
TROLLS AND ORPHANS

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Patent trolls and orphan works are major topics of discussion in patent and copyright law, respectively, yet they are rarely discussed together. Commentators seem to regard these two problems in modern IP law as discrete issues with little to do with each other.

In reality, patent trolls and orphan works are two sides of the same coin. The patent troll problem occurs when users of a technology are surprised by the emergence of a previously undiscovered patent holder, who holds up the user for the value of fixed investments made in the patented technology. The orphan works problem occurs when potential users of a work fear the later emergence of an undiscovered copyright holder, and therefore refrain from using the work. In both cases the problem is that an undiscovered IP owner may emerge to hold up a user who has made irreversible fixed investments.

Understanding the common roots of orphan works and patent trolls has a theoretical payoff in showing how economic theory applies in similar ways across distinct branches of IP law and explains why proposed solutions for patent trolls and orphan works have often unwittingly converged despite the lack of interaction between the two literatures. More practically, understanding patent trolls and orphan works as manifestations of a holdup problem suggests that the literature would benefit from devoting more attention to solving the holdup problem in IP law, while devoting less attention to other issues that have thus far dominated the troll and orphan debates.

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INTRODUCTION

Two major topics of discussion in intellectual property law today are the problems of patent trolls and orphan works. In patent law, commentators spend much time debating what constitutes a “patent troll,” whether these “trolls” are a problem, and, if so, why.¹ In copyright law, there is greater consensus as to the definition of an orphan work and acknowledgement that orphan works in fact pose a problem in some respect, but much disagreement persists over the proper solution.²

Although IP commentators spend a good deal of time discussing each of these problems, the two are almost never discussed together. The IP literature

¹ Compare, e.g., James Bessen & Michael J. Meurer, *The Direct Costs from NPE Disputes*, 99 CORNELL L. REV. 387, 389 (2014) (asserting that patent trolls cost the U.S. economy \$29 billion in 2011), Mark A. Lemley & Carl Shapiro, *Patent Holdup and Royalty Stacking*, 85 TEX. L. REV. 1991, 2009 (2007) (“Defining a patent troll has proven a tricky business, but that does not mean the problem does not exist.”), and Richard Posner, *Patent Trolls*, BECKNER-POSNER BLOG (July 21, 2013, 5:12 PM), <http://www.becker-posner-blog.com/2013/07/patent-trollsposner.html> [<http://perma.cc/386K-5PUC>] (“It is extremely difficult to discern any possible social benefit from trolls, and extremely easy to discern substantial social costs.”), with, e.g., Michael Risch, *Patent Troll Myths*, 42 SETON HALL L. REV. 457 (2012) (arguing that non-practicing patent holders are much the same as other patent holders), David L. Schwartz & Jay P. Kesan, *Analyzing the Role of Non-Practicing Entities in the Patent System*, 99 CORNELL L. REV. 425 (2014) (disputing Bessen & Meurer’s analysis), James F. McDonough III, Comment, *The Myth of the Patent Troll: An Alternative View of the Function of Patent Dealers in an Idea Economy*, 56 EMORY L.J. 189 (2006) (arguing that patent trolls are market-facilitating middlemen that enhance efficiency), and Sannu K. Shrestha, Note, *Trolls or Market-Makers? An Empirical Analysis of Nonpracticing Entities*, 110 COLUM. L. REV. 114 (2010) (arguing that non-practicing entities can drive innovation by raising capital).

² See REGISTER OF COPYRIGHTS, REPORT ON ORPHAN WORKS 15 (2006) (defining an orphan work as “the situation where the owner of a copyrighted work cannot be identified and located by someone who wishes to make use of the work in a manner that requires permission of the copyright owner”); GOWERS REVIEW OF INTELLECTUAL PROPERTY § 4.91 (2006) (defining orphan work as “a situation where the owner of a copyright work cannot be identified by someone else who wishes to use the work”); DIG. LIBRARIES HIGH LEVEL EXPERT GRP., COPYRIGHT SUBGROUP, FINAL REPORT ON DIGITAL PRESERVATION, ORPHAN WORKS, AND OUT-OF-PRINT WORKS (2008), http://www.ifro.org/upload/documents/i2010%20Copyright%20Subgroup_Final%20report.pdf [<http://perma.cc/QX3J-T6EG>] (describing orphan works as situations in which rightholders either cannot be identified or cannot be located). But see Brad Holland, *Trojan Horse: Orphan Works and the War on Authors*, 36 J. BIOPHARM. E31, E32 (2010) (questioning the deterring effect of orphan works); Letter from Paul Aiken, Exec. Dir., Authors Guild, to Karyn Temple Claggett, Assoc. Register & Dir., Policy & Int’l Affairs, U.S. Copyright Office (Feb. 4, 2013), http://www.copyright.gov/orphan/comments/noi_10222012/Authors-Guild.pdf [<http://perma.cc/9S4F-8QVA>] (arguing that the orphan works problem is “vastly overstated”).

seems to implicitly define trolls and orphans as two very distinct kinds of problems, with almost no commonality or overlap.³

Specifically, the IP literature treats the patent troll problem as a problem of the patent holder acting wrongfully through failure to practice⁴ or through frivolous and abusive litigation.⁵ Thus, when copyright lawyers borrow the patent troll metaphor, it is applied to so-called “copyright trolls”—entities that “acquire[] a tailored interest in a copyrighted work with the sole objective of enforcing claims relating to that work against copiers in a zealous and dogmatic manner.”⁶ In contrast, the IP literature treats the orphan works problem as one involving a work that is separated from its owner, without any connotation that the owner is in the wrong or bears responsibility for the problem.⁷ Indeed, the “orphan” metaphor suggests that the IP owner is a sympathetic character who needs to be reunited with his lost work.⁸ Given the

³ Cf. GOWERS REVIEW OF INTELLECTUAL PROPERTY, *supra* note 2, § 1.9 (observing that “troll” is used pejoratively against patentees while the label “orphan” “provokes an easy sympathy”).

⁴ Oskar Liivak & Eduardo M. Peñalver, *The Right Not to Use in Property and Patent Law*, 98 CORNELL L. REV. 1437, 1450 (2013) (“Though patent assertion entities do have their defenders, it is hard to understand any functioning patent system where the necessary and challenging job of invention and commercialization takes the back seat to pursuing patents and infringement actions alone.” (footnote omitted)); *see also* eBay Inc. v. MercExchange, L.L.C., 547 U.S. 388, 396 (2006) (Kennedy, J., concurring) (criticizing plaintiffs who “use patents not as a basis for producing and selling goods but, instead, primarily for obtaining licensing fees”).

⁵ John R. Allison, Mark A. Lemley & Joshua Walker, *Extreme Value or Trolls on Top? The Characteristics of the Most-Litigated Patents*, 158 U. PA. L. REV. 1, 2 (2009) (describing a skeptical world view of the patent system as “a system rampant with litigation abuse by ‘patent trolls’ who use the legal system to divert money from innovative companies”); *see also* Commil USA, LLC v. Cisco Sys., Inc., 135 S. Ct. 1920, 1930-31 (2015) (expressing concern that “[s]ome companies may use patents as a sword to go after defendants for money, even when their claims are frivolous”).

⁶ Shyamkrishna Balganesh, *The Uneasy Case Against Copyright Trolls*, 86 S. CAL. L. REV. 723, 723 (2013); *see also* James DeBriyn, *Shedding Light on Copyright Trolls: An Analysis of Mass Copyright Litigation in the Age of Statutory Damages*, 19 UCLA ENT. L. REV. 79, 79 (2012) (“[C]opyright holders have devised a mass-litigation model to monetize, rather than deter, infringement.”).

⁷ See REGISTER OF COPYRIGHTS, *supra* note 2, at 15; GOWERS REVIEW OF INTELLECTUAL PROPERTY, *supra* note 2, § 4.91.

⁸ Lydia Pallas Loren, *Abandoning the Orphans: An Open Access Approach to Hostage Works*, 27 BERKELEY TECH. L.J. 1431, 1435 (2012) (“In the metaphor of the romantic author, the works he creates are his children Using the word ‘orphans’ to describe works whose copyright owners cannot be located pulls on that metaphor and triggers the concerns any humane person would have toward abandoned children.” (footnote omitted)); *see also* REGISTER OF COPYRIGHTS, *supra* note 2, at 8 (“[A]ny system to deal with orphan works should seek primarily to make it more likely that a user can find the relevant owner in the first instance”). Notably, when the metaphor is used in patent law—in the context

prevailing framing of each issue, the troll and orphan problems would seem to have little in common.

