

ARTICLE

KEEPING IP REAL

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ABSTRACT

This symposium contribution analyzes the relationship between intellectual property and tangible property, focusing on four types of intellectual property: copyrights, trademarks, patents, and trade secrets. It posits that—contrary to popular conceptions—the question of rivalrousness should be viewed as central both to owners’ use of IP-protected goods and to others’ infringement of the underlying IP rights (just as that attribute lies at the heart of the concept of real and other tangible property). Rivalrousness typically arises where consumption of a good by a consumer prevents simultaneous consumption of that good by other consumers or, in the tangible property context, where simultaneous physical occupation of the same space is impossible. This symposium piece, however, adopts an understanding of rivalrousness that rests on economic rather than physical conceptions of rivalrousness. Previous scholarship, including my own, has questioned the boundary between intellectual property and tangible property by examining binary conceptions of rivalrousness, whereby physical goods (including real property) are understood to be completely rivalrous, and intangible goods

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completely nonrivalrous. This piece studies in depth how “(real) property-like” the different forms of intellectual property are when it comes to economic rivalrousness, and concludes that most trademarks and trade secrets hew quite closely to our understanding of real property and other tangible property as far as economic rivalrousness is concerned. There is more variance in that respect within copyrights and patents (with the associated goods often ranging from not rivalrous at all to highly rivalrous), which suggests that there may be more flexibility in those areas when granting rights to third parties. For copyright and patent rights, economic space might be more shareable than for trademarks or trade secrets, in the sense that the goods can sometimes more easily coexist in the market without the owner of the original intellectual property suffering profit losses.

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I. INTRODUCTION

Battles over whether intellectual property should qualify as property have raged on for many years.¹ For a number of

1. See generally Gregory Dolin & Irina D. Manta, *Taking Patents*, 73 WASH. & LEE L. REV. 719 (2016) (conducting an eminent domain analysis of some of the provisions of the America Invents Act); Richard A. Epstein, *Liberty Versus Property? Cracks in the Foundations of Copyright Law*, 42 SAN DIEGO L. REV. 1 (2005) (comparing the costs and benefits of the copyright versus property law systems); Justin Hughes, *Copyright and Incomplete Historiographies: Of Piracy, Propertization, and Thomas Jefferson*, 79 S. CAL.

individuals, what has been at the heart of that debate is not only nomenclature and a wish for linguistic precision, but also a desire to push intellectual property law in the direction of more versus less protection.² Indeed, as I have described in previous work, words like property, theft, and piracy come with a psychological valence that both advocates and judges have employed to promote particular outcomes.³ On the flip side, those who oppose these outcomes have sought to move scholars and the public at large away from such rhetoric.⁴ The question “is intellectual property truly property?” implies an unhelpful binariness—but one which in itself matters to some advocates. Individuals who wish to see intangible goods protected similarly to the way property law protects tangible goods unsurprisingly want intellectual property to definitionally remain in the camp of property;⁵ those who believe that we overprotect intellectual property are often committed to highlighting how intangible goods, like literary works or inventions, are entirely different from tangible goods like land or chattels.⁶

L. REV. 993 (2006) (discussing the historical use of the term “property” in the intellectual property context); Irina D. Manta & Robert E. Wagner, *Intellectual Property Infringement as Vandalism*, 18 STAN. TECH. L. REV. 331 (2015) (explaining why intellectual property infringement is better characterized as vandalism or trespass, as opposed to theft); Adam Mossoff, *The Trespass Fallacy in Patent Law*, 65 FLA. L. REV. 1687 (2013) (making the assertion that analogizing patent infringement to real property trespass is a conceptual error); Adam Mossoff, *What Is Property? Putting the Pieces Back Together*, 45 ARIZ. L. REV. 371, 426 (2003) (“Copyright is defined and protected in the American legal system as a property right within the domain of intellectual property. Therefore, to connect copyright to the broader concept and institutional definition of property better grounds this legal doctrine within our legal system as such.”). Further sources on this topic can be found in James Y. Stern, *Intellectual Property & the Myth of Nonrivalry* 10 nn.23–38 (working paper) (on file with author).

2. See Manta & Wagner, *supra* note 1, at 336.

3. See *id.* at 339–41.

4. As David Fagundes has stated, “Every great story has a villain, and in the story told by enthusiasts of the public domain, that villain is property.” David Fagundes, *Crystals in the Public Domain*, 50 B.C. L. REV. 139, 140 (2009).

5. See, e.g., Adam Mossoff, *Is Copyright Property?*, 42 SAN DIEGO L. REV. 29, 34–36 (2005) (advocating for a propertized view of copyright). This is also apparent in court decisions, such as one in which a district court judge stated multiple times that a defendant “physically stole” software by loading his employer’s software program onto a laptop and then traveling with that laptop through channels of interstate and international commerce. See *United States v. Alavi*, No. CR07-429-PHX-NVW, 2008 WL 1971391, at *2 (D. Ariz. May 2, 2008).

6. See, e.g., Michael A. Carrier, *Cabining Intellectual Property Through a Property Paradigm*, 54 DUKE L.J. 1 (2004) (criticizing the propertization of intellectual property law and its unwillingness to impose limits on intellectual property owners); Dan Hunter, *Culture War*, 83 TEX. L. REV. 1105, 1122 (2005) (“[I]ntellectual property is not property in the sense that we typically understand it in capitalist systems: most obviously, the grant of the interest from the state does not last in perpetuity, it is subject to all manner of limitations and challenges, the ‘property’ at issue is nonrivalrous, and so on.”). Some forms

It has been part of my scholarly mission to introduce greater nuance into some of these conversations. For example, I have argued that intellectual property infringement is neither identical to nor completely separate from the act of theft, but rather constitutes (depending on the situation) either vandalism or trespass.⁷ As part of that project, I also examined and compared the criminal and civil sanctions that we impose for intellectual property versus property offenses, ultimately concluding that advocates of the propertization of intangible goods have at times managed to convince decision-makers to allow sanctions that in fact exceed even the strongest version of sanctions for tangible-property infringement.⁸ If intellectual property is conceptually the same as property, why should harm of a certain level yield greater sanctions in the world of intangible goods? The answer may be that advocates of propertization indeed care less about consistency than about results—not that the same is not true of many opponents of propertization.

One of the ideas that opponents of intellectual property propertization like to promote is that intellectual property is generally nonrivalrous.⁹ Several people can usually listen to a song at the same time without interfering with one another's use. Multiple individuals can use the knowledge of how to produce a lifesaving drug or apply a curative technique without diminishing its effectiveness. Therefore, opponents argue, for that and other reasons, intangible goods are fundamentally different from a piece of land that cannot be occupied by multiple people simultaneously or a teacup whose concurrent use by several individuals causes immediate problems.

The stakes are higher than they appear at first because the outcome of the challenge over rivalry has teeth. Simplifying to an extent, there is sometimes a sense of “if it's not rivalrous, it would be plainly selfish not to share it” underlying the formal nature of the argument. Sure, developing a complex HIV treatment is expensive, but now that this has taken place, perhaps we could share the treatment with developing countries that cannot afford Western pharmaceutical prices? After all, an American individual

of intellectual property, however, such as trademarks and trade secrets are potentially granted for perpetuity; property rights can be cut short through a number of devices like eminent domain and adverse possession; property rights are not unlimited; and the nonrivalrousness is only present for IP in the strict physical sense of the term.

