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Trade Secret Fair Use

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TRADE SECRET FAIR USE

*Deepa Varadarajan**

Trade secret law arose to help companies protect confidential information (e.g., the Coca-Cola formula) from competitors seeking to copy their innovative efforts. But companies increasingly use trade secret law to block a wide swath of information from the scrutinizing eyes of consumers, public watchdog groups, and potential improvers. Companies can do this, in part, because trade secret law lacks clear limiting doctrines that consider the social benefits of unauthorized use. For example, trade secret law makes no allowance for the departing employee that uses proprietary information to create a substantially improved product or disclose public health risks.

This Article argues that trade secret law's indifference to the social benefits of unauthorized use stands in contrast to other intellectual property doctrines, like patent and copyright. Copyright law incorporates the affirmative defense of "fair use," which aims to protect a variety of unauthorized but socially beneficial uses of another's copyrighted work (e.g., educational uses). To a lesser extent, patent law's reverse doctrine of equivalents and remedies analysis direct courts to consider the social benefits of a defendant's technological improvement. Such limiting doctrines act as safety valves to reconcile intellectual property rights with competing cumulative innovation and First Amendment interests. This Article demonstrates the merits of a similar safety valve in trade secret law and argues that courts should adopt a multi-factor "trade secret fair use" analysis to better address these competing concerns.

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INTRODUCTION

Not all unauthorized users of property are considered villains by the law. Take, for example, the trespasser who invades an owner’s parcel of land to take shelter from a natural disaster or the mistaken improver who takes lumber from another’s land to make far more valuable wooden hoops. Property law sanctions such unauthorized uses, either by excusing the user’s liability or removing injunctive relief as a remedy.¹

Moving from the realm of tangible property to intellectual property, the law is similarly forgiving of the teacher who makes limited but unauthorized copies of a copyrighted work for classroom use; or the parodist who incorporates lyrics from a copyrighted song into a new song for humorous effect; or the follow-on inventor who makes significant improvements to a patented train brake that nonetheless infringes the original owner’s patent.² In these latter examples, the violation of copyright or patent laws carries certain social benefits that are recognized and encouraged through various limiting doctrines. Notably, copyright law and, to a lesser extent, patent law incorporate *ex post* limiting doctrines that try to balance owners’ rights to exclude against competing concerns, like promoting cumulative innovation (i.e., new works that build on existing works) and First Amendment interests.³

Trade secret law is a different kind of animal. Like patent and copyright, trade secret law protects intangible, informational goods. Specifically, trade secret law protects certain confidential information that companies attempt to keep secret, including both “technical” information (e.g., mechanical processes and chemical formulas) and “business” information (e.g., customer lists, marketing plans, and pricing data). The subject matter of trade secret overlaps with patent and copyright but can sweep even more broadly. For “virtually any useful information” can be a trade secret, so long as the information is relatively secret, economically valuable, and subjected to reasonable secrecy precautions by the owner.⁴ Trade secret

1. *See, e.g.,* *Wetherbee v. Green*, 22 Mich. 311, 320 (1871) (applying the doctrine of accession to hold that *Wetherbee* could keep the hoops made from lumber taken in good faith, provided he compensated *Green* for the value of lumber); *Ploof v. Putnam*, 71 A. 188, 189 (Vt. 1908) (holding that “necessity . . . will justify entries upon land and interferences with personal property that would otherwise have been trespasses”).

2. *See infra* Part II.A–B.

3. *See infra* Part II.A–B.

4. *See* JAMES POOLEY, *TRADE SECRETS* § 1.01, at 1-6 (2014).

law's reach has become even more expansive in recent decades, creeping further into places that patent and copyright cannot.⁵

To be liable for trade secret misappropriation, however, one must "misappropriate" the protected information. That is, the acquisition, use, or disclosure of the information must involve "improper means" or breach of a confidentiality duty.⁶ This requirement makes trade secret law unique and reflects how its origins differ from those of patent and copyright laws. Despite such differences, however, courts and scholars increasingly view trade secret law as a subset of intellectual property, because like patent and copyright laws, trade secret law can also serve as a mechanism to encourage invention and creation.⁷

And like transgressors in patent and copyright, those who violate trade secret law sometimes serve socially beneficial ends. For example, consider an employee who publicly discloses without permission the secret formula for a coal processing chemical or a hydraulic "fracking" chemical that can leak into the water supply and significantly affect public health. Or consider a health care consulting company that aggregates and discloses prices paid by hospitals for medical devices, information that is deemed proprietary by the device manufacturer but has implications for national health care costs.⁸ Or consider a departing employee who makes significant improvements to trade secret-protected information gleaned from her previous workplace, resulting in a train brake with vastly superior stopping power.⁹ All of these potential violations of trade secret law carry societal benefits that ought to be encouraged, or at least, not discouraged. But trade secret law is largely indifferent to the benefits of unauthorized use.

Unlike copyright and patent laws, trade secret law lacks limiting doctrines sufficiently attuned to a defendant's follow-on improvements¹⁰ or to First Amendment interests, like creating a well-informed citizenry and fostering open debate over matters of public interest. While trade secret law excuses "reverse engineers" (i.e., those who take something apart to see how it works) from liability,¹¹ in a number of contexts this defense falls

5. See, e.g., David S. Levine, *Secrecy and Unaccountability: Trade Secrets in Our Public Infrastructure*, 59 FLA. L. REV. 135, 151–55 (2007); see also Annemarie Bridy, *Trade Secret Prices and High-Tech Devices: How Medical Device Manufacturers Are Seeking to Sustain Profits by Propertizing Prices*, 17 TEX. INTELL. PROP. L.J. 187, 188 (2009); *infra* Part I.A.

6. See *infra* Part II.C.

7. See *infra* Part I.B.3.

8. See *infra* Part III.B.

9. See *infra* Part III.A.

10. In previous work, I have argued that even limiting doctrines in patent and copyright law should focus more directly on the fact and significance of a second-comer's unauthorized "improvement." Drawing comparisons to "improvement doctrines" in tangible property law, I suggest reforms to patent and copyright law that would make consideration of a defendant's improvement more explicit and routine at the liability and remedies stages. See generally Deepa Varadarajan, *Improvement Doctrines*, 21 GEO. MASON L. REV. 657 (2014).

11. UNIF. TRADE SECRETS ACT § 1 cmt. 2 (amended 1985), 14 U.L.A. 437, 438 (1990); see also Pamela Samuelson & Suzanne Scotchmer, *The Law and Economics of Reverse Engineering*, 111 YALE L.J. 1575, 1582 (2002).

short. By contrast, copyright law's fair use doctrine protects a variety of unauthorized but socially beneficial uses.¹² Other parts of the copyright statute provide certain safe harbors, such as exempting libraries from liability for reproducing copyrighted works.¹³ Patent law is generally less forgiving of unauthorized use than copyright. But patent limiting doctrines like the reverse doctrine of equivalents, as well as recent changes to the patent remedies analysis after the U.S. Supreme Court's *eBay Inc. v. MercExchange, L.L.C.*¹⁴ decision, direct courts to consider the social benefits of a defendant's unauthorized use in certain contexts.¹⁵

Trade secret law's relative indifference both to cumulative innovation concerns and First Amendment concerns contradicts intellectual property law's underlying quest for balance. That is, it ignores the role that intellectual property's limiting doctrines play in adjusting the scope of exclusive rights to prevent both the overprotection and under-protection of information.¹⁶

This discrepancy is particularly problematic because trade secrets have become a significant portion of American companies' market value.¹⁷ Certainly, trade secret law can help companies keep confidential information out of the "wrong" hands—e.g., competitors that want to free ride on owners' efforts and provide directly competing products or processes, thus depressing originators' incentives to innovate. But companies increasingly use trade secret law to shield information from potential "right" hands—e.g., the scrutinizing eyes of government regulators, consumers, public watchdog groups, and significant improvers.¹⁸

Part of the reason trade secret protection is attractive to companies is its *ex ante* flexibility (especially relative to patent law), coupled with its lack of *ex post* limiting doctrines. That is, unlike patent, trade secret law has expansive subject matter breadth, minimal substantive requirements, and no formal application process before acquisition. In this way, it is similar to copyright law, which also has few requirements on the front end.¹⁹ But copyright law partners *ex ante* flexibility with robust limiting doctrines like fair use that arose both to address First Amendment concerns and overcome the market failures that would otherwise prevent socially beneficial uses of

12. Limitations on Exclusive Rights: Fair Use, 17 U.S.C. § 107 (2012); *see infra* Part II.B.1.

13. 17 U.S.C. § 110.

14. 547 U.S. 388 (2006).

15. *See infra* Part II.A.

16. *See* Maureen A. O'Rourke, *Toward a Doctrine of Fair Use in Patent Law*, 100 COLUM. L. REV. 1177, 1183 (2002).

17. *See, e.g.*, ROBERT P. MERGES ET AL., *INTELLECTUAL PROPERTY IN THE NEW TECHNOLOGICAL AGE* 34, 35 (6th ed. 2012) (noting the particular importance of trade secrets to small companies); Adam Cohen, *Securing Trade Secrets in the Information Age: Upgrading the Economic Espionage Act After United States v. Aleynikov*, 30 YALE J. ON REG. 189, 192 (2013) (noting that "as much as seventy percent of American firms' market value may lie in intellectual property, a significant part of which is trade secrets").

18. *See, e.g.*, Bridy, *supra* note 5; *see also infra* Part III.

19. *See infra* Part I.A.

the work from taking place.²⁰ I analyze this problematic doctrinal gap in trade secret law and sketch a mechanism to fill it: a doctrine of trade secret fair use.

In Part I, I compare the basic contours and theoretical underpinnings of trade secret law to patent and copyright. Despite the divergent normative accounts of trade secret law, judicial opinions and legal scholarship increasingly theorize it as a subset of intellectual property because it shares the utilitarian, incentive-promoting goals of patent and copyright. This part also explores the pivotal role that scope-limiting doctrines play in intellectual property—i.e., to help balance the social costs of exclusive rights against their incentive-promoting benefits. After setting the stage in Part I, Part II examines various scope-limiting doctrines in patent and copyright law that encourage unauthorized but socially beneficial uses of the protected information. These limits—particularly, copyright’s fair use doctrine—stand in contrast to trade secret law.

In Part III, I provide a typology of trade secret cases where this paucity of meaningful limits is particularly problematic: cases involving significant follow-on “improvement” and cases involving the unauthorized disclosure of information pertinent to public health, safety, and welfare. While trade secret law is fairly undertheorized in legal scholarship, a handful of scholars have described how trade secret law impedes public access to specific types of information—for example, information relevant to environmental harms, voting machine errors, search engine algorithms, and medical pricing data.²¹ Part III builds upon these prior accounts but situates them in the broader context of trade secret “fair uses.” Moreover, no previous work (to my knowledge) has comprehensively addressed the failure of trade secret law to sufficiently address cumulative innovation concerns—a topic that has received much broader attention in the patent and copyright contexts.

Finally, Part IV sketches the contours of a multifactor “fair use” doctrine for trade secret law and compares the benefits and drawbacks of this mechanism to other potential policy reforms, like statutory safe harbors that create specific exemptions or per se fair uses.

I. EX ANTE FLEXIBILITY AND EX POST LIMITATION: COMPARING TRADE SECRET TO COPYRIGHT AND PATENT

“Intellectual property” law is an umbrella term used to describe discrete legal doctrines—patent, copyright, trademark, and increasingly, trade secret law—that govern the use of different kinds of information and insignia.

20. See MERGES ET AL., *supra* note 17, at 609.

21. See, e.g., Bridy, *supra* note 5; Levine, *supra* note 5; David S. Levine, *What Can the Uniform Trade Secrets Act Learn from the Bayh-Dole Act?*, 33 *HAMLIN L. REV.* 615 (2000); Mary L. Lyndon, *Secrecy and Access in an Innovation Intensive Economy: Reordering Information Privileges in Environmental, Health, and Safety Law*, 78 *U. COLO. L. REV.* 465 (2007); Frank Pasquale, *The Troubling Consequences of Trade Secret Protection of Search Engine Rankings*, in *THE LAW AND THEORY OF TRADE SECRECY: A HANDBOOK OF CONTEMPORARY RESEARCH* 381 (Rochelle C. Dreyfuss & Katherine J. Strandburg eds., 2011) [hereinafter *TRADE SECRECY*].

Patent law protects certain categories of inventions that are useful, new, and nonobvious in light of the previous knowledge (or “prior art”) and satisfy various disclosure requirements. Copyright law protects original works of authorship fixed in a tangible medium of expression, including books, paintings, photographs, songs, computer software, and movies. Trademark law protects words and symbols that help to identify the source of the goods or services (e.g., “Coca-Cola”). Trade secret law protects certain confidential information that companies attempt to keep secret, including both “technical” information (e.g., processes and formulas, like the formula for Coca-Cola) and non-technological “business” information (e.g., customer lists).²²

Though all are grouped under the banner of “intellectual property,” these doctrines differ from each another in significant ways. These differences are explained, at least in part, by the different subject matter they cover (e.g., inventions versus creative works), as well as their different origins. Patent and copyright laws have played an important role in American law since the country’s birth. Both have a constitutional basis, and Congress enacted patent and copyright legislation by the late eighteenth century.²³ In contrast, trade secret law was largely a nineteenth-century creation of Anglo-American courts, evolving out of related common law torts (e.g., unfair competition) and legal rules governing the employment relationship.²⁴

Unlike patent, copyright, and trademark, which are protected primarily by federal statute, trade secret is largely a creature of state law. Currently, every state protects trade secrets.²⁵ The 1939 Restatement (First) of Torts described the basic principles of trade secret in the early twentieth century, which most states then adopted.²⁶ In 1979, a model state statute, the

22. See generally William Fisher, *Theories of Intellectual Property*, in *NEW ESSAYS IN THE LEGAL AND POLITICAL THEORY OF PROPERTY* 168 (Stephen R. Munzer ed., 2001); MERGES ET AL., *supra* note 17, at 25–31.

23. See U.S. CONST. art. 1, § 8, cl. 8 (“Congress shall have the power . . . to promote the Progress of Science and the useful Arts, by securing for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries . . .”); Copyright Act of 1790, 1 Stat. 124 (codified as amended at 17 U.S.C. §§ 101–1332 (2012)); Patent Act of 1790, 1 Stat. 109 (codified as amended at 35 U.S.C. §§ 1–376 (2012)).

24. American courts did not recognize a cause of action for damages for trade secret misappropriation until 1837. Injunctive relief for trade secret misappropriation was recognized even later. See MERGES ET AL., *supra* note 17, at 35. As early as the Renaissance, however, most European nation-states protected the secret processes and ideas of guild cartels and other businesses from third-party usurpation. *Id.* at 34. Trademarks were protected in the eighteenth century “only by the common law of fraud,” and Congress did not enact the first federal trademark statute until 1870. *Id.* at 764.

25. *Id.* at 35.

26. See *id.* at 35. The Restatement (First) of Torts protected secret information “used in one’s business” that gave its owner “an opportunity to obtain an advantage over competitors who do not know or use it.” RESTATEMENT (FIRST) OF TORTS § 757 cmt. b (1939). Interestingly, the 1979 Restatement (Second) of Torts omitted trade secret law “on the grounds that [it] had developed into an independent body of law that no longer relied on general principles of tort law.” MERGES ET AL., *supra* note 17, at 35–36. But the original Restatement continues to influence trade secret law, as a number of state courts had relied upon it prior to the Uniform Trade Secret Act (UTSA). *Id.* at 36.

Uniform Trade Secret Act (UTSA) was promulgated.²⁷ The UTSA has since been enacted (in some form) by forty-seven states and the District of Columbia.²⁸ More recently, the American Law Institute's Restatement (Third) of Unfair Competition described trade secret doctrine.²⁹

In the sections that follow, I compare the basic contours and theoretical underpinnings of trade secret law to those of patent and copyright. Despite trade secret law's unique origin story, it is increasingly theorized as a subset of intellectual property because it shares the incentive-promoting goals of patent and copyright. Courts and scholars often justify patent, copyright, and trade secret laws as mechanisms to encourage the invention or creation of new technological advances and expressive works.³⁰

A. *Threshold Requirements for Protection*

Trade secret and copyright laws impose few requirements on the front end. No formal application process is required, and the substantive requirements for obtaining protection are fairly minimal. By contrast, patent law imposes a number of *ex ante* requirements. Inventors seeking patent protection must submit a formal application to the Patent and Trademark Office (PTO) that satisfies several substantive requirements of patentability. I briefly discuss the threshold requirements for obtaining protection under each of these categories.

1. Trade Secret

For trade secret protection, a plaintiff must demonstrate that the information at issue (1) falls within the subject matter of trade secret law and (2) was subjected to reasonable secrecy precautions. The subject matter requirement of trade secret law is very broad (almost comically so); it includes "virtually any useful information," so long as it has potential

27. See UNIF. TRADE SECRETS ACT (amended 1985), 14 U.L.A. 433 (1990).

28. See *Trade Secrets Act*, UNIF. L. COMM'N, <http://www.uniformlaws.org/Act.aspx?title=Trade+Secrets+Act> (last visited Nov. 26, 2014). Massachusetts, New York, and North Carolina have not adopted the UTSA. *Id.*; see also Christopher B. Seaman, *The Case Against Federalizing Trade Secrecy*, 101 VA. L. REV. (forthcoming 2015) (manuscript at 33), available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2397567 (noting that "the UTSA's widespread adoption has helped harmonize the substantive law governing trade secrecy"). For a summary of state modifications to the UTSA, see generally 1 ROGER M. MILGRIM, MILGRIM ON TRADE SECRETS § 1.01[3] (2014).

29. See RESTATEMENT (THIRD) OF UNFAIR COMPETITION §§ 39–45 (1995). The Restatement (Third)'s definition of a trade secret, standard for misappropriation, and remedial provisions are similar to the UTSA: it defines a trade secret broadly, encompassing "any information that can be used in the operation of a business or other enterprise and that is sufficiently valuable and secret to afford an actual or potential economic advantage over others." *Id.* § 39; see also *id.* § 39 cmt. b ("The concept of a trade secret . . . is intended to be consistent with the definition of 'trade secret' in § 1(4) of the [UTSA]."). Despite its relatively recent promulgation, the Restatement (Third) has had little impact on the development of trade secret law; "[m]ost states have adopted the UTSA as statutory law, and thus the *Restatement (Third)* is frequently disregarded." Seaman, *supra* note 28, at 14.

30. Because trademark law is designed to do something quite different (i.e., to protect distinctive marks used in commerce for the purpose of lowering consumer search costs), I do not discuss it here. See, e.g., MERGES ET AL., *supra* note 17, at 21–22.

economic value and is not generally known or readily ascertainable.³¹ Information is capable of adding economic value if, for example, it “makes a product easier or cheaper to make, if it makes the product more attractive to customers, or if it helps the producer target likely customers.”³² The “not generally known” requirement means to exclude from trade secret protection commonly known information within an industry.³³ One frequently cited difference between the definitions of a trade secret in the UTSA and Restatement (First) of Torts is that the UTSA does not require continuous use of the information.³⁴

Gauging whether the owner took “reasonable” precautions to guard the secrecy of the information is a fairly context-dependent inquiry. But examples of reasonable secrecy measures include imposing confidentiality agreements, restricting physical access, and incorporating password protections.³⁵ Notably, trade secret law does not require absolute secrecy for protection; relative secrecy is sufficient. Thus, a trade secret owner can share secret information with employees and outsiders to exploit the secret’s commercial value, so long as the firm exercises some reasonable diligence to prevent unauthorized disclosure or use of the secret.³⁶

2. Trade Secret vs. Patent

To appreciate trade secret law’s subject matter breadth and ease of acquisition, one need only compare it to patent law. To acquire a patent, an inventor must submit an application to the PTO that demonstrates her invention is patentable subject matter, useful, novel (i.e., different from the prior art), nonobvious (i.e., more than a trivial step beyond the prior art), and sufficiently described and enabled in the application so that others skilled in the relevant art can understand, make, and use it.³⁷ A PTO examiner then checks that each requirement is met and negotiates with the inventor over the proper wording and scope of the patent claims. “Claims”

31. POOLEY, *supra* note 4, § 1.01.

32. Eric R. Claeys, *Private Law Theory and Corrective Justice in Trade Secrecy*, 41 J. TORT L. 1, 4 (2011); *see, e.g.*, *Metallurgical Indus. Inc. v. Fourtek, Inc.*, 790 F.2d 1195, 1201 (5th Cir. 1986). Under the UTSA definition, the information is not required to have actual economic value to qualify for trade secret protection; even potential economic value is sufficient. *See* UNIF. TRADE SECRETS ACT § 1(4)(i) (amended 1985), 14 U.L.A. 438 (1990).

