

FOREWORD

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Each year, the *Berkeley Technology Law Journal* publishes an Annual Review of Law and Technology, providing descriptions and analyses of the year's most significant developments at the intersection of law and technology. The goal of the Annual Review issue is to provide a valuable resource for judges, policymakers, practitioners, students, and scholars. Each Note provides not only a presentation of a recent and emerging issue of law and technology, but also a primer on that specific area of law to provide the reader with the larger context of the development. As the Annual Review enters its second decade, its coverage reflects the many areas of law in which technology is playing a vital role—intellectual property, cyberlaw, constitutional issues, and increasingly with respect to international developments and privacy. This year, we have made a specific push to highlight the broader themes of law implicated by each new development.

The twenty-four Notes contained in this issue cover a range of topics: the recent Supreme Court decisions on patent doctrine; breaking issues in copyright law, including constitutional concerns; legal implications of Web 2.0; a major shift in antitrust jurisprudence; trademark dilution; and timely analyses of email privacy, video surveillance, and the state secrets doctrine. Beyond the Notes, other significant decisions, statutes, and activities of 2007 are addressed in twenty-seven Additional Developments.

I. INTELLECTUAL PROPERTY

A. Patent

This year's Annual Review explores a wide range of issues within patent law. This year's Notes analyze decisions regarding obviousness, willful infringement, extraterritoriality, enablement, and the safe harbor for FDA-bound research. Beyond doctrinal issues, the Notes also address the effects of recent decisions on the availability of declaratory judgments and the issuance of injunctive relief, the patenting framework of California's

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stem cell research initiative, and proposed new rules on patent claims and continuations. In addition, as patent laws of other jurisdictions have become an international concern, we also explore recent developments in India in this year's Annual Review.

1. *Doctrinal Developments and Analysis*

The Supreme Court modified the doctrine of nonobviousness in *KSR International Co v. Teleflex Inc.*¹ The first Note reviews the doctrine of nonobviousness and observes that courts have always used implicit means to find "motivation" for an invention as evidence of obviousness. The principal argument of the Note is that the Supreme Court, in *KSR*, confirmed that the teaching, suggestion, or motivation supporting a finding of obviousness need not be explicit. Thus, courts in the future should broaden the scope of evidence permitted under the test. The Note also explores ramifications of the Supreme Court's decision, such as the consequences for the "obvious-to-try" doctrine.

Our second Note analyzes *In re Seagate*,² in which the Federal Circuit set "objective recklessness" as the standard for willful infringement, abolished the affirmative duty to retain counsel to evaluate infringement notices, and held that the waiver of attorney-client privilege created by an "advice of counsel" defense to willfulness does not, generally, extend to trial counsel. Overall, the Note concludes that *Seagate* is good news for patent infringement defendants and aligns patent's willfulness doctrine with Supreme Court precedent. The Note asserts that the higher bar for willfulness rightly focuses on acts rather than state of mind, while still allowing courts to deter culpable conduct.

This past year, the Court also sought to clarify the extraterritorial bounds of U.S. patent law. The next Note explains the Court's decision in *Microsoft Corp. v. AT&T Corp. (AT&T III)*,³ and the larger legal landscape of territoriality in U.S. law. In *AT&T III*, the Court held that 35 U.S.C. § 271(f) warrants a narrow interpretation and that U.S. exporters of software master disks are not liable for infringement if foreign manufacturers make copies of those disks in a foreign jurisdiction and subsequently use those copies to assemble infringing products. The Note argues that this is a welcome development in U.S. patent law, establishing territorial limits that respect comity between countries and the practicalities of enforcing patents on the global scale. The Note highlights that this deci-

1. 127 S. Ct. 1727 (2007).

2. *In re Seagate Tech., LLC*, 497 F.3d 1360, 1365 (Fed. Cir. 2007) (en banc), cert. denied, 128 S. Ct. 1445 (Feb. 25, 2008).

3. 127 S. Ct. 1746 (2007).

sion curbed potentially expansive readings by limiting § 271(f) to tangible components of product claims.

