

TARPITS: THE STICKY CONSEQUENCES OF POORLY IMPLEMENTING TECHNOLOGY-ASSISTED REVIEW

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I. INTRODUCTION

“The saddest aspect of life right now is that science gathers knowledge faster than society gathers wisdom.”¹ Society is increasingly incorporating technology into more and more areas of life as the phenomenon of the Internet of Things gains momentum.² It is no secret that technology is advancing rapidly—a laptop computer today is 96% cheaper and 1,000 times better than a 1994 model.³

Law, by contrast, is an anachronistic profession, from the Socratic method of law school classes to the shelves of outdated books in law offices. Indeed, the very thought of having to adapt to technological advances may invoke visceral responses from some attorneys, particularly those who receive holiday cards from legal publishers. An affinity for the old ways, though, will not shield the profession of law from the rising tide of technological change. For example, artificial intelligence is being incorporated into the profession to postulate hypotheses, conduct legal research, and write legal memoranda.⁴ In recent years, the legal profession has seen the rise of technology-assisted review (TAR) in discovery. Experts define TAR as “[a] process for [p]rioritizing or [c]oding a [c]ollection of [d]ocuments using a computerized system that harnesses human judgments of one or more [s]ubject [m]atter [e]xpert(s) on a smaller set of [d]ocuments and then extrapolates those judgments to the remaining [d]ocument [c]ollection.”⁵ Although other types of TAR exist,⁶ this Article focuses on TAR that uses supervised machine

1. ISAAC ASIMOV & JASON A. SHULMAN, ISAAC ASIMOV’S BOOK OF SCIENCE AND NATURE QUOTATIONS 281 (1988).

2. See Jacob Morgan, *A Simple Explanation Of ‘The Internet of Things’*, FORBES (May 13, 2014, 12:05 AM), <https://www.forbes.com/sites/jacobmorgan/2014/05/13/simple-explanation-internet-things-that-anyone-can-understand/#1b3efdf51d09> [<https://perma.cc/P2NM-93U5>] (“[The Internet of Things] is the concept of basically connecting any device with an on and off switch to the internet (and/or to each other). This includes everything from cellphones, coffee makers, washing machines . . . and almost anything else you can think of.”).

3. Mark J. Perry, *Technology Has Advanced So Rapidly That a Laptop Computer Today is 96% Cheaper Than a 1994 Model and 1,000x Better*, AEIDEAS (May 25, 2016), <http://www.aei.org/publication/technology-has-advanced-so-rapidly-that-a-laptop-computer-today-is-96-cheaper-than-a-1994-model-and-1000x-better/> [<https://perma.cc/ZZY7-JRGP>].

4. Katherine Medianik, *Artificially Intelligent Lawyers: Updating the Model Rules of Professional Conduct in Accordance with the New Technological Era*, 39 CARDOZO L. REV. 1497, 1498 (2018).

5. Maura R. Grossman & Gordon V. Cormack, *The Grossman-Cormack Glossary of Technology-Assisted Review*, 7 FED. CTS. L. REV. 1, 32 (2013).

6. Namely, TAR programs that rely on rules-based processes to emulate human decision-making processes. See generally *id.* To put it in lawyerly terms, these TAR programs effectively operate as syllogism machines.

learning,⁷ harnessing judgments from human administrators,⁸ to distinguish relevant documents for production in discovery.⁹ Specifically, “supervision” means that the program is taught to distinguish relevant documents from irrelevant documents through the use of a training set prepared by a human administrator.¹⁰ The training set is a packet of documents, which the administrator has coded as relevant/irrelevant.¹¹ The program infers how to distinguish between the two categories by reference to the training set’s examples—literally learning from them.¹²

Often, electronic data is stored with vague descriptors or in “generic, co-mingled folders such as an e-mail system’s ‘inbox’ or ‘outbox.’”¹³ In these circumstances, and in cases dealing with large amounts of electronic data, automated search methods like TAR are a reasonable approach for lawyers to take.¹⁴ Industry experts use several metrics to evaluate TAR’s success, from commonly understood terms like “accuracy”¹⁵ to mathematical expressions like “Area Under the ROC Curve,” or AUC.¹⁶ This Article evaluates TAR’s success as its ability to effectively comply with a user’s discovery obligations. This definition is better suited for the focus of this work because a success metric like “90% recall of relevant documents” (i.e., 90% of the time, the program correctly labels documents as relevant)¹⁷ misses that the 10% of false negatives may be not just relevant, but crucial, even to the point of being more worthwhile than the other 90% altogether.¹⁸

Because TAR is fundamentally dependent on human judgment, it stands to reason that flaws in human judgment could be incorporated into the

7. *See id.* at 22.

8. *See id.* at 32.

9. *See id.* at 15.

10. *See id.* at 26.

11. *See id.* at 32.

12. *See id.* at 33.

13. SHIRA A. SCHEINDLIN & DANIEL J. CAPRA, ELECTRONIC DISCOVERY AND DIGITAL EVIDENCE CASES AND MATERIALS 242 (2009).

14. *See id.*

15. Grossman & Cormack, *supra* note 5, at 8 (“[Accuracy is] [t]he fraction of [d]ocuments that are correctly coded by a search or review effort . . . [H]igh accuracy is commonly advanced as evidence of an effective search or review effort.”).

16. *Id.* at 87 (“[AUC is] a summary measure used to assess the quality of [p]rioritization. AUC is the [p]robability that a randomly chosen [r]elevant [d]ocument is given a higher priority than a randomly chosen [n]on-[r]elevant [d]ocument. An AUC score of 100% indicates a perfect ranking, in which all [r]elevant [d]ocuments have higher priority than all [n]on-[r]elevant [d]ocuments.”).

17. *See id.* at 106.

18. Interview with Fernando Delgado, Ph.D. student of Info. Sci., Cornell Univ. (Nov. 14, 2018).

implementation of TAR and made manifest in TAR's product. Specifically, if TAR's parameters are flawed—for example, by being over- or under-inclusive—then TAR will produce unsatisfactory (either overly-exposing or incomplete) discovery and the human administrators will be responsible. As the adage goes: “Computers don't make mistakes. Only people make mistakes.”¹⁹ One of the fundamental principles of computer science follows from this adage: “garbage in, garbage out,” the idea that flawed inputs produce flawed outputs.²⁰ This Article relies on the principle of ‘garbage in, garbage out’ in describing both the problems that actors face with TAR and the solutions to those problems. TAR's consequences analyzed in this Article stem from misuse (user error in training/implementing TAR) rather than malfunction (breakdown in the TAR program itself), so the first and major part of the solution is for actors to replace bad inputs.²¹ The second part of the solution is for actors to think carefully about when and how thoroughly to use TAR. Thus, by improving TAR's inputs and carefully implementing the program, actors minimize the sticky consequences that follow from misuse.

This Article further explores the legal consequences of poorly implemented TAR in discovery. Its goal is to identify the issues that arise from using TAR, the impact those issues can cause, and to suggest solutions to specific problems. For the purposes of this Article, the legal consequences of poorly implementing TAR fall into three major categories: (1) Federal Rules of Civil Procedure (Fed. R. Civ. P.) sanctions and spoliation sanctions in the civil context; (2) due process violations in the criminal context; and (3) personal liability for the consequences of misusing TAR, like the inadvertent disclosure of privileged or confidential documents. These consequences have been properly dealt with in this piece. Part I of this Article has introduced TAR and discussed the integration of technology into law generally. Part II then discusses the background of TAR in discovery, including a small body of case law, and explores the existing literature on TAR. Part III analyzes the three primary legal consequences of poorly implementing TAR: (1) civil litigation consequences in the form of Fed. R. Civ. P. sanctions, spoliation sanctions for

19. Nishant Shah, *Computers Don't Make Mistakes?*, INDIAN EXPRESS (May 24, 2015), <https://indianexpress.com/article/technology/social/computers-dont-make-mistakes/> [<https://perma.cc/3NP3-LUEQ>] (internal quotations omitted).

