements would effectively ban telemedicine abortions in Iowa.³⁵¹

Planned Parenthood of the Heartland and Dr. Jill Meadows, M.D. challenged the Iowa Board of Medicine's new standards of care in an Iowa District Court on constitutional grounds, claiming that the rules are invalid as "substantial rights of the person seeking relief have been prejudiced" and the rules are "[u]nconstitutional on [their] face or as applied."³⁵²

The court examined the constitutionality of the amended standards under both the Iowa and U.S. Constitutions. The court had never determined whether the Iowa Constitution affords women an independent right to terminate pregnancy.³⁵³ However, the Board recognized the existence of such a right coexistent with that afforded by the federal Constitution.³⁵⁴ Thus, should the standards impinge on the federal right, they also impinge on the Iowa right.

To evaluate the standards under the U.S. Constitution, the court turned to the "undue burden" test set forth in *Planned Parenthood of Southeastern Pennsylvania v. Casey*.³⁵⁵ Generally, a state regulation places an undue burden on a woman's right to terminate a pregnancy if it has "the purpose or effect of placing a substantial obstacle in the path of a woman seeking an abortion."³⁵⁶ As the right to abortion is limited, the

347. *Id.* at 256.

348. *Id.*

349. *Id.* at 258.

350. *Id.* at 256–57.

351. *Id.* at 253.

352. *Id.*

353. *Id.* at 262.

354. *Id.*

355. *Id.* at 254 (citing *Planned Parenthood of Se. Pa. v. Casey*, 505 U.S. 833, 878–79 (1992)).

356. *Id.* at 263.

Casey test requires balancing “a woman’s right to terminate her pregnancy against the legitimate interests of the state.”³⁵⁷

The court looked to the professed purpose of the new regulations to determine the state’s interest. It found that the Board aimed to “promote the health . . . of a woman seeking to terminate her pregnancy.”³⁵⁸ Thus, the *Casey* test required balancing the gains in safety against the burden placed on women seeking abortions.

The court found record evidence suggesting that the new rules provide negligible health benefits to patients. First, medical evidence shows that a pelvic exam “does not provide any measurable gain in patient safety.”³⁵⁹ Further, the physician’s conduct and examination remain identical to that of an in-person exam.³⁶⁰ Secondly, the court found that the physician community maintained the safety of telemedicine abortions without compromising physician-patient relationships.³⁶¹ Moreover, the court found that a properly equipped clinic could perform the necessary follow-up procedures and examination without the personal assistance of a physician.³⁶² It cited the “increasing number of medical procedures” performed by telemedicine and recent studies showing that “telemedicine abortions pose no further risk of complication to the woman” than abortions done with the physician present.³⁶³ Finally, the court identified that the Iowa Board of Medicine has adopted a rule generally approving of telemedicine, citing the increased convenience and efficiency of the technologically assisted practice.³⁶⁴ Here, the amended rules carve out an exception to the general acceptance of the practice for no medically viable reason.³⁶⁵

Conversely, the court found that the new standards impose significant burdens on patients. Mandatory face-to-face meetings with the physician would necessitate previously unnecessary travel to one of three Planned Parenthood clinics with present clinicians, causing financial, personal, and emotional stress to patients, especially those from rural areas.³⁶⁶ This would result in missed work, as well as a “greater possibility that an

357. *Id.*

358. *Id.* at 264.

359. *Id.* at 265.

360. *Id.* at 256.

361. *Id.* at 266.

362. *Id.* at 267.

363. *Id.* at 266.

364. *Id.* at 269.