Then, this year's Annual Review addresses more discrete issues in patent law. The fourth Note considers a series of Supreme Court and Federal Circuit cases addressing whether 35 U.S.C. § 271(e)(1) protects pre-clinical experimentation on potential drug candidates. The Note examining examines the broad scope of protection resulting from the Federal Circuit's decision in *Integra Lifesciences I, Ltd. v. Merck KGaA*,⁴ the Supreme Court's overruling of that decision,⁵ and the Federal Circuit's subsequent decision on remand.⁶ The Note argues that the resulting broad scope of § 271(e)(1) protection creates uncertainty for researchers and courts and, in combination with the research use exception, may leave some deserving research unprotected while extending protection to certain uses of patented research tools that should not receive protection. To solve these problems, the Note suggests an approach modeled after the laws of Germany and the United Kingdom and after Judge Newman's dissent in the initial Federal Circuit decision.

Our fifth Note looks at the Federal Circuit's strengthening of patent law's enablement requirement, at least with respect to the "predictable arts," in *Liebel-Flarsheim Co. v. Medrad, Inc.*⁷ and *Automotive Technologies International, Inc. v. BMW of North America, Inc.*⁸ The Federal Circuit, the Note argues, has imported into the mechanical arts the stringent standards of enablement previously used for biotechnical and chemical inventions. The Note argues that the new enablement standard goes beyond that needed for one skilled in the art to practice the invention, unnecessarily blurs the line between written description and enablement, and creates uncertainty as to what constitutes adequate disclosure. The Note concludes that an overly strict disclosure requirement might stifle research and development, but a balanced and well-defined enablement requirement can promote second-generation innovation by preventing unwarranted extension of claim scope.

The next Note presents the recent developments in the Supreme Court and the Court of Appeals for the Federal Circuit establishing which declaratory judgment actions in patent cases are justiciable. The Supreme Court, in *MedImmune v. Genentech, Inc.*,⁹ eliminated the "reasonable ap-

4. *Integra Lifesciences I, Ltd. v. Merck KGaA*, 331 F.3d 860 (Fed. Cir. 2003).

5. *Merck KGaA v. Integra Lifesciences I, Ltd.*, 545 U.S. 193 (2005).

6. *Integra Lifesciences I, Ltd. v. Merck KGaA*, 496 F.3d 1334 (Fed. Cir. 2007).

7. 481 F.3d 1371 (Fed. Cir. 2007).

8. 501 F.3d 1274 (Fed. Cir. 2007).

9. 127 S. Ct. 764 (2007).

prehension of suit” standard that the Federal Circuit had required a claimant to meet in order to bring a declaratory judgment action. The Note surveys post-*MedImmune* cases at the Federal Circuit, and argues that courts should increase the rigor of inquiry into the declaratory judgment claimant’s legal interests in the activities covered by the patent at issue.

The final Note addressing issues of patent law doctrine builds upon the Annual Review’s coverage of the Supreme Court’s decision in *eBay Inc. v. MercExchange, LLC*,¹⁰ in which the Court held that courts need not automatically issue injunctions upon finding patent infringement. This year’s Note analyzes trends that have emerged from district court decisions following *eBay*, such as the increased attention to whether parties are competitors in deciding whether to issue an injunction. The Note also analyzes two open questions in light of *eBay*: whether a denial of injunctive relief leads to higher royalty rates, and whether such denial of an injunction amounts to compulsory licensing. Finally, the Note argues that after *eBay*, patent plaintiffs have increasingly resorted to the International Trade Commission for relief.

2. *Stem Cell Research in the Patent Context*

This year’s Annual Review also seeks to advance the discussion of intellectual property in the stem cell arena, an issue particularly relevant to California. Our eighth Note evaluates the intellectual property policies developed by the California Institute for Regenerative Medicine (CIRM). The Note begins with an overview of the science and the controversy at the heart of human embryonic stem cell research, and then compares CIRM’s IP policies to the Bayh-Dole Act, which governs IP ownership for federally funded biomedical research. The Note then evaluates CIRM’s revenue-sharing policies, arguing that revenue sharing is imprudent given the likelihood of much larger economic returns through comprehensive benefits to society such as longer, more productive lives and improved healthcare. The Note further argues that CIRM’s broad access regulations with respect to exclusive licensing arrangements are crucial to CIRM’s IP policies, because broad access would be unlikely without regulatory intervention. Lastly, the Note offers a principle of interpretation for discerning whether licensing agreements are exclusive or nonexclusive under ambiguous CIRM regulations.