7. See Manta & Wagner, *supra* note 1.

8. See *id.* at 344–53.

9. See, e.g., Mark A. Lemley, *Romantic Authorship and the Rhetoric of Property*, 75 TEX. L. REV. 873, 902 (1997) (book review) (“[T]he public nature of a good seems to suggest that propertization is a uniquely bad idea, precisely because the consumption of that good is ‘nonrivalrous’—it does not take away from the creator of that good.”).

will not suffer reduced drug effectiveness as a result of this sharing. And, less dramatically, might not the same be true if someone poor (or even not-so-poor) illegally downloads and listens to Taylor Swift's latest hit without paying? Of course, this line of reasoning contains several flaws, including a focus on static rivalrousness that only considers conflicts between existing resources at the cost of a dynamic understanding of conflicts between existing and potential future resources.¹⁰

Part of the issue, which forces binary answers to these sorts of questions, arises precisely from an overly narrow definition of rivalrousness that has dominated the discourse. The emphasis has been on physical impossibility, such as the impossibility for two individuals to stand on the same plot of land at the same time. Rivalrousness that encompasses economic and hedonic consequences, however, is the more relevant consideration whether we are talking about tangible or intangible goods.¹¹ I have argued in favor of this expanded understanding many times in my previous work,¹² and more recently, James Stern has provided his own extensive discussion of that issue.¹³

This arguably more capacious view of rivalrousness allows for a more fine-grained analysis of the doctrines that govern different types of intellectual property. Indeed, such an understanding reveals that each good—whether tangible or intangible—lies on a spectrum of rivalrousness, and that its position on this spectrum ought to influence the contours of the law. While there is some fluidity regarding this position that is, in turn, influenced by legal dictates, some types of goods will present inherent difficulties if we attempt to share them between actors. This is especially true for trademark and trade secret rights, but the problem can also arise for some kinds of copyrights and patents. Conversely, a lack of inherent—as opposed to legally created—rivalrousness may suggest that the question of sharing is more open, and that other factors will require examination before dismissing out of hand the idea of sharing.

Part II will discuss the issue of rivalrousness at large and the effect it has had on conversations about intellectual property. Part

10. See *infra* Section III.D (discussing static versus dynamic rivalrousness).

11. This is analogous to the “overgrazing” problem that scholars such as William Landes and Richard Posner have indicated can at times arise in intellectual property. See William M. Landes & Richard A. Posner, *Indefinitely Renewable Copyright*, 70 U. CHI. L. REV. 471, 485–88 (2003); see also Lee Anne Fennell, *Common Interest Tragedies*, 98 NW. U. L. REV. 907, 918–19 (2004) (highlighting the overgrazing problem for nonrivalrous goods such as songs or theories).

12. See *infra* Section II.B.

13. See Stern, *supra* note 1, at 10–16.

III will examine how the issue of rivalrousness plays out in specific contexts within copyright, patents, trademarks, and trade secrets, and find that its effects differ by type of intangible good. This teaches lessons as to the shape that intellectual property doctrines should take within each subarea and provides tools to understand how much protection as-of-yet undeveloped types of intangible goods should receive. Part IV concludes.

II. RIVALROUSNESS AND ITS PLACE IN THE LAW

A. *The Concept of Rivalrousness*

The idea of rivalrousness appears across many different types of resources. As Brett Frischmann has stated: “(Non)rivalry, or (non)rivalrousness of consumption, is a function of resource capacity and the degree to which one person’s consumption of a resource affects the potential of the resource to meet the demands of others. It reflects the marginal cost of allowing an additional person to consume a good.”¹⁴ The law at times steps in where there are resource conflicts, meaning incompatible demands upon the same resource, such as in a case in which two individuals want to eat the entirety of the same apple.¹⁵

Examples of rivalrous resources abound when it comes to land and chattels. Two or more people cannot stand in the exact same spot at the same time. They cannot write different things with the same pen simultaneously. And they cannot chew the exact same piece of gum at once. These instances involve a purely physical understanding of rivalrousness, and literal impossibility under the laws of nature.

Focusing on this aspect automatically turns all intangible property nonrivalrous, indeed. After all, it is virtually never physically impossible for a large number of people to sing the same song at the same time, for a dozen companies to use the same brand name for a dozen candy bars, or for many different entities to use a single pharmaceutical formula to create the same pill across a multitude of factories and countries.

The traditional story goes that property arises due to the fact that “[i]t supplies a normative principle that establishes the priority of claims to control [a physical good], in the sense of determining which uses of it are permitted and which are not.”¹⁶ The justifications behind having property law vary, with Lockean

14. BRETT M. FRISCHMANN, *INFRASTRUCTURE: THE SOCIAL VALUE OF SHARED RESOURCES* 26 (2012).

15. See Stern, *supra* note 1, at 10–11.

16. *Id.* at 11.

labor theory, Hegelian personhood theory, and utilitarianism figuring as prominent.¹⁷

For the most part, the United States currently has a functioning property law system in which most individuals have a fairly solid understanding of what resources are theirs and which ones are not. While most Americans understand and respect property law, neither is as uniformly true when it comes to intellectual property rights. Especially for copyright law, there is vast confusion as to what is permitted when it comes to questions like what level of similarity between two works is allowed, or what types of fan work qualify as fair use. And even beyond confusion, the lack of physical rivalrousness for intangible resources makes people feel less guilty about knowingly infringing upon intellectual property.¹⁸

B. *Rivalrousness in Intellectual Property Generally*

As comedian Mindy Kaling quipped about the ads that have appeared before movies stating that people should not download illegally just like how they would not steal a car:

And I was thinking about it, I was watching it and I was like, You know what? I would steal a car if it was as easy as touching the car and then thirty seconds later I owned the car. And, like, *I would steal a car if by stealing the car, the person who owned the car, they got to keep the car.* And um, I would also steal a car if no one I had ever met had ever bought a car before in their whole lives.¹⁹

Mindy Kaling may not be an outlier in failing to take infringement of intangible goods as seriously as theft of chattels. Indeed, even neuroimaging data suggests that the thought of performing the latter (when compared to the former) results in greater activation of cerebral areas associated with responses to morally laden situations, which the researchers concluded may

17. See, e.g., Michael A. Carrier & Greg Lastowka, *Against Cyberproperty*, 22 BERKELEY TECH. L.J. 1485, 1493–96 (2007) (describing these three frameworks of traditional justifications of property law).

18. See Robert Eres et al., *Why Do People Pirate? A Neuroimaging Investigation*, 12 J. SOC. NEUROSCIENCE 366, 366–67 (2016) (discussing the reason why people are more inclined to infringe on intellectual property rights than property rights and examining the possible roots of this inclination). One should note that the law awards enhanced damages for willful infringement of intellectual property law regardless of the subjective perceptions of infringers about the wrongfulness of their conduct. Justin P. Huddleson, *Objectively Reckless: A Semi-Empirical Evaluation of In re Seagate*, 15 B.U. J. SCI. & TECH. L. 102, 116–17 (2009).

19. Megalong & Kyrafic, *Fuck Yeah Mindy Kaling*, TUMBLR (Feb. 16, 2011, 8:31 AM), <http://fuckyeahmindy.tumblr.com/post/3326431414/i-was-at-the-movies-yesterday-and-before-the-movie> [<https://perma.cc/TE5W-KQRH?type=image>] (emphasis added).

help explain why people are more willing to infringe on intangible goods.²⁰

In property law, we first tend to notice the deprivation of the rivalrous good when mourning that an individual has become the victim of theft. But when the property belongs to a corporation or was used for some other kind of commercial purpose, our focus shifts to the monetary value of the good. The fact of the matter is that both individuals and companies can be affected by infringements on goods due to either physical *or* economic and hedonic rivalrousness.

Imagine two adjacent restaurants with competing owners, one of whom steals the fancy cappuccino machine owned by the other. Assuming that he does not get caught, the thief will now be able to charge more money for his coffee than before and divert the flow (no pun intended) of customers to his own establishment. There are still plenty of other cappuccino machines in the world, and the previous owner can buy a new one for his establishment. He is, however, worse off than before: both because he had to spend money on the new machine and because he is now competing with someone who had no machine at all before the theft. Indeed, the latter problem would remain even if a rich benefactor who felt sorry for the victim gave him a new machine for free.