33. *See* MERGES ET AL., *supra* note 17, at 37.

34. *See* UNIF. TRADE SECRETS ACT § 1 cmt. 5, 14 U.L.A. 439 (“The definition of ‘trade secret’ contains a reasonable departure from the Restatement of Torts (First) definition which required that a trade secret be ‘continuously used in one’s business.’ The broader definition in the proposed Act extends protection to a plaintiff who has not yet had an opportunity or acquired means to put a trade secret to use.”).

35. *See, e.g.*, *Rockwell Graphic Sys., Inc. v. DEV Indus. Inc.*, 925 F.2d 174, 180 (7th Cir. 1991) (Posner, J.). Courts and scholars have offered various justifications for the reasonable secrecy precautions requirement. Some view it as evidence of the trade secret’s economic value (i.e., why bother guarding worthless information). Others view it as evidence of the defendant’s wrongful acquisition. *See, e.g., id.* at 178–80 (discussing the various purposes of a reasonable secrecy requirement).

36. *See, e.g., Metallurgical Indus. Inc.*, 790 F.2d at 1200 (concluding that “a holder may divulge his information to a limited extent without destroying its status as a trade secret”).

37. 35 U.S.C. §§ 101–103, 112 (2012).

are numbered sentences that distinctly set out the boundaries of the invention—the “metes and bounds” of the inventor’s right to exclude if the patent issues.³⁸ The written description and enablement requirements are part of the quid pro quo for the grant of the patent; in exchange for the right to exclude, the inventor’s disclosures add to the storehouse of public knowledge.³⁹

Trade secret law imposes none of these substantive requirements. The absence of an absolute novelty requirement means that even if the trade secret owner was not the first to conceive of the confidential information, protection may nonetheless attach so long as the information is not generally known or readily ascertainable within the industry.⁴⁰ The absence of a nonobviousness requirement means even slight variations to known processes can qualify for trade secret protection.⁴¹ The absence of a utility requirement means that even discoveries of what does not work—so-called negative know-how—can qualify for trade secret protection.⁴² The absence of patent law’s more circumscribed subject matter requirement means that trade secret information need not be technological in nature; even business information like customer lists, financial projections, pricing data, and marketing plans can qualify for trade secret protections.⁴³

Interestingly, early trade secrecy cases in the United States involved more limited subject matter—e.g., secret manufacturing processes that businesses tried to shield from competitors. For example, an early seminal trade secret case, *Peabody v. Norfolk*,⁴⁴ involved a secret industrial process for making gunny cloth. In modern times, however, companies invoke trade secrecy law to guard a seemingly endless array of information not just from competitors but also from consumers and regulators.⁴⁵ The expansive

38. *Id.* § 112.

39. Some commentators, however, have questioned the usefulness of patent disclosures to future innovators. *See, e.g.*, Jeanne C. Fromer, *Patent Disclosure*, 94 IOWA L. REV. 539, 560 (2009).

40. *See* Claeys, *supra* note 32, at 4–5; *see also* UNIF. TRADE SECRETS ACT § 1(4)(i) (amended 1985), 14 U.L.A. 438 (1990).

41. *See, e.g.*, *Metallurgical Indus. Inc.*, 790 F.2d at 1202 (observing that the trade secret may even include secret combinations of publicly known items); *SI Handling Sys., Inc. v. Heisley*, 753 F.2d 1244, 1256 (3d Cir. 1985) (explaining that a trade secret “may be no more than ‘merely a mechanical improvement that a good mechanic can make’” (quoting *Schmidinger v. Welsh*, 383 F.2d 455, 466 n.14 (3d Cir. 1967))).

42. *See* UNIF. TRADE SECRETS ACT § 1 cmt., 14 U.L.A. 439 (“The definition [of a trade secret] includes information that has commercial value from a negative viewpoint, for example the results of lengthy and expensive research which proves that a certain process will *not* work could be of great value to a competitor.”); *see also* Charles Tait Graves, *The Law of Negative Knowledge: A Critique*, 15 TEX. INTELL. PROP. L.J. 387, 389 (2007) (arguing that trade secret claims based on negative knowledge should be treated skeptically and rejected whenever possible).

43. POOLEY, *supra* note 4, § 1.01, at 1-1, 1-5 to -6. The subject matter of patent law is limited to any “new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof.” 35 U.S.C. § 101.

44. 98 Mass. 452 (1868).

45. *See infra* Part III.B.

reach of modern trade secret law has led a number of commentators to bemoan its subject matter breadth.⁴⁶

3. Trade Secret vs. Copyright

Copyright is closer to the trade secret end of the spectrum than patent, in terms of *ex ante* requirements. Copyright law does not impose a formal application process. Works are protected as soon as they are created. Historically, copyright law required notice and registration, but it does no longer.⁴⁷ For work to be copyrightable, it must satisfy a low threshold of originality (i.e., be independently created and exhibit a “modicum of creativity”) and be fixed in a tangible medium of expression.⁴⁸

Thus, like trade secret and unlike patent, “copyright is rather indiscriminate, awarded by operation of law to authors whose works meet the minimal statutory requirements and regardless of whether the public will benefit from disclosure and dissemination of the copyrighted work.”⁴⁹ Usually, the trickier issue is determining the scope of copyright protection—a question that is usually answered in the context of infringement litigation, by comparing the copyrighted work to the allegedly infringing work.⁵⁰

4. Relative “Strength” and Duration of the Right to Exclude

Given these differences in threshold requirements, it is perhaps unsurprising that patent rights are “stronger” in nature. A patent is harder to obtain, but once granted, the owner can exclude others from making, using, selling, offering to sell, or importing the patented invention. This right to exclude extends even to those who independently create the invention.⁵¹

In contrast, a copyright excludes only “copiers,” not independent creators of a work. Copyright owners have exclusive rights to reproduce the work, to prepare derivative works based on the original, and to distribute, perform, and display the work to the public.⁵² Similarly, trade secret law does not constrain independent creators. Under trade secret law, the owner can only exclude “misappropriators”—i.e., those who acquire, use, or

46. See *supra* note 21 and accompanying text.

47. This lessening of formalities has made it more difficult for potential users to locate rights-holders. See Stewart E. Sterk, *Property Rules, Liability Rules, and Uncertainty About Property Rights*, 106 MICH. L. REV. 1285, 1327–28 (2008). Registration of a copyrighted work is, however, a prerequisite to filing an infringement action. 17 U.S.C. § 412 (2012).

48. See 17 U.S.C. § 102(a); *Feist Publ'ns Inc. v. Rural Tel. Serv. Co.*, 499 U.S. 340, 346 (1991).

49. O'Rourke, *supra* note 16, at 1185.

50. See *infra* Part II.B.

51. 35 U.S.C. § 271 (2012); see also Clarissa Long, *Information Costs in Patent and Copyright*, 90 VA. L. REV. 465, 525–33 (2004).

52. 17 U.S.C. § 106.

disclose the information in breach of a confidentiality duty (e.g., a departing employee) or through “improper means.”⁵³

In addition to a patent’s relative strength—or perhaps because of it—patent rights are the most time-limited of the lot. The patent term generally lasts twenty years from the date of filing.⁵⁴ In contrast, copyright protection lasts much longer—usually, the author’s life plus seventy years.⁵⁵ And trade secrets may last longer still, as they have no set time limit (e.g., the over-century-old Coca-Cola formula). Trade secrets do not expire after a particular term of years but continue indefinitely until the secret is publicly disclosed.⁵⁶

Because patent law relies on the PTO’s *ex ante* evaluation of an invention’s benefit to society, “[i]t is relatively less amenable than copyright to adjusting the scope of the right once granted.”⁵⁷ That said, patent law does impose some *ex post* limits. For example, the reverse doctrine of equivalents and experimental use defenses (though narrowly applied) can excuse defendants from liability due to certain socially beneficial uses of the patented invention.⁵⁸ More recently, in the wake of the Supreme Court’s 2006 *eBay, Inc. v. MercExchange L.L.C.* decision,⁵⁹ courts increasingly consider a patent defendant’s socially beneficial use when assessing remedies.

Copyright law imposes more rigorous *ex post* limits than patent—notably, the fair use defense.⁶⁰ Curiously, trade secret law, which is similar to copyright in terms of easy acquisition and subject matter breadth, does not have a comparable fair use doctrine. Although trade secret law has a reverse engineering defense (which has been analogized to copyright fair use⁶¹), it is inapplicable in a number of cumulative innovation and First Amendment contexts.⁶² Trade secret law’s relative indifference to the defendant’s beneficial use of proprietary information can be contrasted with copyright law—and, to a lesser degree, patent law.

53. UNIF. TRADE SECRETS ACT § 1 (amended 1985), 14 U.L.A. 437 (1990); *see also* Michael Risch, *Why Do We Have Trade Secrets?*, 11 MARQ. INTELL. PROP. L. REV. 1, 12 (2007).

54. 35 U.S.C. § 154(a).

55. 17 U.S.C. § 302.

56. MERGES ET AL., *supra* note 17, at 58; *see also* Andrew A. Schwartz, *The Corporate Preference for Trade Secret*, 74 OHIO ST. L.J. 623 (2013) (arguing that trade secret’s perpetual nature makes it a preferable form of protection for corporations, which are also perpetual in nature).

57. O’Rourke, *supra* note 16, at 1185.

58. *See infra* Part II.A.1–2 (discussing the reverse doctrine of equivalents and experimental use defenses).

59. *See infra* Part II.A.3.

60. *See infra* Part II.B.1.

61. *See* Richard A. Posner, *Transaction Costs and Antitrust Concerns in the Licensing of Intellectual Property*, 4 J. MARSHALL REV. INTELL. PROP. L. 325, 328 (2005) (noting “[t]he counterpart to fair use in trade secret law is the right to unmask a trade secret by reverse engineering”).

62. *See infra* Part III.

B. Understanding Theoretical Underpinnings

The scope-limiting doctrines of patent, copyright, and trade secret are discussed in Part II. Before exploring these limiting doctrines, however, it is important to understand the theoretical underpinnings of patent, copyright, and trade secret, for one cannot understand why trade secret law warrants *ex post* limits without first understanding the purposes that these intellectual property laws are meant to serve.

1. Incentives Justification of Patent and Copyright Laws

The primary justification for patent and copyright laws in the United States is a utilitarian one: to provide economic incentives to create. Patents and copyrights are viewed as tools to correct the public goods problem inherent in information production. Information is nonrivalrous (i.e., consumption by more than one person does not deplete the amount available to others) and nonexcludable (i.e., once information embodied in a book or patented invention is released, it is hard to exclude others from its benefits absent payment). Thus, by obtaining rights to exclude for a set period of time, creators and inventors can recoup their investments, and society is guarded against the underproduction of information-based goods.⁶³

But rights to exclude impose social costs as well, including “the deadweight loss of monopoly pricing and the resulting limitations of dissemination.”⁶⁴ Inventions and creative works are by their very nature cumulative—they build on prior works. Thus, intellectual property law aims to strike a balance between rewarding the originator of a particular invention or creative work, without stifling the ability of second-comers to create new works. Since copyright law restricts access to creative and intellectual works, it must also contend with First Amendment concerns, like “protecting political speech, promoting democracy or self-government, furthering the search for truth, or enhancing autonomy and enabling self-expression.”⁶⁵

Given this quest for balance, patents and copyrights are limited in scope and duration. These limitations allow others to freely use protected works once intellectual property rights have expired, to improve on existing works, and to comment on and criticize existing works.⁶⁶ Through its

63. This theory is emphasized both in the Constitution and numerous judicial decisions. See U.S. CONST. art. 1, § 8, cl. 8 (giving Congress the power to enact patent and copyright laws “to promote the Progress of Science and the useful Arts”); see also WILLIAM M. LANDES & RICHARD A. POSNER, *THE ECONOMIC STRUCTURE OF INTELLECTUAL PROPERTY LAW* 74–76 (2003) (explaining intellectual property law’s optimization task). The descriptive and prescriptive limitations of this theory—in capturing the actual dynamics of creation—are a matter of spirited debate among intellectual property scholars.

64. MERGES ET AL., *supra* note 17, at 16.

65. Rebecca Tushnet, *Copy This Essay: How Fair Use Doctrine Harms Free Speech and How Copying Serves It*, 114 YALE L.J. 535, 538 (2004); see also Edward Lee, *Technological Fair Use*, 83 S. CAL. L. REV. 797, 813 (2010).

66. Mark A. Lemley, *The Economics of Improvement in Intellectual Property Law*, 75 TEX. L. REV. 989, 991 (1997).

threshold requirements and ex post limiting doctrines, copyright and patent laws “seek[], in the aggregate, to guard against both over- and underprotection of information relative to the social optimum and the concomitant social costs associated with each state.”⁶⁷ To achieve this balance, copyright and patent laws use both statutory provisions and common law doctrines to adjust the scope of owners’ rights.

As discussed in the previous section, copyright does not ask many questions ex ante, before the initial grant, while patent does. But in both contexts, the role of ex post limits has become increasingly important.⁶⁸ Intellectual property rights have increased in breadth, scope, duration, and strength in recent decades. This trend is reflected most vividly perhaps by Congress’s twenty-year extension of the copyright term.⁶⁹ Historically, intellectual property’s quest for balance and concomitant limits were built into the shape of the initial grant (e.g., a shorter term of protection for copyright). But that seems less true today. Thus, attention is increasingly shifting to the post-grant stage of intellectual property rights—i.e., shaping liability and remedy determinations to assure that intellectual property law continues to “serve the finite, instrumental function it was designed to serve.”⁷⁰ In this Article, I argue that these concerns also apply to trade secret law, despite the muddier nature of trade secret law’s theoretical underpinnings, which are discussed in the next section.

2. Competing Theories of Trade Secret Law

The theoretical justifications and normative foundations for protecting trade secrets have puzzled courts and scholars for over a century.⁷¹ Because of trade secret law’s unique characteristics—including the requirement of relative secrecy and its concern with how the defendant obtains the information (i.e., misappropriation)⁷²—it has proven difficult to elicit scholarly agreement on the theoretical justifications for trade secret law and its place within existing legal doctrine. The confusion surrounding trade secret law has earned it colorful nicknames, from “the Cinderella of

67. O’Rourke, *supra* note 16, at 1183.

68. Varadarajan, *supra* note 10, at 665–66.

69. Sonny Bono Copyright Term Extension Act of 1998, Pub. L. No. 105-298, 112 Stat. 2827 (codified as amended at 17 U.S.C. §§ 101, 108, 203, 301–304 (2012)). Thus, while the original U.S. copyright term was fourteen years (with a fourteen-year renewal term), the current term is the life of the author plus seventy years.

70. Michael A. Carrier, *Cabining Intellectual Property Through a Property Paradigm*, 54 DUKE L.J. 1, 5 (2004); see also David Fagundes, *Efficient Copyright Infringement*, 98 IOWA L. REV. 1791, 1800 (2013) (“As copyright trends in a more expansive direction, the likelihood that unauthorized uses may be formally infringing but still socially beneficial grows ever greater.”).

71. Mark A. Lemley, *The Surprising Virtues of Treating Trade Secrets As IP Rights*, 61 STAN. L. REV. 311, 312–14 (2008).

72. Unlike trade secrets, copyrights and patents are said to confer property rights “against the world”; that is, for the most part, they prohibit unauthorized use regardless of the relationship between the parties or how the information is obtained. See *infra* Part II.C.

the intellectual property law field,"⁷³ to a "chameleon,"⁷⁴ to a "real toad[]" in a conceptual garden."⁷⁵

One predominant view "emphasizes deterrence of wrongful acts and is therefore sometimes described as a tort theory" of trade secret law.⁷⁶ Under this tort view, "the aim of trade secret law is to punish and prevent illicit behavior, and even to uphold reasonable standards of commercial behavior."⁷⁷ The Supreme Court embraced such a view in an early twentieth century case, *E. I. du Pont de Nemours Powder Co. v. Masland*.⁷⁸ In that case, the Court viewed as the "starting point" of the offense the defendant's acquisition of information through his "confidential relations with the plaintiffs," rather than whether the information at issue qualified as a trade secret.⁷⁹

The tort-based view of trade secret found voice in the 1939 Restatement (First) of Torts.⁸⁰ In its "ultimate expression," the tort view would replace an independent trade secret law with "a general tort of wrongful misappropriation of information."⁸¹ While the tort view continues to have some traction with courts and scholars,⁸² its detractors emphasize the

73. Sharon K. Sandeen, *The Cinderella of Intellectual Property Law*, in 2 INTELLECTUAL PROPERTY AND INFORMATION WEALTH: ISSUES AND PRACTICES IN THE DIGITAL AGE 399 (Peter K. Yu ed., 2007).

74. Vincent Chiappetta, *Myth, Chameleon, or Intellectual Property Olympian? A Normative Framework Supporting Trade Secret Law*, 8 GEO. MASON L. REV. 69 (1999).

75. Todd M. Sloan, *Trade Secrets: Real Toads in a Conceptual Garden*, 1 W. ST. U. L. REV. 113 (1973).

76. Lemley, *supra* note 71, at 319. Related to the tort-based view, another recurring explanation for trade secret law during much of the twentieth century has been norm-based: to maintain "standards of commercial ethics," *Kewanee Oil Co. v. Bicon Corp.*, 416 U.S. 470, 481 (1974), and "to recognize and enforce higher standards of commercial morality in the business world," *E. I. duPont deNemours & Co. v. Christopher*, 431 F.2d 1012, 1015 (5th Cir. 1970) (quoting *Hyde Corp. v. Huffines*, 314 S.W.2d 763, 773 (Tex. 1958)). See also Catherine L. Fisk, *Working Knowledge: Trade Secrets, Restrictive Covenants in Employment, and the Rise of Corporate Intellectual Property, 1800–1920*, 52 HASTINGS L.J. 441, 446 (2001) (describing the historical role of commercial morality in trade secret law).

77. Lemley, *supra* note 71, at 319.

78. 244 U.S. 100 (1917).

79. *Id.* at 102. The Court explained:

The word property as applied to . . . trade secrets is an unanalyzed expression of certain secondary consequences of the primary fact that the law makes some rudimentary requirements of good faith. Whether the plaintiffs have any valuable secret or not the defendant knows the facts, whatever they are, through a special confidence that he accepted. The property may be denied but the confidence cannot be.

Id.

80. See RESTATEMENT (FIRST) OF TORTS § 757 cmt. a (1939) (noting that trade secret law is different from patent and copyright because "[i]t is the employment of improper means to procure the trade secret, rather than the mere copying or use, which is the basis of the liability under the rule stated in this Section"). See generally *id.* §§ 757–759.