My contention in this Essay is that the usual framings of the troll and orphan problems are misleading. Properly understood, the patent troll problem is not a problem of evil non-practicing patent holders, nor is the orphan works problem a problem of works being lost or misplaced by their passive owners. Patent trolls and orphan works are problems of holdup, and they are the same problem. That is, the patent troll problem occurs when users of a technology (by which I include manufacturers and sellers of products incorporating a technology as well as the ultimate end user) are surprised by the emergence of a previously undiscovered patent holder, who opportunistically holds up the user for the value of fixed investments made in the patented technology. The orphan works problem occurs when potential users of a work fear the later emergence of an undiscovered copyright holder and therefore refrain from using the work. In both cases the problem is one of an undiscovered IP owner emerging to hold up a user who has made irreversible fixed investments.

Framing the orphan works and patent troll debates in this way is important for two reasons. On a theoretical level, it illustrates the shared economic foundations of patent and copyright law. That is, what patent and copyright lawyers have thought of as two distinct problems, each largely confined to their own sub-branch of IP law, turns out to be a shared phenomenon, merely manifesting in different forms on the surface. On a more practical level, the payoff is that we can have a clearer picture of the problem and avoid being distracted by side issues. In the copyright context, understanding the orphan works problem as a matter of copyright owners' active holdup of users, rather than simply as a matter of owners being separated from their works (with the subtle implication that nobody in particular did anything to cause the situation), opens the solution space to include a greater role for regulating copyright holders. Such solutions are currently overlooked because the orphan metaphor portrays copyright holders as passive and innocent. On the patent side, an understanding of patent trolling as holdup provides an account for what patent trolls are and explains why they are problematic, thereby refuting arguments that patent trolls do not exist or that they are socially beneficial.

I. TROLLS AND ORPHANS AS HOLDUP

A. *The Holdup Problem in General*

“Holdup” is an economic term which, when used in this context, refers not to violent robbery by bandits, but to a situation in which a person makes a fixed investment (an investment that cannot be easily reversed or redirected)

of so-called “orphan drugs” that are under-commercialized due to inadequate demand—the solution has been to give patent holders *stronger* rights. *See* Orphan Drug Act of 1983, Pub. L. No. 97-414, 96 Stat. 2049 (providing for, amongst other provisions, patent term extensions when dealing with orphan drugs).

that is dedicated toward a use that is subject to the permission of another party.⁹ The latter party, who can threaten to withhold the permission, thereby gains considerable leverage over the person who made the fixed investment.¹⁰

More concretely, suppose that *B* owns Blackacre, a plot of undeveloped land that, in its undeveloped state, is worth \$100. Suppose further that *A* inadvertently pays to build a house worth \$500 on Blackacre. Prior to *A* building the house, *B* could only demand \$100 from *A* to buy Blackacre. Once the house is built, *B* can now demand that *A* pay \$600 or forfeit use of the house. In other words, *B* gains the ability to hold up *A* for an increased payment once the irreversible fixed investment in the house has been made.

Holdup situations generally arise only when there is some element of surprise.¹¹ If *A* knows ahead of time that *B* owns Blackacre, then it is very unlikely that *A* would build the house on Blackacre, since it would be predictable that *B* would hold him up and that he would need to pay a total of \$1100 for a \$600 property. The holdup problem is likely to arise in my hypothetical above only if *A* is somehow not aware of the ownership of Blackacre. Since land ownership is generally not difficult to determine, holdup does not appear to be a pervasive phenomenon in real property law.¹²

It is also worth emphasizing that holdup is a *problem* mainly when there is some element of surprise.¹³ If *A* knows ahead of time that the land is owned by *B* and builds a house on it anyway, then there is little harm in allowing *B* to demand an additional \$500 from *A*—*A* has effectively volunteered to make the additional payment and has no basis to complain. The harm of holdup comes from its deterrent effect on productive investment: if people who are contemplating fixed investments fear that those fixed investments will be subject to later holdup, they are likely to make fewer investments, and to take (socially wasteful) protective measures to guard whatever investments they do make, which increases the cost of investing and therefore again deters

⁹ See generally Benjamin Klein, *Transaction Cost Determinants of “Unfair” Contractual Arrangements*, 70 AM. ECON. REV. 356, 356-57 (1980); Benjamin Klein, Robert G. Crawford & Armen A. Alchian, *Vertical Integration, Appropriable Rents, and the Competitive Contracting Process*, 21 J.L. & ECON. 297, 298 (1978).

¹⁰ This is not because of the sunk-cost fallacy—where the person who made the investment continues paying due to an irrational attachment to what has already been paid—but because the fixed investment has continuing *future* value in its use.

¹¹ See Klein, *supra* note 9, at 356-57 (“Such behavior is, by definition, unanticipated and not a long-run equilibrium phenomenon.”).

¹² Herbert Hovenkamp, *Notice and Patent Remedies*, 88 TEX. L. REV. SEE ALSO 221, 228 (2011) (“The real-property system has no equivalent of the . . . ‘patent troll.’ People do not often surreptitiously acquire land, leave it vacant, and then make a surprise announcement of ownership only after someone else has developed it.”).

¹³ I say “mainly” because the expectation of holdup still causes frictions in the economy even when everything is known with certainty, so long as transaction costs are non-zero. For example, short-term renters have little incentive to make improvements to a property because they are vulnerable to holdup once the lease expires. Klein, *supra* note 9, at 357.

productive investment.¹⁴ These harms are most problematic when the prospect of holdup is uncertain and its specific occurrence unexpected.

It follows from the above that solutions to holdup typically work in one of two ways. First, a solution could seek to prevent unwitting fixed investments from being made, such as by improving property notice and facilitating the *ex ante* attainment of authorization.¹⁵ Second, a solution could involve reducing the holdup artist's leverage once an unwitting fixed investment is made.¹⁶ The two types of solutions are not mutually exclusive, though they are in some tension with each other because the former is associated with property rules while the latter is associated with liability rules.¹⁷ The point is that either type of solution can work in theory (i.e., if conditions are perfect, which of course they never are), and the best solution for any particular context depends on the circumstances. Solutions based on *ex ante* attainment of permission face transaction costs in having parties identify, locate, and negotiate with the right counterparty. Solutions based on reducing holdup leverage *ex post* face the difficulty of having a court or similar government actor accurately determine the "correct" value of a use. Whether, and to what extent, a solution can overcome these difficulties, in comparison to other choices and options, will determine whether it is a good solution.

¹⁴ It is worth noting here that holdup is not limited to the assertion of a property right over the fixed investment. A classic illustration of holding up a fixed investment without asserting a property right over it is *Alaska Packers' Ass'n v. Domenico*, 117 F. 99 (9th Cir. 1902), where fishermen demanded doubled wages only after the ship had sailed and the catch was at stake. The fishermen's leverage came from the fact that the fishing season was short and their labor could not be immediately replaced, not from any property right over the fish. Nonetheless, the problem remains the same: if such holdup were allowed, then future employers would expect that fishermen would seek to opportunistically renegotiate contracts after the ship had sailed, and they would reduce their investment in fishing accordingly. *But cf.* Debora L. Threedy, *A Fish Story: Alaska Packers' Association v. Domenico*, 2000 UTAH L. REV. 185, 214-17 (arguing that the fishermen's leverage in *Alaska Packers* was in fact quite limited).

¹⁵ This first category can be sliced more finely into several more categories. A solution can prevent an unwitting fixed investment by making it less likely that a particular violation is *unwitting*, such as by improving notice. *See, e.g.*, FED. TRADE COMM'N, THE EVOLVING IP MARKETPLACE: ALIGNING PATENT NOTICE AND REMEDIES WITH COMPETITION 73-135 (2011). Or it can make it less likely that the investment is *unauthorized*, by making it easier to obtain permission beforehand. *See, e.g.*, Tun-Jen Chiang, *The Reciprocity of Search*, 66 VAND. L. REV. 1 (2013). Or a solution can make it not a *violation*, by changing the law to remove the holdup artist's rights. *See, e.g.*, Jennifer M. Urban, *How Fair Use Can Help Solve the Orphan Works Problem*, 27 BERKELEY TECH. L.J. 1379, 1383 (2012).

¹⁶ *See, e.g.*, William F. Lee & A. Douglas Melamed, *Breaking the Vicious Cycle of Patent Damages*, 101 CORNELL L. REV. 385, 385 (2016) (proposing reduced remedies against "innocent infringers for whom preclearance was not practicable").

¹⁷ *See generally* Guido Calabresi & A. Douglas Melamed, *Property Rules, Liability Rules, and Inalienability: One View of the Cathedral*, 85 HARV. L. REV. 1089 (1972).

B. *Orphan Works as Holdup*

With the above definition of holdup, it should be clear that the orphan works problem is a paradigmatic case of the holdup problem. The standard definition of an orphan work is a work whose owner cannot be identified or located.¹⁸ As the Register of Copyrights explains, the problem in such situations is that “a productive and beneficial use of the work is forestalled.”¹⁹ More particularly, users refrain from making use of the work because “there is always a possibility, however remote, that a copyright owner could appear and bring an infringement action after that use has begun.”²⁰ In other words, users refrain from making fixed investments in a work because they fear that a copyright holder will emerge after those investments have been made, at which point the copyright holder will have holdup leverage. The harm, as in other cases of holdup, is that productive investments are deterred.