20. Margaret Rouse, *Garbage In, Garbage Out*, SEARCHSOFTWAREQUALITY, <https://searchsoftwarequality.techtarget.com/definition/garbage-in-garbage-out> [<https://perma.cc/RRR5-WUGJ>] (last updated Mar. 2008).

21. See COAL. OF TECH. RES. FOR LAWYERS, 2016 GUIDELINES REGARDING THE USE OF TECHNOLOGY-ASSISTED REVIEW 19 (2016) (“To establish defensibility [of a TAR protocol], counsel must accurately determine the prevalence of responsive information, ensure that its training process yields acceptable levels of recall and precision for its production of documents, and validate its final production results.”).

a party's failure to produce the full amount of required disclosure, agency control, and discovery expansion; (2) criminal prosecution consequences in the form of *Brady* violations and other due process concerns when the government fails to produce the full amount of required disclosure; and (3) personal liability for those responsible for TAR's accidental inclusion of privileged or confidential information for disclosure to the requesting party. Part IV analyzes the economic costs that companies risk from the misuse of TAR in corporate law. Part V concludes with a brief summary and a look towards the future.

II. TAR'S BACKGROUND

Existing scholarship has not explored these three legal consequences of poorly-implemented TAR. Rather, existing scholarship falls into three general categories: (1) those defining TAR and related terms;²² (2) those predicting how and where TAR may be used;²³ and (3) those discussing whether attorneys are required to turn over their seed sets (the information on which the TAR program is trained) in discovery to the opposing party under Fed. R. Civ. P. 26(g).²⁴ One author suggests that using TAR may actually be a requirement for attorneys because the Model Rules of Professional Conduct "obligate plaintiff attorneys to educate themselves about new technologies and to encourage their use when their clients can benefit."²⁵ There is strong evidence that suggests that the use of TAR can benefit clients; TAR is economically efficient, able to "reduce the cost of document review by up to 75 percent."²⁶ Additionally, research has revealed the inaccuracy and inconsistency of traditional manual document review, highlighting the need for TAR.²⁷ Some

22. See, e.g., Grossman & Cormack, *supra* note 5, at 32.

23. See, e.g., Annika K. Martin, *How to Stop Worrying and Love Predictive Coding*, 52 TRIAL 36 (2016).

24. See, e.g., Karl Schieneman & Thomas C. Gricks, III, *The Implications of Rule 26(g) on the Use of Technology-Assisted Review*, 7 FED. CTS. L. REV. 247, 259–63 (2013).

25. Martin, *supra* note 23, at 37; see Steven M. Puiszis, *A Lawyer's Duty of Technological Competence*, AM. BAR ASS'N 1, 2 (2017), https://www.americanbar.org/content/dam/aba/events/professional_responsibility/2017%20Meetings/Conference/conference_materials/session4_information_governance/puiszis_lawyers_duty_technological_competence.authcheckdam.pdf [<https://perma.cc/5Z4T-PLKQJ>] (stating that twenty-seven states have adopted the amendment to the ABA's Model Rule 1.1 requiring lawyers to keep "abreast of changes in the law and its practice," which includes knowing "the benefits and risks . . . associated with relevant technology") (internal quotations omitted).

26. Martin, *supra* note 23, at 38.

27. *Id.* (stating that "one study found that 'human reviewers missed between 20 percent and 75 percent of all relevant documents, and 90 percent of those mistakes resulted from inarguable human error'").

firms, however, may prefer manual document review: document review can be a great profit center for law firms, who are able to bill clients for many hours of junior associates' time-intensive labor.²⁸ The junior associates, on the other hand, undoubtedly would not be sorry to see document review assigned elsewhere.²⁹ Some firms have very successfully navigated the changing electronic discovery ("e-discovery") landscape by building an internal e-discovery practice offering everything from manual review by contract attorneys to complex review by technologists and e-discovery attorneys.³⁰ This in-house strategy requires a significant capital investment,³¹ however, and artificial intelligence like TAR threatens to undermine the effectiveness of complex in-house manual review.³² In any case, the future is not one of machines replacing humans.³³ Rather, TAR requires a great deal of human interaction, relying ultimately on user judgment.³⁴ As described above, supervised machine learning relies on the human administrator's judgment in creating the right training set, and humans have the final word in pronouncing a document's relevance or irrelevance. Therefore, careful human judgment is crucial to TAR's success.

Similarly, courts are just beginning to grapple with TAR. The first federal court decision approving the use of TAR in discovery was handed down in 2012.³⁵ The Southern District of New York, in *Da Silva Moore v. Publicis Groupe*, noted "that computer-assisted review is not perfect," but the "Federal Rules

28. Interview with Jim Noles, Partner, Barze Taylor Noles Lowther LLC (Dec. 20, 2018).

29. Mary Kate Sheridan, *The Truth About Doc Review*, VAULT (Sept. 4, 2018), <https://www.vault.com/blogs/vaults-law-blog-legal-careers-and-industry-news/the-truth-about-doc-review> [<https://perma.cc/WUW2-85PJ>] ("Nothing seems to invite as much disdain from junior associates as document review.").

30. See ALM Media, *How a Few Savvy Law Firms Turned E-Discovery Into a Cash Cow*, YAHOO FIN. (Nov. 27, 2017), <https://finance.yahoo.com/news/few-savvy-law-firms-turned-060001034.html> [<https://perma.cc/CDY9-9MSH>].

31. *Id.* ("It requires a dedicated internal staff of lawyers and technologists, data review centers and data hosting centers that can run 24/7 at scale [I]t's been hard for that investment to make sense for a lot of other firms.'").

32. See *id.* Morgan Lewis' Blair "notes the threat of artificial intelligence is real Much more of the process will be automated, perhaps requiring smaller groups to handle the work." *Id.*

33. See, e.g., *THE TERMINATOR* (Orion Pictures 1984) (portraying a post-apocalyptic future where machines have become sentient and are determined to destroy the last remnants of humanity).

34. Martin, *supra* note 23, at 38. (stating that "[w]hile predictive coding effectively transfers the drudgery of review to the machine, the judgment remains entirely the lawyer's").

35. *Moore v. Publicis Groupe*, 287 F.R.D. 182, 193 (S.D.N.Y. 2012) (stating that "[t]his Opinion appears to be the first in which a Court has approved of the use of computer-assisted review).

of Civil Procedure do not require perfection.”³⁶ The opinion also considered the evidentiary implications of TAR.³⁷ Despite the relatively small body of TAR-related case law, the case law since *Da Silva Moore* “has developed to the point that it is now black letter law that courts will permit where the producing party wants to utilize TAR for document review.”³⁸ When TAR is used to cull documents—to decide which documents to review and which to ignore—the court will ask whether the culling decision was reasonable and proportionate.³⁹ To determine whether the culling decision was reasonable and proportionate, the court will ask whether the cost of reviewing the culled documents was greater than their expected value.⁴⁰

In deciding whether a culling decision was reasonable and proportionate, one important question to ask is what happens when search terms are applied before TAR is used, reducing the volume of produced documents? If producing relevant documents is like searching for a needle in a haystack, the pre-TAR application of search terms is like reducing the number of searchable haystacks, lowering one’s chances of finding the needle. The Northern District of Indiana, in *Biomet M2a Magnum Hip Implant Products Liability*, held that using search terms to reduce the number of documents in discovery from 19.5 million to 2.5 million before applying TAR “comple[d] fully with the requirements of Federal Rules of Civil Procedure 26(b) and 34(b)(2).”⁴¹ The pre-TAR application of search terms might be unreasonable in a case with fewer documents, though, and future cases will likely explore this. Three distinct factors help explain the dearth of case law on the use of TAR in discovery. First, litigators have an absence of litigation vehicles to advance discovery disputes, as most disputes are resolved through Fed. R. Civ. P. motions⁴² and are not worth litigating after trial (i.e., on appeal). Consequently,

36. *Id.* at 191.

37. *Id.* at 189 (holding that Federal Rule of Evidence 702 and *Daubert* are trial rules that do not apply to “how documents are searched for and found in discovery”).