81. Lemley, *supra* note 71, at 321.

82. See, e.g., Chiappetta, *supra* note 74, at 73 (arguing that trade secret law is best explained and rationalized by reference to tort law); Pamela Samuelson, *Information As Property: Do Ruckelshaus and Carpenter Signal a Changing Direction in Intellectual Property Law?*, 38 CATH. U. L. REV. 365, 366 (1989) (advocating the tort view); see also C. Owen Paepke, *An Economic Interpretation of the Misappropriation Doctrine: Common Law*

unprincipled line-drawing the tort view invites: instead of resolving “challenges on any principled basis,” courts make “ad hoc judgments based on their perception of the defendant’s intent.”⁸³ Interestingly, the 1979 Restatement (Second) of Torts omitted trade secret law “on the grounds that [it] had developed into an independent body of law that no longer relied on general principles of tort law.”⁸⁴

Another predominant theory justifying trade secret law has been the property theory—i.e., that trade secrets are property rights, owned and possessed by the plaintiff.⁸⁵ Under this view, “[t]he starting point . . . is not whether there was a confidential relationship, but whether, in fact, there was a trade secret to be misappropriated.”⁸⁶ The property view of trade secret was dominant in the nineteenth century,⁸⁷ before *Masland* and the ascent of the tort view. The Supreme Court revived the property view in *Ruckelshaus v. Monsanto Co.*⁸⁸

Protection for Investments in Innovation, 2 HIGH TECH. L.J. 55, 56, 59 (1987) (proposing an extension of the tort view of trade secrets).

83. Lemley, *supra* note 71, at 322; *see id.* at 322–23 (noting the tort theory “leaves a zone of uncertainty around business behavior that is likely to discourage robust competition by companies who fear that competition may later be deemed unfair” and “may also have similar deterrent effects on departing employees”); *see also* Claeys, *supra* note 32, at 7 (arguing that the tort view is “obviously unsatisfying” because “‘improper means’ gets specification from some set of normative principles alien to tort”).

84. MERGES ET AL., *supra* note 17, at 35–36; *see supra* note 26 and accompanying text.

85. Lemley, *supra* note 71, at 324. *See generally* Miguel Deutch, *The Property Concept of Trade Secrets in Anglo-American Law: An Ongoing Debate*, 31 U. RICH. L. REV. 313 (1997) (offering a critical analysis of trade secrets as property). A few courts and commentators have offered a “contract view” of trade secret law, suggesting that trade secret law is (or ought to be) synonymous with contract. *See, e.g.*, Robert G. Bone, *A New Look at Trade Secret Law: A Doctrine in Search of Justification*, 86 CAL. L. REV. 241, 243 (1998). However, as detractors of this theory have noted, a contract-based theory is descriptively incomplete as it cannot account for the subset of trade secret cases that establish rights between strangers who have no contractual privity—e.g., “improper means” cases and cases in which a trade secret is acquired by accident or mistake. *See, e.g.*, Claeys, *supra* note 32, at 11; Lemley, *supra* note 71, at 323.

86. *Van Prods. Co. v. Gen. Welding & Fabricating Co.*, 213 A.2d 769, 780 (Pa. 1965).

87. The property view is sometimes traced to *Peabody v. Norfolk*, 98 Mass. 452 (1868), a seminal nineteenth-century trade secret case. Peabody claimed a secret process for manufacturing gunny cloth and sought to enjoin a former employee, Norfolk, who had quit and begun planning to build a competing factory. The court justified its grant of injunctive relief on the existence of a property right, observing:

If [a man] invents or discovers, and keeps secret, a process of manufacture, whether a proper subject for a patent or not, he has not indeed an exclusive right to it as against the public, or against those who in good faith acquire knowledge of it; but he has a property in it, which a court of chancery will protect against one who in violation of contract and breach of confidence undertakes to apply it to his own use, or to disclose it to third persons.

Id. at 458. In these early American trade secret cases, however, the label “property” likely “meant something rather different than it means to many people today, and often little more than that the right was to be protected by the injunctive power of courts in equity.” Lemley, *supra* note 71, at 324.

88. 467 U.S. 986 (1984); *see id.* at 1002–03 (holding that trade secrets are property under the Fifth Amendment takings inquiry); *see also* Cohen, *supra* note 17, at 195 (“In time, this malfeasance-based [or tort-based] view of trade secret theft went into retreat, and the law looped back toward a property-based theory.”). *But see* Claeys, *supra* note 32, at 9 (suggesting that the “property view remains out of favor”).

In *Monsanto*, the Court addressed whether a federal law requiring Monsanto to publicly disclose its trade secrets was a Fifth Amendment “taking of private property” that merited compensation.⁸⁹ In holding that trade secrets were property for takings purposes, the Court explained: “Trade secrets have many of the characteristics of more tangible forms of property,” like assignability, and a “perception of trade secrets as property is consonant with a notion of ‘property’ that extends beyond land and tangible goods and includes the products of an individual’s ‘labor and invention.’”⁹⁰ A number of federal and state court decisions describe trade secrets as a form of “property,”⁹¹ and the 1979 UTSA, enacted by a majority of states, is also said to embody a property view of trade secrets.⁹²

The property view of trade secrets (and the Supreme Court’s characterization in *Monsanto*) has come under fire from various quarters.⁹³ Some of these criticisms echo those levied against property characterizations of any informational assets (including patents, copyrights, and trademarks). For example, critics of the property view emphasize the inherent differences between trade secrets and tangible property. That is, like other forms of information, trade secrets are not rivalrously consumed, so there is no danger of overuse or of a “tragedy of the commons,” in the tangible property sense.⁹⁴

Commentators have also criticized the use of tangible property metaphors in the trade secret context (as in other information contexts) because such property-speak seems to bolster normative claims that owners should have stronger rights to exclude.⁹⁵ In previous work, however, I have argued that such criticisms of property metaphors misperceive property law. Far from being exclusively fixated on exclusion, a number of tangible property law doctrines “seek[] to balance exclusionary rights of owners against competing equity and efficiency concerns.”⁹⁶ And in the trade secret context, it is the tort-based approach that may, in fact, have an expanding

89. *Monsanto*, 467 U.S. at 998–1004.

90. *Id.* at 1002–03.

91. See 1 MILGRIM, *supra* note 28, §§ 2.01–.02 (listing cases describing trade secrets as property).

92. See, e.g., Lemley, *supra* note 71, at 324–25; Lynn C. Tyler, *Trade Secrets in Indiana: Property vs. Relationship*, 31 IND. L. REV. 339, 339 (1998).

93. See, e.g., Samuelson, *supra* note 82, at 366.

94. See Garrett Hardin, *The Tragedy of the Commons*, 162 SCI. 1243, 1244 (1968).

95. See, e.g., Samuelson, *supra* note 82, at 398–400 (critiquing the U.S. Supreme Court’s property characterization of trade secrets in *Monsanto* and observing that “the word property is a very powerful metaphor that radically changes the stakes in legal disputes”); see also Henry E. Smith, *Intellectual Property As Property: Delineating Entitlements in Information*, 116 YALE L.J. 1742, 1756–57 (2007) (describing others’ criticisms of the property analogy).

96. Varadarajan, *supra* note 10, at 665. In recent years, a number of intellectual property law scholars have begun to highlight the relevance of tangible property law to intellectual property law discourse by emphasizing the various limits tangible property law imposes on owners. See, e.g., Carrier, *supra* note 70, at 47–48; Peter Lee, *The Accession Insight and Patent Infringement Remedies*, 110 MICH. L. REV. 175, 193 (2011); Molly Shaffer Van Houweling, *The New Servitudes*, 96 GEO. L.J. 885, 906 (2008). See generally ROBERT P. MERGES, JUSTIFYING INTELLECTUAL PROPERTY (2011).

(rather than, cabining) effect, because “[c]ourts that think of trade secret law as a common law tort . . . are apt to overlook” the substantive requirements of demonstrating a valid trade secret “in their zeal to reach ‘bad actors.’”⁹⁷

A few scholars, like Pamela Samuelson, have also attacked the property view of trade secret because the law’s concern with the plaintiff’s reasonable secrecy efforts and the defendant’s method of acquisition prevents a trade secret from being a “good against the world” in the tangible property sense.⁹⁸ However, other types of intellectual property, like copyrights and trademarks, also require ongoing acts by owners for protection (e.g., continued use in one’s business for trademark protection) and certain acts by defendants (e.g., copying in copyright) before liability will attach.

3. Utilitarian Justification: Trade Secret As Intellectual Property

Increasingly, courts and scholars emphasize trade secret’s proper role as a subset of intellectual property because, like patent or copyright, the grant of exclusivity is meant to combat the underproduction of information-based goods.⁹⁹ In *Kewanee Oil Co. v. Bicron Corp.*,¹⁰⁰ for example, the Supreme Court identified the incentive-to-invent justification as a key purpose of trade secret law. Holding that patent law did not preempt trade secret law, the Court explained:

[T]he patent policy of encouraging invention is not disturbed by the existence of another form of incentive to invention. . . . *Trade secret law will encourage invention in areas where patent law does not reach, and will prompt the independent innovator to proceed with the discovery and*

97. Lemley, *supra* note 71, at 313–14; *see also* Tyler, *supra* note 92, at 340–41.

98. *See, e.g.*, Pamela Samuelson, *Privacy As Intellectual Property?*, 52 STAN. L. REV. 1125, 1153 & n.148 (2000); *see also* Claeys, *supra* note 32, at 9–10.

99. *See, e.g.*, Aronson v. Quick Point Pencil Co., 440 U.S. 257, 266 (1979) (observing that trade secret law helps ensure that “the public is not deprived of the use of valuable, if not quite patentable, invention[s]” (quoting *Kewanee Oil Co. v. Bicron Corp.*, 416 U.S. 470, 485 (1974))); *Rockwell Graphic Sys., Inc. v. DEV Indus., Inc.*, 925 F.2d 174, 180 (7th Cir. 1991) (explaining trade secret law’s role in providing “incentives to invest resources in discovering more efficient methods of production”); *DVD Copy Control Ass’n v. Bunner*, 75 P.3d 1, 13 (Cal. 2003) (“By creating a limited property right in information, trade secret law ‘acts as an incentive for investment in innovation’” (quoting Andrew Beckerman-Rodau, *Prior Restraints and Intellectual Property: The Clash Between Intellectual Property and the First Amendment from an Economic Perspective*, 12 FORDHAM INTELL. PROP. MEDIA & ENT. L.J. 1, 60 (2001))); Cohen, *supra* note 17, at 196 (noting that courts “often analyze the protection of trade secrets the way they analyze protecting patent or copyright, emphasizing the social benefits of rules that promote innovation”); Richard A. Epstein, *The Constitutional Protection of Trade Secrets Under the Takings Clause*, 71 U. CHI. L. REV. 57, 58 (2004); Schwartz, *supra* note 56, at 632 (noting that “[t]here is essentially only one policy purpose behind trade secret law: the encouragement of innovation”). *But see* Risch, *supra* note 53, at 26 (arguing that “creating incentives to innovate is a very minor justification of trade secret law”).

100. 416 U.S. 470, 484 (1974).

exploitation of his invention. Competition is fostered and the public is not deprived of the use of valuable, if not quite patentable, invention.¹⁰¹

Indeed, the broad definition of a trade secret allows it to reach into places patent law cannot (e.g., business, as opposed to technical information, and “negative know-how”). And trade secrets are significantly cheaper than the costly patent application process, which is why “some firms, particularly start-ups, rely heavily on the incentive to invent provided by trade secret law.”¹⁰² But some have questioned the adequacy of the incentive-to-invent explanation for trade secret law. For instance, firms have adequate incentives to create certain trade secret-protected information even in the absence of trade secret law—e.g., customer lists, marketing data, and negative know-how.¹⁰³ (Though the same may be said of certain kinds of patentable information as well.¹⁰⁴) And to some extent, “trade secret law runs the risk of undermining the socially beneficial incentives of the patent system,” as it is premised on secrecy rather than disclosure.¹⁰⁵

Interestingly, Mark Lemley has recently argued that trade secrets are best understood as intellectual property rights not only because they promote inventive activity (i.e., by encouraging invention in areas where patent law does not reach) but also because they promote disclosure of that activity.¹⁰⁶ The disclosure function is also an important purpose of intellectual property law.¹⁰⁷ Patent law, for example, requires an applicant to describe her invention so that a person of ordinary skill in the field can make and use it, and it requires that the information be published.¹⁰⁸ While trade secret protection seems to cut in the opposite direction—as the right is conditioned on relative secrecy—Lemley argues that it actually reduces over-investment in secrecy. This over-investment may take the form of increased walls and fences or business decisions that restrict the flow of information between potential partners or new employees.¹⁰⁹ Trade secret law developed as a (partial) substitute for these restrictions. In this way, trade secret law may “encourage[] disclosure of information that companies might otherwise be

101. *Id.* at 484–85 (emphasis added).

102. Lemley, *supra* note 71, at 331.

103. *See, e.g.,* Bone, *supra* note 85, at 272.

104. *See, e.g.,* *Bilski v. Kappos*, 561 U.S. 593, 651 (2010) (Stevens, J., concurring) (“Many have expressed serious doubts about whether patents are necessary to encourage business innovation. . . . [C]ompanies have ample incentives to develop business methods even without patent protection” (alteration in original) (quoting Dan L. Burk & Mark A. Lemley, *Policy Levers in Patent Law*, 89 VA. L. REV. 1575, 1618 (2003))).

105. Bone, *supra* note 85, at 270; *see also* Robert G. Bone, *The (Still) Shaky Foundations of Trade Secret Law*, 92 TEX. L. REV. 1803, 1807–10 (2014) (reiterating the concerns raised in his original article).

106. *See generally* Lemley, *supra* note 71.

107. *Id.* at 332.

108. 35 U.S.C. § 112 (2012).

109. Lemley, *supra* note 71, at 335 (“Examples can be found as far back as the guild system [I]n the absence of legal means to protect [technical] knowledge [guilds] went to great lengths to prevent others from learning of it, imposing draconian limits on the mobility of employees”).

reluctant to share for fear of losing the competitive advantage it provides.”¹¹⁰

These incentive-based justifications for trade secret law are not without their critics.¹¹¹ But the “intellectual property view” of trade secrets increasingly reflects the modern view. Trade secrets are routinely described and treated as a form of intellectual property by courts, scholars, and practitioners. Despite this characterization, however, trade secret law does not have limiting doctrines akin to those of patent and copyright—i.e., doctrines sufficiently attuned to cumulative innovation and First Amendment concerns.

II. DEFINING AND LIMITING THE SCOPE OF EXCLUSIONARY RIGHTS

Scope-limiting doctrines in intellectual property law mitigate the risk of overprotection. In theory, they try to reconcile owners’ rights to exclude with the public’s interest in furthering innovation and access. One particular concern of limiting doctrines in intellectual property is the issue of cumulative innovation—i.e., new works that build on existing works. As Maureen O’Rourke observes, “[v]irtually since their inception, both the copyright and patent laws have grappled with the question of how to safeguard the incentive inherent in the grant of exclusive rights while at the same time allowing second-comers to build on prior works.”¹¹²

Patent law’s limiting features, like the reverse doctrine of equivalents¹¹³ and recent developments in patent remedies, largely arose to address these cumulative innovation concerns. These limitations supplement the legwork done by patent’s onerous *ex ante* requirements (and the reevaluation of patent validity by courts).¹¹⁴ Limiting doctrines in copyright like the idea-expression dichotomy and the doctrine of fair use also arose, in large part, to address these cumulative innovation concerns.¹¹⁵ So, too, did trade secret’s reverse engineering defense.¹¹⁶ In the copyright and trade secret contexts, however, limiting doctrines must do more of the heavy lifting, because the *ex ante* requirements are minimal. Copyright law is thus a particularly useful point of comparison for trade secret law. As I

110. *Id.* at 335–36; *see also* *Rockwell Graphic Sys., Inc. v. DEV Indus.*, 925 F.2d 174, 177 (7th Cir. 1991) (noting that “disclosure . . . is often necessary to the efficient exploitation of a trade secret”).

111. *See, e.g.*, *Bone*, *supra* note 85, at 273 (criticizing this incentive-based justification for “ignor[ing] enforcement costs and underestim[at]ing the transaction costs of licensing, both of which are likely to be especially high when secret information is involved”); *see also* *Bone*, *supra* note 105, at 1809 (noting that “even if trade secret law limits the precaution-stealing arms race, it adds a new detection-avoidance arms race”).

112. O’Rourke, *supra* note 16, at 1180.

113. *See infra* Part II.A.1.

114. In patent infringement cases, defendants often invoke the invalidity of the patent. Thus, courts must reassess the validity of a patent in the context of patent infringement litigation. *See* 35 U.S.C. § 282 (2012).

115. *See infra* Part II.B; *see also* O’Rourke, *supra* note 16, at 1180 (noting that copyright fair use arose “in part, and is justified, as a mechanism to overcome market failures that would otherwise prevent socially desirable uses of the protected work from occurring”).

116. *See infra* Part II.C.1.

demonstrate in the sections that follow, trade secret's limiting doctrines are insufficiently solicitous of cumulative improvement.

In addition to cumulative innovation concerns, copyright's fair use defense also arose to reconcile copyright with First Amendment purposes, like promoting public commentary and debate.¹¹⁷ Because patent law focuses on technological inventions as protectable subject matter rather than expressive works, the First Amendment does not pose much of a concern—or doctrinal challenge—in patent law. Trade secret law, however, with its staggering subject matter breadth, straddles the line between the two. But it has no comparable limiting doctrine to accommodate First Amendment concerns.¹¹⁸

A. Cumulative Innovation and Limiting Doctrines in Patent Law

To understand the role that limiting doctrines play in patent law, one must first understand the basics of patent infringement analysis and the role of patent claims. Because patent claims mark the “metes and bounds” of the owner's right to exclude, patent infringement analysis looks to the claims rather than what the patentee has built or is selling. To infringe a patent, the accused product or process must contain each and every element identified in the patent claim (or its equivalent).¹¹⁹ As a result, an accused product can “literally infringe” (i.e., fall within the literal language of a claim), even if the defendant makes a different and better product than the inventor. Even if a defendant's product or process does not literally infringe the claims of a patent, the doctrine of equivalents can expand the reach of a patent to encompass “insubstantial differences.”¹²⁰ Patent claims can thus “reach new and unanticipated inventions made after the patent issues.”¹²¹

Potential users and follow-on improvers face significant uncertainty regarding the scope of a patent and whether it encompasses their desired uses. Sometimes, subsequent innovators cannot avoid falling within the claims' literal terrain, because the claims are broadly defined or “because economic or technical necessity requires that the improver hew closely to the work of the original creator in some basic respect.”¹²² Patents can thus frustrate cumulative innovation and retard the efforts of those who seek to improve existing inventions.¹²³

117. See Tushnet, *supra* note 65, at 538.

118. For a discussion of conflicts between trade secret law and the First Amendment, see generally Pamela Samuelson, *Principles for Resolving Conflicts Between Trade Secrets and the First Amendment*, 58 HASTINGS L.J. 777 (2007). See also Mark A. Lemley & Eugene Volokh, *Freedom of Speech and Injunctions in Intellectual Property Cases*, 48 DUKE L.J. 147, 165 (1998).

119. See *Warner-Jenkinson Co. v. Hilton Davis Chem. Co.*, 520 U.S. 17, 29–30 (1997).

120. See John R. Allison & Mark A. Lemley, *The (Unnoticed) Demise of the Doctrine of Equivalents*, 59 STAN. L. REV. 955, 959–60 (2007); Lemley, *supra* note 66, at 1004.

121. Lemley, *supra* note 66, at 1005.

122. *Id.* at 991.