Stated in these terms, my argument here might appear rather obvious. Yet the copyright literature seems to have mostly ignored the connection. The Register of Copyrights report on orphan works makes zero mention of the economic concept of holdup, even though its explanation of why orphan work situations are problematic precisely tracks the economic understanding of holdup problems. A search on Westlaw for (“orphan work” /s (holdup or “hold up”)) turns up only three articles, one of which is my own.²¹

The point here is not that copyright scholars should use more magic words and economic jargon. The disconnect between the orphan works literature and the broader literature on holdup produces real harm because it causes the orphan works literature to be artificially cramped in its vision. I will elaborate on this point in Sections II.A and II.B, but for now it suffices to point out that the Register of Copyrights report, despite initially describing the harm of orphan works as the deterrence of “productive and beneficial use of the work,”²² later takes the position that the foremost principle in any solution should be that “any system to deal with orphan works should seek primarily to make it more likely that a user can find the relevant owner in the first instance, and negotiate a voluntary agreement over permission and payment . . .”²³ Viewed from the economic perspective that the harm of an orphan works situation is the deterrence of investments by *users*, this emphasis on protecting copyright holder interests—by locating copyright holders and ensuring they are

¹⁸ REGISTER OF COPYRIGHTS, *supra* note 2, at 15.

¹⁹ *Id.*

²⁰ *Id.*

²¹ Those articles are: Chiang, *supra* note 15; Brad A. Greenberg, *Copyright Trolls and Presumptively Fair Uses*, 85 U. COLO. L. REV. 53 (2014); Steven Hetcher, *Orphan Works and Google’s Global Library Project*, 8 WAKE FOREST INTELL. PROP. L.J. 1 (2007).

²² REGISTER OF COPYRIGHTS, *supra* note 2, at 15.

²³ *Id.* at 93.

paid—would seem odd.²⁴ Viewed from the perspective that the real harm of an orphan works situation is the separation of owners from their works, premised on a deeper belief that such separation is harmful because owners have an inherent right to control and be paid for their works, it makes perfect sense. The latter perspective is deeply entrenched in the psyche of the orphan works literature today, despite superficial rhetoric about deterred user investment. Framing the orphan works problem as a problem of copyright owner holdup challenges this deeply entrenched view and suggests a very different emphasis in the pursuit of solutions.

C. *Patent Trolls as Holdup*

In all discussion of patent trolls, an antecedent difficulty that arises is that there is no consensus definition of what constitutes a patent troll and no agreed-upon account of why (or even if) such entities are harmful. Understood broadly, the term is often used to denote any non-practicing patent holder.²⁵ More narrowly, the term is sometimes used to denote non-practicing patent holders who acquire their patents through purchase rather than original research (thereby excluding universities and original inventors).²⁶ Both of these definitions are problematic in terms of justifying the pejorative “troll” label, because it is not obvious that there is anything *per se* wrong with either non-practice or acquiring patents through purchase. As a matter of basic

²⁴ To put it more bluntly, productive investments by users can be equally incentivized by ensuring that copyright holders are *never* located nor paid.

²⁵ See, e.g., Allison, Lemley & Walker, *supra* note 5, at 3 (equating non-practicing entities with patent trolls); John F. Duffy, *Reviving the Paper Patent Doctrine*, 98 CORNELL L. REV. 1359, 1362-63 (2013) (“These . . . patent trolls are patentees who have never themselves commercialized their patented inventions.”); Michael S. Mireles, *Trademark Trolls: A Problem in the United States?*, 18 CHAP. L. REV. 815, 819 (2015) (“[T]he defining characteristic of the patent troll is that it does not ‘practice’ the patented invention.”); Miranda Jones, Note, *Permanent Injunction, a Remedy by Any Other Name Is Patently Not the Same: How eBay v. MercExchange Affects the Patent Right of Non-Practicing Entities*, 14 GEO. MASON L. REV. 1035, 1040 (2007) (commenting that all nonpracticing patent holders have often been referred to as trolls).

²⁶ See Ian Polonsky, *You Can’t Go Home Again: The Righthaven Cases and Copyright Trolling on the Internet*, 36 COLUM. J.L. & ARTS 71, 72-73 (2012) (“The patent troll model works as follows: the troll seeks out opportunities to buy patents on the cheap, often during bankruptcy auctions or from producers hoping to sell under-utilized patents to fund other research projects.”); Jason Rantanen, *Slaying the Troll: Litigation as an Effective Strategy Against Patent Threats*, 23 SANTA CLARA COMPUTER & HIGH TECH. L.J. 159, 163-64 (2006) (attempting to distinguish between patent trolls and those who do not practice their patent but nonetheless contribute to innovation); David L. Schwartz, *On Mass Patent Aggregators*, 114 COLUM. L. REV. SIDEBAR 51, 51 n.5 (2014) (“The argument is sometimes that trolls are defined only as noninnovators and are a subset of those who do not manufacture. However, almost all of the empirical evidence used in the debate about patent trolls assumes . . . that all non-manufacturing parties are noninnovators.”).

comparative advantage, it is unlikely that the most efficient person to commercialize a technology would be the same person who initially invents it.²⁷ A sensible patent system could thus very well seek to encourage the initial inventor to sell or license his rights to some more efficient user of the technology rather than practice the invention himself,²⁸ and it likewise would seek to encourage those who have a comparative advantage in commercialization and not research to acquire inventions through patent purchase rather than conceive inventions through original research.²⁹

Although non-practice by patent holders and acquiring patents by purchase are not in-and-of-themselves problematic, my argument here is that they are correlated with something that is problematic. Specifically, they are correlated with patent holdup, which I will define as a situation in which a patent holder emerges *ex post* with a previously undiscovered patent and wields that patent against an unwitting user who has already made irreversible fixed investments in a particular technology.³⁰ The harm that arises from such patent holder

²⁷ See Daniel A. Crane, *Intellectual Liability*, 88 TEX. L. REV. 253, 288 n.207 (2009) (“A rule prohibiting the free alienability of patents would stymie innovation and undermine efficiency by prohibiting the exploitation of comparative advantage in various functions such as research and development, manufacturing, and marketing.”).

²⁸ See Kenneth J. Arrow, *Economic Welfare and the Allocation of Resources for Invention*, in NAT’L BUREAU OF ECON. RESEARCH, THE RATE AND DIRECTION OF INVENTIVE ACTIVITY: ECONOMIC AND SOCIAL FACTORS 609, 614-16 (1962) (commenting that IP protection helps facilitate efficient transfer, since otherwise a manufacturer would not agree to license an idea without knowing what it was buying, but once the idea was disclosed the manufacturer would lose the incentive to pay for it); Ronald J. Mann, *Do Patents Facilitate Financing in the Software Industry?*, 83 TEX. L. REV. 961, 1024 (2005) (“The fact that the invention may have been assigned by the inventor to a third party does not suggest that the right to enforce the patent should be diminished.”).

²⁹ See Ashish Arora & Robert P. Merges, *Specialized Supply Firms, Property Rights and Firm Boundaries*, 13 INDUS. & CORP. CHANGE 451, 470-72 (2004) (arguing that IP rights help allow small independent firms to specialize in research rather than become vertically integrated); Daniel F. Spulber, *Intellectual Property and the Theory of the Firm*, in PERSPECTIVES ON COMMERCIALIZING INNOVATION 9, 31 (F. Scott Kieff & Troy A. Paredes eds., 2012) (arguing that intermediaries facilitate specialized inventors “by making it possible for them to transfer to others responsibility for developing and commercializing their inventions” (citation omitted)).