365. *Id.*

366. *Id.* at 267.

abusive spouse, partner, or relative . . . find out the woman is terminating her pregnancy,” thus harming the woman’s ability to make the abortion decision “privately and discreetly.”³⁶⁷ The court further rejected the Board’s argument that the burden may be placed without being “undue”³⁶⁸ because the minimal medical justification for the rules here distinguish the circumstances from *Casey*.³⁶⁹

In applying the balancing test provided in *Casey*, the court held that the amended standards of care posed an undue burden on women seeking abortion. The weight of medical and record evidence suggested the new rules provided negligible gains in patient safety, while imposing a significant burden on patients through increased travel time, expense, and exposure. As such, the Iowa State Supreme Court held that the rules prohibiting telemedicine abortions are unconstitutional under both the state and federal Constitutions.³⁷⁰

D. *UNITED STATES V. LIZARRAGA-TIRADO*³⁷¹

The United States Court of Appeals for the Ninth Circuit held that a Google Earth satellite image and its computer-generated tack placement and automatic coordinate labeling are not “hearsay,” and thus are admissible evidence.³⁷²

In 2003, border patrol agents Garcia and Nunez arrested defendant, Lizarraga-Tirado, near the United States-Mexico border for illegal reentry under 8 U.S.C. § 1326.³⁷³ At trial, Lizarraga-Tirado contended that he was actually in Mexico when he was arrested, and insisted that the agents must have accidentally crossed into Mexico before arresting him.³⁷⁴ The agents testified that they were very familiar with the area and were certain they had arrested him north of the border.³⁷⁵ In addition, Agent Garcia testified that, at the scene of the arrest, she had used a handheld Global Positioning System (GPS) device to record the coordinates of the arrest.³⁷⁶ For illustrative purposes, the government produced a Google Earth satellite image that included a digital tack labeled with GPS coordinates

367. *Id.*

368. *Id.* at 267–68.

369. *Id.* at 269.

370. *Id.*

371. 789 F.3d 1107, 1109–10 (9th Cir. 2015).

372. *Id.*

373. *Id.* at 1108.

374. *Id.*

375. *Id.*

376. *Id.*

that, according to Garcia's testimony, matched the coordinates she recorded the night of the arrest.³⁷⁷ In response, Lizarraga-Tirado urged the trial court to suppress the image, claiming it was inadmissible hearsay.³⁷⁸ The court overruled his objection based on the image and the agents' testimony, and admitted the image as evidence.³⁷⁹

Google Earth is a computer program that displays satellite images taken from high-resolution cameras and superimposes certain markers, or tacks, onto the images.³⁸⁰ There are two ways for a tack be added: (1) by typing GPS coordinates, which automatically places a tack at the appropriate spot on the map and labels the coordinate; or (2) by manually adding a tack and personally labeling the coordinate.³⁸¹

On appeal, Lizarraga-Tirado argued that (1) the satellite image is hearsay because it asserted that it "accurately represented the desert area where the agents worked," and (2) the tack and coordinates are hearsay because they asserted "where the agents responded and its proximity to the border."³⁸² Hearsay is defined as an out-of-court statement by a person—whether in the form of "a person's oral assertion, written assertion, or nonverbal conduct"—that is intended to assert the truth of a disputed matter before the court.³⁸³ Essentially, Lizarraga-Tirado claimed that both the satellite image and the digitally added tack-coordinates were impermissible hearsay because they were out-of-court statements by Google Earth used to assert that he had been arrested north of the border.³⁸⁴

First, in addressing the novel question of whether a satellite image without the tack is hearsay barred by Federal Rules of Evidence 801(c)(2) and 802, the court analogized a Google Earth satellite image to a photograph.³⁸⁵ Based on precedent, the court held that "a photograph isn't hearsay because it makes no 'assertion,'" and instead "merely depicts a scene as it existed at a particular time."³⁸⁶ Accordingly, the court held that

377. *Id.*

378. *Id.*

379. *Id.*

380. *Id.*

381. *Id.*

382. *Id.* at 1109.

383. *Id.* (citing Fed. R. Evid. 801(a)).