38. *Rio Tinto PLC v. Vale S.A.*, 306 F.R.D. 125, 127 (S.D.N.Y. 2015); *see also* *Dynamo Holdings L.P. v. Comm’r*, 143 T.C. 183, 192 (2014) (holding that the court will allow a party to use predictive coding where the party reasonably requests to use predictive coding and represents to the court that it will retain experts to conduct a search acceptable to the opposing party).

39. *See* THE ELECTRONIC DISCOVERY INSTITUTE, THE FEDERAL JUDGES’ GUIDE TO DISCOVERY 167 (3d ed. 2017).

40. *Id.* Note that this inquiry focuses on economic efficiency (where expected cost is greater than expected value, the efficient option is to forego the conduct), equating economic efficiency with reasonableness.

41. *In re Biomet M2a Magnum Hip Implant Prods. Liab. Litig.*, NO. 3:12-MD-2391, 2013 U.S. Dist. LEXIS 84440, at *5 (N.D. Ind. Apr. 18, 2013).

42. *See, e.g.*, FED. R. CIV. P. 37(a) (providing a motion for an order compelling disclosure or discovery).

there is not much opportunity to create a body of binding case law on discovery disputes.⁴³ Second, discovery is mostly managed by the parties, frequently with the help of a magistrate judge. Parties are unlikely to spend the resources necessary to substantially litigate discovery disputes, and even if they did, the magistrate judge's opinion on the discovery dispute would likely not be published, because the dispute is ancillary to the underlying action.⁴⁴ Third, some judges are behind the learning curve with TAR, because it is an emerging technology; therefore, judges may be loath to write extensive opinions on a topic they are unfamiliar with.⁴⁵

Courts may influence the way parties implement TAR by limiting the scope⁴⁶ of electronically-stored information (ESI) discovery at the pretrial discovery conference and by issuing evidentiary orders ahead of trial, such as Federal Rule of Evidence 502(d) orders.⁴⁷ Judges may decide to appoint special masters to help navigate TAR issues “as technology grows increasingly complex.”⁴⁸ Delegating responsibility for TAR oversight by appointing a

43. Interview with Keir Weyble, Professor, Cornell Law School (Oct. 9, 2018).

44. See Ellen Platt, *Unpublished vs. Unreported: What's the Difference?* 5 PERSP.: TEACHING LEGAL RES. & WRITING 26, 26–27 (1996) (stating that “[b]y 1994, all federal circuit courts and the majority of state courts had adopted some sort of policy to limit publication of opinions” and that “West’s editors typically exclude short memorandum decisions, orders, and other routine housekeeping items from both print sources and WESTLAW”); see also *Submission Guidelines for Court Opinions*, THOMSON REUTERS LEGAL, <https://legal.thomsonreuters.com/en/solutions/government/court-opinion-submission-guidelines> [https://perma.cc/JHH3-GK3M] (last visited Jan. 4, 2020) (instructing that judges should submit opinions that are “of general interest and importance to the bench and the bar, such as those that: [d]eal with an issue of first impression[.] [e]stablish, alter, modify, or explain a rule of law[.] . . . [p]resent a unique holding[.] [or] [i]nvolve newsworthy cases”). Because TAR is an emerging technology in discovery, though, magistrate judges may write future discovery opinions concerning TAR that meet the qualifications for publication (e.g., because they deal with an issue of first impression) or that get affirmed or adopted by the district courts and get published for that reason.

45. See *Proverbs* 17:28 (NIV) (“Even fools are thought wise if they keep silent, and discerning if they hold their tongues.”). Of course, the lawyers are obligated to educate the judge on the subject matter before the court, and this is not meant to suggest that judges would not decide cases on subject matter they are ignorant about—merely that their opinions in those cases would likely be brief and lack significant discussion of the details.

46. See FED. R. CIV. P. 26(b)(2) (detailing the proportionality factors judges use to define the scope of discovery, including the importance of the issues at stake in the action, the amount in controversy, and the parties’ relative access to relevant information).

47. See RONALD J. HEDGES ET AL., *MANAGING DISCOVERY OF ELECTRONIC INFORMATION* 39 (3d ed. 2017) (stating that judges may order, under Federal Rule of Evidence 502(d), that the production of materials in discovery will not waive privilege or work-product protection and that the order is enforceable against third parties, as well).

48. Jenny Le, *Technology-Assisted Review: Insight into Lingering Questions*, 23 PRETRIAL PRAC. & DISCOVERY 4, 6 (2015).

special master or assigning the dispute to a magistrate judge places a level of separation between the judge and the litigants, freeing the judge to focus on the case instead of ancillary issues like discovery. Courts have declined, however, to force a party to use TAR when the party objects to it.⁴⁹ This Article will discuss in Part III why it nevertheless might be wise to require prosecutors to use TAR over objection.

III. LEGAL CONSEQUENCES OF MISUSE

A. CIVIL SANCTIONS

1. *Federal Rule of Civil Procedure 37(c) Sanctions*

This Section discusses the ways in which a party's misuse of TAR can incur Fed. R. Civ. P. 37(c) sanctions, the significance of those sanctions, and how to avoid them.

The civil consequences of a failure to produce less than the full amount of required disclosure can be severe. Imagine that the required disclosure includes documents a_1 – $a_{5,000}$. The producing party uses a TAR program that uses too narrow a definition of relevance. As a result, the program produces only documents a_1 – $a_{4,500}$. This series of events exposes the producing party to the threat of sanctions. Fed. R. Civ. P. 37(c) prevents a party from using evidence after failing to disclose it as required by Fed. R. Civ. P. 26(a) and (e) (required and supplemental disclosures, respectively).⁵⁰ The court may also impose monetary sanctions, inform the jury of the party's failure to disclose, and impose other sanctions.⁵¹ If a party's failure to disclose is harmless, then the court is not required to impose Fed. R. Civ. P. 37(c) sanctions.⁵² If the party made an honest mistake in failing to disclose because the party did not know of the existence of the evidence, for example, and the requesting party does know of the evidence's existence, the mistake is a strong indication that the violation was harmless.⁵³ The burden of showing that the violation was harmless remains, however, with the party facing sanctions.⁵⁴ Judges have wide

49. THE ELECTRONIC DISCOVERY INSTITUTE, *supra* note 39, at 171.

50. FED. R. CIV. P. 37(c)(1).

51. *Id.* at (A)–(C). Additionally, when a party's discovery production is overly broad, the court may modify the scheduling order. *See* Casey C. Sullivan, *AI-Driven Discovery Process Produces Millions of Unresponsive Docs*, LOGIKCULL (Sept. 20 2018), <https://blog.logikcull.com/discovery-on-autopilot-crashes-and-burns> [<https://perma.cc/T3DR-FQTY>]. This Article also shows that significant problems arise when a party misuses TAR (overproduction of unresponsive documents created delay).

52. *See* Roberts v. Galen of Va., Inc., 325 F.3d 776, 782–83 (7th Cir. 2003).

53. *Id.* at 783.

54. *Molly, Ltd. v. Deckers Outdoor Corp.*, 259 F.3d 1101, 1107 (9th Cir. 2001).

discretion in the imposition of Fed. R. Civ. P. 37(c) sanctions and are able to dismiss the suit entirely for disclosure violations, even where the offending party has not violated a court order.⁵⁵ Judges are given such wide latitude because the Supreme Court intended to strictly enforce compliance with the discovery rules when it adopted Fed. R. Civ. P. 37(c).⁵⁶ Therefore, lawyers using TAR should give special consideration to ensuring that the TAR code is trained to produce the full amount of relevant documents to which the opposing party is entitled. This can be done on the front end by rigorously developing the training set, and on the back end by reviewing TAR's output for accuracy. The "should" here is a normative statement; to comply with the spirit of Fed. R. Civ. P. 37(c), and with the moral obligation⁵⁷ inherent in turning over documents in discovery, lawyers should use TAR appropriately to robustly fulfill the discovery requirements.

2. *Spoilation Sanctions*

This Section discusses how a party's misuse of TAR in civil discovery can expose the party to spoliation sanctions, the possible consequences of those sanctions, and how a party can avoid incurring them.