³⁰ Holdup is not the only preexisting problem that the rise of non-practicing patent acquisition entities can make worse. Another example is the high cost of patent litigation. Patent litigation has always been expensive. See *Blonder-Tongue Labs., Inc. v. Univ. of Ill. Found.*, 402 U.S. 313, 334 (1971) (acknowledging that patent litigation “is a very costly process”). But the problem is worse in a world where many plaintiffs are non-practicing entities who specialize in litigation, because the cost of patent litigation is now not only high but *asymmetric*. A practicing defendant will have more documents and higher discovery burdens than a non-practicing plaintiff. See Joanna M. Shepherd, *Ideal Versus Reality in Third-Party Litigation Financing*, 8 J.L. ECON. & POL’Y 593, 602 (2012). A plaintiff who specializes in litigation will also presumably have a cost advantage over a defendant who

behavior is that it serves as a disincentive for users to make fixed investments in productive use: if potential users know that their investments are likely to be held up later (but do not know ahead of time the identity of the person who will subsequently make the assertion), then they are less likely to make the investment in the first place. And even if these users do make the investment, they are likely to take wasteful defensive countermeasures to protect themselves.³¹

Such holdup is not strictly confined to non-practicing entities, nor to entities that acquire their patents through purchase. However, in practice, non-practicing patent holders are much more likely to be able to engage in holdup than practicing patent holders. Among other reasons for this disparity, 35 U.S.C. § 287 requires a practicing patent holder to provide notice of the patent to potential users either directly or through marking all patented products with the patent number.³² Non-practicing patent holders are categorically exempt from this notice requirement.³³ It is therefore more difficult for a practicing patent holder to emerge *ex post* with an undiscovered patent than a non-practicing patent holder. Since surprise is key to a holdup strategy,³⁴ practicing patent holders have more difficulty pursuing it. Patent holders who acquired their patents through purchase are also more likely to successfully pursue a holdup strategy than are original inventors. As a matter of basic economic theory, a purchaser is likely to be a more effective exploiter of the patent right than the seller, or there would be no sale. To the extent that the holdup strategy

does not. In this manner, one could define patent trolling more capacious as a multi-faceted phenomenon of patent holders exploiting (and making worse) numerous preexisting vulnerabilities in the patent system. For simplicity's sake, in this Essay I focus on the problem of holdup and do not attempt to exhaust all the other vulnerabilities in the patent system that can be exploited.

³¹ For example, one common defensive countermeasure is for a potential user to obtain an opinion of counsel stating that the proposed use does not infringe a patent. *See, e.g.*, Global-Tech Appliances, Inc. v. SEB S.A., 131 S. Ct. 2060, 2064 (2011). Such opinions are almost always obtained purely for their tactical value in litigation (having an opinion helps reduce the likelihood of being found liable for induced infringement and for enhanced damages, among other things) and not as a sincere effort to clarify legal rights *ex ante*. *See* Knorr-Bremse Systeme Fuer Nutzfahrzeuge GmbH v. Dana Corp., 383 F.3d 1337, 1351 (Fed. Cir. 2004) (en banc) (Dyk, J., concurring in part and dissenting in part) (deriding opinions of counsel as “window-dressing”); Mark A. Lemley & Ragesh K. Tangri, *Ending Patent Law’s Willfulness Game*, 18 BERKELEY TECH. L.J. 1085, 1092 (2003) (“A company that knows how to play the game . . . pays its money and requests only a favorable written opinion.”). They provide no social value, even if they have private value to the users who obtain them.

³² 35 U.S.C. § 287 (2012).

³³ *Wine Ry. Appliance Co. v. Enter. Ry. Equip. Co.*, 297 U.S. 387, 388 (1936).

³⁴ *See* Klein, *supra* note 9, at 356-57.

is the most profitable method for exploiting a particular patent, a purchaser will then be more likely pursue it successfully than the original inventor.³⁵

My argument is therefore that the current concern about patent trolls is best understood as a concern about patent holdup, not as a concern about non-practice *per se* or about the acquisition of patents through purchase rather than original research. And it follows that a “patent troll” is best defined as “an entity that engages in patent holdup,” rather than as all (and only) non-practicing entities or as all (and only) entities that acquire their patents through purchase. Not every non-practicing patent holder engages in holdup; not every non-practicing patent holder is problematic; and not every non-practicing patent holder should be labeled a patent troll. Conversely, it is possible for practicing entities, or original inventors, to engage in holdup, and when they do, they should be condemned as patent trolls just as much as a non-practicing patent holder engaged in the same behavior.³⁶ Adopting my definition thus avoids the over- and under-inclusiveness problems that come with a more bright-line definition.

At the same time, the traits that are commonly associated with patent trolls—non-practice, acquiring patents through purchase, etc.—are not *irrelevant* under my definition. It is true that the holdup problem—and thus the patent troll problem—exists independently of non-practicing entities and predates the current concern about them; indeed, one can find examples of the phenomenon throughout the history of the patent system.³⁷ But the problem becomes more severe and more *salient* in a world where non-practicing patent holders are common; the observation that the patent troll debate is of relatively recent vintage is consistent with my argument. Thus, while it is not accurate to label all non-practicing entities as patent trolls, neither is it entirely accurate to say that the rise of non-practicing patent holders is unproblematic or that there

³⁵ At a more general level, the underlying intuition is that we usually do not want the market power conferred by a patent to be exploited with maximum effectiveness. 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, 989 (1999) (“[T]he last increment by which an unconstrained patentee chooses to increase price hurts society much more than it helps the patentee.”). And a purchaser is more likely to get closer to exploiting a patent with maximum effectiveness than the seller who sold it.

³⁶ See Mark A. Lemley & A. Douglas Melamed, *Missing the Forest for the Trolls*, 113 COLUM. L. REV. 2117, 2121 (2013); cf. Marc Morgan, Comment, *Stop Looking Under the Bridge for Imaginary Creatures: A Comment Examining Who Really Deserves the Title Patent Troll*, 17 FED. CIR. B.J. 165, 178 (2008) (arguing that the label should be applied to actors who engage in specific practices).

³⁷ See Adam Mossoff, *The Rise and Fall of the First American Patent Thicket: The Sewing Machine War of the 1850s*, 53 ARIZ. L. REV. 165, 207 (2011) (arguing that “patent trolls” are not a modern phenomenon); see also Gerard N. Magliocca, *Blackberries and Barnyards: Patent Trolls and the Perils of Innovation*, 82 NOTRE DAME L. REV. 1809, 1811 (2007) (looking at “patent sharks,” the 19th century parallel to patent trolls).

is no patent troll problem at all.³⁸ Viewing the patent troll problem through the lens of holdup thus provides a coherent account of the phenomenon that fits the commonly observed traits of patent trolls and explains why the phenomenon is problematic, while avoiding the objections and counterarguments that would attach to a more bright-line definition.

II. PAYOFFS AND IMPLICATIONS

At an academic level, the payoff of understanding the orphan works and patent troll problems as fundamentally the same holdup problem is that it brings greater theoretical coherence to IP law as a whole. There is an unhealthy tendency among patent and copyright lawyers (*especially* patent lawyers, who have their own bar exam and specialized appeals court) to think of their respective fields as islands detached from the greater body of American law.³⁹ This tendency is reflected in the treatment of orphan works as a copyright-specific problem while viewing trolls as a mostly patent-specific phenomenon. My argument helps negate this belief. The fact that patent trolls and orphan works are in fact one phenomenon helps show that “intellectual property law” is not just a shorthand for the collection of subfields that have nothing to do with each other but is in fact a coherent field that shares common underlying economic phenomena and policy issues.⁴⁰ And understanding that holdup is a general phenomenon that occurs throughout the law helps link intellectual property law to the greater body of American law.

This kind of abstract theoretical payoff, I suspect, will not satisfy the more practical-minded readers in my audience. In some sense, framing the orphan works and patent troll debates as both being about holdup is *just* a framing—it does not change the underlying phenomena being diagnosed. Understanding that two problems are in fact one and the same problem does not make the

³⁸ See, e.g., McDonough, *supra* note 1 (arguing non-practicing entities can be economically beneficial); Shrestha, *supra* note 1 (arguing that non-practicing entities can drive innovation by raising capital); see also F. Scott Kieff, *Coordination, Property, and Intellectual Property: An Unconventional Approach to Anticompetitive Effects and Downstream Access*, 56 EMORY L.J. 327, 396 (2006) (arguing that “the pernicious impact of the troll is limited”); Mossoff, *supra* note 37, at 206-08 (arguing that the troll label is “empty rhetoric” that should be “laid to rest”); Risch, *supra* note 1 (arguing that non-practicing patent holders are not very different from other patent holders).

³⁹ See Craig Allen Nard & John F. Duffy, *Rethinking Patent Law’s Uniformity Principle*, 101 NW. U. L. REV. 1619, 1645 (2007) (“Even before the creation of the Federal Circuit, the patent bar was a recognized specialty and a somewhat insular community. The creation of a single specialized court located in one city cannot help but foster an even greater degree of insularity . . .”); cf. Knorr-Bremse Systeme Fuer Nutzfahrzeuge GmbH v. Dana Corp., 383 F.3d 1337, 1351 (Fed. Cir. 2004) (en banc) (Dyk, J., concurring in part and dissenting in part) (“Patent law is not an island separated from the main body of American jurisprudence.”).

⁴⁰ See generally Frank H. Easterbrook, *Cyberspace and the Law of the Horse*, 1996 U. CHI. LEGAL F. 207 (arguing against excessively specialized disciplinary definitions).

problem go away. It does not even necessarily suggest a new solution, since the problem has not been solved in either the copyright or the patent context.