384. *Id.*

385. *Id.*

386. *Id.* (citing *United States v. May*, 622 F.2d 1000, 1007 (9th Cir.1980); *United States v. Oaxaca*, 569 F.2d 518, 525 (9th Cir.1978)).

a satellite image, like a photograph, makes no assertions, and thus is not hearsay.³⁸⁷

Next, in determining the “more difficult question” of whether the addition of tack placement and coordinate labeling are hearsay, the court distinguished computer-generated tacks and automatic coordinate labeling from manually placed tacks and personal coordinate labeling.³⁸⁸ The court held that while the former are not considered hearsay, the latter are.³⁸⁹ The court made the distinction that although automatically labeled markers do make the assertion that the tack is actually placed at the labeled GPS coordinates, the assertion is not made by a person, but by the Google Earth program itself.³⁹⁰ In this way, there is no “statement” as defined by the hearsay rule.³⁹¹ In joining other circuit courts, the court concluded that “machine statements are not hearsay.”³⁹²

The court then noted that machine statements might present evidentiary concerns, such as malfunction or tampering, but that those concerns are addressed by rules of authentication, which the defendant did not raise at trial.³⁹³ As such, the Ninth Circuit held that a tack placed on the satellite image by the Google Earth program and automatically labeled with GPS coordinates without any human intervention is not hearsay, and affirmed the district court’s conviction.³⁹⁴

E. *GOOGLE V. HOOD*³⁹⁵

In March 2015, the United States District Court for the Southern District of Mississippi granted Google’s motion for a temporary restraining order and preliminary injunction against a high-ranking public official who wanted Google to censor content on its search engine.³⁹⁶

On October 27, 2014, Mississippi Attorney General Jim Hood served Google with a 79-page subpoena under the Mississippi Consumer Protection Act (MCPA) after months of demanding information on

387. *Id.*

388. *Id.*

389. *Id.*

390. *Id.* at 1110.

391. *Id.*

392. *Id.*

393. *Id.*

394. *Id.*

395. 96 F. Supp. 3d 584 (S.D. Miss. 2015).

396. *Id.* at 601.

Google's practices as they relate to websites, YouTube videos, or advertisements that promote illegal or dangerous content.³⁹⁷

According to Google, the Attorney General had been pressuring Google to block objectionable third-party content from its search engine for eighteen months before the subpoena and had made several public statements about it.³⁹⁸ For instance, in a July 2013 public speech, the Attorney General accused Google of "taking advantage of our country and the pain of our people . . . [with the sale of] counterfeit items and counterfeit drugs over the Internet that harm our consumers."³⁹⁹

Once it received the subpoena, Google asked the Attorney General to withdraw it for being "overly burdensome and largely unlawful," but the Attorney General declined this request.⁴⁰⁰ As a result, Google brought an action seeking declaratory judgment that Attorney General Hood's subpoena violated its rights under the Communications Decency Act of 1996 (CDA) and the First, Fourth, and Fourteenth Amendments of the Constitution.⁴⁰¹ Google further sought a declaration that the subpoena's demands were preempted by the Copyright Act, including the Digital Millennium Copyright Act (DMCA), and by the Food, Drug, and Cosmetic Act (FDCA).⁴⁰² Google also filed a motion for a temporary restraining order and preliminary injunction to ban the Attorney General from enforcing his subpoena and from filing charges against Google for making third-party content accessible to Internet users.⁴⁰³

"To be entitled to a preliminary injunction or temporary restraining order, a movant must establish (1) a substantial likelihood of success on the merits; (2) a substantial threat of irreparable injury; (3) that the threatened injury, which would occur if the injunction is denied, outweighs any harm that will result if the injunction is granted; and (4) that the grant of an injunction will not disserve the public interest."⁴⁰⁴

Regarding the first element of the test, the court recognized a substantial likelihood that Google would prevail on the merits of its claim under the CDA.⁴⁰⁵ The Fifth Circuit had previously upheld the immunity

397. *Id.* at 589.

398. *Id.* at 589, 593.

399. *Id.* at 593.

400. *Id.*

401. *Id.* at 589.