In the scenario with the rich benefactor, the problem of physical rivalrousness has seemingly been resolved—both restaurants have a cappuccino machine, hooray! Yet, we remain uncomfortable from both a general ethical perspective of what we perceive as unfair competition by the thief, and from a utilitarian standpoint that suggests that this may provide unfortunate incentives to other potential thieves and deterrence to nonthieving entrepreneurs. And this brings us to the problem that focusing on physical, rather than economic or even hedonic, rivalrousness may present a limited picture of the true harm of theft or infringement.²¹

I have argued previously that rivalrousness should encompass these broader values.²² Other voices—most notably

20. Eres et al., *supra* note 18, at 366–67, 375.

21. For a view of property through a hedonic lens, see generally David Fagundes, *Buying Happiness: Property, Acquisition, and Subjective Well-Being*, 58 WM. & MARY L. REV. 1851 (2017).

22. See Manta & Wagner, *supra* note 1, at 338 (“[I]ntellectual property can—contrary to popular wisdom—be rivalrous at times. . . . The more rivalrous intellectual property turns out to be in a given case, the more it resembles property and the more its infringement parallels theft.”); Irina D. Manta, *Hedonic Trademarks*, 74 OHIO ST. L.J. 241, 276–77 (2013) (“[S]hared use of a trademark may take on a rivalrous nature such as to diminish the

that of James Stern—have joined the push for an understanding of rivalrousness that exceeds the mere risk of purely physical clashes over resources and includes problems such as that of conflicting economic use.²³ As he explains, a strong case can be made that rivalrousness is “[n]on-dichotomous, subjective, relational, contingent.”²⁴ Whether we consider intellectual property rivalrous or not hinges on the willingness to expand the traditional boundary of physical limitations, and this symposium piece endorses doing just that.

As understood here, rivalrousness is thus present when two intellectual property goods cannot coexist without having a (unidirectional or bi-directional) negative effect on each other’s economic value, hedonic value, or both.²⁵ Economic value encompasses the actual and potential, current and future revenue stream that an owner derives from her intellectual property good. Hedonic value includes the actual and potential, current and future joy, happiness, or personal meaning that an owner and/or permitted users derive from that good. Analyzing rivalrousness must also answer questions regarding value, i.e., *when* and *to whom*, as well as consider interactions between different types of values.

For example, as discussed in greater detail below, a new movie may incorporate a quotation from a pre-existing copyrighted book in such a way as to reduce the hedonic—and perhaps economic—value of the book to its author but provide hedonic and economic value to the maker of the movie as well as hedonic value to the public. From a policy perspective, a complete analysis must hence take into account the tradeoffs present between increased rivalrousness and (sometimes long-term, dynamic) gains on other metrics. In the case presented here, and because we want to incentivize particular types of new creations, we may thus (and in fact do) accept transformative uses of copyrighted material that may increase rivalrousness to some degree even though abolishing

enjoyment of original goods without an equivalent resulting benefit . . .”). For a discussion of how rivalrousness fits into economic analysis of intellectual property law more broadly, see generally John P. Conley & Christopher S. Yoo, *Nonrivalry and Price Discrimination in Copyright Economics*, 157 U. PA. L. REV. 1801 (2009); Christopher S. Yoo, *Copyright and Product Differentiation*, 79 N.Y.U. L. REV. 212, 246–48 (2004).

23. See Stern, *supra* note 1, at 6, 9–10.

24. *Id.* at 25–28.

25. This understanding has its critics, likely because of the inherently fuzzier boundaries of much of intellectual property compared to much of property (and hence the distinctions that arise as to the ability to give advance notice to potential infringers). That said, these matters are often not as transparent as they seem in the property context, either, with its focus on physicality in rivalrousness, as Stern points out in his work. See generally Stern, *supra* note 1.

fair use would likely result in higher royalties and hence a lesser level of economic rivalrousness.²⁶ This symposium piece shows what some of the conflicts and tradeoffs within each type of intellectual property are, and how asking whether and how rivalrousness is present can illuminate policy discussions in these areas.

III. SLICING RIVALROUSNESS THINNER

Accepting a broader understanding of rivalrousness has consequences both for grasping the current contours of intellectual property law and for determining its optimal future. Indeed, such an understanding shows why some types of intangible goods already receive protection that resembles more closely that from which the owners of tangible property benefit. The different classes of intellectual property thus each occupy a band on the spectrum of rivalrousness, and specific goods or types of goods within each class can be placed along that band. More precisely, it is the particular uses of intangible goods that will determine their position on the spectrum. Each class of intellectual property will contain uses that are highly versus barely (if at all) rivalrous, but the pattern of clustering of uses will likely differ by type of intellectual property.

A. *Trade Secrets*

While most of trade secret regulation has historically been governed by state laws—especially until the advent of the Defend Trade Secrets Act (DTSA)—federal law currently defines a trade secret as:

all forms and types of financial, business, scientific, technical, economic, or engineering information, including patterns, plans, compilations, program devices, formulas, designs, prototypes, methods, techniques, processes, procedures, programs, or codes, whether tangible or intangible, and whether or how stored, compiled, or memorialized physically, electronically, graphically, photographically, or in writing if— (A) the owner thereof has taken reasonable measures to keep such information secret; and (B) the information derives independent economic value, actual or potential, from not being generally known to, and not being readily ascertainable through proper means by,

26. It bears noting that royalties can exceed the amount of economic or other harm caused by the new good. Whether they should do so in any given case, by way of legal mandate, requires particularized policy analysis.

another person who can obtain economic value from the disclosure or use of the information²⁷

The various state statutes, most of them modeled on the so-called Uniform Trade Secrets Act (UTSA), generally use quite similar definitions.²⁸ For trade secrets, the concept of rivalrousness is baked into the relevant statutes when: (1) the owner must maintain the secrecy of the information, at least as against the relevant public, and (2) a condition of economic rivalrousness may be met because secrecy against the public must be key to the value of the information.²⁹ If the owner shares the information in an uncontrolled manner (or simply does not take “reasonable measures” to maintain secrecy), he or she automatically loses the trade secret right.³⁰

As Robert Hur has summarized, “Examples of trade secrets recognized by the courts include a soft drink formula (Coca-Cola’s ‘Classic’ formula may be the most famous trade secret), a rat poison formula, a process for extracting alcohol from empty whiskey barrels, a method of flavoring mouthwash, a technique for picking locks,” and also “a process of manufacturing orchestra cymbals, a dog food recipe, a technique for making flypaper, a technique for holding a group nonsmoking seminar . . . and designs for automatic toll collection equipment, customer lists, and computer software.”³¹ This list continues to expand, with companies attracted by the potentially perpetual nature of trade secrets—indeed, had Google patented its “PageRank” search algorithm after inventing it in 1998, the patent would have already expired by now, while the trade secret in the algorithm merrily lives on.³²

Robert Bone has stated that “trade secret law is an anomaly. Copyright, patent, trademark, publicity rights, and various unfair competition torts all confer property rights against the world, rights that bind persons having no prior relationship to the right-holder and that prohibit appropriation and use without

27. 18 U.S.C. § 1839(3) (2012 & Supp. V 2018). For a history of the passage of the DTSA and for data on the first cases adjudicated under it, see generally David S. Levine & Christopher B. Seaman, *The DTSA at One: An Empirical Study of the First Year of Litigation Under the Defend Trade Secrets Act*, 53 WAKE FOREST L. REV. 105 (2018).