Yet framing—and misframing—matters. As I will explain below, the current framing of the orphan works and patent troll debates tends to direct attention toward issues that are not at the core of the problem, resulting in confusion, distraction, and unnecessary controversy. Viewing the orphan works and patent troll problems as a holdup has value in moving the debate forward by clarifying the issues at stake, avoiding distractions, and facilitating normative consensus, even without immediately dictating particular policy solutions. The orphan works problem is not about helping lost orphans and reuniting them with their parents; it is about preventing copyright holders from opportunistically exploiting inadequate notice. The patent troll problem is similarly not about non-practice *per se* but about preventing patent holders from opportunistically exploiting inadequate notice. A debate where everyone is trying to solve problems of inadequate notice and IP holder opportunism in our patent and copyright systems will look much different than the orphan works and patent troll debates we have today.

A. *Resisting the Orphan Metaphor's Implications*

Consider first the orphan metaphor and its implications. Labeling a work whose owner cannot be located as an “orphan” implies that the problem lies with the *separation* between a work and its owner, just as the problem with an orphaned child lies in the separation between child and parent.⁴¹ Such an understanding of the nature of the orphan works problem—that the problem lies in the separation between work and owner and the loss of copyright holder control—logically suggests any solution should first and foremost aim to undo the separation and restore copyright holder control.⁴² If one plays out the metaphor, the ideal resolution of an orphan child situation would be to discover that the child is not an orphan after all—i.e., to discover that the child’s parents are in fact alive and then reunite the child with its parents. Similarly, much of the policy discussion surrounding orphan works begins with the explicit or

⁴¹ See, e.g., Jerry Brito & Bridget Dooling, *An Orphan Works Affirmative Defense to Copyright Infringement Actions*, 12 MICH. TELECOMM. & TECH. L. REV. 75, 77 (2005) (describing the problem as a “disconnect between potential users and rightsholders”); Yafit Lev-Aretz, *The Subtle Incentive Theory of Copyright Licensing*, 80 BROOK. L. REV. 1357, 1360 (2015) (conceptualizing orphan works as a “licensing shortage”); Bingbin Lu, *The Orphan Works Copyright Issue: Suggestions for International Response*, 60 J. COPYRIGHT SOC’Y U.S.A. 255, 257-58 (2013) (stating the harm of an orphan works situation as: “If there is no copyright owner, there is no beneficiary of the copyright term and it is an enormous waste.” (quoting *The “Orphan Works” Problem and Proposed Legislation: Hearing Before the Subcomm. on Courts, the Internet, and Intellectual Prop., H. Comm. on the Judiciary*, 110th Cong. (2008) (statement of Marybeth Peters, Register of Copyrights))).

⁴² Loren, *supra* note 8, at 1435 (“Using the word ‘orphans’ to describe works whose copyright owners cannot be located . . . triggers the concerns any humane person would have toward abandoned children.”).

implicit premise that the first-best ideal solution to an orphan works situation is to locate the copyright holder,⁴³ thereby “reuniting” the lost work with its owner.⁴⁴

Through this affirmative vision of what the orphan works problem is about, the orphan metaphor also makes implicit suggestions about what the problem is *not*. Specifically, the orphan metaphor suggests that the problem does not lie with the copyright holder—an orphan child is not an orphan unless its parents are permanently out of the picture, and few parents maliciously or voluntarily cause their children to become orphaned. The orphan metaphor thus paints a picture of a *passive* and *innocent* copyright holder, who becomes permanently separated from his work for no specified reason. Since the copyright holder is presumed innocent and permanently out of the picture, policy discussions do not consider regulating copyright holder activities to be relevant to a solution.⁴⁵

These implications of the orphan works metaphor are false. The harm of an orphan work situation does not lie in the separation of copyrighted works from their owners, nor in the loss of protection and copyright holder control. It lies in the deterrence of productive investments on the part of potential users. Copyright holders are neither passive bystanders nor innocent victims in orphan works problems; they are highly active players who bear responsibility for causing the problem to arise. If the copyright holder is truly passive and permanently out of the picture, and this fact is known, then there is no problem—the work can be used, and no users are deterred from making fixed investments. The orphan works problem becomes a problem only if a copyright holder eventually emerges from the shadows to file suit.

Nor are copyright holders innocent victims in any reasonable sense of that term. Filing a copyright infringement suit, by itself, is not problematic, but the orphan works problem requires more than that a copyright holder file suit. It requires that the copyright holder file suit after a fixed investment has been made, and it requires that the copyright holder *exercise* his enhanced leverage at that point in time by demanding a higher payment than what he could have

⁴³ REGISTER OF COPYRIGHTS, *supra* note 2, at 74-75 (“An unspoken assumption in essentially all of the comments was that an orphan works provision is a second-best solution for a situation in which a voluntary, market transaction is not possible.”).

⁴⁴ *Id.* at 93 (“First, any system to deal with orphan works should seek primarily to make it more likely that a user can find the relevant owner in the first instance.”).

⁴⁵ The main exception is proposals to reinvigorate copyright formalities. *See* Save the Music/Creative Commons, Comment, *In re Orphan Works*, No. 643, at 16-19 (Mar. 25, 2005), <http://www.copyright.gov/orphan/comments/OW0643-STM-CreativeCommons.pdf> [<http://perma.cc/8MAQ-TV7Z>] (proposing that copyright remedies be conditioned on copyright holder registration). *See generally* Christopher Sprigman, *Reform(alizing) Copyright*, 57 STAN. L. REV. 485 (2004). Proposals for formalities have not gained much traction, however, and so do not really disprove my point that the implicit assumption of a passive copyright holder steers the conversation away from solutions that require an active copyright holder role. *See* REGISTER OF COPYRIGHTS, *supra* note 2, at 73-77 (expressing skepticism about requiring registration).

obtained *ex ante* (before the fixed investments were made). Current copyright law confers upon copyright holders the legal right to push their leverage to the hilt—but such opportunism is not innocent.

In sum, orphan works situations are not problematic because a copyrighted work is permanently separated from its passive and innocent owner. They become problematic only if the separation is temporary and the copyright holder turns out to be neither passive nor innocent, but rather emerges later and then opportunistically exercises his increased leverage to demand heightened compensation. By highlighting the separation of works from their owners, falsely suggesting its permanence, and downplaying the *ex post* opportunism of copyright holders, the orphan metaphor incompletely diagnoses the cause of the problem and misdirects the search for solutions.

At this point, one question that I am often asked is what alternative label I would propose. My response is that my point is less about replacing the semantic label *per se* and more about appreciation of the underlying substantive problem. In a first-principles world where the language used in the debate could be crafted from scratch, a more fitting label (such as “troll work” or “holdup work”) would be nice. But such a change is not feasible in our actual world because of high switching costs—everyone is already used to the “orphan works” label and nobody really wants to have to learn a new term for the same concept,⁴⁶ and thus my argument is not that we should devise a new term. Rather, my goal is for everyone to better appreciate that the underlying problem of the situation is the deterrence of fixed investments by potential users, and not the issues that the “orphan” label suggests.

This is not really a new point. Indeed, on a surface level, there is already wide acknowledgment that the harm of an orphan works situation lies in the deterrence of productive investments by users and that this deterrence arises by a mechanism in which copyright holders later emerge.⁴⁷ But my concern is that current appreciation of this point is often skin deep. People who think that the harm of an orphan work situation is *purely* the deterrence of user investment would not give surpassing priority to protecting and compensating copyright holders, and yet protecting and compensating copyright holders is given extreme importance in the current debate.⁴⁸ People who think that the problem lies in the opportunistic behavior of copyright holders, and not in the

⁴⁶ See generally Paul Klemperer, *Markets with Consumer Switching Costs*, 102 Q.J. ECON. 375 (1987) (examining the market costs of brand switching).

⁴⁷ REGISTER OF COPYRIGHTS, *supra* note 2, at 15; GOWERS REVIEW OF INTELLECTUAL PROPERTY, *supra* note 2, § 4.95.

⁴⁸ REGISTER OF COPYRIGHTS, *supra* note 2, at 93. Even relatively anti-copyright proposals emphasize the ability of copyright holders to recover compensation. See, e.g., Save the Music/Creative Commons, *supra* note 45, at 16-17 (emphasizing that failure to register “does not vitiate copyright” and proposing an “Orphan Fund” to allow copyright holder recovery). This might be a pragmatic concession to the political reality that copyright holders have influence; but copyright holders have political influence in part because the orphan works metaphor portrays them in a sympathetic light.

separation of works from their owners, would not regard requiring copyright holder search as unthinkable⁴⁹ while regarding a requirement of user search as natural, yet this allocation of regulatory burden and responsibility is likewise a deeply entrenched feature of current copyright debates.⁵⁰ The mere fact that the semantic pull of the orphan metaphor has not succeeded in *entirely* misdirecting the debate does not mean that its pernicious influence has not penetrated very deeply.

B. *The Role of Copyright Holders*

What follows from the prior section is that the current orphan works debate is distorted. Because copyright holders are imagined to be passive, solutions that involve a more active role for copyright holders tend to be overlooked. Because copyright holders are imagined to be innocent, solutions targeted toward remedying opportunism and misbehavior are not considered relevant to orphan works discussions.