402. *Id.* at 590.

403. *Id.* at 591.

404. *Id.* at 596 (citing *Women's Med. Ctr. of Nw. Houston v. Bell*, 248 F.3d 411, 419 n.15 (5th Cir. 2001); *Ladd v. Livingston*, 777 F. 3d 286, 288 (5th Cir. 2015)).

405. *Id.*

the CDA extends to web-based service providers of third-party content, as in this case.⁴⁰⁶ The court also held that Google demonstrated a substantial likelihood that it would prevail on its claim under the First Amendment, as the Attorney General's subpoena would likely create "a chilling effect" on Google's protected speech.⁴⁰⁷ In addition, the court found that Google's Fourth Amendment claim has substantial merit because said Amendment prohibits overbroad subpoenas.⁴⁰⁸

Furthermore, the court was convinced that Google's preemption claims are substantially meritorious.⁴⁰⁹ First, the Copyright Act preempts part of the subpoena because it contains various requests for information regarding copyright infringement, which state attorneys lack the authority to enforce.⁴¹⁰ Second, pursuant to the DMCA, which provides a safe harbor for online service providers who remove or disable access to allegedly infringing material upon proper request, many of the Attorney General's requests were "improper" because Google had put in place a "mechanism by which aggrieved content may be contested."⁴¹¹ Third, the FDCA—which governs the importation and introduction of prescription drugs into interstate commerce—may also preempt the Attorney General's investigation since the subpoena demands information about Google's dealings with Canadian online pharmacies.⁴¹² The court temporarily enjoined the Attorney General's enforcement of the subpoena and left this last preemption issue for resolution at a later stage.⁴¹³

Concerning the second element of the test, the court believed that Google faced a "substantial threat of irreparable injury" because the company alleged violations of its First Amendment rights.⁴¹⁴ According to the Fifth Circuit, "[t]he loss of First Amendment freedoms for even minimal periods of time constitutes irreparable injury justifying the grant of a preliminary injunction."⁴¹⁵

With respect to the third element of the test, the court held that as compared to the harm Google faces because of the Attorney General's

406. *Id.* at 597.

407. *Id.* at 598.

408. *Id.* (citing *United States v. Miller*, 425 U.S. 435, 445 (1976)).

409. *Id.* at 599.

410. *Id.* (citing *Daboub v. Gibbons*, 42 F.3d 285, 288 (5th Cir. 1995)).

411. *Id.*

412. *Id.*

413. *Id.*

414. *Id.* at 600.

415. *Id.* (citing *Palmer ex rel. Palmer v. Waxahachie Indep. Sch. Dist.*, 579 F.3d 502, 506 (5th Cir. 2009); *Elrod v. Burns*, 427 U.S. 347, 373 (1976)).

subpoena, the latter would suffer little harm from complying with a temporary restraining order and preliminary injunction.⁴¹⁶ If the Attorney General is not allowed to enforce the subpoena, he still retains his ability to “conduct an investigation and file an action regarding other matters that are within his jurisdiction.”⁴¹⁷

As to the fourth element, the court determined that the issuance of an injunction will not disserve, and may even benefit, the public interest because, according to the Firth Circuit, “injunctions protecting First Amendment freedoms are always in the public interest.”⁴¹⁸

Since all four elements of the test were established, the court granted Google’s motion for a temporary restraining order and preliminary injunction.⁴¹⁹ The court also denied the Attorney General’s motion to dismiss based on lack of subject matter jurisdiction, finding that the Declaratory Judgment Act was applicable and that the claims set forth by Google were of a federal nature.⁴²⁰ The Attorney General was therefore forbidden from enforcing his subpoena or filing charges against Google for allowing third-party creators of objectionable content to publish such content on its search engine.⁴²¹