10. 547 U.S. 388 (2006); see Jeremy Mulder, Note, *The Aftermath of eBay: Predicting When District Courts Will Grant Permanent Injunctions in Patent Cases*, 22 BERKELEY TECH. L.J. 67 (2007).

3. *PTO Rule Changes*

The U.S. Patent and Trademark Office (PTO) has also communicated an interest and moved to change rules governing patent prosecution. Our ninth Note addresses the proposed rule changes developed by the PTO, designed to address increasing backlogs and improve patent quality. The proposed final rules limit continuation and continuation-in-part applications, limit requests for continued examination, limit claims per application, and require applicants to identify related applications. Before the rules could take effect, the United States District Court for the Eastern District of Virginia held that the rules were substantive and outside the PTO's statutory authority¹¹—a result argued for in our Note of one year ago.¹² This year's Note argues that, if eventually implemented, the rules may decrease incentives for innovation in industries like biotechnology that rely on continuation applications, but could, if successful in reducing the PTO's backlog, increase incentives for innovation in industries like software that rapidly send inventions to market. However, the Note concludes that, even if implemented, the rules are unlikely to be effective in decreasing the backlog of unexamined applications.

4. *International Developments in Patent Law*

Finally, patent law concerns also reach beyond U.S. borders, as the patent law regimes of countries such as India draw the attention of U.S. corporations and those interested in the balance between public interest and intellectual property protection. Our final Note addressing patent law focuses on an emerging debate regarding intellectual property rights in India. The recent case, *Novartis AG v. Union of India*, has grabbed the attention of multinational pharmaceuticals concerned about the generic market and the international community concerned about India's compliance with the World Trade Organization's requirements for a country's patent laws. The Note provides a legal primer on Indian patent law and its regulatory apparatus, and the current legal challenge to India's ambiguous and untested requirement of "enhanced efficacy" for patents to new uses of known substances. The resolution of this dispute will, at the least, affect India's ability to meet its healthcare needs and protect the integrity of its intellectual property regime.

11. *Tafas v. Dudas*, 2008 U.S. Dist. LEXIS 26086 (E.D. Va. Apr. 1, 2008).

12. See Laxman Sahasrabuddhe, Note, *Is the PTO Authorized to Promulgate the Proposed Rule Change to the Continuation Practice?*, 22 BERKELEY TECH. L.J. 193 (2007).

B. Copyright

The copyright section of this year's issue reviews significant constitutional and doctrinal developments in copyright law, each of which in some way involves the challenges posed to copyright by the Internet.

The first Note addresses the constitutional sources and limitations of Congress's power to grant copyright (or copyright-like) protections, and the role of the Copyright Clause of the U.S. Constitution. Specifically, the Note critiques a recent decision from the U.S. Court of Appeals for the Second Circuit, *United States v. Martignon*.¹³ In that case, the court found that civil and criminal anti-bootlegging provisions of the Uruguay Round Agreements Act were authorized pursuant to the Commerce Clause. The Note highlights that the Copyright Clause also provides a source of authority for the statute, which would require limitations on time and the scope of works protected. The Note argues that because the court was interpreting a statute grounded in other sources of authority of Congress, the court should have applied the "fundamental inconsistency" test to apply restrictions of the Copyright Clause to the statute.

As new technologies reshape the music industry, this year's Annual Review addresses resulting issues for copyright law. Our second Note concerning copyright argues that a shift away from traditional music distribution channels to the web as music's primary medium is forcing the industry to re-conceptualize its business model, and in particular, that the old collective rights system—in which various distinct collective rights agencies managed separate and distinct rights attaching to sound recordings and musical works—has become obsolete. The Note explains the current system for administering online music rights, and traces the development of the collective rights organizations. The Note examines two major points of controversy: first, the problem of "double dipping" vis-à-vis downloads and online streaming; and second, the issue of determining fair royalty rates for webcasters and internet radio. The Note argues that a streamlined system in which one middleman handled all rights clearances for music on the Internet might be the most feasible and efficient solution to these problems.