Spoliation is "[t]he intentional destruction, mutilation, alteration, or concealment of evidence."⁵⁸ A party's failure to preserve evidence that results in the destruction or loss of relevant information is spoliation, which is negligent and may even be grossly negligent or willful, depending on the circumstances.⁵⁹ For example, a party's failure to collect records from key players constitutes gross negligence or willfulness.⁶⁰ Therefore, if a party uses TAR to decide which documents to collect for disclosure and TAR does not identify documents held by key players, the party will be liable for gross negligence that possibly amounts to spoliation, especially if the evidence is subsequently lost or destroyed by those players.

55. *Ortiz-Lopez v. Sociedad Espanola de Auxilio Mutuo y Beneficiencia de P.R.*, 248 F.3d 29, 33–34 (1st Cir. 2001).

56. Lisa Stockholm, *The Duty to Disclose: Rule 37(c) and Self-Executing Sanctions*, AM. BAR ASS'N (June 30, 2011), <http://apps.americanbar.org/litigation/committees/trialevidence/articles/summer2011-self-executing-sanctions-rule-37c.html> [https://perma.cc/4CBY-9U26].

57. In other words, fairness in avoiding "trial by ambush." *See How Courts Work*, AM. BAR ASS'N (Dec. 2, 2013), https://www.americanbar.org/groups/public_education/resources/law_related_education_network/how_courts_work/discovery/ [https://perma.cc/CNH7-WYTA].

58. *Spoliation*, BLACK'S LAW DICTIONARY (10th ed. 2014).

59. *Pension Comm. of the Univ. of Montreal Pension Plan v. Banc of Am. Sec., LLC*, 685 F. Supp. 2d 456, 464 (S.D.N.Y. 2010).

60. *Id.* at 465.

To prevail on a claim of spoliation, the complaining party must show that:

[T]he spoliating party (1) had control over the evidence and an obligation to preserve it at the time of destruction or loss; (2) acted with a culpable state of mind upon destroying or losing the evidence; and that (3) the missing evidence is relevant to the innocent party's claim or defense.⁶¹

The factfinder may presume relevance and prejudice where the spoliating party acted in bad faith or was grossly negligent.⁶² Any presumption is rebuttable, though, regardless of the spoliating party's degree of culpability.⁶³

The court may impose sanctions for a party's spoliation of evidence, but only to the degree "necessary to redress conduct which [sic] abuses the judicial process."⁶⁴ The court's sanction should deter spoliation, place the risk of erroneous judgment on the offending party, and restore the prejudiced party to the position it would have occupied in the absence of the other's spoliation.⁶⁵ The court's power to impose spoliation sanctions originates in the court's inherent power to control the judicial process and the litigation before it.⁶⁶ Possible spoliation sanctions include, from least to most severe: mandating "further discovery, cost-shifting, fines, special jury instructions, preclusion, and the entry of default judgment or dismissal."⁶⁷

Because a party's poor implementation of TAR can result in a spoliation sanction of an adverse default judgment, parties should carefully use TAR to avoid spoliation by identifying key documents and flagging them for preservation once the duty to preserve attaches.⁶⁸ The "should" here is both a normative and an economic statement: normative in that an attorney could be professionally accountable⁶⁹ for failing the client if the court dismissed the case

61. *Id.* at 467.

62. *Id.*

63. *Id.* at 468.

64. *Id.* at 465 (internal quotations omitted); *see* *Anderson v. Beatrice Foods Co.*, 900 F.2d 388, 395 (1st Cir. 1990) (stating that a judge, in crafting sanctions, "should take pains neither to use an elephant gun to slay a mouse nor to wield a cardboard sword if a dragon looms").

65. *Pension Comm. of the Univ. of Montreal Pension Plan*, 685 F. Supp. 2d at 469 (quoting *West v. Goodyear Tire & Rubber Co.*, 167 F.3d 776, 779 (2d Cir. 1999)).

66. *Id.* at 465.

67. *Id.* at 469.

68. *See id.* at 466 (stating that the duty to preserve evidence arises when a party reasonably anticipates litigation, requiring a party to put a litigation hold in place to ensure preservation of relevant documents).

69. *Compare* AM. BAR ASS'N, MODEL RULES OF PROFESSIONAL CONDUCT 1.1 (2019) (stating that "[a] lawyer shall provide competent representation to a client") *with* AM. BAR ASS'N, MODEL RULES OF PROFESSIONAL CONDUCT 8.4(a) (2019) (stating that it is professional misconduct for a lawyer to "violate or attempt to violate the Rules of Professional Conduct").

as a spoliation sanction, and economic in that cost-shifting sanctions and fines are expenses that can be avoided.

3. *Sanctions for Intentional Misuse*

This Section discusses how courts may respond to a party's intentional misuse of TAR as distinct from the accidental misuse described in the previous two Sections. This Section discusses the limits that the technology imposes on the court's insight into the TAR process and possible solutions for deterring parties from intentionally misusing TAR.

To this point, this Article has discussed unintentional acts or omissions: mistakes in a party's implementation of TAR, either in training TAR or in using it, that can lead to sanctions. But intentional acts and omissions also merit examination. Because courts are split on the degree of transparency required in the use of TAR,⁷⁰ and because of the complicated nature of machine learning, parties have ample opportunity to intentionally restrict the TAR program's code to produce less than the required amount of discovery, or to improperly cull the dataset by applying overbroad search terms to the dataset before running TAR. The Fed. R. Civ. P. provide meager deterrents to this kind of behavior. Fed. R. Civ. P. 26(g)(1) requires a party's attorney to sign the disclosure, certifying that it is complete and correct.⁷¹ Fed. R. Civ. P. 26(g)(3) requires the court to impose an appropriate sanction for unjustified improper certification, regardless of whether the opposing party moves for the court to do so.⁷² These sanctions may include an order to pay the reasonable expenses (including attorneys' fees) caused by the improper certification.⁷³ While Fed. R. Civ. P. 26(g)(3) sanctions may deter an actor from intentionally misusing TAR, they are not a complete deterrent. Because TAR's processes are complicated, an actor may feel quite certain that intentional misuse will not be perceptible, or if it is perceptible, that misuse is unlikely to be caught by the other party due to a lack of transparency concerning the actor's training of TAR via the seed set. The actor may be tempted to see the low risk of apprehension as no risk at all. Thus, there is no deterrent in these circumstances if the actor lacks moral fortitude.

Yet there are some ways to deal with the intentional misuse of TAR. One route that the law could take to deter intentional misuse is to amend the Fed. R. Civ. P. to include a more robust sanction for intentional misuse of TAR,

70. *Rio Tinto PLC v. Vale S.A.*, 306 F.R.D. 125, 128 (S.D.N.Y. 2015).

71. FED. R. CIV. P. 26(g)(1)(A). For a thorough discussion of the procedures that an actor should implement with TAR to comply with FED. R. CIV. P. 26(g), see Schieneman & Gricks, *supra* note 24, at 260–63.

72. FED. R. CIV. P. 26(g)(3).

73. *Id.*

perhaps by requiring an offending party to redo the discovery process with a TAR program specified by the court and the requesting party. Fed. R. Civ. P. 26(g)(3) already gives judges wide latitude⁷⁴ to craft sanctions for offending behavior, though, so amending the Fed. R. Civ. P. to include a specific sanction seems unnecessary. Additionally, imposing harsher sanctions will not deter the behavior if the actor continues to see little to no risk of apprehension. An alternative solution is to better police such misconduct so that the immoral actor perceives the probability of apprehension as much greater and is consequently deterred from engaging in the behavior. This solution also proves unsatisfactory, for two reasons. First, because the courts will likely be unwilling to become more involved in scrutinizing a party's methods for complying with discovery obligations, and second, because the technology does not lend itself to such scrutiny due to its complexity. These solutions are unsatisfactory mainly because the root of the problem lies within the actor. The best solution, then, is to remind attorneys of their ethical obligations⁷⁵ and encourage them to become sophisticated in their understanding of TAR so that they are both willing to use TAR appropriately and able to identify when they (or another) are misusing TAR.