V. PRIVACY DEVELOPMENTS

A. *IN RE HULU PRIVACY LITIGATION*⁴²²

On April 28, 2014 the U.S. District Court for the Northern District of California granted summary judgment in favor of Hulu, finding that the company did not violate the Video Privacy Protection Act (VPPA), 18 U.S.C. § 2710.⁴²³

Hulu provides on-demand streaming of television shows, movies, and other content through its website.⁴²⁴ The class action brought against Hulu alleged that the company wrongfully disclosed the streaming video viewing selections of their users as well as personally identifiable

416. *Id.*

417. *Id.*

418. *Id.* at 601 (citing *Opulent Life Church v. City of Holly Springs, Miss.*, 697 F.3d 279, 298 (5th Cir. 2012); *Christian Legal Soc’y v. Walker*, 453 F.3d 853, 859 (7th Cir. 2006)).

419. *Id.*

420. *Id.* at 592–94.

421. *Id.* at 601.

422. No. C 11-03764 LB, 2014 WL 1724344 (N.D. Cal. Apr. 28, 2014).

423. *Id.*

424. *Id.*

information (PII) to third parties, such as advertising metrics companies and social networks.⁴²⁵ The VPPA “prohibits a ‘video tape service provider’ from knowingly disclosing ‘personally identifiable information of a consumer of the provider’ to third parties.”⁴²⁶ The plaintiffs represent two proposed classes of registered Hulu users.⁴²⁷ The first proposed class, a comScore disclosure class, consists of registered Hulu users in the United States whose information was disclosed to comScore, a third party metrics company providing verified metrics to Hulu for purposes of pricing advertisement spaces sold for commercials shown during video playback.⁴²⁸ The second proposed class, a Facebook disclosure class, consists of users whose information was disclosed to Facebook for purposes of targeted marketing.⁴²⁹

The court noted that Hulu interacts with comScore and Facebook in two distinct ways.⁴³⁰ With comScore, Hulu utilized “beacon” technology, which is activated during viewing events such as the start of a video, advertisements, and the end of a video. The technology transmits information including a user’s seven digit Hulu User ID, a unique browser ID, an advertisement ID, and the name of the video.⁴³¹ Hulu’s interaction with Facebook comes from Hulu’s choice to include a Facebook “Like” button on a video’s watch page, which automatically transmitted the webpage URL and, in some cases, the user ID to Facebook.⁴³² The plaintiffs’ expert opined that the disclosure of video information along with data from the Facebook cookies would allow for Facebook to link an identified Facebook user with particular video choices on Hulu.⁴³³

First, the court addressed whether the information disclosed by Hulu to third parties like comScore and Facebook was PII. Citing a Senate Report on the legislative history of the VPPA,⁴³⁴ the court held that the VPPA encompasses PII in a form that identifies a specific person and “ties

425. *Id.*

426. *Id.*

427. *Id.* at *2.

428. *Id.* at *2–3.

429. *Id.* at *2–4. The court subsequently denied the motion for certification of a Facebook disclosure class. It also denied the motion for certification of a comScore disclosure class as moot given its grant of summary judgment to Hulu on its comScore disclosures. *In re Hulu Privacy Litig.*, No. C 11-03764 LB, 2014 WL 2758598 (N.D. Cal. June 17, 2014).

430. *In re Hulu Privacy Litig.*, 2014 WL 1724344 at *16.

431. *Id.* at *3–4.

432. *Id.* at *5.

433. *Id.* (citing *Calandrino Decl.*, ECF No. 160–5, ¶¶ 57–81).