123. Cumulative innovation is not a monolithic concept. In patent law, it can mean inventing a better functioning or more efficient version of an existing invention. In this way,

In assessing patent infringement, courts generally do not consider the value of the infringer's contribution—for example, if an existing product or process is made more efficient or commercially valuable.¹²⁴ Since it is the language of the patent's claims, rather than what the inventor has actually built, that defines the boundaries of the right to exclude, an inventor can expand the bounds of his patent right by drafting broad claims. To be sure, a patentee's ability to draft broad claims is cabined by the various requirements of patentability (e.g., novelty, nonobviousness, enablement, and written description).¹²⁵ And in the context of infringement litigation, courts can reassess the PTO's decision to grant a patent—i.e., the validity of the patent.¹²⁶

But provided the requirements of patentability are met, subsequent innovators seeking to incorporate or build upon the patented invention must be careful to avoid infringing upon the claims' literal terrain. It may be that the subsequent innovator's contribution is significant enough to merit a patent on the improvement. Even then, however, the subsequent innovator cannot practice the patent absent a license from the original patentee.¹²⁷ Provided licensing markets operate efficiently, subsequent innovators can obtain licenses from originators, and improvements will find their way to the marketplace. And where the subsequent innovator has a patent on the improvement, she comes into the negotiation game with some power of her own because the original patentee cannot practice the improvement without getting the improver's permission.¹²⁸ This so-called "blocking patents" situation is thought to encourage a cross-licensing agreement between the parties, so both can practice the improved invention.¹²⁹

However, a number of scholars have persuasively illustrated the various challenges to efficient licensing that can impede holders of "blocking patents" from successfully negotiating a license. These challenges include: identifying the relevant parties; uncertainty as to patents' value and scope; and strategic behavior that is exacerbated in the context of bilateral

the later innovator "designs over" an existing patent, perhaps without any awareness that the prior invention exists or is patented. Lee, *supra* note 96, at 184. Commentators have referred to interference with this kind of cumulative innovation as an "intergenerational bottleneck," which occurs where "each product generation builds on its predecessor." Carrier, *supra* note 70, at 46–47. Cumulative innovation can also mean finding a new use for a patented invention or using patented inventions "as inputs into producing other inventions." Lee, *supra* note 96, at 184. Some commentators have referred to interference with this kind of innovation as an "intragenerational bottleneck," which occurs when "one product contains multiple patented components and one of the patent holders refuses to license one of the patented parts," thus preventing the practice of the product. Carrier, *supra* note 70, at 46; *see also* Burk & Lemley, *supra* note 104, at 1657–58.

124. Lemley, *supra* note 66, at 1006–08.

125. *See* Robert P. Merges & Richard R. Nelson, *On the Complex Economics of Patent Scope*, 90 COLUM. L. REV. 839, 844 & n.21 (1990); *see also* Lemley, *supra* note 66, at 1001–02.

126. 35 U.S.C. § 282 (2012).

127. Lemley, *supra* note 66, at 1009–10.

128. *Id.* at 1007–13 (offering a useful framework for understanding how patent law differentiates between "minor" and more "significant" technological improvements).

129. *See id.* at 1009–10.

monopolies and that can obstruct agreement, even where there is a cooperative surplus.¹³⁰ Absent a license from the originator, the subsequent innovator whose contribution has been deemed significant enough to merit a patent is out of luck—i.e., she cannot practice the improvement patent and reap the benefits of her productive efforts.

Given these cumulative innovation concerns, certain limiting doctrines in patent law consider whether the socially beneficial nature of the defendant's use should excuse liability or alter the remedial preference for injunctive relief.¹³¹

1. Reverse Doctrine of Equivalents

One such limiting doctrine is the “reverse doctrine of equivalents” (RDOE), a mechanism by which courts can theoretically excuse “radical” improvers from infringement liability.¹³² Under the RDOE, a literal infringer can be excused from liability where her product is “so far changed in principle from a patented article that it performs the same or a similar function in a substantially different way, but nevertheless falls within the literal words of the claim.”¹³³

The Supreme Court introduced the RDOE in *Westinghouse v. Boyden Power Brake Co.*¹³⁴ Boyden was accused of infringing Westinghouse's patent on a train brake. But Boyden's brake offered vastly superior stopping power compared to its predecessors, allowing the long trains of the nineteenth century to be operated more safely.¹³⁵ Unfortunately for Boyden, Westinghouse's patent was worded broadly, and Boyden's improvement fell within the literal language of Westinghouse's claims. The Court refused to find infringement, however, setting forth a new exception to liability.¹³⁶

Commentators have suggested that in the context of radical improvements (e.g., a train brake with far superior stopping capability), courts should be unwilling to tolerate the possibility of market failure (e.g., bargaining breakdown between patent owner and improver) and the resulting dampening of incentives for inventors to improve radically on existing patented technologies.¹³⁷ Courts can thus use the RDOE as a

130. See, e.g., *id.* at 1048–61; Robert Merges, *Intellectual Property Rights and Bargaining Breakdown: The Case of Blocking Patents*, 62 TENN. L. REV. 75, 84–91 (1994) (describing licensing failures between pioneer patent holders and improvers in the early radio and steel industries and the resulting social welfare losses).

131. Several commentators, however, have argued that existing *ex post* limiting doctrines in patent law are too narrow and have suggested various reforms to expand these limiting doctrines. See, e.g., O'Rourke, *supra* note 16 (proposing a fair use-type defense to patent infringement); Katherine Strandburg, *Patent Fair Use 2.0*, 1 U.C. IRVINE L. REV. 265, 289 (2011) (proposing a fair use-type infringement exception).

132. See, e.g., Lemley, *supra* note 66, at 1010–13; Merges, *supra* note 130, at 78.

133. *Graver Tank & Mfg. Co. v. Linde Air Prods. Co.*, 339 U.S. 605, 608–09 (1950).

134. 170 U.S. 537 (1898).

135. *Id.* at 545.

136. *Id.* at 568, 573.

137. See, e.g., Lemley, *supra* note 66, at 1010–13; Merges, *supra* note 130, at 91.

policy lever to “benefit[] radical improvers at the expense of the original patentee, and so encourage[] radical improvements.”¹³⁸ Even absent court action, the RDOE may “provide the infringer with a negotiation threat credible enough to increase the probability that the parties will conclude a licensing agreement.”¹³⁹ In recent times, however, courts rarely apply the RDOE,¹⁴⁰ which has prompted calls to resuscitate the doctrine.¹⁴¹

2. Experimental Use Defenses

To some extent, experimental use defenses also consider an infringing defendant’s socially beneficial use of a patented invention. The statutory experimental use defense excuses drug manufacturers from infringement liability for uses of another’s patent that are “reasonably related to the development and submission of information under a Federal law which regulates the manufacture, use, or sale of drugs.”¹⁴² This defense allows drug manufacturers to use others’ patented inventions when testing drugs they are planning to submit for the Food and Drug Administration’s (FDA) approval.¹⁴³ In addition, the common law defense of experimental use permits one to use another’s patented invention solely for purposes of scientific inquiry.¹⁴⁴ This defense is quite narrow, in that it does not apply to uses for any commercial, financial, or reputational gain.¹⁴⁵ Historically,

138. Lemley, *supra* note 66, at 1012–13.

139. O’Rourke, *supra* note 16, at 1194.

140. Scholars have observed that the RDOE is “seldom used” and “largely moribund.” Lee, *supra* note 96, at 189; Merges, *supra* note 130, at 91. In 2002, the Federal Circuit appeared to sound the RDOE’s death knell. See *Tate Access Floors, Inc. v. Interface Architectural Res., Inc.*, 279 F.3d 1357, 1368 (Fed. Cir. 2002). But it has since backed away from such forceful disavowals of the RDOE’s continuing applicability. Recently, in *Depuy Spine, Inc. v. Medtronic Sofamore Danek, Inc.*, the Federal Circuit recognized the continuing viability of the doctrine but nonetheless emphasized the rarity of its application. 567 F.3d 1314, 1338–39 (Fed. Cir. 2009). In this case, the district court imposed a significant penalty on the defendant for raising an RDOE argument. See *id.* at 1322. The Federal Circuit reversed, explaining that the “unusual nature of the [RDOE] is not itself a reason to sanction a party for invoking it. The Supreme Court has recognized it to be a viable defense, even if it is rarely asserted.” *Id.* at 1339.

141. See, e.g., Merges & Nelson, *supra* note 125, at 864–68; Varadarajan, *supra* note 10, at 689–91, 707–09.

142. 35 U.S.C. § 271(e)(1) (2012). Originally, this provision was enacted in the Drug Price Competition and Patent Term Restoration Act of 1984 § 202, 21 U.S.C. §§ 301–302 (2012).

143. This permission to use another’s patent even extends to preclinical and other experiments that the manufacturer decided not to present to the FDA. See *Merck KGaA v. Integra Lifesciences I, Ltd.*, 545 U.S. 193, 206–08 (2005); see also *Momenta Pharm., Inc. v. Amphastar Pharm., Inc.*, 686 F.3d 1348, 1359 (Fed. Cir. 2012) (extending the defense to post-approval experiments).

144. See *Madey v. Duke Univ.*, 307 F.3d 1351, 1362 (Fed. Cir. 2002) (explaining the defense does not extend to uses “in furtherance of the alleged infringer’s . . . business and . . . not solely for amusement, to satisfy idle curiosity, or for strictly philosophical inquiry”).

145. See *id.*; see also Rebecca S. Eisenberg, *Patents and the Progress of Science: Exclusive Rights and Experimental Use*, 56 U. CHI. L. REV. 1017, 1018 (1989) (proposing an expansion of this defense to “exempt[] the use of patented inventions in research from infringement liability”).

“[a]cademics working in different basic science areas” have been “the primary beneficiaries of this defense.”¹⁴⁶

3. Remedial Flexibility in Patent

To be sure, the RDOE and the experimental use defenses are narrow.¹⁴⁷ And given the “all-or-nothing” nature of these patent defenses, courts may be wary of applying them. That is, should a defendant successfully assert one of these defenses, she is excused from liability and the patent owner gets nothing.¹⁴⁸ Increasingly, courts evaluate the beneficial nature of the defendant’s use in the context of assessing remedies, rather than liability determinations—a trend that can be traced to the Supreme Court’s 2006 *eBay v. MercExchange* decision.

Historically, patent rights have been protected by a “property rule,”¹⁴⁹ with courts awarding injunctive relief to the patent owner as a matter of course in patent infringement actions. But in *eBay*, the Supreme Court rejected an automatic injunction rule in patent cases, opting instead for the four-part analysis that guides courts’ injunction decisions in a wide variety of cases.¹⁵⁰ Injunctive relief is still largely the norm in patent infringement cases, but a notable concurrence by Justice Kennedy (and joined by Justices Stevens, Souter, and Breyer) has prompted district courts to consider the beneficial nature of a defendant’s use in certain contexts.¹⁵¹

146. Gideon Parchomovsky & Alex Stein, *Intellectual Property Defenses*, 113 COLUM. L. REV. 1483, 1500–01 (2013).

147. The narrowness of these ex post doctrines has prompted some scholars to argue for a broader, fair use–type defense in patent law. See O’Rourke, *supra* note 16, at 1208; Strandburg, *supra* note 131.

148. See Lee, *supra* note 96, at 239.

149. See Guido Calabresi & A. Douglas Melamed, *Property Rules, Liability Rules, and Inalienability: One View of the Cathedral*, 85 HARV. L. REV. 1089, 1105 (1972). A property rule gives the property owner a veto over nonconsensual transfers; potential takers must get the owner’s consent and pay the owner’s price. A liability rule, by contrast, merely compensates the right holder for the violation; the owner has no veto power, and the non-holder can take the entitlement in exchange for a court-determined price.

150. *eBay, Inc. v. MercExchange L.L.C.*, 547 U.S. 388, 391 (2006). In this case, eBay and its subsidiary Half.com infringed MercExchange’s business method patent on an electronic market. The Federal Circuit reversed the district court’s denial of permanent injunctive relief for the patentee, applying its “general rule that courts will issue permanent injunctions against patent infringement absent exceptional circumstances.” *Id.* The Supreme Court reversed the Federal Circuit, clarifying that even if patents are indeed property, “the creation of a [property] right is distinct from the provision of remedies for violations of that right.” *Id.* at 392. A plaintiff must demonstrate:

(1) that it has suffered an irreparable injury; (2) that remedies available at law, such as monetary damages, are inadequate to compensate for that injury; (3) that, considering the balance of hardships between the plaintiff and defendant, a remedy in equity is warranted; and (4) that the public interest would not be disserved by a permanent injunction.

Id. at 391.

151. The case also included a concurrence authored by Chief Justice Roberts and joined by Justices Scalia and Ginsburg, which suggested that given the “long tradition of equity practice” in patent infringement cases, and the “difficulty of protecting a right to exclude through monetary remedies,” injunctive relief should predominate as the preferred remedy for patent infringement. *Id.* at 395 (Roberts, C.J., concurring) (emphasis omitted).

First, Justice Kennedy's concurrence suggested the sufficiency of damages in one kind of cumulative innovation context: "[w]hen the patented invention is but a small component of the [defendant's] product."¹⁵² In such cases, where "the threat of an injunction is employed simply for undue leverage in negotiations, legal damages may well be sufficient to compensate for the infringement and an injunction may not serve the public interest."¹⁵³ District court decisions post-*eBay* suggest that consideration of certain kinds of beneficial use and improvement by the defendant will play a bigger role in the remedies analysis than has historically been the case.¹⁵⁴

Second, Justice Kennedy's concurrence suggests that injunctive relief should be rejected where a non-practicing patent assertion entity (e.g., a "patent troll") seeks to enforce a patent against a defendant that is practicing the patent (e.g., creating and selling a product that incorporates the patented technology). "Patent trolls" are firms that "use patents not as a basis for producing and selling goods but, instead, primarily for obtaining licensing fees."¹⁵⁵ This distinction is not a consideration of technological improvement but rather commercial improvement. Namely, the infringing defendant is practicing the patent and commercializing a product, while the plaintiff is not. Empirical evidence suggests that, after *eBay*, district courts are less likely to grant injunctive relief in cases where the patent holder is a patent troll.¹⁵⁶

B. Cumulative Innovation, the First Amendment, and Limiting Doctrines in Copyright

While patent infringement analysis asks whether a defendant's product falls within the claim language, copyright infringement analysis asks whether the defendant's work (1) derives from (i.e., copies) the copyrighted work and (2) is "substantially similar" to protected expression in the

152. *Id.* at 396 (Kennedy, J., concurring).

153. *Id.* at 396–97.

154. *See, e.g.,* *z4 Techs., Inc. v. Microsoft Corp.*, 434 F. Supp. 2d 437 (E.D. Tex. 2006). In *z4*, the court denied permanent injunctive relief to the owner of patented software activation technology against the manufacturer of infringing software products that contained the patented technology, explaining:

In his concurrence, Justice Kennedy instructed courts to be cognizant of the nature of the patent being enforced Here, product activation is a very small component of the Microsoft Windows and Office software products that the jury found to infringe *z4*'s patents. The infringing product activation component of the software is in no way related to the core functionality for which the software is purchased by consumers. Accordingly, Justice Kennedy's comments support the conclusion that monetary damages would be sufficient to compensate *z4* for any future infringement by Microsoft.

Id. at 441 (citing *eBay*, 547 U.S. at 395–97).

155. *eBay*, 547 U.S. at 396.

156. John M. Golden, "Patent Trolls" and Patent Remedies, 85 TEX. L. REV. 2111, 2113 (2007); *see also* Mark A. Lemley & Philip J. Weiser, *Should Property or Liability Rules Govern Information?*, 85 TEX. L. REV. 783, 800 (2007) (arguing that "courts should cast a skeptical eye at claims for injunctive relief where the patent owner is not a direct competitor of the defendant").

copyrighted work.¹⁵⁷ The requirement of copying means that copyright law excuses independent creators from liability—a feature it shares with trade secret and a notable difference from patent law.¹⁵⁸

In the easiest copyright infringement case, the defendant copies verbatim the plaintiff's entire work. But infringement is not limited to such cases. It is possible to infringe a copyright by copying a mere portion of the work, like a few seconds of a song or a chapter from a novel, or even nonliteral aspects of the protected work, such as the plot outline or fictional characters in a movie.¹⁵⁹

One important scope-limiting doctrine in copyright is that protection extends only to the author's original *expression* of a work, not to the underlying ideas, facts, or functional elements of a work.¹⁶⁰ This limitation acts to "draw the line between copyright and patent, as well as between copyright and the public domain."¹⁶¹ It is, however, notoriously difficult to apply in practice. The Copyright Act also designates some specific subject-matter exemptions, immunizing from liability the public performance or display of work in the course of "face-to-face teaching activities," religious services, and transmission to the blind, among other exemptions.¹⁶²

Finally, defendants can raise the affirmative defense of fair use, an equitable defense that excuses infringement. Oft described as the "most troublesome [doctrine] in the whole law of copyright,"¹⁶³ fair use is undoubtedly the "most important—and amorphous—limitation on the otherwise extraordinarily broad rights granted to copyright owners."¹⁶⁴ Fair use is "perhaps the most crucial policy tool for maintaining copyright's intended balance."¹⁶⁵

1. Fair Use

The fair use doctrine permits courts to gauge the merits of a defendant's otherwise infringing use in the context of liability determinations. If a use

157. See, e.g., *Arnstein v. Porter*, 154 F.2d 464, 468 (2d Cir. 1946).

158. Copying can be demonstrated by circumstantial evidence of the defendant's access to the work and similarity between the two works. Because copyright infringement requires copying, independent development of a work is a complete defense—though unintentional or subconscious copying is not. See, e.g., *Bright Tunes Music Corp. v. Harrisongs Music, Ltd.*, 420 F. Supp. 177, 181 (S.D.N.Y. 1976) (finding that George Harrison's unintentional copying of "He's So Fine" in his composition "My Sweet Lord" was infringement).

159. See *MERGES ET AL.*, *supra* note 17, at 499; Mark A. Lemley, *What's Different About Intellectual Property*, 83 TEX. L. REV. 1097, 1116 (2005).

160. See 17 U.S.C. § 102(b) (2012).

161. O'Rourke, *supra* note 16, at 1187; see also *Baker v. Selden*, 101 U.S. 99, 104–05 (1879) (explaining the distinction between a book that can be protected by copyright versus a system—in this case, for a bookkeeping method—that could only be protected, if at all, by patent law).

162. See 17 U.S.C. § 110(1), (4), (8).

163. *Sony Corp. of Am. v. Universal City Studios, Inc.*, 464 U.S. 417, 475 (1984) (quoting *Dellar v. Samuel Goldwyn, Inc.*, 104 F.2d 661, 662 (2d Cir. 1939)).

164. Barton Beebe, *An Empirical Study of U.S. Copyright Fair Use Opinions, 1978–2005*, 156 U. PA. L. REV. 551, 551 (2008).

165. Gideon Parchomovsky & Kevin A. Goldman, *Fair Use Harbors*, 93 VA. L. REV. 1483, 1495 (2007).

is deemed fair, then the defendant need not compensate the copyright owner.