This is not to say that the solutions that have been proposed in the orphan works literature necessarily cannot work. The most popular type of proposed solution—issuing compulsory licenses to users conditioned on those users performing some type of *ex ante* search to locate the copyright owner⁵¹—may very well work, at least in some circumstances,⁵² and has in fact been implemented in other copyright systems outside the United States.⁵³ My point instead is that the orphan works literature has been unduly narrowed in its vision of the possible solution-space. Compulsory licenses and *ex ante* user

⁴⁹ See *Authors Guild v. Google Inc.*, 770 F. Supp. 2d 666, 682 (S.D.N.Y. 2011) (“[I]t is incongruous with the purpose of the copyright laws to place the onus on copyright owners to come forward to protect their rights”); REGISTER OF COPYRIGHTS, *supra* note 2, at 72 (discussing arguments against mandatory registration that assert that such registration would represent a “dramatic reversal of the current copyright regime, in which an owner need not perform any positive act”); Ariel Katz, *The Orphans, the Market, and the Copyright Dogma: A Modest Solution for a Grand Problem*, 27 BERKELEY TECH. L.J. 1285, 1290-91 (2012) (arguing that copyright “dogma” assumes that users should seek permission).

⁵⁰ See REGISTER OF COPYRIGHTS, *supra* note 2, at 71 (“[A] fundamental requirement for designation of a work as orphaned is that the prospective user have conducted a search for the owner of the work”).

⁵¹ See *id.* at 115-21 (proposing limitations on monetary and injunctive relief in infringement actions for copyright holders in orphan works cases when the user can sufficiently demonstrate that he performed a “reasonably diligent search and provided reasonable attribution to the author and copyright owner”).

⁵² See Pamela Samuelson, *Notice Failures Arising From Copyright Duration Rules*, 96 B.U. L. REV. 681-82 (2016) (“For many cultural heritage organizations, such as nonprofit libraries, museums, and archives, however, the highly formalistic process proposed by the Copyright Office that prospective users of orphan works would need to follow to qualify for the limited liability is likely to prove unworkable.”).

⁵³ See, e.g., Canada Copyright Act, R.S.C. 1985, c C-42, § 77 (regulating situations in which a license may be issued if the original owner cannot be located).

search (leading to negotiations for *ex ante* permission) are both known solutions to holdup problems, but they are not the only solutions. The reason that the orphan works literature nonetheless coalesces around some combination of these solutions, and *only* these solutions, is not because of their indisputable innate superiority over all other options, but merely because they are the types of solutions that fit the picture of a passive and innocent copyright holder. A requirement of user search imposes no burdens on copyright owners.⁵⁴ A compulsory license regime—so long as it accurately calculates the royalty—does not harm copyright owners and thus does not morally require any predicate of copyright holder misbehavior. These solutions are consistent with the picture painted by the orphan metaphor.

Once we understand that the orphan works problem is a holdup problem, and that holdup problems require active copyright holder involvement, a different set of possible solutions emerges. First, as I have explained in more detail elsewhere, there is no intrinsic reason why users must do the searching while copyright holders sit passively like wallflowers.⁵⁵ If the goal is simply to facilitate an *ex ante* negotiation to secure permission for a proposed use, then that *ex ante* negotiation can occur whether potential users find the copyright owners *or* copyright owners *find the potential users*.⁵⁶ Which party is the lower-cost searcher—able to find the counterparty at a lower cost—will vary with the circumstances, but there is no obvious reason to believe that the lower-cost searcher is *always* the potential user and *never* the copyright holder. A rule that both copyright holders and users have the duty to take reasonable measures to look for the other is a plausible solution to the orphan works problem.⁵⁷ Such a proposal is a nonstarter in the current political/legal environment, however, because it contradicts deeply held unspoken

⁵⁴ See *Authors Guild*, 770 F. Supp. 2d at 681 (stating that “a copyright holder may sit back [and] do nothing”).

⁵⁵ Chiang, *supra* note 15, at 60-63 (arguing that search is reciprocal rather than one-sided); see also Oren Bracha & Patrick Goold, *Copyright Accidents*, 96 B.U. L. REV 1025 (2016) (arguing that a negligence standard would promote efficient search).

⁵⁶ As an added bonus in terms of real-world feasibility (an issue that I do not focus on in this Essay), while an obligation on copyright holders to *attach notice* to visually perceptible copies would undoubtedly be a “formality” that runs afoul of the Berne Convention, a requirement that copyright holders *find potential users* would bear little overt resemblance to the traditional formalities that Berne proscribes. See Berne Convention for the Protection of Literary and Artistic Works art. 3(1), July 24, 1971, 25 U.S.T. 1341, 828 U.N.T.S. 221. If finding a user is considered a formality, then requiring copyright holders to file suit (which requires finding the defendant to serve a complaint) would also be, and nobody suggests the latter to be true.

⁵⁷ On the seeming free-rider problem (if the user knows the copyright holder will find him *ex ante* to negotiate, then the user will not spend any resources to search, and vice versa), contributory negligence law provides a game-theoretic model of how to incentivize both parties to take action at the same time. See DOUGLAS G. BAIRD, ROBERT H. GERTNER & RANDAL C. PICKER, *GAME THEORY AND THE LAW* 18 (1994).

assumptions about the passivity of copyright holders that the orphan metaphor reflects and reinforces.⁵⁸

Second, once we understand that holdup involves a copyright holder *opportunistically emerging* and ambushing a user, it follows that legal doctrines designed to prevent such opportunism can help curb the problem. Specifically, the doctrines of laches and equitable estoppel have traditionally served this function.⁵⁹ A copyright holder who did not contact the user *ex ante* and opportunistically emerged only after a fixed investment was made might reasonably be said to have lacked diligence in pursuing his claim and caused his victim prejudice,⁶⁰ and barring relief in these circumstances will serve to prevent holdup.

The laches example provides a concrete setting where the harm from the distortion in the debate is not merely academic and theoretical. For laches is not merely a useful doctrine that has been unfortunately *overlooked* in the orphan works academic discussion; it is a useful doctrine that has been *eliminated* from positive copyright law thanks to the Supreme Court's recent decision in *Petrella v. Metro-Goldwyn-Mayer, Inc.*⁶¹ Part of the reason that the Court gives for its decision is that it sees "nothing untoward" about copyright holders strategically waiting until after a fixed investment is made by users.⁶² Such a statement is evidence that the Court does not currently understand copyright holdup as a problem. Framing the orphan works problem as a problem of copyright holder holdup, and explaining why allowing copyright holders to strategically wait and ambush users *ex post* is problematic, thus helps correct misconceptions that are negatively affecting copyright law and moves the debate forward.

C. A Less Normatively Fraught Theory of Patent Trolls

In the patent context, a payoff of defining patent trolls as a problem of holdup is that it provides a less normatively fraught account of what patent trolls are and why they are problematic. That is, the reason that there is currently no agreed-upon definition of what constitutes a patent troll is because

⁵⁸ See *Authors Guild*, 770 F. Supp. 2d at 681; Katz, *supra* note 49, at 1290-91.

⁵⁹ See Henry E. Smith, *Rose's Human Nature of Property*, 19 WM. & MARY BILL RTS. J. 1047, 1049-51 (2011) (arguing that equity's "major theme" is the prevention of opportunism).

⁶⁰ See *Chirco v. Crosswinds Cmtys., Inc.*, 474 F.3d 227, 231 (6th Cir. 2007) (stating that laches requires (1) lack of diligence by plaintiff, and (2) prejudice to defendant).

⁶¹ 134 S. Ct. 1962, 1974 (2014) (remarking that the Court has never "approved the application of laches to bar a claim for damages brought within the time allowed by a federal statute of limitations," and that copyright law is no exception to this general approach).

⁶² *Id.* at 1976 (observing that copyright holders may choose to wait to pursue remedies for a possible infringement on their copyrighted work so as to see whether the infringement is detrimental or helpful to the value of the original work).

people disagree about whether various underlying activities are “bad.” Saying that all non-practicing entities should be pejoratively labeled implies that non-practice is bad *per se*.⁶³ Saying that all entities that acquire patents by purchase should be called an ugly name implies that patent law should restrict the alienability of patents.⁶⁴ Saying that suing independent inventors makes one a patent troll implies a normative view that patent infringement liability ought to be limited to derivation.⁶⁵ Because the most common definitions regarding what constitutes a patent troll contain implicit normative assertions that are in fact heavily contested, consensus becomes elusive. People who do not agree that non-practice is bad will find labeling all non-practicing entities as patent trolls to be over-inclusive at best and gratuitously insulting at worst.⁶⁶ People who think that patents should be freely alienable will not agree to an ugly name for entities that acquire patents by purchase.⁶⁷ People who think that absolute liability for patent infringement is normatively desirable will not find troubling a phenomenon of patent plaintiffs suing independent inventors.⁶⁸

My theory—that patent trolls should be defined as entities that engage in holdup—is still a normative theory: it relies on the normative assertion that

⁶³ See Liivak & Peñalver, *supra* note 4, at 1479-81 (arguing for “an obligation to use the patent”). A variant of this line of argument is to define patent trolls as non-practicing entities who intentionally do not practice. See, e.g., Samuel F. Ernst, *Trolls or Toll-Takers: Do Intellectual Property Non-Practicing Entities Add Value to Society?*, 18 CHAP. L. REV. 611, 611 (2015) (“[P]atent trolls are companies that acquire patents, not for the purpose of developing new technologies and creating jobs, but for the sole purpose of demanding royalties . . .”). A definition that turns on subjective purpose fits uncomfortably with the consequentialist paradigm that generally undergirds the analysis of patent law.