The Ninth Circuit has recently decided a string of cases brought by Perfect 10 testing various corners of copyright law—particularly, fair use and various forms of vicarious and secondary liability. The third Note examines issues raised in *Perfect 10, Inc. v. Amazon.com*,¹⁴ a recent opinion in which the Ninth Circuit found Google not liable for providing thumb-

13. 492 F.3d 140 (2d Cir. 2007).

14. 508 F.3d 1146 (9th Cir. 2007), *modifying* 487 F.3d 701 (9th Cir. 2007).

nail versions of copyrighted photographic images on its image search interface, and remanded on the issue of secondary liability. The Note details the fair use aspect of the holding, and focuses on the theory of secondary liability the court adopted: whether Google had knowledge of infringement and could have but did not take “simple measures” to prevent further infringement. The Note argues that the standard is a welcome return to the tort liability concept of secondary liability, though inconsistent with Supreme Court precedent in *Sony Corp. v. Universal City Studios, Inc.*¹⁵ and *MGM Studios, Inc. v. Grokster, Ltd.*¹⁶

The fourth Note in the section on copyright addresses another case involving Perfect 10. This Note addresses the challenges to copyright enforcement posed by foreign infringement in a digital world, arguing that when enforcement against foreign websites is not a realistic option, the best solution is imposing a limited form of liability sufficient to dissuade the provision of credit card services. The Note reviews the law of secondary liability and critically examines *Perfect 10, Inc. v. Visa International Service Ass’n*,¹⁷ in which the Ninth Circuit held the credit card companies were neither contributorily nor vicariously liable as a result of providing payment services to websites that distributed infringing material, finding that the link between payment services and direct infringement was too attenuated. Using the concept of value chains, the Note analyzes the optimal stage in the chain of infringement for enforcing copyright, concluding that holding credit card companies liable is appropriate so long as the law protects them from monetary damages.

This year’s fifth copyright Note examines the framework of the Digital Millennium Copyright Act (DMCA), and its “safe harbors” that grant limited immunity to online service providers that comply with DMCA’s notice-and-takedown framework. Viewing the safe harbors as a quid pro quo exchanging limited immunity for minor burdens of DMCA compliance, the Note argues that the bargain is an unfair one with respect to Web 2.0 business models, in which certain websites are based on and encourage user-generated content. The Note argues that a blatant inequity exists when websites reap high profits from the presence of infringing material, but are obligated to make only the most minimal efforts to prevent copyright infringement. The Note contends that courts’ common-law-based interpretation of the DMCA safe harbors shields infringers and may discourage innovation. The Note concludes that court should reinterpret the

15. 464 U.S. 417 (1984).

16. 545 U.S. 913, 937-41 (2005).

17. 494 F.3d 788 (9th Cir. 2007).

safe harbor provisions, implementing a balancing approach to allocate the burden of preventing infringement in a more just and economically efficient way.

The copyright law section of the Annual Review closes with a general survey on new civil and criminal enforcement against direct infringers in the United States and China. The Note details the increased efforts of the Recording Industry Association of America (RIAA) to identify and target direct infringers. The Note also explains parallel efforts by the U.S. Department of Justice and its partnership with industry leaders in pursuing criminal enforcement of copyright law. Finally, the Note provides a two-fold comparative look on this issue. First, the Note describes the imperfect mechanisms for enforcing U.S. copyrights internationally. Second, the Note surveys the less vigorous copyright enforcement regime in China, where competing goals of social and economic development have made copyright enforcement a low priority. Ultimately, the Note highlights the importance of growing partnership between industry and government actors to strengthen support for copyright enforcement both in law and in societal norms.

C. Trademark

Our sole trademark law Note examines the Trademark Dilution Revision Act of 2006 (“TDRA”),¹⁸ presenting the theory of dilution and the history behind the new statute, including the shortfalls of the 1996 Federal Trademark Dilution Act (“FTDA”)¹⁹ and the 2003 Supreme Court decision *Moseley v. V Secret Catalogue, Inc.*²⁰ On the whole, the Note argues that the TDRA is a significant improvement over its predecessor, providing more clarity, greater balance, a higher standard for trademark fame, a lower requirement for proof of harm, and broader exclusions for comment, criticism, and parody. However, the Note explains, the TDRA does not resolve all of the FTDA’s ambiguities and introduces new ambiguities of its own. In particular, the Note identifies problems with the TDRA’s extension of anti-dilution protection to marks of acquired distinctiveness.