434. *Id.* at *7–8.

that person to particular videos,” as was the case with both comScore and Facebook.⁴³⁵

The court next addressed whether the disclosures made by Hulu to comScore were merely anonymized IDs, or whether they were closer to connecting specifically identified persons with the videos they watched.⁴³⁶ The plaintiffs’ case mainly rested on the “theoretical possibility” of comScore using the anonymous Hulu User IDs to reverse engineer the identity of a specific Hulu user from a Hulu user ID and video title from the user’s “watch page.”⁴³⁷ The court, however, found that there was no evidence to suggest that comScore actually did reverse engineer the identity of specific users with specific video choices.⁴³⁸ Hulu also contended that wrongful PII disclosure has to be limited to a user’s “actual name” in order to constitute a VPPA violation.⁴³⁹ The court opined that Hulu’s position “paints too bright a line,” but nonetheless found that a “unique identifier—without more” does not violate the VPPA.⁴⁴⁰ The court further noted that the Plaintiff failed to demonstrate or dispute as a matter of fact how comScore utilized this data, especially in view of comScore’s “interest in recognizing users” as part of its desire to properly target advertising towards certain users based on their viewing choices.⁴⁴¹ Based on the reasoning above, the court granted summary judgment in favor of Hulu.⁴⁴²

Conversely, the court noted that Hulu’s disclosures to Facebook resulted in a link between user and video that was more “obvious” than the alleged link in Hulu’s comScore disclosures.⁴⁴³ The result was a factual issue requiring the court to focus on whether Hulu made a “knowing” disclosure to Facebook.⁴⁴⁴ Given the presence of email evidence suggesting that Hulu was aware that “cookies with identifying information were sent” and that third parties like Facebook “could collect data and use it for other purposes to build a profile or identify a user in the real world,” the court

435. *Id.* at *8.

436. *Id.* at *12.

437. *Id.*

438. *Id.*

439. *Id.* at *11.

440. *Id.* at *12.

441. *Id.*

442. *Id.*

443. *Id.* at *14.

444. *Id.* at *14–15.

denied the motion for summary judgment and allowed the trial to proceed regarding the Facebook disclosure.⁴⁴⁵

The court subsequently held in a later opinion that Hulu's disclosures to Facebook were also not in violation of the VPPA.⁴⁴⁶ The decision on Hulu's disclosures to Facebook was initially appealed to the U.S. Court of Appeals for the Ninth Circuit, but the appeal was later voluntarily dismissed.⁴⁴⁷

B. *TERRACOM, INC., & YOURTEL AMERICA, INC.*⁴⁴⁸

On July 9, 2015 the Enforcement Bureau of the Federal Communications Commission ("Bureau") resolved its investigation into whether two wireless eligible telecommunication carriers ("ETCs"), TerraCom, Inc. and YourTel America, Inc. ("Companies"), violated the Communications Act of 1934 ("Act") by storing customers' proprietary information ("PI")⁴⁴⁹ on a publicly accessible server that lacked password protection and encryption.⁴⁵⁰ Based on its investigation, the Bureau entered into a compromise settlement ("Consent Decree") with the Companies and issued a \$3.5 million civil penalty.⁴⁵¹

The Companies are common carriers that provide telephone services as ETCs to qualifying low-income consumers at a discount as part of the federal Universal Service Fund Lifeline program.⁴⁵² Applicants to the service were required to provide their names, addresses, Social Security numbers, and driver's license numbers or State IDs in their applications.⁴⁵³ Additionally, applicants were required to provide proof of participation in federal government assistance programs or any other official documents that would establish the applicants' income level or participation in the

445. *Id.* at *15.

446. *In re Hulu Privacy Litig.*, 86 F. Supp. 3d 1090, 1104–05 (N.D. Cal. 2015) (finding there was no evidence that Hulu knew that Facebook would link identified users with their video viewing selections).

447. *Garvey v. Hulu, LLC*, No. 15-15774 (9th Cir. Oct. 28, 2015) (order granting voluntary dismissal).

448. 30 F.C.C. Rcd. 7075 (2015).

449. The FCC's definition of "PI" includes, but is not limited to, consumer's first and last name, address, email address or other online contact information, telephone number, Social Security Number, tax identification number, passport number, driver's license number, account numbers, credit card numbers, Uniform Resource Location or Internet Protocol address, or any combination of the above. *Id.* at 7079.

450. *Id.* at 7075.

