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Licenses and the Property/Contract Interface

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INTRODUCTION

End-user license agreements are ubiquitous. Almost every time one acquires software, digital media content, or software-embedded goods, such as digital cameras, new appliances, or even new cars, one receives a license agreement (often abbreviated “EULA”) alongside the purchase that purports to specify how the software or digital work may be used. These licenses indicate how the licensee may use the acquired product—often by limiting how or whether the product may be transferred,¹

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1. E.g., *Kindle Store Terms of Use*, AMAZON, <http://www.amazon.com/gp/help/customer/display.html?nodeId=201014950> [<https://perma.cc/34A6-E3F9>] (last updated Oct. 5, 2016) (specifying in “1. Kindle Content” that the digital content purchased for use on an Amazon Kindle is “solely for your personal, non-commercial use” and that an end user “may not sell, rent, lease, distribute, broadcast, sublicense, or otherwise assign any rights to the Kindle Content”).

whether it can be used for commercial purposes,² or whether additional copies of the software can be made.³ Some licenses have gone beyond these somewhat straightforward terms to include more particular limitations. For example, the John Deere company believes (relying on both its EULA and the Digital Millennium Copyright Act) that it should have the power to specify who may repair broken vehicles manufactured and sold by Deere,⁴ and the license agreement that governs *World of Warcraft* players specifies that users do not have a license to access the game's copyrighted content if they are using an automated system to play.⁵

Yet even though licenses are omnipresent, their legal character remains disputed and poorly defined. On the one hand, EULAs look like contracts, and contracting parties are generally allowed to make highly idiosyncratic agreements of almost unlimited variation.⁶ On the other hand, most licenses also appear to be documents that

2. E.g., *Microsoft Software License Terms*, MICROSOFT, <https://www.microsoft.com/en-us/useterms> [<https://perma.cc/4TWH-NDVU>] (Select from drop-down menus: "From a store as packaged . . .," "Word," "2013," and "English"; hit "Go"; then open the pdf titled "Word_2013_English.pdf") (stating in "H. Home and Student Software," "'Home and Student' edition software may not be used for commercial, non-profit, or revenue-generating activities.").

3. E.g., *Apple Media Services Terms and Conditions*, APPLE, <http://www.apple.com/legal/internet-services/itunes/us/terms.html> [<https://perma.cc/97MC-NSAS>] (last updated Sept. 13, 2016) (specifying in "B. Using Our Services" that a user may "burn an audio playlist to CD for listening purposes up to seven times").

4. See Jason Bloomberg, *John Deere's Digital Transformation Runs Afoul of Right-To-Repair Movement*, FORBES (April 30, 2017, 12:03 PM), <https://www.forbes.com/sites/jasonbloomberg/2017/04/30/john-deeres-digital-transformation-runs-afoul-of-right-to-repair-movement/#598b6a2d5ab9> [<https://perma.cc/C43U-7NR7>] ("Subsequent to the US Copyright Office's Class 21 exemption, then, John Deere required its customers to sign an updated EULA that restricted the ability of equipment owners to repair or modify their equipment, in essence requiring them to use John Deere-certified diagnostic and repair software – software that some farmers claim the company has not made available to them."); Laura Sydel, *DIY Tractor Repair Runs Afoul of Copyright Law*, NPR (Aug. 17, 2015, 4:20 PM), <http://www.npr.org/sections/alltechconsidered/2015/08/17/432601480/diy-tractor-repair-runs-afoul-of-copyright-law> [<https://perma.cc/5M73-SAM7>] ("Unfortunately, Alford isn't allowed to fix [his tractor]. . . . If something goes wrong with one of his tractors Alford has to take it to an authorized John Deere dealer—the closest one is about 40 miles away—or a John Deere rep has to come visit him."); Kit Walsh, *John Deere Really Doesn't Want You To Own that Tractor*, ELECTRONIC FRONTIER FOUND. (Dec. 20, 2016), <https://www.eff.org/deeplinks/2016/12/john-deere-really-doesnt-want-you-own-tractor> [<https://perma.cc/5PRN-WM6R>] ("In the new License Agreement for John Deere Embedded Software, customers are forbidden to exercise their repair rights or to even look at the software running the tractor or the signals it generates.").