B. OTHER LEGAL CONSEQUENCES OF TAR IN CIVIL LITIGATION

1. *Administrative Agencies' Control of TAR*

This Section briefly describes how administrative agencies can control the ways in which parties use TAR to respond to subpoenas. This Section also examines the costs that administrative agencies' control imposes on litigants. The purpose of this Section is to alert attorneys to another player (in addition to courts and opposing parties) that may constrain a party's use of TAR.

Administrative agencies like the SEC can control the way litigants use TAR, affecting the cost of a party's compliance with discovery obligations. When the SEC issues a judicially-enforced administrative subpoena, the SEC can require that the defendant's use of any computer-assisted review or TAR be pre-approved by the legal and technical staff of the Division of Enforcement.⁷⁶ Therefore, administrative agencies can restrict a party's use of

74. *See id.* (using the language "may include" to signal that the list is not exhaustive).

75. AM. BAR ASS'N, MODEL RULES OF PROFESSIONAL CONDUCT 8.4(c) ("[I]t is professional misconduct for a lawyer to] engage in conduct involving dishonesty, fraud, deceit or misrepresentation."); AM. BAR ASS'N, MODEL RULES OF PROFESSIONAL CONDUCT 3.4(d) ("[A lawyer shall not] in pretrial procedure . . . fail to make reasonably diligent effort to comply with a legally proper discovery request by an opposing party.").

76. *See SEC v. Elite Advisors Sports Mgmt.*, No. CV 14-9690 PA (RZx), 2015 U.S. Dist. LEXIS 55847, at *47 (C.D. Cal. Apr. 27, 2015).

TAR in discovery, potentially leading to greater costs for the producing party (if the party must instead rely on manual review, for example).⁷⁷

Even if the Division of Enforcement subsequently approves all TAR requests, the additional burden of seeking approval increases the transaction costs⁷⁸ that the producing party must suffer. Another example is the Commodity Futures Trading Commission (CFTC), which requires a producing party who wishes to use TAR to consult with the CFTC attorney to define and agree upon the technology used and the requirements it must meet.⁷⁹ As with the SEC, the CFTC attorney may dictate the technology to be used and how it is to be employed, which can affect the costliness of TAR.⁸⁰ In the energy industry, regulated entities are pushing the Federal Energy Regulatory Commission (FERC) to allow them to use TAR to comply with discovery obligations in enforcement investigations.⁸¹ If FERC decides to allow the use of TAR, it, too, would likely wish to prescribe when and how TAR can be used.⁸² Consequently, litigants should be aware of administrative agencies' ability to control the litigants' use of TAR so that they can properly prepare to meet their discovery obligations if the agencies prohibit them from using TAR.

2. TAR's Expansion of Discovery

This Section describes how TAR's successes may expand the scope of discovery by making data access cheaper and easier. TAR may also expand discovery by changing the definition of what qualifies as "inaccessible" data. Fed. R. Civ. P. 26(b)(2)(B) states that parties need not provide ESI discovery from sources that are not reasonably accessible because access carries an undue burden or cost.⁸³ Because TAR can sort through millions of documents⁸⁴ much

77. See *supra* notes 26–27 and accompanying text.

78. See *Cost—transaction cost*, BLACK'S LAW DICTIONARY (10th ed. 2014) ("A cost connected with a process transaction, such as . . . the cost involved in litigating a dispute.").

79. COMMODITY FUTURES TRADING COMM'N, CFTC DATA DELIVERY STANDARDS 3 (2016).

80. See *id.*

81. DAVID A. APPLEBAUM & TODD L. BRECHER, AM. GAS ASS'N ET AL., ENHANCING THE TRANSPARENCY, EFFICIENCY, AND FAIRNESS OF THE FEDERAL ENERGY REGULATORY COMMISSION'S ENFORCEMENT PROGRAM 13–14 (2019).

82. See *id.* at 14 (claiming that FERC has resisted the use of advanced technology like TAR in enforcement).

83. *FDIC v. Bowden*, No. CV413–245, 2014 U.S. Dist. LEXIS 77890, at *36 (S.D. Ga. June 6, 2014) (applying Fed. R. Civ. P. 26(b)(2)(B)).

84. See, e.g., *In re Biomet M2a Magnum Hip Implant Prods. Liab. Litig.*, NO. 3:12-MD-2391, 2013 U.S. Dist. LEXIS 84440, at *2 (N.D. Ind. Apr. 18, 2013) (applying TAR to 2.5 million documents).

more efficiently than manual review,⁸⁵ however, the availability of TAR may reduce the credibility of claims that some particular ESI is inaccessible. Consequently, courts may require parties to provide ESI that would not otherwise have been required, at least not at the expense of the producing party.⁸⁶ Therefore, the legal world's adoption of TAR may expand the discovery obligation by increasing parties' access to data.

C. SANCTIONS IN CRIMINAL PROSECUTION

1. *Background Criminal Law*

This Section provides an overview of the various sources of law that entitle criminal defendants to government disclosure, how prosecutors' failure to comply with disclosure requirements violates due process of law, and what the consequences of those violations are.

The Fourteenth Amendment provides that no citizen shall be deprived of "life, liberty, or property without due process of law."⁸⁷ Case law entitles defendants to government disclosure of exculpatory evidence, and the government's failure to turn over such evidence is a violation of due process.⁸⁸ Additionally, Federal Rule of Criminal Procedure (Fed. R. Crim. P.) 16 entitles criminal defendants to a great deal of disclosure from the government, including books, papers, documents, data, photographs, and tangible objects if the item is material to preparing the defense, the government plans to use the item in trial, or the item was taken from or belongs to the defendant.⁸⁹ Finally, statutory law provides criminal defendants with mandatory government disclosure, and provides sanctions for failure to turn over such evidence.⁹⁰ Therefore, if the government employs TAR to determine which evidence should be turned over to the defendant as part of the government's disclosure, and TAR is poorly implemented such that less than the full amount of relevant evidence is produced, the defendant's Fourteenth Amendment due process rights may be violated, possibly resulting in the reversal of some convictions.

In state prosecutions, a defendant is entitled to an appeal in federal court (known as habeas corpus relief) if the defendant's constitutional rights have

85. *See supra* notes 26–27 and accompanying text.

86. *See Zubulake v. UBS Warburg LLC*, 216 F.R.D. 280, 284 (S.D.N.Y. 2003) (stating that cost-shifting is potentially appropriate where the requesting party seeks inaccessible data).

87. U.S. CONST. amend. XIV, § 1.

88. *Brady v. Maryland*, 373 U.S. 83, 87 (1963).

89. FED. R. CRIM. P. 16(a)(1)(E), (i)–(iii).

90. *See, e.g., Jencks Act*, 18 U.S.C. § 3500(b), (d) (2018) (providing mandatory government disclosure with regards to testimonial statements of witnesses in the possession of the United States).

been violated and the defendant has exhausted all state court remedies.⁹¹ The defendant must “show cause for . . . failure to develop the facts in state-court proceedings and actual prejudice resulting from that failure.”⁹² In the context of a *Brady* claim, (i.e., a claim that evidence substantially favorable to the defense failed to be disclosed), a defendant meets that standard by showing that:

- (a) [T]he prosecution withheld exculpatory evidence; (b) petitioner reasonably relied on the prosecution’s open file policy as fulfilling the prosecution’s duty to disclose such evidence; and (c) the State confirmed petitioner’s reliance on the open file policy by asserting during state habeas proceedings that petitioner had already received everything known to the government.⁹³

If the defendant proves that the prosecutor’s misuse of TAR resulted in the satisfaction of each of these elements, the defendant is entitled to federal review which may well result in a reversed conviction. Therefore, because habeas corpus relief provides defendants in state prosecutions an additional layer of scrutiny in the form of federal review, state prosecutors have another incentive to ensure that they employ TAR properly to avoid due process violations.

2. *Sanctions for Brady Violations*

This Section analyzes the operation of the government’s *Brady* obligations to a criminal defendant and discusses how a prosecutor’s misuse of TAR can deny the defendant the due process of law. This Section also discusses how prosecutors should consider using TAR in the context of *Brady*.