Among the Additional Developments in trademark law are two court decisions holding that the purchase of internet search terms is a “use in

18. Trademark Dilution Revision Act of 2006, Pub. L. 109-312, § 120 Stat. 1730 (to be codified as 15 U.S.C. § 1125(c) and replacing the Federal Trademark Dilution Act, Pub. L. 104-98).

19. Federal Trademark Dilution Act of 1995, Pub. L. 104-98, 109 Stat. 985 (codified at 15 U.S.C. §§ 1051, 1125, 1127 (2000) (amended 2006)).

20. 537 U.S. 418 (2003).

commerce” under the Lanham Act.²¹ As these decisions run contrary to holdings in other jurisdictions, there is potential for an eventual circuit split on this issue.

D. Trade Secret

Although this year’s Annual Review does not include any Notes on trade secret law, the case of *Jennings v. Elections Canvassing Commission*,²² in which trade secret protection was held to preclude an examination of electronic voting machine source code with respect to a disputed election, is discussed as a Development.

II. CYBERLAW

Free and open-source software has become increasingly important with respect to the Internet and the digital economy. One Note evaluates the third version of the GNU General Public License (GPL), which was released in June 2007. GPL is an influential “copyleft” license that is widely used for free software. The Note provides a comprehensive history and traces the development of the GPL, and particularly highlights the significant changes in the third version with respect to patents and the scope of the license. First, GPL Version 3 seeks to clarify the license scope and licensors’ obligations; second, GPL Version 3 enacts an express patent license in certain cases where a licensee who modifies the code and distributes the modified version. The Note assesses these new provisions and highlights certain legal issues of GPL Version 2 that remain unresolved, including the treatment of dynamic linking and proprietary kernel modules.

Over ten years ago, Congress enacted Section 230 of the Communications Decency Act (CDA),²³ which shields online service providers from liability for their users’ actions and related content. One Note evaluates § 230 and the case law interpreting it, including the key case of *Zeran v. America Online*²⁴ and post-*Zeran* developments. The Note argues that a close look reveals a sound legal framework that has fostered the past decade of web development, including the emergence of Web 2.0. The Note

21. *Google Inc. v. American Blind & Wallpaper Factory, Inc.*, 2007 WL 1159950 (N.D. Cal. April 17, 2007); *Boston Duck Tours, LP v. Super Duck Tours, LLC*, 527 F.Supp.2d 205 (D. Mass. 2007).

22. No. 2006-CA-2973, 2006 WL 5508548 (Fla. Cir. Ct. Dec. 29, 2006), *cert. denied*, 958 So. 2d 1083 (Fla. Dist. Ct. App. 2007).

23. Communications Decency Act of 1996, Pub. L. No. 104-501, 110 Stat. 133 (codified at 47 U.S.C. 230 and scattered sections of 47 U.S.C.).

24. 129 F.3d 327 (4th Cir. 1997).

considers potential alternatives to § 230's wide grant of immunity under *Zeran*, identifying problems with each alternative and concluding that the post-*Zeran* cases have created a liability scheme constitutionally, practically, and socially preferable to the alternatives—especially as applied to the new landscape of Web 2.0 services.

Because of the broad immunity under § 230, an important social and safety issue has emerged as a result of the popularity of the Web 2.0 movement: sexual predators looming online social networks. The next Note provides a background on the Web 2.0 phenomenon and online social networks and the problem of sexual predators on the networks. The Note discusses the regulatory framework of the Web 2.0 online social networks, the reach of the CDA, and other federal and state laws on online social network regulation. The Note argues that the broad immunity the CDA affords allows online social networks to flourish, and further regulation may cripple their vitality. Rather, the Note argues that self-regulation, which will arise as a result of public and media pressure to improve safety, is a better route for the continuing functions of online social networks.

III. TELECOMMUNICATIONS

This Annual Review does not have any Notes focusing on an issue in the telecommunications field. Nonetheless, we chose to highlight one recent development in the telecommunications field, the recent auction of the 700 MHz radio and television broadcast band, which has the potential provide competition for the major wireless carriers. Our coverage of the controversy regarding NSA wiretapping of telephone lines is covered in our privacy section, discussed below.