28. UNIF. TRADE SECRETS ACT § 1(4) (amended 1985) (UNIF. LAW COMM’N 1986).

29. See 18 U.S.C. § 1839(3); UNIF. TRADE SECRETS ACT § 1(4).

30. See 18 U.S.C. § 1839(3).

31. Robert K. Hur, *Takings, Trade Secrets, and Tobacco: Mountain or Molehill?*, 53 STAN. L. REV. 447, 460–61 (2000).

32. See Andrew A. Schwartz, *The Corporate Preference for Trade Secret*, 74 OHIO ST. L.J. 623, 651 (2013).

regard to how the information is obtained.”³³ Bone advocated for the abolition of trade secret law in most instances and its replacement with contract law devices.³⁴ Others, such as Michael Risch, have disagreed. Risch argued that trade secrets deserve protection “justified by the economic benefits that flow from their existence, most notably incentives for businesses to spend less money protecting secret information or attempting to appropriate secret information[,] . . . under a Lockean ‘labor value’ theory[, and] . . . as a means for the public to enforce populist norms about ‘commercial ethics.’”³⁵

The information covered by trade secrets is not *inherently* nonrivalrous.³⁶ A trade secret owner may not experience any economic or hedonic loss from the use of the trade secret by another party under some circumstances. And indeed, the owner can license the trade secret to another entity as long as that entity is also required to maintain secrecy.³⁷ Licensing is permitted for other forms of intellectual property as well, with more limitations in trademarks and fewer in copyrights and patents.³⁸ How many and what kind of licenses a trade secret owner can give out before the requirement of economic value of the secret *qua* secret has been destroyed is heavily context-dependent.³⁹

Trade secrets, and the existence of trade secret licenses, provide a great example of the nonbinary nature of rivalrousness when it comes to intangible goods: disclosure to some parties (usually in exchange for royalties or some other beneficial business purpose) need not cause economic or hedonic problems, while general disclosure frequently does.⁴⁰ The Supreme Court may have

33. Robert G. Bone, *A New Look at Trade Secret Law: Doctrine in Search of Justification*, 86 CALIF. L. REV. 241, 243 (1998).

34. *See id.* at 296–304.

35. Michael Risch, *Why Do We Have Trade Secrets?*, 11 MARQ. INTELL. PROP. L. REV. 1, 5–6 (2007).

36. *See generally* Joseph P. Fishman & Deepa Varadarajan, *Similar Secrets*, 167 U. PA. L. REV. 1051 (2019) (discussing the standard for determining in the trade secret context how much similarity is too much).

37. *See* Michelle L. Evans, *Establishing Liability for Breach of Trade Secret License*, in 141 AM. JUR. 3D *Proof of Facts* § 2, at 123 (2014). For a discussion of how trade secret licenses are sometimes paired with patent licenses to hedge against the risk of patent nongrants or invalidity determinations, *see id.*; and also Michael Risch, *Patent Challenges and Royalty Inflation*, 85 IND. L.J. 1003, 1039–40 (2010).

38. *See* discussions *infra* Sections III.B–D.

39. This is analogous to a trademark owner giving out so many licenses that the value of the mark diminishes.

40. For an example of both types of license, *see* *Metallurgical Indus. Inc. v. Fourtek, Inc.*, 790 F.2d 1195, 1197, 1200 (5th Cir. 1986) (discussing how the plaintiff-appellant Metallurgical Industries disclosed, in exchange for a royalty, its zinc-recovery furnace design trade secret to a European entity called La Floridienne, and without payment to a

implicitly recognized this when it held that if the Environmental Protection Agency uses or discloses data submitted to it by the Monsanto corporation, a taking of private property for public use has occurred under the Fifth Amendment of the Constitution.⁴¹ Not only does a trade secret owner, or a trade secret infringer, have the power to destroy the value of the secret (*qua secret*), but so does the government *because the secret is usually rivalrous*.

Once secrecy is lifted, through whatever means, the competitive edge of the secret's previous owner is generally gone. The information is still of some value in that one is better off by having it than not if one is in the relevant line of business, but it no longer allows a developer or licensee to stand out. Interestingly, in some cases, the loss of a trade secret would have dramatic effects on the value of any related trademarks as well. How many consumers would remain loyal to Coca-Cola if they could obtain the exact same soda from a different manufacturer at a slightly lower price? The answer is not zero. After all, some people continue to use brand-name pharmaceuticals once generics with the identical chemical formula become available.⁴² The size of Coca-Cola's sales, and hence the value of the brand and related trademarks as a whole, however, would quite certainly decline.

The high degree of rivalrousness of trade secrets may also explain why there is no fair use doctrine in that area of intellectual property.⁴³ For one, each use (even if the user promises to protect the secret) presents a risk to maintaining the secrecy needed for the original owner to keep her legal rights in the information. While that is also true in a licensing situation, there the owner can price that risk into the cost of a license she is willing to award. In that sense, and while the law currently has no genuine fair use provision for either type of intellectual property, the case against allowing fair use in the trade secret context is potentially stronger than that against allowing meaningful fair use for patents.⁴⁴

furnace manufacturer named Consarc in hopes of pursuing a business relationship). Limited sharing of trade secrets can result in beneficial network effects rather than economically rivalrous uses (more often than indiscriminate sharing can).

41. *Ruckelshaus v. Monsanto Co.*, 467 U.S. 986, 1016 (1984).

42. See Suzanne S. Dunne & Colum P. Dunne, *What Do People Really Think of Generic Medicines? A Systematic Review and Critical Appraisal of Literature on Stakeholder Perceptions of Generic Drugs*, 13 BMC MED. 173 (2015) (noting a degree of continuing mistrust of generic medications).

43. This is not to say that there have been no proposals along those lines. See generally Deepa Varadarajan, *Trade Secret Fair Use*, 83 FORDHAM L. REV. 1401 (2014) (arguing that trade secret law needs to overcome its indifference to the social benefits of unauthorized use the way that other types of intellectual property law have).

44. It is worth emphasizing that this is a relative claim—in the sense of comparing

B. Trademarks

Trademarks cover any word, symbol, or other signifier capable of designating the source of a product.⁴⁵ Besides providing source-identification, trademarks are also said to serve the goals of guaranteeing quality and of facilitating advertising.⁴⁶ A trademark encompassing these three goals necessarily becomes a rivalrous resource because if sodas made by two different manufacturers bear identical or confusingly similar “Coca-Cola” labels, the source of each product will become much more difficult to ascertain. Indeed, William Landes and Richard Posner have argued that trademarks and the associated body of laws generally seek to reduce consumer search costs in the form of time and money spent looking for the desired product.⁴⁷ On the most basic level, a trademark is rivalrous at the producer level because consumers have preferences for some sources over others.

The multi-factor tests that try to detect the presence of consumer confusion take this into account, seeking implicitly to separate rivalrous from other uses. We generally cannot go up to a consumer and ask him: “Are you potentially or actually confused?” Instead, we have to reach the answer to that question indirectly. The best-known test for that purpose, the *Polaroid* test from the U.S. Court of Appeals for the Second Circuit, considers the following factors:

to fair use for other forms of intellectual property—rather than an absolute one. One can imagine forms of trade secret fair use that could have more overall benefit than harm. I would like to thank Deepa Varadarajan for our conversation on this topic.

45. See 15 U.S.C. § 1127 (2012) (defining a trademark as “any word, name, symbol, or device, or any combination thereof—(1) used by a person, or (2) which a person has a bona fide intention to use in commerce . . . to identify and distinguish his or her goods, including a unique product, from those manufactured or sold by others and to indicate the source of the goods, even if that source is unknown”).

46. See generally Ralph S. Brown, Jr., *Advertising and the Public Interest: Legal Protection of Trade Symbols*, 57 YALE L.J. 1165 (1948) (discussing the value of trade symbols in representing the source of goods, the reputation of that source, and satisfaction with the goods themselves). One can conceive of an alternative trademarks system that does not seek to fulfill these three functions. For example, in the 1960s, for ideological reasons China eliminated exclusive rights in trademarks and replaced them with a system that would only require that certain quality requirements be met for products if registrants wanted to begin and continue using a mark. See L. Mark Wu-Ohlson, *A Commentary on China’s New Patent and Trademark Laws*, 6 NW. J. INT’L L. & BUS. 86, 111–12 (1984). Of course, this kind of concurrent use would not allow consumers to identify the exact source of each product and would reduce the benefit of advertising. China reinstated exclusivity in trademark law in the early 1980s, which “reflect[ed] the intention of the current regime to encourage brand competition and put an end to the indiscriminate use of marks which flawed the old system.” *Id.* at 114.