Congress codified the doctrine in 1976 but did not precisely define “fair use.” Instead, the preamble to section 107 of the Copyright Act describes various examples of fair use, including use of the copyrighted work “for purposes such as criticism, comment, news reporting, teaching (including multiple copies for classroom use), scholarship, or research.”¹⁶⁶ But there are no presumptive categories of fair use. In any case where fair use is asserted, courts must consider the following four nonexclusive factors:

- (1) the purpose and character of the use, including whether such use is of a commercial nature or is for nonprofit educational purposes;
- (2) the nature of the copyrighted work;
- (3) the amount and substantiality of the portion used in relation to the copyrighted work as a whole;
- and (4) the effect of the use upon the potential market for or value of the copyrighted work.¹⁶⁷

The last “market harm” factor includes not just actual market harm caused by the particular infringement but also the potential for lost sales of the original work if the challenged use becomes widespread and the potential adverse impact on licensing fees and markets for derivative works (e.g., adaptations of the original).¹⁶⁸

The Supreme Court has also explained that “transformative uses” of the copyrighted work—i.e., those that “add[] something new, with a further purpose or different character, altering the first with new expression, meaning, or message”—are particularly favored under the first factor and, relatedly, are presumed to cause less market harm under the fourth factor.¹⁶⁹ The Court identified certain critical uses like parody as “ha[ving] an obvious claim to transformative value . . . [as] it can provide [a] social benefit, by shedding light on an earlier work, and, in the process, creating a new one.”¹⁷⁰ In setting forth this doctrine, the Court explained:

Although such transformative use is not absolutely necessary for a finding of fair use, the goal of copyright, to promote science and the arts, is generally furthered by the creation of transformative works. Such works

166. 17 U.S.C. § 107.

167. *Id.*

168. *Harper & Row Publishers, Inc. v. Nation Enters.*, 471 U.S. 539, 566–67 (1985). A “derivative work” is defined in the Copyright Act to include any form in which a work may be “recast, transformed, or adapted,” including translations, dramatizations, motion picture versions, abridgements, and the like. 17 U.S.C. § 101. A few decades ago, the Supreme Court deemed factor four “the single most important element of fair use,” and suggested that “[f]air use, when properly applied, is limited to copying by others which does not materially impair the marketability” of the copied work. *Harper & Row*, 471 U.S. at 566–67. The importance of this factor has diminished with the Supreme Court’s articulation of the “transformative use” doctrine. *See infra* notes 169–73 and accompanying text.

169. *Campbell v. Acuff-Rose Music, Inc.*, 510 U.S. 569, 579 (1994). In *Campbell*, the Court considered whether 2 Live Crew’s parody of Roy Orbison’s song, “Oh Pretty Woman,” was a fair use. In concluding that the Court of Appeals erred in deeming 2 Live Crew’s parodic use presumptively unfair, the Supreme Court laid out the standard for “transformative use.”

170. *Id.*

thus lie at the heart of the fair use doctrine's guarantee of breathing space within the confines of copyright, and the more transformative the new work, the less will be the significance of other factors, like commercialism, that may weigh against a finding of fair use.¹⁷¹

The transformative use inquiry has become an important aspect of fair use analysis. In those cases where the defendant's otherwise infringing use was deemed transformative, "it exerted nearly dispositive force not simply on the outcome of factor one but on the overall outcome of the fair use test."¹⁷²

The fair use doctrine serves dual purposes: it is an "important safety valve[]" both for "promoting cumulative creativity and free expression."¹⁷³ As the Supreme Court has observed, the "latitude for scholarship and comment traditionally afforded by fair use" helps reconcile the Copyright Act with the First Amendment.¹⁷⁴ Also, fair use (and in particular, the focus on "transformative use") has been justified as a way to avoid market failure that would otherwise prevent socially desirable uses of the protected work.¹⁷⁵ For example, copyright owners have noneconomic reasons to prohibit certain transformative uses, especially parodic or critical uses—and may be unwilling to license their works for such uses, at any price. At the same time, such uses have positive externalities that the transformative user cannot capture, making her unwilling to pay for a license.¹⁷⁶

171. *Id.* (internal citations omitted).

172. Beebe, *supra* note 164, at 605.

173. MERGES ET AL., *supra* note 17, at 609.

174. *Harper & Row Publishers, Inc. v. Nation Enters.*, 471 U.S. 539, 560 (1985); *see also Eldred v. Ashcroft*, 537 U.S. 186, 221 (2003) (describing fair use doctrine and the idea/expression distinction as "copyright's built-in free speech safeguards"); *A&M Records, Inc. v. Napster, Inc.*, 114 F. Supp. 2d 896, 922 (N.D. Cal. 2000) ("[F]ree speech concerns are 'protected by and coextensive with the fair use doctrine.'" (quoting *Nihon Keizai Shimbun, Inc. v. Comline Bus. Data, Inc.*, 166 F.3d 65, 74 (2d Cir. 1999))). However, some scholars have argued that copyright law is fundamentally at odds with the First Amendment, despite the existence of a fair use defense. *See, e.g., Jed Rubenfeld, The Freedom of Imagination: Copyright's Constitutionality*, 112 YALE L.J. 1 (2002).

175. *See, e.g., Wendy J. Gordon, Fair Use As Market Failure: A Structural and Economic Analysis of the Betamax Case and its Predecessors*, 82 COLUM. L. REV. 1600, 1614 (1982) ("Fair use should be awarded to the defendant in a copyright infringement action when (1) market failure is present; (2) transfer of the use to the defendant is socially desirable; and (3) an award of fair use would not cause substantial injury to the incentives of the plaintiff copyright owner."); *cf. Tushnet, supra* note 65, at 557, 560 (observing that "the scope of fair use is shrinking because courts and commentators have adopted the idea that fair use is only relevant for instances of market failure"; while this is "good news for cultural critics, . . . it makes many traditionally fair uses, such as pure copying carried out for teaching and research purposes, look unfair").

176. *See Gordon, supra* note 175, at 1632–35. This is one kind of market failure. Other kinds of market failure include cases where high transaction costs stand in the way of private bargaining. For example, in *Sony Corp. of America v. Universal City Studios, Inc.*, the Supreme Court declined to enjoin Sony from selling VCRs to consumers, who could record unauthorized copies of copyrighted broadcasts; the Court held the copying to be fair use. 464 U.S. 417, 456 (1984). As commentators have observed, "[t]hat consumers would face insurmountable transaction costs in identifying, contacting and contracting with the individual copyright owners for permission to tape helps to account for the holding." O'Rourke, *supra* note 16, at 1189.

The claim for fair use thus seems to be strongest when “a copyright owner upset by a critical message attempts to suppress it.”¹⁷⁷ An example of such a use is Alice Randall’s retelling of Margaret Mitchell’s *Gone With the Wind* from the perspective of a black character, as a critique of racism and the “myth of white Southern gentility” in the original.¹⁷⁸ Not only do such uses implicate market failure concerns, they are “analogous to the speech of political protesters attacking received wisdom, whose actions are generally thought to be at the heart of the First Amendment’s protections.”¹⁷⁹ However, increasingly, fair use encompasses transformative, noncritical uses that provide widespread educational and informational benefits—as demonstrated by the recent Google Books case,¹⁸⁰ and other cases involving searchable databases that incorporate images of copyrighted works.¹⁸¹

2. Remedial Flexibility in Copyright

Like patent defenses, the fair use defense is all-or-nothing in nature. That is, if courts apply it, the copyright owner gets no remedy at all—an outcome that some courts and commentators have criticized.¹⁸² If a court decides fair use does not apply, then a copyright owner will often get an injunction and damages.¹⁸³ “Rejecting a claim of fair use thus gives the copyright owner both the right to compensation for the defendant’s use and the right to prevent or control the circumstances of that use,” through injunctive relief.¹⁸⁴

In patent law, some notable shifts in the remedial landscape have taken place post-*eBay*, as discussed above. The impact of *eBay* on the development of copyright remedy determinations, however, is less clear.¹⁸⁵

177. Tushnet, *supra* note 65, at 549.

178. *Id.* at 551; see *Suntrust Bank v. Houghton Mifflin Co.*, 268 F.3d 1257, 1269–71 (11th Cir. 2001).

179. Tushnet, *supra* note 65, at 549.

180. See *generally* *Authors Guild, Inc. v. Google Inc.*, 954 F. Supp. 2d 282 (S.D.N.Y. 2013).

181. For example, a district court recently deemed Google’s scanning of twenty million books into a search index a fair use, due largely to its educational and informational value. See *id.* at 293 (noting Google Books’ “significant public benefits” as a “research tool” for students, teachers, librarians, and scholars, as well as its ability to “preserve[] books, in particular out-of-print and old books that have been forgotten” and to “facilitate[] access to books for print-disabled and remote or underserved populations”).

182. See Alex Kozinski & Christopher Newman, *What’s So Fair About Fair Use?*, 46 J. COPYRIGHT SOC’Y 513, 525–27 (1999) (arguing that fair use should be rejected, along with injunctive relief, and copyright owners should only be entitled to actual damages); see also Orit Fischman Afori, *Flexible Remedies As a Means to Counteract Failures in Copyright Law*, 29 CARDOZO ARTS & ENT. L.J. 1, 3 (2011) (arguing that courts should change their “all-or-nothing” approach to copyright remedies and make the range of remedies more flexible).

183. See 17 U.S.C. §§ 502, 504 (2012) (providing for injunctive relief, as well as damages equal to “the copyright owner’s actual damages and any additional profits of the infringer” or “statutory damages”).

184. Lemley & Weiser, *supra* note 156, at 791.

185. See, e.g., Jiarui Liu, *Copyright Injunctions After eBay: An Empirical Study*, 16 LEWIS & CLARK L. REV. 215, 218 (2012) (“An empirical study of all post-*eBay* copyright injunction decisions up to June 1, 2010 indicates that the majority of post-*eBay* decisions on

Even prior to *eBay*, however, the Supreme Court has suggested the potential flexibility of copyright remedies in certain beneficial use contexts—i.e., cases where the social benefits associated with an infringing use may not merit excuse from liability but would nonetheless justify a court’s refusal to grant injunctive relief.¹⁸⁶ And, to some degree, copyright law already relies on liability rules by imposing compulsory licenses for certain categories of uses, like non-commercial broadcasting.¹⁸⁷

*C. Cumulative Innovation, the First Amendment,
and Trade Secret’s Relatively Limited Limiting Doctrines*

Once a plaintiff demonstrates she has a trade secret (i.e., information of value that is not generally known or readily ascertainable, and is the subject of reasonable secrecy precautions), for liability to attach she must also prove the defendant “misappropriated” it. Acquisition, use, or disclosure of the trade secret is misappropriation only where it involves “improper means” or a breach of confidence.¹⁸⁸

copyright injunction still totally ignored the *eBay* decision as well as the four-factor test advocated therein.”) *But see* *Salinger v. Colting*, 607 F.3d 68, 77 (2d Cir. 2010) (“We hold today that *eBay* applies with equal force (a) to preliminary injunctions (b) that are issued for alleged copyright infringement.”).

186. *See* *N.Y. Times Co. v. Tasini*, 533 U.S. 483 (2001). In *Tasini*, freelance writers who had written articles for the *New York Times* sought to enjoin the newspaper’s unauthorized republication in electronic databases. *Id.* at 457. The Court found infringement, but was nonetheless sympathetic to the defendants’ arguments that electronic databases provided a valuable service by providing easy access to newspaper texts going back several decades. *Id.* at 505–06. The Court encouraged the trial court to alter the traditional remedy of injunctive relief and fashion a solution—like instructing parties to arrive at an ongoing royalty agreement—that would allow the public to benefit from a more complete electronic database. *Id.* Notably, the Court observed: “[I]t hardly follows from today’s decision that an injunction against the inclusion of these Articles in the Databases (much less all freelance articles in any databases) must issue.” *Id.* at 505; *see also* *Campbell v. Acuff-Rose Music, Inc.*, 510 U.S. 569, 578 n.10 (1994) (noting in dicta that the “goals of the copyright law . . . are not always best served by automatically granting injunctive relief”).

187. 17 U.S.C. § 118 (2012); *see also id.* §§ 111(d) (cable television), 114(d) (certain digital audio transmissions), 115 (phonorecords of nondramatic musical works), 119 (certain satellite retransmissions). Compulsory licenses give copyright owners the right to compensation for use, but not injunctive relief; thus, they cannot refuse consent for such uses.

188. The UTSA § 1 defines “misappropriation” as:

- (i) acquisition of a trade secret of another by a person who knows or has reason to know that the trade secret was acquired by improper means; or
- (ii) disclosure or use of a trade secret of another without express or implied consent by a person who (A) used improper means to acquire knowledge of the trade secret; or (B) at the time of disclosure or use, knew or had reason to know that his knowledge of the trade secret was (I) derived from or through a person who has utilized improper means to acquire it; (II) acquired under circumstances giving rise to a duty to maintain its secrecy or limit its use; or (III) derived from or through a person who owed a duty to the person seeking relief to maintain its secrecy or limit its use; or (C) before a material change of his position, knew or had reason to know that it was a trade secret and that knowledge of it had been acquired by accident or mistake.

UNIF. TRADE SECRETS ACT § 1(2) (amended 1985), 14 U.L.A. 437 (1990).

“Improper means” have been found in various situations, including theft, fraudulent misrepresentations to induce disclosure, tapping of telephone wires, eavesdropping, or other forms of espionage.¹⁸⁹ But there is no “complete catalogue” of improper means. The term is fairly broad and does not require an act to be independently actionable.¹⁹⁰ Absent improper means, a defendant’s use or disclosure of the trade secret may be wrongful because it violates an implied duty (e.g., an employee’s implied duty not to disclose the employer’s secrets) or explicitly violates a nondisclosure contract. Cases involving departing employees make up the bulk of trade secret litigation.¹⁹¹

Because trade secret law protects against breaches of express or implied duties of confidentiality, trade secret law overlaps to some degree with contract law principles.¹⁹² However, trade secret law departs from contract law in significant ways. Notably, trade secret liability can extend to strangers not in privity with the plaintiff, including improper-acquirers, accidental-acquirers,¹⁹³ and those who knowingly or negligently obtain information from one in privity with the plaintiff.¹⁹⁴

To the extent that the defendant’s alleged use of the information does not result in an identical product or process, courts employ the “substantial derivation” doctrine to assess whether the defendant has misappropriated the plaintiff’s trade secret—or whether “the contribution of the claimed trade secret to the [defendant’s] end result is relatively trivial, such that the defendant can be said to have acted independently.”¹⁹⁵ In some ways, substantial derivation analysis attempts to do what copyright infringement analysis does—i.e., assess whether the defendant, in fact, improperly relied upon plaintiff’s work. Unlike copyright infringement analysis, however, courts’ substantial derivation analysis lacks clarity and uniformity. Some courts, in assessing whether the defendant’s use substantially derived from the plaintiff’s information, “have used as analogy the patent law’s ‘doctrine of equivalents,’ focusing on whether the defendant’s process seeks to

189. *Id.* § 1(1), 14 U.L.A. 437.

190. *E.I. DuPont de Nemours & Co. v. Christopher*, 431 F.2d 1012, 1016 (5th Cir. 1970) (quoting RESTATEMENT (FIRST) OF TORTS § 757, cmt. f, at 10 (1939)). Here, the Fifth Circuit held that the defendants misappropriated trade secrets when they engaged in the fully legal act of taking aerial photographs of the plaintiff’s engineering plant while it was under construction. In that case, the court explained that “‘improper’ will always be a word of many nuances, determined by time, place, and circumstances.” *Id.* at 1017.

191. *See generally* MERGES ET AL., *supra* note 17, at 85–89; Lemley, *supra* note 71, at 318.

192. Some commentators have suggested that trade secret law is (or should be) coextensive with contract. *See supra* note 85 and accompanying text.

193. UNIF. TRADE SECRETS ACT § 1(2)(ii)(C), 14 U.L.A. 437.

194. *Id.* § 1(2)(ii)(B), 14 U.L.A. 437. Thus, if an employee leaves employer A, then takes a trade secret to employer B, B can be held liable for using the trade secret despite B’s lack of privity with A, so long as B knew or should have known that the employee had a duty of confidentiality to A.

195. POOLEY, *supra* note 4, § 6.03[4], at 6-35; *see also* Penalty Kick Mgmt. Ltd. v. Coca Cola Co., 318 F.3d 1284, 1293 (11th Cir. 2003) (granting summary judgment for the defendant where the “defendant independently created the allegedly misappropriated item with only ‘slight contribution from the plaintiff’s trade secret’”).

achieve the same result by performing substantially the same function in substantially the same way as does [the] plaintiff's."¹⁹⁶ Other courts seem to employ the "substantial similarity" analysis of copyright law.¹⁹⁷ Still other courts employ a more relaxed and vague standard of mere "similarity."¹⁹⁸

The ad-hoc nature of substantial derivation analysis means that the infringement net can be cast wide—encompassing a defendant's end product or process that is quite different from the original. It is sufficient that the defendant "has exploited the information in some way that either harms the owner or provides an advantage to the defendant"—for example, by using the trade secret information as a "starting point" to "assist or accelerate research."¹⁹⁹ And the "defendant cannot avoid liability by showing that it has created a modified or improved product or process, if there was any substantial derivation from the plaintiff's information."²⁰⁰

1. Reverse Engineering

Trade secrecy "defenses" (to the extent they can be labeled as such) tend to blur into an element of a trade secret claim.²⁰¹ One "defense" is prior publication of the secret. If, for example, the alleged trade secret was published in a patent or in a trade journal before the defendant got her hands on it, the information is not "secret" and thus falls outside the scope of protectable subject matter.²⁰² Other defenses focus on the defendant's method of acquisition—i.e., proper, as opposed to improper, ways of obtaining secret information. For example, similar to copyright, if the defendant independently discovered the secret, she is not liable. The most significant trade secret defense, however, is reverse engineering of a product to discover how it works.

Reverse engineering has long been a permissible way to obtain a trade secret, provided that the "acquisition . . . [is] by fair and honest means, such as purchase of the item on the open market."²⁰³ The Supreme Court in

196. POOLEY, *supra* note 4, § 6.03[4], at 6-33.

197. *Id.*

198. *Id.*; see also *Stomback v. New Line Cinema*, 384 F.3d 283, 305–06 (6th Cir. 2004); *Am. Can Co. v. Mansukhani*, 742 F.2d 314, 329 (7th Cir. 1984); *Motorola, Inc. v. Computer Displays Int'l, Inc.*, 739 F.2d 1149, 1157 (7th Cir. 1984).

199. POOLEY, *supra* note 4, § 6.03[4], at 6-33; see also *N. Petrochemical Co. v. Tomlinson*, 484 F.2d 1057, 1059 n.2. (7th Cir. 1973) ("[T]he evidence is clear that [the plaintiff's process] served as the cornerstone for any modified process which [defendant] intends to use.").

200. POOLEY, *supra* note 4, § 6.03[4], at 6-33; see also *Mangren Research & Dev. Co. v. Nat'l Chem. Co.*, 87 F.3d 937, 944 (7th Cir. 1996).

201. MERGES ET AL., *supra* note 17, at 76 (classifying "proper means" as "defenses" because "they do not directly deny the existence of a trade secret or the defendant's use of the secret").

202. Generally, publication (e.g., in an academic journal or in a patent) destroys the secret. Thus, an inventor must usually "elect" either patent or trade secret protection. See, e.g., *Rhone-Poulenc Agro v. DeKalb Genetics Corp.*, 272 F.3d 1335, 1359 (Fed. Cir. 2001).

203. UNIF. TRADE SECRETS ACT § 1 cmt. 2 (amended 1985), 14 U.L.A. 437, 438 (1990).

Bonito Boats, Inc. v. Thunder Craft Boats, Inc.,²⁰⁴ described reverse engineering as “an essential part of innovation” that “may lead to significant advances in the field.”²⁰⁵ And absent a reverse engineering exception, trade secret law could “undermine federal patent policy because it would ‘convert the . . . trade secret into a state-conferred monopoly akin to the absolute protection that a federal patent affords.’”²⁰⁶ The reverse engineering defense is an important limitation on the rights of trade secret owners—and one that is concerned with the cumulative nature of innovation. Despite scholarly suggestions that it plays a similar role to copyright fair use,²⁰⁷ however, the defense is not applicable in a number of cumulative innovation and First Amendment–related contexts (as illustrated in Part III).