A *Brady* violation has three components: (1) the evidence at issue is favorable to the accused (because it is exculpatory or impeaching evidence), (2) the evidence was suppressed by the prosecution, and (3) prejudice ensued.⁹⁴ *Brady* requires the government in a criminal prosecution to disclose favorable evidence to the defense, and the government’s failure to do so is a violation of due process where the evidence is material to guilt or punishment, regardless of the government’s good or bad faith.⁹⁵ *Brady* is functionally a rule of imputed

91. *Banks v. Dretke*, 540 U.S. 668, 683, 690 (2004).

92. *Id.* at 690–91 (quoting *Keeney v. Tamayo-Reyes*, 504 U.S. 1, 11 (1992)).

93. *Id.* at 692–93 (quoting *Strickler v. Greene*, 527 U.S. 263, 289 (1999)) (internal brackets and quotation marks omitted).

94. *Strickler v. Greene*, 527 U.S. 263, 281–82 (1999).

95. *Brady v. Maryland*, 373 U.S. 83, 87 (1963).

liability,⁹⁶ because it charges the prosecutor with knowledge of favorable evidence known to others acting on the government's behalf, including police officers.⁹⁷ Additionally, defendants need not request the evidence in order to be entitled to it.⁹⁸

TAR is a double-edged sword in criminal prosecutions: on the one hand, the prosecutor will be responsible for failure to disclose evidence resulting from someone on the prosecution team's improper use of TAR; on the other hand, TAR can help the prosecutor more efficiently and thoroughly sort and evaluate evidence to determine whether it is material and exculpatory or useful for impeachment.⁹⁹ Nonetheless, *Brady* violations are a serious problem—they can amount to official misconduct, and the National Registry of Exonerations estimates that official misconduct is a contributing factor in “more than 48%” or “about 52%” of exonerations.¹⁰⁰ Therefore, because of their ethical duties, prosecutors should take care to ensure that TAR is appropriately implemented to protect the innocent and convict the guilty.¹⁰¹

3. *Federal Rule of Criminal Procedure 16 Sanctions*

This Section discusses the requirements of Federal Rule of Criminal Procedure 16 disclosures, how TAR should be used to comply with those requirements, and how courts can impose sanctions for failing to comply with the requirements. This Section also suggests that to bridge the power gap between the government and criminal defendants, courts should impose an affirmative duty on prosecutors to use TAR in discovery to sort and categorize documents.

Fed. R. Crim. P. 16 imposes on the prosecution a continuing duty to disclose the existence of evidence discovered before or during trial if that evidence is subject to discovery and the other party requested or the court ordered the prosecution to produce it.¹⁰² Discovery, then, is not a one-shot endeavor; rather, the prosecution has an ongoing obligation to disclose certain

96. See Daniel S. Medwed, *Brady's Bunch of Flaws*, 67 WASH. & LEE L. REV. 1533, 1538 (2010) (explaining that even evidence known only to police officers is imputed to the prosecutor).

97. See *Kyles v. Whitley*, 514 U.S. 419, 437 (1995).

98. *Id.* at 433.

99. See Martin, *supra* note 23, at 38.

100. % *Exonerations by Contributing Factor*, NAT'L REGISTRY OF EXONERATIONS, <https://www.law.umich.edu/special/exoneration/Pages/ExonerationsContribFactorsByCrime.aspx> [<https://perma.cc/5XYZ-F4YG>] (last visited Jan. 4, 2020).

101. See AM. BAR ASS'N, CRIMINAL JUSTICE STANDARDS FOR THE PROSECUTION FUNCTION 3–1.2(b) (4th ed. 2016) (“The prosecutor should seek to protect the innocent and convict the guilty . . . and respect the constitutional and legal rights of all persons . . .”).

102. FED. R. CRIM. P. 16(c).

evidence to the defense. Because the prosecution's duty to disclose is continuous, the prosecution should use TAR multiple times throughout the progression of the litigation to thoroughly satisfy that duty as efficiently as possible. Of course, cost and time considerations present practical limitations on the extent to which prosecutors should follow this recommendation. Because most disclosure happens early,¹⁰³ the marginal benefits of an additional TAR cycle are diminished as trial approaches, so the use of TAR should be frontloaded in the litigation cycle. The exact number of times prosecutors should use TAR and the depths to which the program should probe in a given case will, of course, vary depending on the circumstances.¹⁰⁴

Fed. R. Crim. P. 16(d)(2) empowers the district court to impose sanctions on a party for that party's failure to comply with Fed. R. Crim. P. 16.¹⁰⁵ The possible sanctions include ordering the party to permit the discovery,¹⁰⁶ specifying the methods by which the discovery will be conducted,¹⁰⁷ granting a continuance,¹⁰⁸ prohibiting the introduction of the undisclosed evidence at trial,¹⁰⁹ or entering "any other order that is just under the circumstances."¹¹⁰ Although the court has wide discretion in deciding what order is just under the circumstances, courts of appeal have held that a district court should impose the least severe sanction that will effectively accomplish prompt compliance with discovery orders.¹¹¹ Even so, the least severe sanctions could prove to be significant setbacks for the prosecution, given the time and resources necessary to litigate a case.¹¹² Therefore, prosecutors have a significant incentive to use TAR appropriately in discovery to avoid the court's imposition of sanctions.

103. *See id.* (stating that the government's disclosure is at the defendant's request, which usually happens early).

104. *See* Dept. of Justice, Justice Manual § 9-5.002 (stating that because ultimate responsibility for disclosure rests with the prosecutor, "the prosecutor's decision about how to conduct this review is controlling")

105. *See* FED. R. CRIM. P. 16(d)(2).

106. *Id.* at 16(d)(2)(A).

107. *See id.*

108. *Id.* at 16(d)(2)(B).

109. *Id.* at 16(d)(2)(C).

110. *Id.* at 16(d)(2)(D).

111. *United States v. Martinez*, 455 F.3d 1127, 1130 (10th Cir. 2006); *United States v. Gee*, 695 F.2d 1165, 1169 (9th Cir. 1983); *see United States v. De La Rosa*, 196 F.3d 712, 715 (7th Cir. 1999) (stating that although trial courts have discretion to fashion sanctions under Fed. R. Crim. P. 16(d)(2), "a new trial is warranted only after all other, less drastic remedies are inadequate").

112. *See First Estimates of Judicial Costs of Specific Crimes, From Homicide to Theft*, RAND (Sept. 12, 2016), <https://www.rand.org/news/press/2016/09/12.html> [<https://perma.cc/5PVH-RTQX>] (finding that the judicial costs of a homicide can range from \$22,000–\$44,000).

The Fed. R. Crim. P. do not provide defendants with the same quality of disclosure to which civil litigants are entitled.¹¹³ For example, in civil litigation, a party must produce ESI as it is kept in the usual course of business or must organize and label the ESI to correspond to categories in the discovery request, but no parallel rule exists in criminal prosecutions.¹¹⁴ This creates a major problem called “data dumps,” where the prosecution “drives up the dump truck, dumps off all of the discovery, five thousand documents, fifty tapes, and now we have to go through all of that to make a determination as to what’s relevant or not.”¹¹⁵ In addition to producing discovery in this unorganized manner, the prosecution also sometimes delivers the ESI in a format that is inaccessible to the defense.¹¹⁶ Some judges believe it is inappropriate to involve themselves in ESI discovery, and they do little to help the defense obtain usable discovery.¹¹⁷ There are few other resources for criminal defendants—although the Defender Services Office has funded the National Litigation Support Team (NLST) to help criminal defense lawyers through training and direct assistance with ESI, the NLST has only four members, a “woefully inadequate” number to support the federal judiciary, federal and community defenders, and nearly 10,000 panel attorneys across the nation.¹¹⁸ The government, of course, has infinitely more resources than public defenders do.¹¹⁹

Two possible solutions emerge to solve the ESI data dump problem. The first solution is to subsidize/train criminal defense attorneys in the purchase and use of TAR. Leaving the sorting burden with the defendant may be the most efficient option because the defendant has the strongest incentive to uncover exculpatory evidence. The second solution is to require prosecutors to use TAR to sort and categorize the ESI for discovery prior to turning the data over to the defense. The second solution is superior for a variety of reasons: (1) it will be easier to implement uniformly, (2) some of the capital is likely already in place, and (3) it addresses the problem at the source. Subsidizing TAR for defense attorneys is a more piecemeal approach that raises difficult questions, such as how often an attorney must act as a federal defender before being entitled to a TAR subsidy. By contrast, requiring

113. Interview with the Honorable Jonathan W. Feldman, U.S. Magistrate Judge, Western District of New York (Oct. 4, 2018).