IV. ANTITRUST

In a strong trend of applying economic analysis to antitrust law, the Supreme Court handed down two significant cases involving antitrust issues during October Term 2006. The sole Note in the antitrust section details *Leegin Creative Products v. PSKS*,²⁵ in which the Supreme Court overturned a nearly 100-year-old doctrine that prohibited vertical resale price restraints. This Note discusses the background and practice of vertical resale price maintenance and its economic effects. The Note then analyzes the underlying economic rationales the Court embraced to reach its decision in *Leegin*, and the shift in antitrust jurisprudence from finding

25. 127 S. Ct. 2705 (2007).

such restraints *per se* illegal to holding them subject to a rule of reason. The Note provides factors for future courts to apply in cases involving resale price restraints, given the reliance concerns on the historic doctrine that prohibited them. Ultimately, the Note addresses how these concerns may be relevant in cases implicating the first sale doctrine in patent law.

The Annual Review also reviews the Supreme Court's other landmark antitrust case from October Term 2006, *Bell Atlantic v. Twombly*,²⁶ which also changes federal pleading standards. Additional developments in antitrust include an analysis of the FTC's approval of the Google/DoubleClick merger in December 2007 and the U.S. Court of Appeals for the District of Columbia's decision to vacate an FTC finding that memory-chip maker Rambus violated the antitrust laws by allegedly deceiving a standard-setting organization.

V. PRIVACY

As an increasing number of people conduct an increasing number of activities over the Internet, the privacy (or the lack thereof) of those activities is an increasingly important issue. Security concerns have resulted in Congress's relaxing restrictions on government surveillance as new technologies and data mining techniques enable surveillance on an unprecedented scale. In addition, the government has reportedly engaged in surveillance that goes beyond statutory authorizations. With this as background, this year's Annual Review presents three Notes focused on privacy.

Our first Note in this area discusses the holding in *Hepting v. AT&T*,²⁷ a recent case challenging alleged widespread government wiretapping of American citizens, and the district court's refusal to dismiss the case on state secrets grounds. The Note provides an overview of wiretapping, chronicling both the technological developments and the evolution of wiretapping law. After examining the origins of the state secrets doctrine as an evidentiary privilege, the Note argues that government is attempting to use the state secrets privilege to avoid judicial and legislative regulation of wiretapping, and that this constitutes an abuse of the state secrets privilege that could hide government wrongdoing.

Our second privacy Note examines privacy in e-mail and other electronic communication, addressing the issue of whether such communications ought to be protected under the Fourth Amendment. The Note exam-

26. 127 S. Ct. 1955 (2007).

27. *Hepting v. AT&T Corp.*, 439 F. Supp. 2d 974 (N.D. Cal. 2006).

ines the Sixth Circuit's now-vacated decision in *Warshak v. United States*.²⁸ In *Warshak*, the court held that there was a reasonable expectation of privacy in e-mail, signaling that electronic communication merited Fourth Amendment protection going beyond the modest protections of Congress's Electronic Communications Privacy Act (ECPA). Besides reporting on the case and its reasoning, the Note reviews the varying levels of protection offered by judicial and statutory rules, and argues that technological developments result in a growing share of inadequately protected communications. The Note concludes that the Sixth Circuit and future courts should affirm the principle that the Fourth Amendment provides protection for electronic communication.

Our concluding Note addresses an emerging concern of privacy: video surveillance of public places. The Note responds to the increased use of video surveillance in light of advanced technology that facilitates its use—and potential misuse, according to the Note—by all levels of government. The Note reviews the history of municipal use of video surveillance and the current inadequacy of judicial regulation to prevent police misuse. The Note then turns to the regulatory framework, and argues that current federal regulation, embodied in the E-Government Act of 2002, should serve as a model for states and local jurisdictions, as they are best poised to address these concerns.

28. *Warshak v. United States*, 490 F.3d 455 (6th Cir. 2007), *vacated*, *Warshak v. United States*, No. 06-4092, 2007 U.S. App. LEXIS 23741 (6th Cir. Oct. 9, 2007) (granting rehearing en banc).