451. *Id.*

452. *Id.* at 7078–80.

453. *Id.* at 7079.

relevant program.⁴⁵⁴ The Companies were independent entities that jointly owned BrightStar Global Solutions, LLC (“BrightStar”), a third-party company that processed and stored the Companies’ customer applications between September 30, 2012 and April 26, 2013.⁴⁵⁵

After learning that a news reporter discovered a data breach exposing customers’ personal information to unauthorized individuals, the Companies notified the Bureau regarding the breach.⁴⁵⁶ The Bureau subsequently launched an investigation.⁴⁵⁷

The Bureau’s investigation revealed that the Companies failed to provide reasonable data-security protection, resulting in a data breach that exposed the PI of over 300,000 customers to unauthorized individuals.⁴⁵⁸ This data breach resulted from BrightStar’s failure to implement password protection for some of its stored data during a server update, which made customer PI accessible in clear, readable text over the Internet.⁴⁵⁹ Specifically, the Bureau found that the Companies violated Section 201(b) of the Act by (1) “failing to employ reasonable data security practices;”⁴⁶⁰ (2) representing to their customers in the Companies’ privacy policies that they protected customers’ PI “when in fact they did not;”⁴⁶¹ and (3) failing to notify all customers of the data breach.⁴⁶² The Bureau further found that the Companies violated Section 222(a) of the Act in failing to adequately protect their customers’ PI by storing the data in “clear, readable text” on servers “accessible over the Internet.”⁴⁶³ The Companies admitted to violating Sections 201(b) and 222(a) of the Act.⁴⁶⁴ The investigation also found that YourTel violated the Commission’s rules that prevent ETCs from seeking reimbursement for ineligible customers to the Lifeline service, by failing to de-enroll such customers in the allotted timeframe.⁴⁶⁵

454. *Id.* at 7081.

455. *Id.* at 7080; Federal Communications Commission, *Notice of Apparent Liability for Forfeiture* (Oct. 24, 2014) at 2, https://apps.fcc.gov/edocs_public/attachmatch/FCC-14-173A1.doc [<https://perma.cc/KH6Y-DL94>].

456. *In re* Terracom, F.C.C. Rcd. at 7081.

457. *Id.*

458. *Id.*

459. *See id.*

460. *Id.*

461. *Id.*

462. *Id.*

463. *Id.* at 7075, 7081.

464. *Id.* at 7084.

465. *See id.* at 7083, 7090.

As a result of the investigation, the Bureau ordered a Consent Decree assessing on the Companies a civil penalty of \$3.5 million, for which they were jointly and severally liable.⁴⁶⁶ The Consent Decree further required the Companies to implement a compliance plan that addressed the Bureau's concerns.⁴⁶⁷

The key elements of the compliance plan are as follows. First, within thirty days, the Companies must perform a risk assessment to identify internal risks of PI breaches by employees and vendors, and to "evaluate . . . the sufficiency of existing policies, procedures, and other safeguards in place to control risks."⁴⁶⁸ Second, within sixty days, the Companies must establish a written information security program to protect against PI breaches by employees and vendors.⁴⁶⁹ For eight years, the Companies must keep this program up-to-date and address deficiencies and gaps as they appear.⁴⁷⁰ And third, within sixty days, the Companies must develop and distribute a compliance manual and implement a training program to relevant employees and vendors explaining Sections 201(b) and 222(a) of the Act, the FCC's Customer Proprietary Network rules, the terms of the Consent Decree, and all operating procedures that employees and vendors' employees must follow.⁴⁷¹ The Companies must also notify all affected customers of the breach and provide one year of complimentary credit monitoring services, as well as a toll-free number for customer support concerning the breach.⁴⁷²

466. *Id.* at 7093.

467. *Id.* at 7075.

468. *Id.* at 7085.

469. *Id.*

470. *Id.* at 7093.

471. *Id.* at 7088.

472. *Id.* at 7087.