114. Compare FED. R. CIV. P. 34(b)(2)(E)(i) with FED. R. CRIM. P. 16.

115. CRIMINAL JUSTICE ACT REVIEW COMM., 2017 REPORT OF THE AD HOC COMMITTEE TO REVIEW THE CRIMINAL JUSTICE ACT 230 (2017).

116. *Id.* at 228–30.

117. *Id.* at 232.

118. *Id.*

119. Interview with the Honorable Jonathan W. Feldman, *supra* note 112.

prosecutors to use TAR to sort and categorize the discovery before turning it over to the defense reduces duplication of efforts and solves the data dump problem. This solution will also be easier to implement uniformly. Because prosecutors are government agents, regulations regarding their behavior and processes are easier to standardize and deploy uniformly throughout the country. Furthermore, as TAR becomes more and more prevalent, it will become commoditized—cheaper and more widely available.¹²⁰ On the other hand, putting this burden on the government might be viewed as shifting the defense's responsibilities to the prosecution. The prosecution has a responsibility, however, to disclose usable evidence, and a strong incentive to uncover exculpatory evidence, too, because *Brady* holds the prosecutor responsible for exculpatory evidence known to anyone on the prosecution team.¹²¹ Therefore, the best solution to the data dump problem is to require prosecutors to use TAR to sort and standardize ESI before turning it over to the defense. This solution will help safeguard defendants' due process rights by obviating the need for defense counsel to undertake the daunting (and probably neglected) task of sorting through mountains of unlabeled data, freeing them to focus on more important aspects of the case.

A defendant's need of usable data is, in many ways, much greater in a criminal prosecution than in a civil suit, because the defendant stands to lose liberty or possibly even life, and the defendant will in any event have a criminal record if found guilty. Therefore, courts and policymakers should carefully consider imposing a duty on prosecutors to use TAR in a way that does not accomplish the bare minimum, but instead assists defendants by sorting data in a more tailored fashion. This solution will help bridge the gap between the quality of civil disclosure and the quality of criminal disclosure.

4. *Sanctions for Jencks Act Violations*

This Section discusses the Jencks Act as another source of law providing criminal defendants with government disclosure, and how a prosecutor's misuse of TAR can expose the prosecutor to Jencks Act sanctions.

The Jencks Act provides that in a federal criminal prosecution, after a prosecution witness has testified on direct examination, the court shall, on motion of the defendant, order the United States to produce any statement of the witness that (1) the United States possesses and (2) relates to the subject matter of the witness' testimony.¹²² If the prosecution fails to comply with the

120. See *supra* note 3 and accompanying text (suggesting that technology becomes commoditized as it advances).

121. See *Kyles v. Whitley*, 514 U.S. 419, 437 (1995).

122. 18 U.S.C. § 3500(b) (2018).

order, the court shall strike the witness' testimony or declare a mistrial if the interests of justice so require.¹²³ Therefore, if the prosecution uses TAR to retrieve the witness' statements for compliance with a Jencks order, and TAR fails to produce all of the relevant statements, the prosecution is subject to these mandatory sanctions, which could cause the prosecution to lose the trial (if the witness' testimony is stricken and that testimony is crucial evidence) or expend resources to litigate a new trial (if the court declares a mistrial). However, the government does have the privilege of withholding the identity of informants.¹²⁴ For that reason, the prosecution should employ TAR carefully to avoid accidentally disclosing informants' identities when retrieving witnesses' statements for disclosure under the Jencks Act.¹²⁵

D. PERSONAL LIABILITY FOR MISUSE

This Section examines how attorneys may be personally liable for misusing TAR and how they may contract some of that liability to others, reducing the attorneys' exposure to risk.

An attorney's poor implementation of TAR may inadvertently uncover privileged or confidential material, such as work product or material protected by attorney-client privilege. If TAR's seed set is coded broadly enough to capture this data, and TAR is not trained to exclude the data from TAR's net, then TAR creates a risk that privileged or confidential material will be inadvertently disclosed to the requesting party.¹²⁶ As a matter of corporate reality, TAR's failure will ultimately be attributed to some person or persons. Consequently, the wrath of employers and the possibility of civil liability in tort will descend on those employees responsible for the inadvertent disclosure of privileged material inappropriately collected and disseminated (or at least marked as relevant and included in a packet for disclosure) by the TAR program.

Civil liability may not be restricted solely to the attorneys who implement TAR and code its seed set but may extend to the creator and seller of the TAR program in question, as well, under a breach of warranty liability theory. It is likely, however, that lawyers who purchase TAR programs will insist on contracting liability to the seller in the case of TAR failure.¹²⁷ Because law firms

123. 18 U.S.C. § 3500(d) (2018).

124. *McCray v. Illinois*, 386 U.S. 300, 308 (1967).

125. Note that informants could testify, subjecting their statements to the Jencks Act, without revealing their identities.

126. However, privilege checks typically happen independently of TAR processes. For example, a team may review for privilege all of the documents that TAR marks as relevant. Interview with Fernando Delgado, *supra* note 18.

127. Interview with Keir Weyble, *supra* note 43.

and TAR sellers are sophisticated parties, there is nothing to suggest that the parties cannot bargain for such contracts or that courts will not enforce the contracts.¹²⁸ Therefore, while it is unlikely that TAR sellers will be directly liable for TAR's accidental disclosure of privileged or confidential information, it is entirely plausible that the sellers would be indirectly liable for such damage through a contractual provision. Of course, even if sellers agree to assume contractual liability for program failure, sellers are unlikely to assume responsibility for user error. Consequently, attorneys still have an incentive to deploy TAR properly so that they avoid personal liability for user error, even if they can contract other liability away. Additionally, discretion is an inescapable aspect of discovery, regardless of whether an actor uses manual review or TAR. An actor must exercise discretion in deciding which documents to mark as relevant, and so must TAR. Those who use TAR should take care to train the program to exercise discretion appropriately and ensure that they are not attempting to outsource responsibility to TAR, because ultimately, they will have to answer for TAR's failures, potentially in the form of personal liability.

While the court may mitigate some of the sting of accidental disclosure—for example, by issuing a Federal Rule of Evidence 502(d) order that accidental disclosure during discovery does not amount to a waiver of privilege or work-product protection—the reality is that the damage is already done as soon as the disclosure is made. Even if privileged and work-product evidence is not admissible at trial, the receiving party can still use it to understand the producing party's trial strategy, or as a guidepost to direct the receiving party where to look for more favorable evidence.¹²⁹ Therefore, protecting confidentiality and privileged documents is critical and should be a primary concern of those involved in developing and implementing TAR.

IV. ECONOMIC CONSEQUENCES OF MISUSE

This Part discusses the economic consequences of misusing TAR in corporate law. Although these costs result from legal actions, they come from delays, rather than sanctions, and so they are distinct from the legal consequences described in the preceding Sections.

Although this Article has mostly focused on parties' use of TAR in litigation, TAR can also be helpful in corporate law. For example, TAR may be very useful in mergers because mergers require analysis of vast numbers of

128. *Cf. Williams v. Walker-Thomas Furniture Co.*, 350 F.2d 445, 449 (D.C. Cir. 1965) (stating that contracts should not be enforced where the element of unconscionability is present).