⁶⁴ See Lee Anne Fennell, *Adjusting Alienability*, 122 HARV. L. REV. 1403, 1413-15 (2009) (giving patents as an example of “anxiously alienable goods”).

⁶⁵ See Stephen M. Maurer & Suzanne Scotchmer, *The Independent Invention Defence in Intellectual Property*, 69 ECONOMICA 535, 535 (2002) (arguing that the lack of independent invention defense in patent is “inferior in any industry where the cost of independently inventing a product is not too much less than . . . the inventor’s cost”); Samson Vermont, *Independent Invention as a Defense to Patent Infringement*, 105 MICH. L. REV. 475, 475 (2006) (arguing that independent invention should be a defense).

⁶⁶ See, e.g., Kristen Osenga, *Formerly Manufacturing Entities: Piercing the “Patent Troll” Rhetoric*, 47 CONN. L. REV. 435, 440 (2014) (criticizing “the lack of precision in the rhetoric”).

⁶⁷ See, e.g., Mann, *supra* note 28, at 1024 (“The fact that the invention may have been assigned by the inventor to a third party does not suggest that the right to enforce the patent should be diminished.”); cf. Neil Netanel, *Alienability Restrictions and Enhancement of Author Autonomy in United States and Continental Copyright Law*, 12 CARDOZO ARTS & ENT. L.J. 1, 11 (1994) (stating that “the utilitarian and natural rights models [underlying U.S. copyright law] assume and require the free alienability of copyright” and contrasting those models with European theories of copyright).

⁶⁸ See generally Robert P. Merges, *A Few Kind Words for Absolute Infringement Liability in Patent Law* (unpublished manuscript), <http://ssrn.com/abstract=2464756> (defending the absolute liability rule).

holdup is bad. The advantage of this theory is simply that the normative premise is less heavily contested—I am aware of no one who argues that holdup is a good thing (though people do contest how often it happens⁶⁹). And if one accepts the premise that holdup is bad, then it follows that pejoratively describing patentees who engage in holdup—both non-practicing entities and practicing entities—as “patent trolls” is appropriate. The contribution of my theory here is that it allows more room for agreement, so that a wider variety of people with different values and different visions for what constitutes a “good” patent system could potentially be able to agree that there *is* such a thing as a patent troll, and that such entities *are* problematic.⁷⁰ Agreement on even this basic point would advance the debate from where it is now. It would allow us to agree that it would be desirable to prevent holdup,⁷¹ either by improving ex ante notice and search or by reducing patentee leverage ex post, though my theory does not dictate a choice between those two routes. It allows us to move beyond the impasse of arguing about whether patent trolls are a coherent concept and intelligible problem at all.⁷²

There is a downside to my theory as compared to simpler, more bright-line definitions, such as one that labels all non-practicing entities (and *only* non-practicing entities) as patent trolls. Namely, my theory is not able to generate the kind of strong, clear, and concrete policy solution that a bright-line definition allows. That is, a theory that regards non-practicing patent holders as *the* problem leads logically to a policy prescription that patent law should require patentees to practice.⁷³ A practice requirement, in turn, can be reduced to a clear legal rule that can be feasibly enforced, because whether a patentee is a practicing or non-practicing entity is reasonably easy to observe and

⁶⁹ See, e.g., Jonathan M. Barnett, *The Anti-Commons Revisited*, 29 HARV. J.L. & TECH. 127 (2015) (arguing that markets develop solutions to patent anti-commons problems); Alexander Galetovic, Stephen Haber & Ross Levine, *An Empirical Examination of Patent Hold-Up*, 11 J. COMPETITION L. & ECON. 549 (2015); Kieff, *supra* note 38, at 396 (“[T]he pernicious impact of the troll is limited to a large extent . . . ”).

⁷⁰ See Cass R. Sunstein, *Incompletely Theorized Agreements*, 108 HARV. L. REV. 1733, 1735 (1995).

⁷¹ For those who contend that holdup is rare, *see supra* note 69, my theory permits the response that it is still desirable to prevent holdup to whatever extent it occurs.

⁷² See, e.g., Jones, *supra* note 25, at 1041 (“This ever broadening and confusing usage of ‘patent troll’ has rendered it meaningless. The only remaining clarity is the pejorative connotation.”); Mossoff, *supra* note 37, at 206-08 (arguing that the troll label is “empty rhetoric” that should be “laid to rest”); Osenga, *supra* note 66, at 441 (“[N]ormative assessments, as well as legislative or judicial changes in the law, should not be made on the basis of ill-defined and empirically unverified rhetoric.”).

⁷³ See Liivak & Peñalver, *supra* note 4, at 1479-81; *see also* Duffy, *supra* note 25 (arguing for a revival of the paper patent doctrine, which discouraged non-practice by allowing courts to discriminate against those who never used their patents).

measure.⁷⁴ In contrast, my theory leads logically to a policy prescription that patent law should restrain patentees from engaging in holdup. But whether, and to what extent, a patentee is engaging in holdup is not easy to observe from the outside, because it requires comparison to a counterfactual (whether patentees are receiving more than what they would have received in negotiations before the defendant made fixed investments) that courts cannot accurately construct.⁷⁵ Restraining patent holdup is thus more of a generalized goal than any kind of concrete proposal—the goal can be pursued through a wide variety of imperfect mechanisms such as improving *ex ante* search and notice, awarding narrower patents, or limiting patent infringement remedies, among others. All of the mechanisms have their own pros and cons, and my theory does not dictate that any one of them should be adopted. Saying “patent law should seek to prevent holdup” is therefore much more wishy-washy and open-ended than saying “patent law should seek to prevent non-practicing entities.” Someone who believes that non-practicing entities really are *per se* problematic will find my theory too mushy and insufficiently ambitious.

My response to those who would prefer a strong policy response, such as a practice requirement or an independent invention defense, is twofold. The first is that, although my theory does not logically *dictate* such policy prescriptions, neither does it *foreclose* them—it simply leaves the issue open. The second is that the kind of normative consensus that will be required to support strong changes such as limiting patent law to derivation or requiring patentees to practice their patents is not likely to be achieved in the short term, if ever. In the meantime, a more minimalist account of what constitutes a patent troll—with the point that such entities *do* exist and *are* bad—at least provides a refutation of more extremist arguments that the concern over patent trolls is

⁷⁴ An empiricist will also find data collection much easier with a bright-line definition. It is easy to empirically measure whether a patentee is a non-practicing entity; it is hard to empirically measure whether a patentee is exercising holdup leverage. To the extent that my definition accurately captures the underlying phenomenon, however, the difficulty of collecting data is not an objection to the definition’s theoretical validity. And my theoretical definition does not preclude an empiricist from using a more easily measured characteristic (such as non-practice) as a proxy, as long as one makes clear that the proxy is a proxy.

⁷⁵ I mean this in a stronger way than the simple practical observation that counterfactuals are hard to do. Counterfactuals are endemic in law, and they are always hard, but calculating the counterfactual of what a patentee and defendant would have negotiated *ex ante* is not only a practical difficulty but a logical contradiction. The reason for having a patent system rather than a prize system in the first place is the belief that courts cannot calculate the value of a patented technology; if courts could make the calculation, it would be more efficient to award taxpayer-funded prizes than to award patent monopolies. Louis Kaplow, *The Patent-Antitrust Intersection: A Reappraisal*, 97 HARV. L. REV. 1813, 1844 (1984). Having a court determine what market participants would counterfactually negotiate *ex ante* is essentially determining the value of the patented technology. A court making that calculation thus logically calls into question the reason for the existence of the patent system under which the calculation is being made.

entirely illusory and that non-practicing entities are not merely benign but positively beneficial.

A third, somewhat unrelated, point that I would assert is that my theory better fits with the linguistic connotations of the word “troll” than other potential theories. To the extent that other theories conceptualize the underlying problem of patent trolls as non-practice, or as rewarding entities other than the original inventor, or as the filing of nuisance litigation, or something else, these theories suffer from the fact that those problems are not particularly associated with the metaphor of a troll. In mythology, a troll is a creature that *hides* under bridges and, after a traveler has started crossing (and sunk fixed costs thereby), *emerges* to demand a toll.⁷⁶ The troll metaphor aptly describes a holdup problem but is not well suited to describing other problems. This provides an independent reason why my definition is superior compared to other potential theories of what constitutes a patent troll.