47. See William M. Landes & Richard A. Posner, *Trademark Law: An Economic Perspective*, 30 J.L. & ECON. 265, 267–70 (1987).

the strength of [the original] mark, the degree of similarity between the two marks, the proximity of the products, the likelihood that the prior owner will bridge the gap, actual confusion, and the reciprocal of defendant's good faith in adopting its own mark, the quality of defendant's product, and the sophistication of the buyers.⁴⁸

While this and similar tests in sister circuits are not free from critique,⁴⁹ these tests attempt to tease out rivalrous uses while still leaving enough terms for other entities that operate in unrelated markets.⁵⁰ For this purpose, we can only have one Gucci purse, but Apple computers and Apple vinyl gloves can coexist.

There is another sense in which trademarks are rivalrous, however, which is directly tied to how they are consumed once purchased. For the consumers of some types of goods, the hedonic enjoyment of a brand is greatly influenced by its exclusivity.⁵¹ Hence, an expansive understanding of rivalrousness would also account for the types of losses occasioned by counterfeits and other confusingly similar marks, whether the actual buyer of the good was confused or not.⁵² Even a prevalence of Mercedes-Benz pillows or desks could detract from the identity and exclusivity of the original car brand. As I have suggested in past work, concerns about these latter examples could help to explain some of the motivation behind antidilution laws.⁵³

Meanwhile, like for other forms of intellectual property, licensing is permitted in trademark law, but it must be accompanied by the goodwill with which the mark is associated.⁵⁴ So-called naked licensing and assignment in gross are prohibited.⁵⁵ This seeks to ensure that the three basic functions of

48. *Polaroid Corp. v. Polarad Elecs. Corp.*, 287 F.2d 492, 495 (2d Cir. 1961).

49. *See, e.g.*, Barton Beebe, *An Empirical Study of the Multifactor Tests for Trademark Infringement*, 94 CALIF. L. REV. 1581, 1581–82, 1598–1603 (2006) (expressing concern about how only a few factors are truly relevant while judges “stampede” the other factors to make them conform to the desired result).

50. Some scholars worry about whether the law is actually accomplishing this outcome. *See generally* Barton Beebe & Jeanne C. Fromer, *Are We Running Out of Trademarks? An Empirical Study of Trademark Depletion and Congestion*, 131 HARV. L. REV. 945 (2018) (arguing that the set of “good” trademarks available is practically finite).

51. *See* Manta, *supra* note 22, at 266.

52. *See id.* at 266–67.

53. *See id.* at 260–62; Irina D. Manta, *Branded*, 69 SMU L. REV. 713, 754–56 (2016). These are essentially examples of how overgrazing can affect both producers and consumers.

54. *See, e.g.*, *Marshak v. Green*, 746 F.2d 927, 929–30 (2d Cir. 1984) (“[R]egistered trade names or marks may not be validly assigned in gross.”).

55. 15 U.S.C. § 1060(a)(1) (2012); *Eva’s Bridal Ltd. v. Halanick Enters., Inc.*, 639 F.3d 788, 789–90 (7th Cir. 2011); Jonathan M. Barnett, *Why Is Everyone Afraid of IP Licensing*, 30 HARV. J.L. & TECH. 123, 125 (2017).

trademarks remain safeguarded.⁵⁶ Due to the relationship between consumer preferences and rivalrousness, trademark owners will only license uses that they do not perceive as increasing rivalrousness (or at least not to a critical degree that cannot be overcome by other benefits that arise from the licensing arrangement). At the very least, just like with other forms of intellectual property, owners would only do so if the license price reflects that risk. Relatedly, if the government were to try and take a trademark, it would likely have to pay just compensation for that act.⁵⁷

Unlike trade secrets, trademarks do allow for fair use.⁵⁸ This reflects principles similar to the ones found in the *Polaroid* test: some uses of marks can coexist. There are mainly two types of recognized fair use in trademark law, nominative fair use and descriptive fair use. In nominative fair use, an individual can use another's trademark to refer to the mark owner or her goods, whereas in descriptive fair use, someone uses another's trademark to describe his own products or services.⁵⁹

Both of these types of uses are largely nonrivalrous even if the level of confusion is not set at zero.⁶⁰ In one of the most significant cases involving what later became known as nominative fair use, *Prestonettes, Inc. v. Coty*, the Supreme Court held (almost a century ago) that trademark owners do not have an absolute right in their trademarks as words when such trademarks are “used to

56. See Brown, Jr., *supra* note 46, at 1185–91.

57. See Mitchell D. Diles, Note, *Condemning Clothes: The Constitutionality of Taking Trademarks in the Professional Sports Franchise Context*, 73 WASH. & LEE L. REV. ONLINE 1, 53–57 (2016).

58. See generally Graeme W. Austin, *Tolerating Confusion About Confusion: Trademark Policies and Fair Use*, 50 ARIZ. L. REV. 157 (2008) (analyzing the balance between consumer confusion and the policies underlying fair use); William McGeeveran, *The Trademark Fair Use Reform Act*, 90 B.U. L. REV. 2267 (2010) (discussing the background of the fair use doctrine in trademark law and recommending reforms to protect true instances of fair use); William McGeeveran, *Rethinking Trademark Fair Use*, 94 IOWA L. REV. 49 (2008) (providing explanations of the five principal trademark fair use doctrines and of their limitations in efficiently concluding trademark litigation); Lisa P. Ramsey, *Descriptive Trademarks and the First Amendment*, 70 TENN. L. REV. 1095 (2003) (arguing that the fair use doctrine is too limited in trademark law and that elements of current trademark law are unconstitutional under the First Amendment).

59. For a description of these doctrines, see Jessica M. Kiser, *Brands as Copyright*, 61 VILL. L. REV. 45, 81–82 (2016).

60. The Supreme Court has explained that “fair use can occur along with some degree of confusion,” but states in the same breath that this “does not foreclose the relevance of the extent of any likely consumer confusion in assessing whether a defendant’s use is objectively fair.” *KP Permanent Make-Up, Inc. v. Lasting Impression I, Inc.*, 543 U.S. 111, 122–23 (2004).

tell the truth” rather than deceive consumers.⁶¹ In the *Prestonettes* case, the petitioner Prestonettes was selling a perfume product that contained the respondent Coty’s powder and that used Coty’s name in the explanation of what the perfume contained.⁶² By not confusing consumers, the petitioner did not greatly change the ability of the respondent to use his trademark unencumbered. Note that this is not an absolute statement; after all, for all we know the Prestonettes company did cut into Coty’s market and reduced the value of his trademark to some degree if Coty’s sales went down—but that effect was likely minimal due to the differences between the products and the fact that the Coty name did not become a part of the Prestonettes brand name or of its product’s name (which distinguishes the case from scenarios involving not just confusion but also dilution).