2. Defenses Relevant to First Amendment/Public Interest Concerns

In the copyright context, fair use doctrine plays a pivotal role in reconciling copyright law with the First Amendment and addressing cumulative creation concerns. In trade secret law, reverse engineering speaks to the latter. But it is underinclusive—that is, the reverse engineering defense does not consider the social benefits of a defendant’s use or disclosure if the information was acquired in any way other than reverse engineering. Nor does the reverse engineering defense reconcile trade secret law with the First Amendment—for example, where unauthorized disclosures of protected information are made for the purpose of educating the public about health and safety concerns.

Trade secret law is not entirely silent on the issue of balancing rights of trade secret owners against the public’s interest in disclosure. For example, the Restatement (Third) of Unfair Competition notes: “[T]he disclosure of another’s trade secret for [a purpose] other than commercial exploitation may implicate the interest in freedom of expression or advance another significant public interest.”²⁰⁸ The Restatement further observes: “A privilege is likely to be recognized, for example, in connection with the disclosure of information that is relevant to public health or safety, or to the commission of a crime or tort, or to other matters of substantial public concern.”²⁰⁹ Despite this comment in the Restatement, however, courts

204. 489 U.S. 141 (1989).

205. *Id.* at 160 (noting that “the competitive reality of reverse engineering may act as a spur to the inventor” to develop ideas that are patentable); *see also* Samuelson & Scotchmer, *supra* note 11, at 1582–90 (describing justifications for the right to reverse engineer).

206. Samuelson & Scotchmer, *supra* note 11, at 1584 (quoting *Chi. Lock Co. v. Fanberg*, 676 F.2d 400, 405 (9th Cir. 1981)).

207. *See, e.g.*, Posner, *supra* note 61; Samuelson, *supra* note 118, at 788 (suggesting that trade secret defenses and the requirement of defendant misappropriation perform similar functions as limiting doctrines of copyright law, but noting that “[a]s trade secret rights in information get stronger, tensions between trade secret law and the First Amendment are likely to increase”).

208. RESTATEMENT (THIRD) OF UNFAIR COMPETITION § 40 cmt. c (1995).

209. *Id.* In relevant part, comment c notes:

The scope of liability at common law and under the Uniform Trade Secrets Act for disclosures that do not involve commercial exploitation of the secret information is

rarely invoke it to excuse unauthorized disclosures of trade secrets for public interest purposes.²¹⁰ Since most states have adopted the UTSA as statutory law, the Restatement has had little impact on the development of trade secret law and “is frequently disregarded.”²¹¹ The UTSA does not incorporate a First Amendment or public interest privilege.

On the rare occasions when First Amendment interests are explicitly considered by courts, it is usually in the context of preliminary injunction decisions as part of a prior restraint analysis.²¹² But even these prior restraint cases demonstrate confusion and inconsistency as to the level of “public concern” that must be implicated, the relevance of the discloser’s purpose, and whether the defendant must be an established news organization to trigger First Amendment scrutiny.²¹³ The general reluctance of courts to consider speech concerns in trade secret cases is perhaps attributable to a perception that trade secrets are property or “commercial” speech, and thus less relevant to First Amendment

unclear. . . . [T]he disclosure of another’s trade secret for purposes other than commercial exploitation may implicate the interest in freedom of expression or advance another significant public interest. A witness who is compelled by law to disclose another’s trade secret during the course of a judicial proceeding, for example, is not subject to liability. The existence of a privilege to disclose another’s trade secret depends upon the circumstances of the particular case, including the nature of the information, the purpose of the disclosure, and the means by which the actor acquired the information. A privilege is likely to be recognized, for example, in connection with the disclosure of information that is relevant to public health or safety, or to the commission of a crime or tort, or to other matters of substantial public concern.

Id. Some whistle-blowing statutes also excuse employee disclosures of trade secret-protected information in connection with exposing a violation of state or federal law. *See, e.g.*, 18 U.S.C. § 1514A (2012) (prohibiting employer retaliation against employees who provide information about fraud against shareholders by publicly traded companies); *see also* 5 U.S.C. § 2302(b)(8) (2012) (prohibiting employer retaliation against employees who disclose information “reasonably believe[d]” to be a violation of law or “a substantial and specific danger to public health or safety,” so long as “such disclosure is not specifically prohibited by law”; however, the latter condition is presumably violated when disclosure is prohibited by trade secret law).

210. A Westlaw search of federal and state cases invoking the “public interest” language of this Restatement comment resulted in a single case: *Merckle GmbH v. Johnson & Johnson*, 961 F. Supp. 721, 735 (D.N.J. 1997) (holding that a competitor’s alleged use of a drug manufacturer’s trade secrets for the purpose of litigating patent infringement claims against the manufacturer in Germany did not further a substantial public interest and was not privileged).

211. *See Seaman, supra* note 28, at 14.

212. Preliminary injunctions (not permanent injunctions) that restrain speech are generally deemed unconstitutional “prior restraints.” *See generally* Martin H. Redish, *The Proper Role of the Prior Restraint Doctrine in First Amendment Theory*, 70 VA. L. REV. 53 (1984). The concern underlying the prior restraint doctrine is that preliminary injunctions suppress lawful speech “before an adequate determination that it is unprotected by the First Amendment.” *Pittsburgh Press Co. v. Pittsburgh Comm’n on Human Relations*, 413 U.S. 376, 390 (1973). By contrast, permanent injunctions restraining speech are generally viewed as constitutional because they follow a court’s final determination that speech is unprotected.

213. *See, e.g.*, *CBS Inc. v. Davis*, 510 U.S. 1315, 1317 (1994); *DVD Copy Control Assoc. v. Bunner*, 75 P.3d 1, 15–17 (Cal. 2003); *see also infra* note 274 and accompanying text.

interests.²¹⁴ Or perhaps the lack of an explicit framework for analysis (akin to copyright's multifactor test) makes courts wary of excusing trade secret defendants from liability for First Amendment/public interest reasons, because there is no shared understanding of when such an exception should apply.

3. Remedial Flexibility in Trade Secret

Like patent and copyright, injunctive relief is the primary form of relief for trade secret misappropriation.²¹⁵ In addition to injunctive relief, trade secret remedies also include damages measured by either the plaintiff's loss or the defendant's profits attributable to the trade secret (or both).²¹⁶ In certain contexts, trade secret misappropriation is even subject to criminal sanction.²¹⁷

In civil trade secret cases, the factual issue most pertinent to the remedies decision is whether the secret information has been publicly disclosed. Where the defendant has already publicly disclosed the information "so that its value is destroyed," the plaintiff's remedy is for money damages.²¹⁸ But where the defendant seeks to keep using a trade secret that has not been publicly disclosed or where disclosure is threatened, injunctive relief is usually awarded as a matter of course.²¹⁹ Because trade secret disputes often arise between competitors, and neither wants to destroy the secret's

214. See *Cent. Hudson Gas & Elec. Corp. v. Pub. Serv. Comm'n of N.Y.*, 447 U.S. 557, 562–63 (1980) (explaining that commercial speech is entitled to less protection than other kinds of speech, such as political speech). Some scholars have argued that trade secrets are best characterized as "property" and, thus, should be immune from First Amendment scrutiny altogether. See, e.g., Beckerman-Rodau, *supra* note 99, at 5; Richard A. Epstein, *Privacy, Publication and the First Amendment: The Dangers of First Amendment Exceptionalism*, 52 STAN. L. REV. 1003, 1037 (2000).

215. See William Lynch Schaller, *Secrets of the Trade: Tactical and Legal Considerations from the Trade Secret Plaintiff's Perspective*, 29 REV. LITIG. 729, 807 (2010) (noting that "[i]njunctive relief is the normal and primary remedy granted in trade secret cases, for the obvious reason that a secret once lost is forever lost"); see also *FMC Corp. v. Taiwan Tainan Giant Indus. Co.*, 730 F.2d 61, 63 (2d Cir. 1984) (per curiam) (holding that loss of trade secret status cannot be remedied by money damages, as a secret once lost is "lost forever"). Unlike copyright, trade secret does not have compulsory licensing categories. See *supra* note 187 and accompanying text.

216. See Lemley, *supra* note 71, at 319.

217. In 1996, Congress passed the Economic Espionage Act (EEA), which for the first time imposed federal criminal penalties for intentional and knowing theft or unlawful disclosure of trade secrets. Pub. L. No. 104-294, 110 Stat. 3488 (codified as amended at 18 U.S.C. §§ 1831–1839 (2012)). The EEA criminalizes "two types of trade secret theft: (1) espionage on behalf of a foreign entity, and (2) theft of trade secrets for pecuniary gain." Seaman, *supra* note 28, at 17. However, the EEA "has not been widely used by federal prosecutors." *Id.* at 18.

218. POOLEY, *supra* note 4, § 7.01, at 7-2 to -3.

219. *Id.* § 7.02[2], at 7-7 (noting that injunctive relief is often the preferred remedy "[b]ecause exclusivity is the hallmark of value, and because damages are difficult to identify and measure"). Under the UTSA, a reasonable royalty is permitted instead of an injunction only in "exceptional circumstances." UNIF. TRADE SECRETS ACT § 2(b) (amended 1985), 14 U.L.A. 437, 449 (1990).

value by publishing it, injunctive relief is “the most sought after, and most important, remedy in trade secret misappropriation cases.”²²⁰

A trade secret injunction can sweep quite broadly. Depending on the circumstances, the injunction may curb not only the use of the secret by the defendant but also the manufacture of a product that encompasses the secret—where, for example, the acquired secrets may have become “inextricably connected” with the defendant’s process.²²¹ If the secret was used for producing component parts, the court might restrain the defendant from making the entire product or even similar products.²²²

As discussed in the previous sections, *eBay*’s impact on patent (and to a lesser extent, copyright) cases has been to make the remedies analysis more searching. Rather than presuming irreparable harm upon a showing of patent infringement, courts assess the potential value of the defendant’s unauthorized use relative to the harm caused to the plaintiff, as well as the public interest.²²³ The impact of *eBay* on trade secret cases is more dubious.²²⁴ This is particularly so given that trade secret cases are often litigated in state, rather than federal, courts.²²⁵

The Second Circuit’s approach, which applies increased scrutiny for injunctive relief in trade secret cases, seems unusual in this regard. In *Faiveley Transport Malmo AB v. Wabtec Corp.*,²²⁶ the plaintiff sought injunctive relief against the defendant for its use of “know-how” relating to subway train brakes.²²⁷ The Second Circuit explained that a presumption of irreparable harm was inappropriate in cases where the defendant is likely to use the trade secret for her own profit motives rather than disseminate it. In

220. David S. Levine, *The Impact of Trade Secrecy on Public Transparency*, in TRADE SECRECY, *supra* note 21, at 406, 439.

221. *See, e.g.*, *Gen. Electric Co. v. Sung*, 843 F. Supp. 776, 780 (D. Mass. 1994); *ILG Indus. Inc. v. Scott*, 273 N.E.2d 393, 396–97 (Ill. 1971).

222. POOLEY, *supra* note 4, § 7.02[2], at 7-30.

223. *See supra* Part II.A.3.

224. *See, e.g.*, *E.I. Dupont de Nemours & Co. v. Kolon Indus., Inc.*, 894 F. Supp. 2d 691, 706–07 (E.D. Va. 2012) (applying Virginia’s equity principles, which presume irreparable harm when the trade secret statute is violated, instead of the four-factor standard for injunctive relief announced in *eBay*); *see also Seaman*, *supra* note 28, at 60–61 (contrasting the relative difficulty of obtaining injunctive relief in the patent context against the trade secret context).

225. In federal cases, the law of the forum state applies with respect to substantive issues (e.g., definition of a trade secret misappropriation and damages), but as to procedural issues, including the standards for issuing injunctions, federal law applies. POOLEY, *supra* note 4, § 7.02[2], at 7-10 n.22 (citing *Ferrero v. Associated Materials Inc.*, 923 F.2d 1441, 1448 (11th Cir. 1991)). *But see E.I. Dupont de Nemours & Co.*, 894 F. Supp. 2d at 707 (choosing to apply Virginia’s standard for issuing injunctions).

226. 559 F.3d 110 (2d Cir. 2009).

227. *See id.* at 114. These subway train brakes are known as “Brake Friction Cylinder Tread Break Units” (BFC TBU)—known to the rest of us as “that loud squeaking, sparking braking system that so reliably stops the New York City Transit subway system.” *Id.* at 113. The plaintiff Faiveley sued the defendant, who following the termination of a licensing agreement to use the technology, began to develop its own line of BFC TBU. *Id.* at 114. Faiveley sought preliminary injunctive relief to prevent the defendant “from manufacturing or marketing BFC TBU or disclosing to third parties any trade secrets associated with BFC TBU,” which the district court granted. *Id.* at 115.

such cases, the “misappropriator will often have the same incentive as the originator to maintain the confidentiality of the secret in order to profit from the proprietary knowledge,” and thus, monetary damages are adequate to make the plaintiff whole.²²⁸

III. ACCOUNTING FOR THE DIFFERENCES: ARE EXISTING TRADE SECRET LIMITS SUFFICIENT TO ADDRESS CUMULATIVE INNOVATION AND SPEECH CONCERNS?

This part highlights a number of real world examples where trade secret law’s existing limits may prove insufficient to reconcile cumulative innovation and speech concerns. Such examples include situations where (1) information claimed as trade secrets has been used for purposes of significant technological “improvement” (e.g., making a product or process more efficient, expanding interoperability, or revealing glitches or security flaws in a product), and (2) information claimed as trade secrets potentially affects public health, safety, or welfare.

A. “Improvement” Cases

One subset of problematic trade secret cases involves significant “improvers” of protected information. The trade secret improvement context presents challenges to efficient licensing and risks of market failure not unlike its patent and copyright counterparts.²²⁹ In fact, the secrecy aspect of the information may create particular impediments to efficient licensing—for example, greater uncertainty as to the information’s value and scope.²³⁰

To be sure, defining and gauging “improvement” in the intellectual property context is a difficult endeavor.²³¹ The breadth of trade secret subject matter renders unlikely any single definition of improvement or an exhaustive list of improvement scenarios. But insofar as the subject matter at issue is of a technical nature, one can look to patent law’s conception of

228. *Id.* at 119. The court noted: “A rebuttable presumption of irreparable harm might be warranted in cases where there is a danger that . . . [the defendant] will disseminate those secrets to wider audience or otherwise irreparably impair the value of those secrets.” *Id.* at 118. In *Faiveley*, such a presumption—and consequently, injunctive relief—was unwarranted because the defendant was likely to treat the trade secret-protected information “with the same confidentiality that they give to their own proprietary information.” *Id.* at 119.

229. See *supra* notes 130, 176 and accompanying text.

230. Pooley, for example, observes the reluctance of trade secret owners to reveal information in licensing negotiation. And because the prospective licensee is often “considering developing its own technology in house,” the licensee is reluctant to expose employees who are best equipped to assess the licensor’s technology to it for fear that “exposing them to the secrets of the prospective licensor might taint them and engender subsequent litigation if the technology ultimately is developed in house.” POOLEY, *supra* note 4, § 6.05, at 6-44.

231. See Varadarajan, *supra* note 10, at 684 (observing that fuzziness of intellectual property boundaries and the array of protectable subject matter makes consideration of “improvement” in intellectual property less straightforward than the tangible property law context).

cumulative improvement for guidance.²³² Specifically, the improvement scenarios presented below involve the use of trade secret-protected information to make a product or process more efficient, to expand interoperability, or to reveal flaws in a product or process.²³³

For the purpose of illustrating the first of these scenarios, consider the train brake example posed at the outset of this Article. Suppose Allen, an employee of Company A, works on developing an improved subway train brake. In the course of his employment, he learns of negative know-how relevant to the project. Company A decides to shelve the project, focusing on more profitable avenues of research and development. Allen leaves to work for Company B, heading a team that is tasked with developing an improved subway train brake. Relying on the negative know-how he obtained from his previous employment, Allen guides his new team away from research avenues that proved unsuccessful at Company A and develops a more efficient, better-operating train brake that proves a market success. If Company A sues Allen and/or Company B for trade secret misappropriation, Company A would have a successful claim in many jurisdictions. As for the remedy, Company A would likely be able to secure an injunction for a limited period of time (a “head start” injunction), which would prevent Company B from selling their product for a period of time sufficient to compensate for the misappropriation.²³⁴ And, as discussed in Part II, no clear limiting doctrines in trade secret law require courts to ask whether Company B’s substantial improvement of the trade secret merits either excuse from liability or, alternatively, departure from a property rule in favor of a liability rule (e.g., a reasonable royalty remedy).²³⁵

Analogizing this scenario to the patent context, negative know-how would not be protectable in the first instance under patent law.²³⁶ But suppose it was; or suppose in this hypothetical, it was knowledge of a successful manufacturing process that Allen had taken with him. Such a manufacturing process could form the subject of a patent. If Company B’s improved version of the train brake employed a mechanical process that infringed Company A’s patented process, then patent limiting doctrines, like the RDOE or (more likely) the remedies analysis post-*eBay*, would provide a vehicle for examining the nature and significance of the

232. In patent law, when courts and commentators refer to improvement or cumulative innovation, they usually mean one of the following: (1) using the patented component as an input into producing another invention; (2) finding a new use for a patented invention; or (3) coming up with a more efficient or better functioning version of an existing invention. See *supra* note 123.

233. These examples are meant to be illustrative rather than exhaustive. Nor should all improvements falling within these parameters trigger exceptional treatment under trade secret law. Indeed, the significance of the defendant’s improvement is an important consideration under the proposed trade secret fair use analysis described in Part IV.

234. See, e.g., *Winston Research Corp. v. Minn. Mining & Mfg. Co.*, 350 F.2d 134, 142 (9th Cir. 1965) (upholding district court’s “head start” injunction); see also *MERGES ET AL.*, *supra* note 17, at 116.

235. See *supra* Part II.C.

236. See *supra* note 42 and accompanying text.

improvement.²³⁷ But if Company A chose to protect the information under trade secret law, such improvement-oriented limiting doctrines would not apply.

Moving from mechanical inventions to the computer software context, suppose the trade secret defendant uses protected information (not obtained through reverse engineering) to enhance interoperability of new products with existing platforms. In some cases, technology providers use intellectual property (and contract) law to restrict others from learning the interfaces and protocols required for interoperability.²³⁸ Daniel Laster has observed, for example, that Apple uses various methods to prevent others from accessing the requisite information to develop products that can interoperate with its iTunes platform.²³⁹ This limits consumers' choice of products that can work on preexisting platforms.²⁴⁰

Or consider the former employee who uses knowledge of trade secrets to conduct testing of a product in order to identify glitches or security problems that need correcting for consumers' benefit. This scenario is, once again, particularly relevant to the software context. As Derek E. Bambauer and Oliver Day have observed: "[S]ome researchers may switch sides, working first as an employee or consultant, and then moving to perform independent testing."²⁴¹ In such cases, "the software company may have a plausible claim that the researcher's work is influenced by her knowledge of the firm's trade secrets."²⁴² Even nonemployee users may be similarly restricted from testing software if they are subject to end-user

237. See *supra* Part II.A.

238. See, e.g., Daniel Laster, *The Secret Is Out: Patent Law Preempts Mass Market License Terms Barring Reverse Engineering for Interoperability Purposes*, 58 BAYLOR L. REV. 621, 642 (2006) (arguing the use of contract law to enforce mass market licenses barring reverse engineering for interoperability purposes "subverts the fundamental principle of trade secret law that a competitor is free to [reverse engineer] a product which is publicly available in the marketplace"; the use of contract law to expand trade secret protections in this way has turned it into a "nation-wide property right without any of the limitations built into other IP regimes").