D. *The Commonality of Solutions*

A final implication of my argument is that, because patent trolls and orphan works are essentially the same problem, solutions to the problem will have much in common as well.

This is both a descriptive and prescriptive point. The descriptive point is that the orphan works literature and the patent troll literature have *already* arrived at many very similar proposals, even though the two literatures rarely interact. By far the most popular proposal in the orphan works context is to restrict injunctions and award compulsory licenses (with reasonable royalties).⁷⁷ In the patent context, the most significant response to the rise of patent trolls has been the Supreme Court’s decision in *eBay Inc. v. MercExchange, L.L.C.*,⁷⁸ which gave district courts more discretion to deny injunctions in patent cases.⁷⁹ As commentators have noted, the post-*eBay* pattern has been that district courts generally deny injunctions only in cases involving non-practicing patent holders.⁸⁰ Since an injunction denial coupled with an award of continuing

⁷⁶ Tina M. Nguyen, *Lowering the Fare: Reducing the Patent Troll’s Ability to Tax the Patent System*, 22 FED. CIR. B.J. 101, 105-06 (2012) (“Like a mythical troll that hides under the bridge and does not show itself until an unsuspecting individual uses the bridge, the patent troll demands a license only *after* there is a thriving market for the product.”).

⁷⁷ See, e.g., REGISTER OF COPYRIGHTS, *supra* note 2, at 115-21 (proposing limitations on monetary and injunctive relief in orphan works cases when the user can sufficiently demonstrate that he performed a “reasonably diligent search and provided reasonable attribution to the author and copyright owner”).

⁷⁸ 547 U.S. 388 (2006).

⁷⁹ *Id.* at 394.

⁸⁰ See, e.g., Colleen V. Chien & Mark A. Lemley, *Patent Holdup, the ITC, and the Public Interest*, 98 CORNELL L. REV. 1, 10 (2012) (remarking that courts have denied about three-quarters of the injunction requests made by “Patent Assertion Entit[ies]”); Jaideep Venkatesan, *Compulsory Licensing of Nonpracticing Patentees After eBay v. MercExchange*, 14 VA. J.L. & TECH. 26, 39 (2009).

royalties is tantamount to a compulsory license,⁸¹ this makes the post-*eBay* landscape for non-practicing patent plaintiffs—which, as explained above, are heavily correlated with patent trolls—bear striking similarity to the system that commentators in the orphan works literature propose.

I do not mean to say that *eBay* has solved the patent troll problem or that it can. Although it is quite reasonable to believe that concerns about holdup are influencing some district courts in some cases, and that this explains why injunctions are far more frequently denied in cases involving non-practicing plaintiffs than practicing plaintiffs, a pattern of district court decisions is not the same as a well-theorized rule. In other words, the post-*eBay* patent landscape is the result of hundreds of individual district judges each exercising his own discretion, where there is a *tendency* for non-practicing patent plaintiffs to be denied injunctions, with no *ex ante* certainty of this result.⁸² And *ex ante* uncertainty is harmful because it is the *fear* of holdup, more than the actual occurrence of holdup, that causes economic harm in the form of diminished investment by users. And even if the post-*eBay* landscape were to become better-theorized, and there emerged a rule that cases of holdup should result in the denial of an injunction coupled with an award of continuing royalties, this would not necessarily be the best solution to the holdup problem. Compulsory license regimes have well-known downsides, starting with the difficulty of judicially determining the correct royalty.⁸³ My point here is not to endorse or criticize the post-*eBay* patent regime; my point is to explain why the post-*eBay* patent regime looks remarkably similar to what people in the seemingly unrelated orphan works literature envision as a solution. The follow-on prescriptive implication is that more conscious cross-fertilization is possible. For example, just as *eBay* provides the doctrinal foundation for an imperfect solution to the patent troll problem, it can provide a doctrinal foundation for a similar solution to the orphan works problem.

There is something of a flip side to this point, which is that the commonality of solutions between the orphan works problem and the patent troll problem also means that they often face similar obstacles, especially in a common law system where analogies between copyright and patent law are frequently made. For example, as I mentioned in Section II.B, one solution that could potentially

⁸¹ See *Paice LLC v. Toyota Motor Corp.*, 504 F.3d 1293, 1314 (Fed. Cir. 2007) (authorizing ongoing royalty awards).

⁸² Post-judgment ongoing royalty awards also reflect much scattering. Although the modal post-judgment ongoing royalty has been the same as what a court thinks the patentee would have received in an *ex ante* negotiated agreement, many courts award far higher amounts. See Christopher B. Seaman, *Ongoing Royalties in Patent Cases After eBay: An Empirical Assessment and Proposed Framework*, 23 TEX. INTELL. PROP. L.J. 203, 240 (2015) (finding that ongoing royalty rates tend to be one to three times more than the pre-judgment royalty rate). A sufficiently supra-compensatory ongoing royalty award has essentially the same effect as an injunction.

⁸³ See Richard A. Epstein, *A Clear View of the Cathedral: The Dominance of Property Rules*, 106 YALE L.J. 2091, 2092-94 (1997).

ameliorate the orphan works problem is a doctrine of laches. In a similar manner, a robust doctrine of laches can help ameliorate the patent troll problem.⁸⁴ However, just as the Supreme Court decision in *Petrella v. Metro-Goldwyn-Mayer, Inc.* overruled the laches defense in copyright law, it likely overruled the laches defense in patent law. Just like copyright law, the patent statute itself provides a statutory period to bring suit, barring recovery for acts of infringement committed beyond the statutory period.⁸⁵ If one takes the formal logic of *Petrella* seriously—i.e., the fact that Congress provides a statutory time period to bring suit forecloses a second, judge-made doctrine on the issue—then the patent doctrine of laches cannot survive.⁸⁶

But this leads to an even deeper point. Ultimately, a solution to the orphan works problem and the patent troll problem depends not on doctrinal technicalities but on substantive understanding and normative consensus. In the long term, no solution to the orphan works problem will last if judges and other lawmakers believe that there is simply “nothing untoward” about copyright holders waiting-and-seeing while a user sinks fixed investments into an infringing product and pouncing only afterwards.⁸⁷ No solution to the patent troll problem will be stable if judges and other lawmakers believe that there is “nothing improper, illegal or inequitable” about filing and amending secret patent applications to retroactively cover a product that an unwitting user has

⁸⁴ The laches doctrine in patent law today is not an effective solution for patent trolls because the Federal Circuit has a presumption against finding laches unless the patentee waits more than six years from first knowledge of infringement. *Meyers v. Asics Corp.*, 974 F.2d 1304, 1307 (Fed. Cir. 1992). A patent troll has much incentive to wait until after a victim begins infringement to bring its patent to light, but generally has no reason to wait six more years after that.

⁸⁵ The two provisions are worded differently and may appear substantively different at first glance. The patent provision states “no recovery shall be had for any infringement committed more than six years prior to the filing of the complaint.” 35 U.S.C. § 286 (2012). The copyright provision states that “[n]o civil action shall be maintained under the provisions of this title unless it is commenced within three years after the claim accrued.” 17 U.S.C. § 507(b) (2012) (emphasis added). The fact that the copyright provision facially bars an entire “civil action” might make it appear to be more than a bar on out-of-period damages. But this is misleading because the copyright provision is a “rolling” statute of limitations—every act of infringement is deemed to be a separate claim that accrues separately, so the effect is only to bar recovery for acts of infringement that occurred more than three years before the filing of suit. *See Petrella*, 134 S. Ct. at 1970 (“[W]hen a defendant has engaged . . . in a series of discrete infringing acts, the copyright holder’s suit ordinarily will be timely under § 507(b) with respect to more recent acts of infringement . . . but untimely with respect to prior acts of the same or similar kind.”). This makes it the same in substance as the patent provision, despite the different wording.

⁸⁶ *But see SCA Hygiene Prods. Aktiebolag v. First Quality Baby Prods.*, 807 F.3d 1311 (Fed. Cir. 2015) (en banc) (holding that laches in patent law is statutorily codified at 35 U.S.C. § 282(b)(4) and thus survives *Petrella*).

⁸⁷ *Petrella*, 134 S. Ct. at 1976.

invested resources into commercializing.⁸⁸ Challenging and defeating these sentiments—by showing that the behavior being condoned leads to holdup and that holdup *is* problematic—is ultimately what will get us closer to a solution for both orphan works and patent trolls.

⁸⁸ Kingsdown Med. Consultants, Ltd. v. Hollister Inc., 863 F.2d 867, 874 (Fed. Cir. 1988).