Descriptive fair use is in a similar predicament. For example, in *Sunmark, Inc. v. Ocean Spray Cranberries, Inc.*, the juice-drink-maker appellee was allowed to use the term “sweet-tart” to describe its product even though the appellant sold candies called “SweeTarts.”⁶³ Stacey Dogan and Mark Lemley have called nominative and descriptive fair use (along with exemptions for comparative advertising and safe harbors for news reporting and commentary) instances of “non-trademark uses that are specifically exempted from trademark law either by the statute or by the courts, both because the defendant has used the mark in a legitimate and nonsource-identifying way and because of the excessive social costs if a jury were to find source or sponsorship confusion likely.”⁶⁴ In the case of SweeTarts, the candy maker can continue selling its product unhampered by the juice-drink manufacturer’s adjectival use of sweet-tart.⁶⁵ From the perspective of rivalrousness, the original trademark continues to function separately, both due to the distinction in relevant

61. *Prestonettes, Inc. v. Coty*, 264 U.S. 359, 368 (1924); *see also* *New Kids on the Block v. News Am. Publ’g, Inc.*, 971 F.2d 302, 308 (9th Cir. 1992) (“[N]ominative use of a mark—where the only word reasonably available to describe a particular thing is pressed into service—lies outside the strictures of trademark law: Because it does not implicate the source-identification function that is the purpose of trademark, it does not constitute unfair competition . . .”). A negative Yelp review of a product that uses its name would fall into this category, and in a small subset of cases, such a review could actually cause noticeable economic and hedonic harm to the producer in a way that can, however, often be justified through other factors, such as through corresponding gains to the public.

62. *See Prestonettes, Inc.*, 264 U.S. at 366–67.

63. *Sunmark, Inc. v. Ocean Spray Cranberries, Inc.*, 64 F.3d 1055, 1058–61 (7th Cir. 1995).

64. Stacey L. Dogan & Mark A. Lemley, *Grounding Trademark Law Through Trademark Use*, 92 IOWA L. REV. 1669, 1683–84 (2007).

65. *Sunmark, Inc.*, 64 F.3d at 1061.

markets and the fact that SweeTart (or sweet-tart) does not appear as part of the juice's brand name, among other reasons.

None of this is to say that the current boundaries of trademark law—be they in the area of confusion, dilution, or fair use—are necessarily optimal.⁶⁶ But they do appear to adopt an intuitive understanding that rivalrousness operates on a spectrum and that it is a value to consider in shaping the law. Other values certainly play key roles of their own; to name two important examples, free speech and positive network effects in preserving the ability to use a shared language influence a number of trademark, and even more so copyright, policies.⁶⁷ That said, both for trademark and copyright law, rivalrousness matters.

C. Patents

The Patent Act states that “[w]hoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor.”⁶⁸ Both patents and copyrights are protected under the so-called Intellectual Property Clause of the U.S. Constitution, which seeks “[t]o promote the Progress of Science and useful Arts, by securing for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries.”⁶⁹ As the Supreme Court has famously stated, there is a “basic *quid pro quo* contemplated by the Constitution . . . for granting a patent monopoly,”⁷⁰ meaning that the inventor receives a monopoly right over an invention (currently for twenty years) in exchange for disclosing the knowledge behind the invention to the public, who can make free use of it once the patent term ends.⁷¹ Just as for trade secrets, the use of that knowledge is frequently rivalrous, which is exactly why the patent owner is only willing to

66. It is also not clear whether lawmakers always considered the problem of trademark owners behaving in a bullying manner and seeking—via threatening cease-and-desist letters—to expand their rights beyond the actual legal boundaries. See generally Irina D. Manta, *Bearing Down on Trademark Bullies*, 22 FORDHAM INTELL. PROP. MEDIA & ENT. L.J. 853 (2012) (discussing the negative market impacts of trademark bullying and proposing substantive changes to current law).

67. See generally Mark Bartholomew & John Tehranian, *An Intersystemic View of Intellectual Property and Free Speech*, 81 GEO. WASH. L. REV. 1 (2013) (arguing that differences in copyright and trademark law with respect to the relative tension between the free speech and intellectual property interests they are designed to protect are an unintentional result of separate methods and histories of lawmaking).

68. 35 U.S.C. § 101 (2012).

69. U.S. CONST. art. I, § 8, cl. 8.

70. *Brenner v. Manson*, 383 U.S. 519, 534 (1966).

71. See 35 U.S.C. § 154(a)(1)–(2) (2012).

share it (rather than keep it secret) if rewarded with special protection.⁷²

Patents have presented one of the hottest battlegrounds on the topic of rivalrousness in intellectual property in part because poor people, especially in developing countries, often cannot afford access to medicine due to the (high or high-for-them) monopoly prices set by patent owners.⁷³ Meanwhile, owners argue that they need to set high prices due to the costs associated with researching and developing drugs, only a small percentage of which ultimately succeed in making it to market.⁷⁴ This speaks to the “dynamic” aspect of rivalrousness that James Stern emphasizes in his work—meaning that even if a good is, strictly speaking, nonrivalrous today (e.g., several companies could make and sell a patented drug without the patent owner necessarily suffering a loss in her market), the risk of reduction of incentives could lead to underproduction of other discoveries tomorrow.⁷⁵

In the context of takings, the Supreme Court recently made a strong connection between patents and tangible resources like land when it stated: “[A patent] confers upon the patentee an exclusive property in the patented invention which cannot be appropriated or used by the government itself, without just compensation, any more than it can appropriate or use without compensation land which has been patented to a private purchaser.”⁷⁶ This is so even though in most takings of patents, the inventor would still be able to use and commercialize her invention. The Supreme Court likely recognizes, however, that

72. See generally Richard S. Gruner, *Dispelling the Myth of Patents as Non-Rivalrous Property: Patents as Tools for Allocating Scarce Labor and Resources*, 13 COLUM. SCI. & TECH. L. REV. 1 (2012) (examining the role of patents in incentivizing the development of four groundbreaking technologies). For a discussion of a Jeffersonian nonrivalrous understanding of knowledge in the patent arena in the form of a taper that spreads light between individuals without reducing the light at the source, see generally Jeremy Sheff, *Jefferson’s Taper* (Feb. 11, 2019) (unpublished manuscript), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3332477 [<https://perma.cc/DG7Q-AYXF>].

73. HOLGER HESTERMEYER, *HUMAN RIGHTS AND THE WTO: THE CASE OF PATENTS AND ACCESS TO MEDICINES* 136–52 (2007) (concluding that patents on pharmaceuticals interfere with access to medicine in developing countries); Amir Attaran & Lee Gillespie-White, *Do Patents for Antiretroviral Drugs Constrain Access to AIDS Treatment in Africa?*, 286 J. AM. MED. ASS’N 1886, 1886–87, 1890 (2001) (stating that other, nonpatent-related causes are to blame for the lack of access to AIDS medications in West Africa).

74. For a discussion of this argument, see Daniel R. Cahoy, *Confronting Myths and Myopia on the Road from Doha*, 42 GA. L. REV. 131, 166–67 (2007).

75. Stern, *supra* note 1, at 47–48.

76. *Horne v. Dep’t of Agric.*, 135 S. Ct. 2419, 2427 (2015) (quoting *James v. Campbell*, 104 U.S. 356, 358 (1882)). For a discussion of whether post-issuance review of patents is a taking, see Dolin & Manta, *supra* note 1, at 772–95.

patents are rivalrous resources, and that the government's use of an invention diminishes what is left in the hands of the inventor.⁷⁷

The question of which kinds of uses of patented inventions can coexist—meaning which are truly nonrivalrous both in the static and dynamic sense—nevertheless becomes an empirical one.⁷⁸ This is certainly also true for other forms of intellectual property, but some of them (such as trade secrets) tend to impose greater structural limitations on concurrent use.⁷⁹ One of the questions that this differential in limitations raises is whether the virtual nonexistence of a doctrine of patent fair use makes sense. Several scholars have proposed the introduction of such a doctrine, or the broadening of the few exceptions for experimental use that exist at this time.⁸⁰ Fair use causes problems in the context of rivalrousness if we take the extreme view of the concept that any use where the intellectual property owner wishes the use were not taking place creates a conflict, in which case all unlicensed use of any intangible resource becomes suspect.⁸¹

If we view the owner's wishes, and his hedonic and economic interests, in the aggregate—and follow more utilitarian intuitions—we need not go that far. While patent licensing certainly resolves many problems, some scholars have argued that in earlier times, “[p]atentees were unlikely to suppress their innovations by refusing to license them, or to use their patents to leverage whatever market power they possessed into secondary markets.”⁸² In the modern era, however, “as the subject matter of the patent law expands, patents proliferate, and high-tech

77. *Horne*, 135 S. Ct. at 2427. This is in addition to the statutory protection that patent and copyright owners receive against infringement by the government. *See infra* note 96 and accompanying text.