239. *Id.* at 622. "Apple has elected to keep the iTunes platform closed . . . and does not publish the interface specifications needed for a competitor to develop a product to interoperate with iTunes. It is for this reason that a consumer who wishes to use iTunes must acquire an iPod, rather than some device of a third party." *Id.* at 635.

240. This issue has been further complicated by the enactment of the Digital Millennium Copyright Act of 1988 (DMCA). Pub. L. No. 105-304, 112 Stat. 2860 (codified as amended at 17 U.S.C. §§ 1201-1202 (2012)). The DMCA's anticircumvention provisions "create[] an extremely strong form of trade-secret-like protection for technical protection measures, far beyond that provided by any other law." Samuelson & Scotchmer, *supra* note 11, at 1646. Ordinarily, an unpatented technical measure would be subject to reverse engineering, but the DMCA provisions "effectively insulate makers of technical protection measures from competitive reverse analysis." *Id.* Certain exceptions to the DMCA's anticircumventions rule do permit reverse engineering to achieve interoperability among programs, but they have been interpreted quite narrowly. *Id.*

241. Derek E. Bambauer & Oliver Day, *The Hacker's Aegis*, 60 EMORY L.J. 1051, 1077 (2011).

242. *Id.*; see also *id.* at 1053, 1077 (describing one notorious example where a former Cisco employee discovered flaws in Cisco's internet routers, which endangered "a wide swath of internet infrastructure"; Cisco argued, plausibly, "that his work was influenced by exposure to Cisco's proprietary information").

license agreements that forbid reverse engineering.²⁴³ These parties use trade secrets to test software and find security flaws; thus, their goal is not to develop competitive products but rather “to improve [the software’s] resilience and robustness.”²⁴⁴

B. First Amendment Interests: Promoting Disclosure of Information Related to Public Health, Safety, and Welfare Concerns

In addition to cumulative innovation concerns, another set of problematic cases concerns trade secret law’s role in preventing public access to confidential information that implicates public health, safety, and welfare. In various contexts, federal and state governments can require companies to disclose proprietary information for regulatory purposes—for example, requiring drug companies to disclose information to the FDA for drug approval.²⁴⁵ But many of the controversies described below involve trade secret law’s prohibitive effect on the *public’s* ability to access information relevant to health, safety, and welfare. The absence of robust limiting doctrines in trade secret law affects the public’s ability to access such information, through Freedom of Information Act (FOIA) requests as well as employee and third-party disclosures.

1. Scholarly Work Demonstrating Trade Secret Law’s Prohibitive Effect on Public Access to Relevant Information

Trade secret law is a relatively undertheorized area—especially when compared to patent or copyright. In recent years, however, a growing number of scholars have highlighted the increasing tension between trade secret law and the public’s interest in accessing information pertinent to health, safety, and welfare—for example, information concerning health care, the environment, voting machines, and search engine algorithms.²⁴⁶ These examples highlight the extent to which industries depend on “trade secrecy as a cornerstone of [their] intellectual property scheme[s],”²⁴⁷ sometimes with the goal of consumer and regulatory obfuscation, rather than protection from competitors. Together, these industry-specific studies paint a picture of trade secret law that has grown in breadth and influence, without a concomitant adjustment of doctrinal limits.

In the health care context, for example, Annemarie Bridy has criticized efforts by medical device manufacturers to guard information regarding prices paid by hospitals. In criticizing the Guidant Corporation’s use of

243. *Id.* at 1078. Here, too, as in the interoperability context, the interplay of trade secret and contract law can be particularly problematic. Software vendors often include language in end-user license agreements forbidding reverse engineering. Such a contractual obligation “might be sufficient to make a software user responsible for maintaining the trade secret.” *Id.* at 1076.

244. *Id.* at 1078.

245. See, e.g., Rebecca S. Eisenberg, *Data Secrecy in the Age of Regulatory Exclusivity*, in *TRADE SECRECY*, *supra* note 21, at 467.

246. See *supra* note 21 and accompanying text.

247. Levine, *supra* note 21, at 641.

trade secret law to prevent disclosure of certain medical device pricing, Bridy observes:

The aim of Guidant's legal efforts has been to prevent device buyers—usually group purchasing organizations, health systems, or individual hospitals—from shopping device prices, which they have routinely done by sharing price-paid information among themselves, hired health care consultants, and subscription-based benchmarking services . . . which exist to help hospitals hold down their supply costs. . . . Guidant's desire to conceal the prices hospitals pay is thus motivated not by the concern that competitors will acquire and use the information to their economic advantage, which is the traditional concern in trade secrets cases, but by the concern that customers will.²⁴⁸

Bridy argues that such efforts, “if . . . ultimately accepted by courts, could have profound implications . . . for the health care market, including the market for pharmaceuticals.”²⁴⁹

Other commentators have described the role of trade secret law in impeding public efforts to access information regarding harmful effects of breast implant devices²⁵⁰ or the disclosure of raw data that is submitted to the FDA by pharmaceutical companies.²⁵¹ As Rebecca Eisenberg observes: “Disclosure of data from clinical trials would permit more users to learn more from it, allowing them to make better informed choices about current treatments and future research, as well as permitting better public oversight over regulatory decision-making.”²⁵²

In the environmental context, Mary Lyndon has described trade secret law's role in restricting public access to the composition and health effects of discharged chemicals. Various industries, from cosmetics to pesticides to hydraulic “fracking,” utilize processes that introduce chemicals into the environment.²⁵³ A particularly stark example occurred earlier this year, when Freedom Industries, a supplier of coal processing compounds, caused a chemical leak in West Virginia's Elk River. The leak contaminated Charleston's water supply, leaving 300,000 residents without usable water

248. Bridy, *supra* note 5, at 191.

249. *Id.* at 192.

250. See Margaret Witherup Tindall, *Breast Implant Information As Trade Secrets: Another Look at FOIA's Fourth Exemption*, 7 ADMIN. L.J. AM. U. 213, 224 (1993); see also *Anderson v. Dep't of Health and Human Servs.*, 907 F.2d 936, 939–40 (10th Cir. 1990) (discussing FOIA request for documents submitted to the FDA by a manufacturer of silicone breast implants).

251. Eisenberg, *supra* note 245, at 471. Congress has thus far “stopped short of calling for disclosure of raw data that are submitted to the FDA.” *Id.* Eisenberg argues: “[I]t is difficult to justify the continuing treatment of data submitted in pursuit of regulatory approval as trade secret or confidential information belonging to the submitter.” *Id.* at 469. Recently, Johnson & Johnson announced that it would voluntarily “mak[e] all of its clinical trial data available to scientists around the world.” See Harlan M. Krumholz, *Give the Data to the People*, N.Y. TIMES, Feb. 3, 2014, at A23.

252. Eisenberg, *supra* note 245, at 470–71.

253. See Mary L. Lyndon, *Trade Secrets and Information Access in Environmental Law*, in TRADE SECRECY, *supra* note 21, at 442.

and many seeking medical attention.²⁵⁴ Despite these health effects, Freedom insisted that the specific make-up of its coal-processing compounds were protected trade secrets and successfully delayed disclosing them to the public.²⁵⁵

David Levine has described similar conflicts between trade secret law and access in the context of voting machines and breathalyzer devices. He warns that “public access to the internal workings of [voting] machines,” like those produced by Diebold Election Systems is difficult, “or in some cases impossible, to obtain.”²⁵⁶ Similarly, in a number of states, criminal defendants have challenged the validity of breathalyzer tests used to prosecute them, seeking the machines’ source code to determine their accuracy.²⁵⁷ Levine warns that in both contexts, “the public’s interest in transparency is marred by trade secrecy doctrine, providing a very powerful tool to prevent wide dissemination of basic information about governmental operations.”²⁵⁸

And in the internet search engine context, Frank Pasquale has described the role of trade secrets “as undisclosed ‘rules of the game’ in competitions for prominence in search engine results.”²⁵⁹ Entities such as Google, Amazon, and eBay provide consumers with valuable filtering services.²⁶⁰ However, these search engines often keep their sorting algorithms confidential, using trade secret law as the mechanism to do so.²⁶¹ While search engines may have valid reasons for keeping their algorithms secret

254. See Paul M. Barrett, *A Second Chemical Spilled in West Virginia, and the Company Said Nothing Until Now*, BLOOMBERG BUSINESSWEEK (Jan. 23, 2014), <http://www.businessweek.com/articles/2014-01-23/a-second-toxic-chemical-spilled-in-west-virginia-and-freedom-industries-said-nothing-until-now>.

255. See Ken Ward Jr., *Second Chemical Information “Very Limited,”* CHARLESTON GAZETTE, Jan. 22, 2014, at A1 (noting that Freedom delayed disclosing information for almost two weeks after the spill occurred, when West Virginia’s Department of Environmental Protection finally issued an order “demanding that Freedom Industries disclose . . . any and all information fully describing the composition of the materials spilled into the Elk River”).

256. Levine, *supra* note 220, at 419. In November 2005, for example, Diebold refused to comply with a North Carolina law requiring electronic voting machine vendors “to place, among other items, their software and source code in escrow ‘with an independent escrow agent approved by the State Board of Elections,’” so the state could test voting systems. *Id.* at 419–20 (quoting N.C. GEN. STAT. §§ 163–165.9A(a) (2005)). Citing trade secret law, Diebold sued the North Carolina Board of Elections, seeking a preliminary injunction against enforcement of the statute. *Id.* at 420. Ultimately, “Diebold chose to withdraw from competition for business within the state” and “chose to focus on states where trade secrecy law is completely impermeable to public law overrides.” *Id.* at 420–21.

257. *Id.* at 423–25.

258. *Id.* at 425.

259. Pasquale, *supra* note 21, at 403.

260. *Id.*

261. *Id.* at 395. As Pasquale observes:

[T]he core of Google’s business model is its search engine, and no one outside the company truly understands how that works. The company prides itself on keeping its algorithms confidential, and trade secrecy law has helped it defeat or limit even governmental requests for more data on how it operates.

Id. at 394–95. See generally James Grimmelmann, *The Structure of Search Engine Law*, 93 IOWA L. REV. 1 (2007).

(e.g., to prevent tampering with results), many people are affected by their place in the “pecking order that search engines create.”²⁶² And problematically, they have no ability to understand or contest search engine results because the algorithms are protected trade secrets.²⁶³

2. Means of Accessing Information: FOIA Requests and Unauthorized Disclosures by Employees and Third Parties

The expansive definitional breadth of trade secrets, coupled with the lack of meaningful ex post limits, affects both the public’s ability to access information that companies have disclosed to the government through FOIA requests, as well as the likelihood that information will be made public by employees and third parties.

Government agencies, in keeping with their regulatory function, receive a great deal of information from businesses, some of which businesses consider to be trade secrets. Under FOIA, anyone can request copies of documents from executive branch agencies.²⁶⁴ While FOIA applies only to the federal government, each state has a similar statute.²⁶⁵ Obviously, business competitors have an interest in obtaining valuable trade secrets, and FOIA provides a vehicle to do this. Thus, FOIA contains certain exemptions against the disclosure of trade secrets.²⁶⁶ Agencies wield considerable discretion in deciding whether to disclose information requested under FOIA that the submitter claims is a trade secret.²⁶⁷

A comprehensive analysis of the “intricate patchwork of agency rules and regulations that govern the treatment of trade-secret information”²⁶⁸ under FOIA is beyond the scope of this Article. But insofar as agencies (and reviewing courts) rely on the UTSA and common law in making these

262. Pasquale, *supra* note 21, at 403.

263. *Id.* at 403–04; see also Oren Bracha & Frank Pasquale, *Federal Search Commission? Access, Fairness, and Accountability in the Law of Search*, 93 CORNELL L. REV. 1149, 1151 (2008).

264. 5 U.S.C. § 552 (2006), amended by OPEN Government Act of 2007, Pub. L. No. 110-175, 121 Stat. 2524; see also Elizabeth A. Rowe, *Striking a Balance: When Should Trade-Secret Law Shield Disclosures to the Government?*, 96 IOWA L. REV. 791, 804–08 (2011) (noting that the requester need not show “standing, legitimate interest, or any other threshold requirement to be entitled to the information”).

265. See generally Burt A. Braverman & Wesley R. Heppler, *A Practical Review of State Open Records Laws*, 49 GEO. WASH. L. REV. 720 (1981); Andrea G. Nadel, Annotation, *What Constitutes “Trade Secrets” Exempt from Disclosure Under State-Freedom of Information Act*, 27 A.L.R. 4th 773 (1984).

266. 5 U.S.C. § 552(b)(3)–(4). Subsection 3 exempts from disclosure information that is “specifically exempted from disclosure by statute.” *Id.* § 552(b)(3). Subsection 4 exempts from disclosure “trade secrets and commercial or financial information obtained from a person and privileged or confidential.” *Id.* § 552(b)(4). Thus, subsection 4 is the more expansive of the two, encompassing not only trade secrets but also “commercial or financial information” that are “privileged or confidential.” See Rowe, *supra* note 264, at 805 (noting that these exemptions are “permissive, not mandatory”).

267. See 5 U.S.C. § 552(b)(4). Courts review agency determinations under the deferential “arbitrary and capricious” standard. *Id.* § 706(2)(A); see, e.g., *Chrysler Corp. v. Brown*, 441 U.S. 281, 318 (1979); *Reliance Electric Co. v. Consumer Prod. Safety Comm’n*, 924 F.2d 274, 277 (D.C. Cir. 1991).

268. Rowe, *supra* note 264, at 798.

disclosure determinations, the absence of meaningful ex post limits in trade secret law adversely affects requesters' ability to access information relevant to public health, safety, and welfare.²⁶⁹ And as commentators have observed, agencies are too deferential to a submitter's own characterization of the information as a trade secret.²⁷⁰ For example, "if the FDA is uncertain about whether the material is in fact protected, the FDA will consult with the trade-secret owner to determine if the material should be disclosed."²⁷¹

In addition, employees or third-party receivers seeking to disclose information relevant to public health, safety, and welfare may find themselves at odds with trade secret law. For example, suppose a former tobacco industry executive who has signed a confidentiality agreement with his previous employer "reveal[s] in an Internet blog information about trade secret-protected studies conducted by his prior firm that showed harmful health impacts of smoking."²⁷² While some state and federal "whistleblower" statutes have been enacted to privilege certain employee disclosures that would otherwise be considered trade secret violations, they are limited in application.²⁷³ And in general, courts have been more hospitable to disclosures by third-party receivers of trade secrets, particularly established news organizations, than to disclosures by employees.²⁷⁴

IV. TOWARD A DOCTRINE OF TRADE SECRET FAIR USE

Limiting doctrines play an integral role in intellectual property law. While trade secret law increasingly bears the moniker of intellectual property, it lacks sufficient limits to address cumulative innovation and First Amendment concerns. As the previous sections illustrate, trade secret law's relative indifference to the social benefits of unauthorized use stands in contrast to copyright and, to a lesser extent, patent law.

269. The Department of Justice provides a FOIA guide to help determine when information is a trade secret. *United States Department of Justice Guide to the Freedom of Information Act*, U.S. DEP'T OF JUSTICE, available at <http://www.justice.gov/oip/doj-guide-freedom-information-act-0>.

270. See, e.g., Lyndon, *supra* note 21, at 503–04; Thomas O. McGarity & Sidney A. Shapiro, *The Trade Secret Status of Health and Safety Testing Information: Reforming Agency Disclosure Policies*, 93 HARV. L. REV. 837, 838 (1980).

271. Rowe, *supra* note 264, at 808 (citing 21 C.F.R. § 20.20 (2010)).

272. Samuelson, *supra* note 118, at 819.

273. See *supra* note 209 and accompanying text.

274. Samuelson, *supra* note 118 at 820; see, e.g., *CBS Inc. v. Davis*, 510 U.S. 1315, 1318 (1994) (denying injunction to meatpacking company that sued to prevent CBS's telecast of videotape footage taken at the company's factory that exposed unsanitary practices); *Ford Motor Co. v. Lane*, 67 F. Supp. 2d 745, 753 (E.D. Mich. 1999) (denying Ford's motion for preliminary injunction against internet blogger's disclosure of trade secret-protected information related to Ford's strategies for fuel economy and vehicle emissions); see also UNIF. TRADE SECRETS ACT § 1(2)(ii)(B) (amended 1985), 14 U.L.A. 438 (1990) (imposing liability on two kinds of defendants: direct misappropriators of secret information—e.g., employees and those who use improper means to obtain information—and third party receivers of such information who knew or should have known the information was wrongfully obtained—e.g., knowing or negligent receivers of trade secrets).

This part considers reforms to trade secret law that would strengthen and clarify consideration of a defendant's unauthorized but socially beneficial use of another's trade secret. The creation of statutory safe harbors or categorical exemptions from trade secret subject matter may carry certain benefits in terms of predictability and consistency. But such reforms require legislative action in the face of industry lobbying efforts, and a piecemeal approach to the problem risks under-inclusion and incoherence. Instead, I argue that trade secret law needs a more comprehensive and standardized doctrine of fair use. This part sketches the contours of such a doctrine, which will provide courts with defined factors to weigh, in order to better balance exclusive rights and public welfare. This part also addresses potential objections to this approach.

A. Enacting Statutory Safe Harbors

One possible reform is for federal or state legislatures to enact clearly defined, nonexclusive fair use "safe harbors" for trade secret law. Uses that fall within these categories would be considered per se fair use, rendering users free from liability. A few scholars seem to support such specific carve-outs. For example, Annemarie Bridy has argued that trade secret protection for medical device pricing data should be precluded.²⁷⁵ Similarly, David Levine has suggested that trade secret protection should not be available for "private entities engaged in activities such as providing voting or breathalyzer machines to the government."²⁷⁶

The benefits of such an approach compared to a flexible fair use doctrine are greater certainty and predictability of application. To be sure, one of the key criticisms of copyright fair use doctrine is courts' inconsistent and unpredictable application of the doctrine.²⁷⁷ But statutory fair use harbors come with their own set of practical concerns. For example, they require legislative enactment. And any legislative action at the state or federal level restricting owners' rights or reducing the breadth of trade secret subject matter seems unlikely, given that industry lobbying has resulted in a one-way ratcheting up of intellectual property owners' rights to exclude.²⁷⁸ By contrast, a multifactor test need not be enacted by legislatures in the first instance. Notably, copyright fair use arose from the common law over a century before codification.²⁷⁹

275. Bridy, *supra* note 5, at 189.

276. Levine, *supra* note 220, at 435.

277. See, e.g., Parchomovsky & Goldman, *supra* note 165.

278. See *supra* notes 68–70 and accompanying text. In fact, Congress is currently considering legislation to federalize trade secrecy, which would likely have the effect of strengthening the rights of trade secret owners. These proposals include the Promoting American Trade Secrets Act of 2012, S. 3389, 112th Cong. (2012), and the Defend Trade Secrets Act of 2014, S. 2667, 113th Cong. (2014). For a discussion of these proposals and their potential enhancement of trade secret owners' rights (like broadening the scope of trade secret misappropriation to cover extraterritorial conduct), see Seaman, *supra* note 28, at 25–31, 59–63.

279. The judiciary introduced copyright's fair use doctrine over 150 years before it was codified by the legislature in the Copyright Act. O'Rourke, *supra* note 16, at 1210 (observing that "[h]istorically, courts in intellectual property cases have adjusted the law to

Another drawback of a piecemeal safe harbor approach is a lack of coherence—a criticism that has also been levied against statutory safe harbors in copyright law.²⁸⁰ Finally, statutory safe harbors risk under-inclusiveness, because certain beneficial uses cannot be foreseen. The flexibility of a multifactor fair use analysis can accommodate unanticipated but beneficial uses across a broad range of industries.²⁸¹ On balance, a trade secret fair use defense seems preferable—though supplementation by specifically targeted fair use safe harbors (e.g., medical devices pricing data) might also make sense, provided there is legislative will to do so.