129. Interview with Keir Weyble, *supra* note 43.

documents.¹³⁰ Recently, Lighthouse (an e-discovery facilitation company) assisted its client in a pending merger when the Department of Justice's (DOJ) discovery request required the client to analyze 1.1 million documents.¹³¹ Lighthouse employed TAR to reduce the amount of data requested by 87% and "easily meet" the DOJ's seventy-five-day production deadline.¹³² This was not the first time that the DOJ approved the use of TAR in analyzing merger documents. In 2013, the DOJ and Constellation Brands agreed to use TAR to review millions of documents related to Constellation's purchase of Corona and other brands from Anheuser-Busch Inbev.¹³³ The review was conducted within two weeks.¹³⁴ TAR saved Constellation "significant costs," while the DOJ received "a targeted production that included a high percentage of information that was helpful to its analysis of the proposed merger," which the DOJ ultimately approved.¹³⁵

But the use of TAR in corporate transactions, if carelessly done, can be costly. Mistakes in using TAR are costly because they have rippling effects—TAR that uses predictive coding will rely on the information it learns to make decisions about which documents are relevant, multiplying mistakes by duplicating them.¹³⁶ So the risk of creating enormous problems by overly restricting the seed set is obvious. One potential risk of using TAR in these circumstances, though, is perhaps not obvious: the DOJ may require access to a sample set of both the responsive and non-responsive datasets, which would require the parties to turn over documents that the government otherwise would never have seen (that is, those in the non-responsive dataset).¹³⁷ This overexposure may give the DOJ reasons to reject the merger, and will be more costly because a greater number of documents must be produced.

It hardly bears mentioning that failure to comply with the DOJ's requirements will result in a merger's delay or abandonment, which would be a very significant cost. So, while TAR can generate great savings,¹³⁸ it can also

130. *See, e.g.*, LIGHTHOUSE, A COMPLEX SECOND REQUEST COMES INTO FOCUS 1, 2 (2018) (analyzing 1.1 million documents for a merger).

131. *Id.*

132. *Id.* at 4.

133. Geoffrey Vance & Alison Silverstein, *McDermott and DOJ Embrace Predictive Coding*, LEGALTECH NEWS (July 9, 2013, 12:00 AM), <https://advance.lexis.com/search?crid=c81f8908-8667-4f0b-8259-a2af3f849db5&pdsearchterms=LNSDUID-ALM-LAWTNW-1202609909310&pdbyasscitatordocs=False&pdmfid=1000516&pdisurlapi=true> [<https://perma.cc/XJ5B-4SV4>].

134. *Id.*

135. *Id.*

136. *Id.*

137. *Id.*

138. *See supra* note 26 and accompanying text.

create unnecessary economic costs caused by delays, duplication of efforts, and overexposure. Lawyers, of course, are obligated to understand the risks involved with using TAR in a given matter.¹³⁹ Therefore, lawyers must consider economic costs like these when deciding how to counsel their clients, and companies must consider economic costs when deciding how to move forward with (or whether to abandon) mergers and other business deals.

V. CONCLUSION

Lawyers should be considering the four possible pitfalls of civil sanctions, due process violations, personal liability, and economic costs when training and implementing TAR in discovery in civil litigation, criminal prosecution, and corporate law. Courts should not impose strict rules governing its use, and TAR should not require extensive or intensive court supervision. Because TAR will likely soon be deployed in all sizeable¹⁴⁰ law firms, it may expose a great number of firms and prosecutors to the four pitfalls this Article has outlined. Therefore, the actors involved should be thinking about these issues now. The lawyers and firms who start properly implementing TAR early will be the most successful at navigating the changing legal landscape and surviving the increasing integration of technology into the profession.¹⁴¹ The firms that fail to adopt TAR, or adopt TAR but poorly implement it, will not fare well.

The developing implementation of TAR has many ramifications which attorneys, judges, TAR vendors, and others should consider. The phenomenon of technology being integrated into the legal profession parallels the agricultural revolution that took place in this country beginning in the late 20th century. In 1950, the United States had 5,388,437 farms;¹⁴² by 1982, that

139. Vance & Silverstein, *supra* note 132.

140. For the purposes of this Article, “sizable” is synonymous with “BigLaw.” While definitions differ, BigLaw is typically defined as a firm employing 100+ lawyers. Sally Kane, *The Definition of the BigLaw Nickname*, BALANCE CAREERS (May 7, 2018), <https://www.thebalancecareers.com/biglaw-nickname-definition-2164198> [https://perma.cc/BKS4-JS5F]. The phrase “BigLaw” also captures other characteristics of law firms that make them influential, such as the amount of revenue they generate.

141. See Blair Janis, *How Technology Is Changing the Practice of Law*, GPSOLO MAG. (May/June 2014), https://www.americanbar.org/groups/gpsolo/publications/gp_solo/2014/may_june/how_technology_changing_practice_law/ [https://perma.cc/SE53-LCN6] (“The key to our future success as legal service providers lies in our ability to identify the specific lawyering areas in which we can be replaced and those in which we cannot be replaced. The most prosperous law practices in 2020 will be those that are able to successfully adjust their business models to use artificial intelligence-type tools while at the same time promoting and delivering the part of the legal service value proposition that the machines are not able to provide.”).

142. U.S. DEP’T OF COMMERCE & BUREAU OF THE CENSUS, 1982 CENSUS OF AGRICULTURE 1 (Oct. 1984), <http://usda.mannlib.cornell.edu/usda/AgCensusImages/1982/01/51/1982-01-51.pdf> [https://perma.cc/8VPW-HVWY].

number had decreased by more than half to 2,240,976¹⁴³ and has remained at roughly that level since.¹⁴⁴ At the same time, the market value of crops has increased exponentially.¹⁴⁵ In the same way, the market value of lawyers' work product will increase as technology replaces lower-level tasks like document review and lawyers specialize accordingly.¹⁴⁶ Lawyers should carefully and thoughtfully implement TAR according to the methods described in this Article to avoid the pitfalls of misusing TAR. The law should leave plenty of room for parties to experiment with implementing TAR by not imposing strict punishments for poorly implemented TAR, at least in the nascent stage of development and deployment.¹⁴⁷ At the same time, judges should take care to write detailed opinions about TAR protocols and disputes so that the actors in the legal community can learn from each other's successes and mistakes.¹⁴⁸ Additionally, the companies that create TAR programs should think about confidentiality issues that could arise, and take care to develop programs that can properly identify and handle privileged and confidential material, preventing inadvertent disclosure and avoiding contractual liability. TAR vendors should also teach consumers how to train TAR with an effective seed set and how to monitor TAR's performance. Finally, of course, companies and lawyers should consider the economic and normative consequences of employing TAR. TAR is an amazing tool that can greatly benefit those who use it, and now is the time to consider the sticky consequences of poorly implementing TAR.

143. *Id.*

144. In 2012, the number of U.S. farms was 2,109,303. U.S. DEP'T OF AGRIC. & NAT'L AGRIC. STATISTICS SERV., 2012 CENSUS OF AGRICULTURE 7 (May 2014), https://www.nass.usda.gov/Publications/AgCensus/2012/Full_Report/Volume_1,_Chapter_1_US/usv1.pdf [<https://perma.cc/N5TX-5KWW>].

145. *Id.* (showing that the value of crops increased from 62,256,087 (times \$1,000) in 1982 to 212,397,074 (times \$1,000) in 2012).

146. *See Specialization*, INVESTOPEDIA, <https://www.investopedia.com/terms/s/specialization.asp> [<https://perma.cc/UB4S-ZDXC>] (last visited Oct. 31, 2018) (explaining that specialization is "a method of production whereby an entity focuses on the production of a limited scope of [services] to gain a greater degree of efficiency"). Greater efficiency creates value because it lowers costs. *See Efficiency*, INVESTOPEDIA, <https://www.investopedia.com/terms/e/efficiency.asp> [<https://perma.cc/YM6W-4SDA>] (last visited Oct. 31, 2018) (explaining that efficiency uses the least amount of inputs to achieve the highest amount of output).

147. *See* THE ELECTRONIC DISCOVERY INSTITUTE, *supra* note 39, at 173 (stating that ESI protocols "should be short and allow flexibility to each party for purposes of conducting their own reviews").

148. *See* Rio Tinto PLC v. Vale S.A., 306 F.R.D. 125, 129 (S.D.N.Y. 2015) ("The Court has written this Opinion, rather than [sic] merely signing the parties' stipulated TAR protocol, because of the interest within the e-discovery community about TAR cases and protocols.").