78. There are certainly some independent inventors that do use the same technology without affecting each other. A few scholars have gone as far as to argue that patent law should include a defense for independent creation, like copyright law does. *See generally* Samson Vermont, *Independent Invention as a Defense to Patent Infringement*, 105 MICH. L. REV. 475 (2006). *But see generally* Mark A. Lemley, *Should Patent Infringement Require Proof of Copying?*, 105 MICH. L. REV. 1525 (2007) (disagreeing with Vermont).

79. *See supra* Section III.A.

80. *See generally* Maureen A. O'Rourke, *Toward a Doctrine of Fair Use in Patent Law*, 100 COLUM. L. REV. 1177 (2000) (arguing that fair use doctrine in patent law would serve a socially desirable function of limiting the scope of rights in today's high-tech world); Sean B. Seymore, *Patenting the Unexplained*, 96 WASH. U. L. REV. 707, 736–39 (2019) (arguing that Congress should create an absolute experimental use defense for parties that make or use patented subject matter to elucidate mechanistic details); Katherine J. Strandburg, *Patent Fair Use 2.0*, 1 UC IRVINE L. REV. 265, 266 (2011) (noting that “[p]atent law has no fair-use-type doctrine and the ‘research exemptions’ that exist are either very narrow or available only in highly specific circumstances”).

81. For a discussion of the relationship between owner nonconsent and rivalrousness, see Stern, *supra* note 1, at 55–60.

82. O'Rourke, *supra* note 80, at 1179.

markets evolve, these traditional assumptions may prove incorrect.”⁸³ Deeper empirical analysis in this area will have to examine the specific mechanisms through which inventors are incentivized, including whether allowing for broader fair use such as through greater exemptions for experimental uses of patented devices and processes would have a negative effect on the overall level of invention in the United States.

Figuring out the answers to these questions of rivalrousness may be more crucial in the patent arena than in any other intellectual property context. As important as artistic endeavors are in copyright, or commercial ones in trademarks, most individuals—at least if asked—are probably even more concerned with the creation and proliferation of important pharmaceutical drugs and other technological advancements. Understanding which uses can coexist before incentives are negatively affected if we misstep in either direction potentially becomes a literal question of life and death.⁸⁴

D. Copyrights

No area of intellectual property tends to provoke as much everyday discussion among nonspecialists as copyright law. Many individuals are either confused about the limits of copyright or just do not care at all about whether their own actions may be infringing, usually because they do not think that they will get caught.⁸⁵ Copyright law covers an incredibly diverse array of subject matters, such as literary works, musical compositions and performances, both pictorial and sculptural visual art, and so on.⁸⁶ All these factors, and the great difficulties in determining the existence of infringement and the boundaries of fair use, present a complex image of the nature of rivalrousness for copyrighted works.⁸⁷

83. *Id.*

84. There is certainly a spectrum of the extent to which this is true for each patent, but both the strong end of the life-and-death spectrum and likely the average point on that spectrum are higher for patents than their counterparts in the worlds of copyrights and trademarks.

85. See generally JOHN TEHRANIAN, *INFRINGEMENT NATION: COPYRIGHT 2.0 AND YOU* (2011) (discussing the ability of current copyright law to affect any individual in their everyday life).

86. See generally Pamela Samuelson, *Evolving Conceptions of Copyright Subject Matter*, 78 U. PITT. L. REV. 17 (2016) (discussing how U.S. copyright laws have evolved to protect many new works, which were not clearly protected by the first Copyright Act of 1790).

87. See generally Shyamkrishna Balganesh et al., *Judging Similarity*, 100 IOWA L. REV. 267 (2014) (using original empirical evidence to critique the reliance on fact-finders’

Many of copyright's doctrines can be traced back to implicit ideas of rivalrousness. For example, the law must identify at which so-called level of "abstraction" some types of works (such as the plot of a book or movie) can be protected.⁸⁸ "Boy meets girl" would not be a protectable element because removing such a general plot line from the public domain would prevent the creation of many works that are likely not particularly rivalrous with each other because the market can sustain a high number of such works. The more detailed a plot is, however, the more another plot that contains the same elements would be rivalrous.

Similar thinking is contained in the legal test for fair use in copyright law. Statutory language dictates that any fair use shall not be considered infringing, and that said use is to be determined by:

- (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.⁸⁹

These factors, individually and collectively, essentially ask whether the junior work and the senior work are rivalrous. In some ways, the fourth factor does so most directly when it seeks to inquire whether the junior work will push the senior work out of the market. Looking at the first factor, a nonprofit educational work is usually less likely to create a situation of rivalrousness than a commercial work would. For the third factor, the less that is used from the original work, the less likely rivalrousness is. And the same is true for the second factor: some types of works will be more rivalrous than others. There will be plenty of exceptions, but these are not unreasonable general predictions when it comes to rivalrousness.

substantial similarity assessments in copyright infringement cases); Irina D. Manta, *Reasonable Copyright*, 53 B.C. L. REV. 1303 (2012) (analyzing problems with the use of the reasonable person standard in copyright infringement determinations).

88. See *Nichols v. Universal Pictures Corp.*, 45 F.2d 119, 121 (2d Cir. 1930). As Judge Easterbrook elaborated: "If . . . the court should select a high level of abstraction, the first author may claim protection for whole genres of work Even a less sweeping degree of abstraction creates a risk of giving copyright protection to 'the idea' although the statute protects only 'expression.'" *Nash v. CBS, Inc.*, 899 F.2d 1537, 1540 (7th Cir. 1990).

89. 17 U.S.C. § 107 (2012); see also *Harper & Row Publishers, Inc. v. Nation Enters.*, 471 U.S. 539, 560–69 (1985) (applying the four-factor test).

In the context of unambiguous infringement, many individuals believe—for example, in cases of illegal downloads of music or movies—that their use is nonrivalrous. This is especially true if they think or rationalize that they would not have bought the work in question anyway, in which case they assume that not only does their use not affect the original good in the static sense of rivalrousness, but also in the dynamic one of considering the creation of future works.

In keeping with each such user's fairly small effect in the context of rivalrousness, the law has hardly pursued these individuals.⁹⁰ This was interrupted by a brief wave of lawsuits that deployed the statutory sanctions provisions of copyright law,⁹¹ provisions whose original drafters surely did not foresee their snowball effect in the illegal-download paradigm.⁹² Generally, copyright owners have gone after the actors whose use or enablement of others' was so significant as to create conditions of rivalrousness.⁹³ One such example was the successful lawsuit against the Grokster file-sharing platform, whose owners the Supreme Court held to have not just permitted, but in fact induced, users to infringe.⁹⁴

Some copyrighted goods are rivalrous not only in the dynamic but also in the static sense, however. While often music listeners can benefit from positive network effects, a limited-edition music album, for example, can function much like a purse that has an exclusive brand and whose experience is diminished by widespread distribution. The hedonic enjoyment that consumers

90. See Mark A. Lemley & R. Anthony Reese, *Reducing Digital Copyright Infringement Without Restricting Innovation*, 56 STAN. L. REV. 1345, 1346 (2004) (“Copyright owners tend not to sue those who trade software, video, or music files over the [i]nternet.”).

91. See Peter K. Yu, *The Copyright Divide*, 25 CARDOZO L. REV. 331, 374–401 (2003) (offering copyright policy recommendations based on a study of three instances of successful copyright enforcement).