B. Trade Secret Fair Use

As demonstrated in Parts II and III, trade secret law lacks a coherent framework for dealing with cases of substantial improvement or disclosure cases that trigger First Amendment interests. In the sections that follow, I map out the contours of trade secret fair use.

While this proposed trade secret fair use analysis resembles copyright fair use in certain respects, it diverges to address certain differences in trade secret subject matter—e.g., technical inventions comprise a larger part of trade secret subject matter. Significantly, a doctrine of trade secret fair use should (more clearly than its copyright counterpart) bifurcate the questions of whether infringement liability should be excused and whether compensation is required. In this respect, the suggested trade secret fair use inquiry borrows from the insights of patent remedies analysis post-*eBay*, as well as from the insights of scholars advocating a fair use-type defense in the patent context.²⁸²

In practical terms, courts should rely on defined factors to guide a trade secret fair use analysis. Relevant factors include: (1) the purpose and character of the use (e.g., whether such use is of a commercial nature or is for nonprofit educational purposes); (2) the nature of the trade secret information (e.g., whether it is of a technical nature, like a manufacturing process, or a business nature, like pricing data); (3) the substantiality of the trade secret information used relative to the plaintiff's end product/process and the defendant's end product/process (e.g., the extent to which the defendant has "improved" upon the trade secret information); and (4) the effect of the use on the owner's incentives and likelihood of market harm. The analysis under individual factors may overlap to a certain degree. And, as in copyright, this list need not be exhaustive and no one factor need be

address changing conditions"); see also Lydia Pallas Loren, *Redefining the Market Failure Approach to Fair Use in an Era of Copyright Permission Systems*, 5 J. INTEL. PROP. L. 1, 13–22 (1997).

280. See, e.g., Fagundes, *supra* note 70, at 1835 (noting the "disconnected, granular exemptions scattered" throughout the Copyright Act).

281. For example, when copyright fair use was codified in 1976, the legislature likely did not foresee certain beneficial uses—e.g., use of copyrighted images in searchable digital databases, like Google Books. See *supra* note 181 and accompanying text.

282. See *supra* note 147 and accompanying text.

determinative. Moreover, because trade secret fair use is an equitable and affirmative defense, the infringer bears the burden of proof.

If the court decides that the infringement is fair under these factors, the next question is whether the infringer should compensate the trade secret owner. As a general matter, if a defendant's use is deemed a substantial improvement and thus fair under the factors above, the defendant should be required to compensate the trade secret owner through a reasonable royalty. On the other hand, if the defendant's disclosure of a secret is for educational purposes related to public health, safety, or welfare, then this is likely to result in a royalty-free outcome—i.e., analogous to copyright's "all-or-nothing" fair use.

I address each of these factors in greater depth below, though a comprehensive discussion of each factor is not possible in a single article. Rather, the goal of the sections that follow is to set forth, in broad brush strokes, the guiding principles of a trade secret fair use analysis.

1. Purpose of the Infringing Use

Pursuant to this factor, courts would assess the purpose of the infringing use, including whether it is commercial or noncommercial. Similar to copyright law, a noncommercial use would weigh in favor of fair use. For example, under this factor, courts would look more favorably upon a defendant who discloses information for nonprofit, educational purposes (e.g., to educate the public about the hazards of a chemical composition) than a market competitor using the information to create a similar end product.²⁸³ A commercial use is more likely than a noncommercial use to depress the originator's incentives without a concomitant increase in social welfare. While commercial uses are less likely to be fair use than noncommercial ones, the fact that a use is commercial should not automatically lead to a rejection of fair use.

2. The Nature of the Trade Secret Information

From the perspective of promoting incentives to create, businesses have adequate incentives to create certain kinds of information, like customer lists and pricing data. Trade secret law plays less of a role in incentivizing the creation of this kind of "business" information than it does "technical" information, like manufacturing processes and chemical formulas.²⁸⁴ Also, the latter hew more closely to the historical origins of trade secret law. Early trade secret cases largely involved secret manufacturing processes, and attempts to expand protection to business information like customer lists were viewed with skepticism.²⁸⁵

283. This factor echoes a suggestion of the Restatement (Third) of Unfair Competition with respect to unauthorized disclosures of trade secrets. See *supra* note 209 and accompanying text.

284. See *supra* note 103 and accompanying text.

285. See Bridy, *supra* note 5, at 194–97 (noting that "in some of the early cases involving customer lists, claims of trade secret protection for information not readily classifiable as a

Interestingly, courts already make this distinction in the context of discovery disputes during patent litigation for claims involving trade secrets—i.e., affording greater protection to proprietary technical information than to ordinary business information.²⁸⁶ Thus, in assessing factor two, courts should look at whether the protected information is of a technical nature (e.g., patentable process or chemical formula) or if it is of a business nature (e.g., pricing data)—the latter weighing in favor of a finding of fair use.

Similarly, the copyright fair use inquiry recognizes that some types of protected works are closer to the core of what copyright law is meant to protect. That is, creative works, like a novel or a musical composition, are viewed as more deserving of protection than fact-based works, like a history textbook or almanac.²⁸⁷

3. The Substantiality of the Trade Secret Information Used Relative to the Plaintiff's End Product/Process and the Defendant's End Product/Process

Under this factor, courts should primarily assess the extent to which the defendant has improved upon the trade secret. Substantial improvement of trade secret information will weigh in favor of fair use. The explicit consideration of improvement attempts to adjust the exclusion right in a way that encourages substantial follow-on improvements.

As previously discussed, both the definition and calculation of improvement present unique challenges in the trade secret context.²⁸⁸ But where, for example, the defendant claims that protected information was used to create a more efficient or better functioning version of the original technology, courts can assess the substantiality of the improvement by considering evidence of its commercial success and measurable impact on an industry, if such evidence is available.²⁸⁹ Similarly, the defendant's use of trade secret information as an intermediate step in producing a different

method, formula or process and not the product of any 'special ingenuity' were regarded with skepticism by courts, which sought to distinguish trade secrets from ordinary, albeit private, business information"); *see also, e.g.*, *Progress Laundry Co. v. Hamilton*, 270 S.W. 834, 836–37 (Ky. App. 1925); *In re Bolster*, 110 P. 547, 548 (Wash. 1919) ("The term 'trade secret' as it is usually understood means a secret formula or process, not patented, known only to certain individuals who use it in compounding or manufacturing some article of trade having a commercial value. It is rarely, if ever, used to denote the mere privacy with which an ordinary commercial business is carried on.").

286. *See, e.g.*, *Tailored Lighting, Inc. v. Osram Sylvania Prods., Inc.*, 236 F.R.D. 146, 148 (W.D.N.Y. 2006); *Uniroyal Chem. Co. v. Syngenta Crop Prot.*, 224 F.R.D. 53, 57 (D. Conn. 2004); *Safe Flight Instrument Corp. v. Sundstand Data Control, Inc.*, 682 F. Supp. 20, 22 (D. Del. 1988).

287. *See, e.g.*, *Campbell v. Acuff-Rose Music, Inc.*, 510 U.S. 569, 586 (1994); *Feist Publ'ns v. Rural Tel. Serv. Co.*, 499 U.S. 340, 364 (1991).

288. *See supra* notes 231–32 and accompanying text.

289. *Cf. Varadarajan, supra* note 10, at 709–10 (suggesting that similar facts should guide remedies determinations in the patent context). In patent law, the commercial success of an invention is also viewed as a "secondary consideration" that influences the "nonobviousness" inquiry. *See, e.g., Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966).

end product than the plaintiff's end product is more suggestive of improvement. Moreover, a plaintiff's non-use of the protected information (which the UTSA problematically permits),²⁹⁰ compared to the defendant's productive use of the information is also more suggestive of improvement.

Requiring improvement to be of a "substantial" or "significant" degree is an important limitation to address concerns of opportunism by competitors. Under this framework, a trade secret defendant cannot escape liability by making marginal or minor improvements. Moreover, given the difficulty of identifying and valuing improvement in the intellectual property context, a significance requirement can help manage courts' definitional anxiety in labeling a second-comer's unauthorized use an improvement that merits departure from the traditional trade secret analysis.²⁹¹ In close cases, or where the value of the defendant's contribution is ambiguous, this factor will favor the trade secret owner and a finding of fair use is unlikely.

4. Effect of the Use on Owner's Incentives/Likelihood of Market Harm

Pursuant to this factor, courts can consider whether the infringer's use (if it became widespread) would have an adverse economic impact on the trade secret owner and depress the owner's innovation incentives. To some extent, this factor overlaps with the previous factor, in that the defendant's use of the plaintiff's trade secret to create a different, noncompeting end product, or plaintiff's non-use of the protected information, is less likely to result in market harm to the plaintiff. However, if a work is deemed a substantial or significant improvement under factor three, then the market harm analysis should recede in importance. Thus, "courts must be willing to permit a use in circumstances where it adds a great deal of value relative to what has been copied, even if the result is to harm the market for the original."²⁹²

And as with copyright's market harm analysis, the primary focus is market usurpation by a directly competing product, not the harm that results from negative commentary or criticism. So if a book critic writes a bad review of a novel that incorporates quoted sections of the book without permission, and this bad review results in fewer sales, that is not a form of market harm that weighs against a finding of copyright fair use.²⁹³ Similarly, where trade secret protected information is disclosed for public health purposes and results in market harm to the owner, that market harm is not cognizable under this factor.

Moreover, with respect to the trade secret owner's innovation incentives, the nature of the trade secret information will once again play a part in the analysis, as businesses often have adequate incentives to create "business"

290. See *supra* note 34.

291. Varadarajan, *supra* note 10, at 682–83 (describing the similar purpose of the "significance" requirement in traditional property's "improvement doctrines").

292. Lemley, *supra* note 66, at 1078.

293. See *Campbell v. Acuff-Rose Music, Inc.*, 510 U.S. 569, 591–93 (1994) (explaining the distinction between "remediable displacement and unremediable disparagement").

information even in the absence of trade secret protection.²⁹⁴ As for “technical” information that is more akin to patentable subject matter, courts can also consider “the nature of both R&D and product market competition in the particular industry.”²⁹⁵ If, for example, “the R&D investment is quite large in absolute dollars,” there may be a greater effect on innovation incentives because the owner “may require a certain lead time in the market to allow it to recoup both its investment and a reasonable return.”²⁹⁶

5. Appropriateness of a Reasonable Royalty

One of the criticisms of copyright fair use (and affirmative defenses in intellectual property more generally) is the “all-or-nothing” nature of the inquiry. If, for example, a use is deemed fair, users do not have to pay to use the work. On the other hand, if the use is not subject to an affirmative defense, then “users face the . . . full arsenal of remedies.”²⁹⁷ Compulsory licenses stand between the two ends of the spectrum, allowing unauthorized uses for pay. The patent remedies analysis post-*eBay* also helps mediate the two extremes.

Courts can use the four-factor test described above to help with the compensation inquiry. But as a general matter, should a defendant’s use be deemed a substantial improvement and thus “fair” under the factors above, the defendant would likely be required to compensate the trade secret owner through a reasonable royalty. On the other hand, if the defendant’s disclosure of a secret was for educational purposes related to public health, safety, or welfare, then this is likely to result in a royalty-free outcome—e.g., analogous to copyright’s “all-or-nothing” fair use.

The benefit of this approach is that it recognizes and attempts to reconcile the somewhat discordant strains of fair use. On the one hand, fair use is sometimes justified because of high transaction costs that frustrate private bargaining. But copyright fair use also “excuses payment because the fair use is of a type, like criticism or responding to it, that policymakers believe should not be commodified” because it promotes First Amendment interests.²⁹⁸ This concern applies equally to the many of the public interest cases described in Part III—in such cases, a “free” fair use seems more justified.

The difficulties of valuation (e.g., crafting a reasonable royalty) are an oft-invoked reason for preferring injunctive relief, rather than damages, to remedy intellectual property infringement.²⁹⁹ Valuation difficulties are, however, largely unavoidable in the context of intellectual property. For

294. See *supra* notes 103, 284 and accompanying text.

295. O’Rourke, *supra* note 16, at 1208.

296. *Id.*

297. Fagundes, *supra* note 70, at 1840.

298. O’Rourke, *supra* note 16, at 1209 (noting that “educational and other non-profit uses like pure research often fall into this category”).

299. See Robert P. Merges, *Of Property Rules, Coase, and Intellectual Property*, 94 COLUM. L. REV. 2655, 2659–60 (1994).

example, they suffuse licensing negotiations, settlements, and damage awards for past infringement. The Supreme Court's recent decision in *eBay* underscores this point, by insisting that courts cannot avoid the difficulties of valuation by automatically resorting to injunctive relief in patent infringement cases.³⁰⁰

C. Addressing Objections to Trade Secret Fair Use

Lack of predictability is one of the biggest criticisms of fair use in the copyright context.³⁰¹ Parchomovsky and Goldman, for example, argue that the preference for ambiguous “standards” like fair use over clearer rules can “lead to overdeterrence, which, in turn, will cause potential defendants to overinvest in precautions.”³⁰² The unpredictability inherent in a flexible, context-specific fair use defense, along with increased opportunism concerns, may indeed lead trade secret owners to invest in wasteful expenditures to protect secrecy (e.g., stronger walls and fences) that trade secret law was intended to alleviate.³⁰³ Moreover, increased concerns of opportunism may also have a deleterious effect on owners' innovation incentives—particularly with respect to information or know-how that does not fall within patentable subject matter (e.g., negative know-how).

While these are legitimate concerns, the introduction of a fair use defense might nonetheless have a positive channeling effect—i.e., encouraging innovators to protect patentable technical information with a patent rather than trade secret, thus giving the public the benefit of full disclosure.³⁰⁴ In recent years, certain legal developments have made trade secret protection “more attractive vis-à-vis patent protection.”³⁰⁵ These developments include the expansion of prior user rights in the Leahy-Smith America Invents Act³⁰⁶ (AIA), new limits on patentable subject matter,³⁰⁷ and the

300. *eBay, Inc. v. MercExchange L.L.C.*, 547 U.S. 388, 393–94 (2006).

301. *See, e.g., Parchomovsky & Goldman, supra* note 165, at 1485–89 (suggesting nonexclusive safe harbors as a supplement (or alternative) to fair use in copyright).

302. *Id.* at 1486; *see also* John E. Calfee & Richard Craswell, *Some Effects of Uncertainty on Compliance with Legal Standards*, 70 VA. L. REV. 965, 995 (1984).

303. *See supra* notes 109–10 and accompanying text.

304. *See* 35 U.S.C. § 112 (2012) (patent disclosure requirements); *see also* *Kewanee Oil Co. v. Bicron Corp.*, 416 U.S. 470, 494 (1974) (Marshall, J., concurring) (observing that “trade secret protection provides in some instances a substantial disincentive to entrance into the patent system,” which “deprives society of the benefits of public disclosure of the invention which it is the policy of the patent laws to encourage”).

305. *Seaman, supra* note 28, at 62.

306. Pub. L. No. 112-29, 125 Stat. 284 (2011). The AIA created a defense to infringement based on prior commercial use for entities that commercially used a claimed invention “at least 1 year before . . . the effective filing date of the claimed invention . . . or the date on which the claimed invention was disclosed to the public.” 35 U.S.C. § 273(a)(2). This defense applies to information that was used to create a commercial product, so a trade secret owner who opted for trade secret protection in lieu of a patent has a handy defense should the same invention be patented by a subsequent inventor. *See Seaman, supra* note 28, at 59–60.

307. *See, e.g., Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 132 S. Ct. 1289, 1304–05 (2012).

elimination of the “general rule” of issuing injunctive relief upon a finding of patent infringement.³⁰⁸

Moreover, while uncertainty is often a feature of legal “standards” like fair use as opposed to more rigid “rules,” requiring the consideration of prefixed factors can help mitigate uncertainty.³⁰⁹ And the dangers of systemic uncertainty may lessen over time, once parties “become aware of the paradigmatic cases in which it will likely be successful.”³¹⁰ The introduction of uncertainty may also help facilitate trade secret licensing.³¹¹

CONCLUSION

Intellectual property law seeks to optimize social welfare by guarding against both the under- and over-protection of information. To this end, owners’ rights to exclude are limited when unauthorized uses carry certain social benefits. Copyright law and (to a lesser extent) patent law incorporate ex post limiting doctrines that try to balance owners’ rights to exclude against competing concerns, such as promoting cumulative innovation and First Amendment interests. Notably, copyright law’s fair use doctrine protects a variety of unauthorized but socially beneficial uses, like educational and “transformative” uses. While patent law relies more on ex ante requirements for this balancing purpose, it too has ex post limiting doctrines—like the reverse doctrine of equivalents and an increasingly searching remedies analysis—that direct courts to consider the social benefits of a defendant’s unauthorized use.

Like unauthorized users in patent and copyright, certain transgressors of trade secret law (e.g., substantial “improvers” of protected information and “disclosers” of information related to public health, safety and welfare) also serve socially beneficial ends. This Article demonstrates, however, that trade secret law is largely indifferent to them. This is particularly concerning, given trade secret law’s expansive subject matter breadth, ease of acquisition, and increasing attractiveness to companies. While the theoretical justifications for trade secret law historically have been more varied and controversial than for patent or copyright, courts and scholars increasingly theorize trade secret law as a subset of intellectual property because it encourages information production. Despite its characterization as “intellectual property,” however, trade secret law lacks adequate ex post

308. *eBay, Inc. v. MercExchange L.L.C.*, 547 U.S. 388, 391 (2006).

309. O’Rourke, *supra* note 16, at 1247–48; *see also* Louis Kaplow, *Rules Versus Standards: An Economic Analysis*, 42 DUKE L.J. 557, 569 (1992); Cass R. Sunstein, *Problems with Rules*, 83 CAL. L. REV. 953, 963–64 (1995) (describing legal “devices” that operate as intermediaries between rules and standards, like factors).

310. O’Rourke, *supra* note 16, at 1247–48.

311. *See, e.g.*, Ian Ayres & Eric Talley, *Solomonic Bargaining: Dividing a Legal Entitlement to Facilitate Coasean Trade*, 104 YALE L.J. 1027, 1039–47 (1995) (suggesting liability rules can induce parties to reveal information they might otherwise keep to themselves in the shadow of a property rule because a liability rule makes the outcome more uncertain for both parties); Ian Ayres & Paul Klemperer, *Limiting Patentees’ Market Power Without Reducing Innovation Incentives: The Perverse Benefits of Uncertainty and Non-Injunctive Remedies*, 97 MICH. L. REV. 985, 988 (1999).

limiting doctrines designed to promote cumulative innovation and First Amendment interests.

This Article argues that trade secret law should adopt a multifactor fair use doctrine to better accommodate these competing concerns. This defense would require courts to weigh four defined factors in deciding whether to excuse a defendant's otherwise infringing acts, or alternatively, deny injunctive relief in favor of a reasonable royalty. These factors are designed to help courts identify situations where substantial improvements or public disclosure of matters relevant to public health, safety, and welfare are likely to be deterred. Though named after its copyright counterpart, trade secret fair use will differ in some key respects. Unlike copyright's "all-or-nothing" fair use analysis, the trade secret fair use analysis will require courts to decide whether a reasonable royalty award is warranted (e.g., in cases of substantial improvement). In this way, trade secret law can continue to protect owners' incentives, while nonetheless ensuring safety valves for cumulative innovation and First Amendment interests that will help keep the law in sync with its intellectual property siblings.