92. See generally Irina D. Manta, *The High Cost of Low Sanctions*, 66 FLA. L. REV. 157 (2014) (noting the historical increase of enforcement and penalties in copyright infringement cases).

93. See Lemley & Reese, *supra* note 90, at 1346–49 (“In the digital environment, the real stakes . . . have been in suing those who facilitate infringement by others.”).

94. See *MGM Studios, Inc. v. Grokster, Ltd.*, 545 U.S. 913, 941 (2005). While that also created obstacles against users infringing on copyrighted goods, many of them turned to other platforms to do so. There is debate as to whether the advent of cheap legal streaming services addresses the issue of illegal downloads. Compare Tim Paul Thomes, *An Economic Analysis of Online Streaming Music Services*, 25 INFO. ECON. & POL'Y 81 (2013) (arguing that music streaming services can fight digital piracy effectively), with Karla Borja & Suzanne Dieringer, *Streaming or Stealing? The Complementary Features Between Music Streaming and Music Piracy*, 32 J. RETAILING & CONSUMER SERVS. 86 (2016) (stating that streaming services are not viewed as a low-cost substitute for piracy and that those who stream are more likely to engage in piracy).

can experience in the copyright context is similar in kind to that obtained by some users in the trademark setting. There are likely fewer such types of copyrighted goods than trademarked ones, but those that do exist can fall close to a number of trademarked wares on the spectrum of rivalrousness.

The recognition that much copyright use can take place concurrently without significant problems of rivalrousness may have contributed to the development of the compulsory licenses we see at times for copyrighted musical works. Songs can be covered and played in many places, with compensation to the owner, without impairing the owner's ability to use and exploit the value of the original.⁹⁵ When considering derivative works, however, Congress may have remained more skeptical that multiple (especially commercial) uses could operate without causing friction. In that context, copyright and trademark functions can blend together in that, for example, the equivalent of trademark law's likelihood of confusion could arise as to which is the authoritative sequel of the copyrighted Harry Potter series.

Last, if the law did not view copyrighted works as at least potentially rivalrous, it likely would not require the government to pay compensation in the case of infringement or of a taking, such as it does via statutory mechanisms.⁹⁶ In *Gaylord v. United States*, for example, the U.S. Postal Service was held liable for infringing an artist's copyright when it depicted without permission soldier sculptures that were part of the Korean War Veterans Memorial.⁹⁷ As Roberta Kwall has also explained, if the government utilizes an owner's copyrighted good in a way that does not constitute fair use, it should owe just compensation like for other types of takings.⁹⁸ While she believes that—unlike in suits involving private infringers—courts should not issue an injunction in such cases, she would still require the government to pay for its use.⁹⁹ Meanwhile, Richard Epstein has stated unambiguously his conviction “that the full takings apparatus

95. See generally Jenna Hentoff, *Compulsory Licensing of Musical Works in the Digital Age: Why the Current Process Is Ineffective & How Congress Is Attempting to Fix It*, 8 J. HIGH TECH. L. 113 (2008) (discussing supply-side innovations in the music industry that allow for legal enjoyment of music).

96. See 28 U.S.C. § 1498 (2012) (requiring the United States government to compensate the owners of copyrights or patents it infringes).

97. *Gaylord v. United States*, 777 F.3d 1363, 1365–66 (Fed. Cir. 2015).

98. See Roberta Rosenthal Kwall, *Governmental Use of Copyrighted Property: The Sovereign's Prerogative*, 67 TEX. L. REV. 685, 769 (1989).

99. *Id.*

should apply to intellectual property as it does to physical property.”¹⁰⁰

E. Looking to the Future of Intellectual Property and Rivalrousness

As with patents and probably more so, questions arise as to whether the current level of restrictiveness is truly needed to preserve rivalrousness values across the copyright legal arena.¹⁰¹ Empirical questions abound regarding many matters in this context, including the relationship between the length of the copyright term and dynamic rivalrousness, though scholars have begun addressing some of them.¹⁰² Further examination is also warranted of the intent behind and effects of infringement across types of intellectual property. We may view a copyright or patent infringer and his actions quite differently, for example, depending on whether he is a direct competitor of the original owner and sought to harm her economically; in other words, it is worth inquiring into the level of rivalrousness that the infringement creates.

This may have been partly captured in the Supreme Court’s analysis in the *eBay Inc. v. MercExchange, L.L.C.* case, which held that patent infringement should be subjected to the four-part test traditionally applied in courts of equity before the issuance of an injunction as opposed to damages.¹⁰³ The first factor of the test requires the plaintiff to “ha[ve] suffered an irreparable injury,”¹⁰⁴ which would also entail that the infringing use was rivalrous. The goal of this symposium piece is not to argue whether *eBay* was decided correctly, and its holding has certainly been subject to

100. Richard A. Epstein, *The Disintegration of Intellectual Property? A Classical Liberal Response to a Premature Obituary*, 62 STAN. L. REV. 455, 514 (2010).

101. See generally Jane C. Ginsburg et al., *The Constitutionality of Copyright Term Extension: How Long Is Too Long?*, 18 CARDOZO ARTS & ENT. L.J. 651 (2000) (presenting various arguments regarding copyright protection extensions); Lawrence Lessig, *Copyright’s First Amendment*, 48 UCLA L. REV. 1057 (2001) (noting the significant and unexplained increase in copyright restrictiveness today relative to the federalists’ approach to copyright protection); Robert Patrick Merges & Glenn Harlan Reynolds, *The Proper Scope of the Copyright and Patent Power*, 37 HARV. J. ON LEGIS. 45 (2000) (analyzing whether Congress has exceeded the scope of its constitutional power in enacting ever more restrictive patent and copyright laws).

102. See generally Christopher Buccafusco & Paul J. Heald, *Do Bad Things Happen When Works Enter the Public Domain?: Empirical Tests of Copyright Term Extension*, 28 BERKELEY TECH. L.J. 1 (2013) (countering arguments for prolonging the copyright protection time period with findings from empirical studies).

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

104. *Id.*

serious criticism.¹⁰⁵ Rather, this piece notes that the result in that case seems to display an implicit understanding of the idea that some forms of intellectual property infringement are more economically rivalrous than others, and predicts that we are likely to continue seeing rivalrousness play a role in many judicial decisions in the years to come.

IV. CONCLUSION

Rivalrousness is best viewed as a fine-grained rather than binary issue, and its degree differs both by type of intellectual property and within each type. As this symposium contribution shows, trade secret uses are generally on the high end of the rivalrousness spectrum, followed by many types of trademark uses. The picture is more complicated when it comes to patents and copyrights. Many uses in those areas, and especially in copyright, are not inherently rivalrous to the same degree as is true for other types of intellectual property. Some of the most intense conflicts about questions of rivalrousness are in areas that either have extremely high stakes—such as in some pharmaceutical contexts where life and limb are at risk—or arise with great frequency in everyday life, such as when it comes to many forms of accidental or allegedly low-harm copyright infringement.

The presence or absence of rivalrousness, while often complicated by empirical questions, ought to inform policy in each area of intellectual property. The effect of concurrent uses is highly relevant, though not always conclusive, to whether some of these uses should be permitted. Just like assumptions that intellectual property infringement is necessarily “theft” are misplaced, so are overly expansive conclusions rooted in the fact that intangible resources do not compete with each other in a purely physical sense. While this symposium contribution does not seek to resolve definitively which direction intellectual property law should take—or even to what extent it should give rivalrousness precedence over other factors or values—it has shown the effects and ramifications of a concept of rivalrousness that truly accounts for the many different ways in which goods can “displace” one another.

105. See, e.g., Epstein, *supra* note 100, at 489–91 (“The injunction avoids a regime of compulsory licenses at the insistence of the infringer that would on average undercompensate the owners for their investment and make it impossible for patent holders to develop coherent licensing strategies that target select licenses under complex licensing deals.”).