5. See *World of Warcraft Terms of Use*, BLIZZARD, http://us.blizzard.com/en-us/company/legal/wow_tou.html [<https://perma.cc/S65N-LXX7>] (last updated Aug. 22, 2012) (stating in "2. Additional License Limitations," "Any use of the Service or the Game Client in violation of the License Limitations will be regarded as an infringement of Blizzard's copyrights in and to the Game. You agree that you will not . . . use cheats, automation software (bots), hacks, mods or any other unauthorized third-party software designed to modify the World of Warcraft experience.").

6. Thomas W. Merrill & Henry E. Smith, *Optimal Standardization in the Law of*

transfer property rights—the rights to make certain uses of copyrighted and patented works—and property rights have historically been more limited in how they can be transferred.⁷ In particular, physical goods typically cannot be “licensed” indefinitely to end users.⁸

Because EULAs appear to have characteristics of contracts and of instruments that transfer property, lawyers, judges, and legislators can unconsciously find themselves switching between intuitions that EULAs should be treated as one or the other. These same actors can also opportunistically choose to treat licenses as creatures of property or contract based on their preferred outcomes.

By unconsciously applying varying principles to EULAs, or by opportunistically choosing how to interpret them, legal actors risk developing harmful or internally inconsistent licensing law. But this risk can be diminished if we instead choose to develop EULA law intentionally, using insights about property and contract law to help illuminate when EULAs should be regulated as contracts, as property transfers, or in a *sui generis* way.

Accordingly, this Article argues that EULAs are best understood, to use the terminology of Thomas Merrill and Henry Smith,⁹ as existing on “the property/contract interface.”¹⁰ EULAs blend qualities classically associated with property and contracts, and the ways in which they are property-like and contract-like inform what legal treatment will make them most effective and beneficial. Contract law typically covers “in personam” relationships among rights holders and duty holders, in which a single, identifiable person has rights against or is owed a duty from another identifiable person.¹¹ This relationship plainly exists in the traditional contract setting, where two people come together and write out an agreement between themselves. In such a scenario, the number of people involved in the legal relationship is limited to a small number, and all are known to each other. In contrast, property law typically covers what have been described as “in rem” relationships, where a single person holds rights against or is owed duties from many, unidentified people.¹² In rem rights and duties typically attach to individuals through their relationship with a particular

Property: The Numerus Clausus Principle, 110 YALE L.J. 1, 3 (2000) (“The law of contract recognizes no inherent limitations on the nature or the duration of the interests that can be the subject of a legally binding contract. . . . [O]utside . . . relatively narrow areas of proscription and requirements . . . there is a potentially infinite range of promises that the law will honor. The parties to a contract are free to be as whimsical or fanciful as they like in describing the promise to be performed, the consideration to be given in return for the promise, and the duration of the agreement.”).

7. *Id.* (“Generally speaking, the law will enforce as property only those interests that conform to a limited number of standard forms. . . . If [parties] fail to be clear about which legal interest they are conveying, or if they attempt to customize a new type of interest, the courts will generally recast the conveyance as creating one of the recognized forms.”).

8. See Christina Mulligan, *Personal Property Servitudes on the Internet of Things*, 50 GA. L. REV. 1121, 1123 (2016).

9. Thomas W. Merrill & Henry E. Smith, *The Property/Contract Interface*, 101 COLUM. L. REV. 773 (2001).

10. *Id.* at 773.

11. *Id.* at 809.

12. *Id.*

thing, which may be physical (a car) or nonphysical (a bank account or a poem).¹³ An example of this situation is simple ownership of physical property. If someone owns a car, everyone else has a duty not to trespass on it, commandeer it, or destroy it. Although nearly everyone has a duty to abstain from interacting with the car, the car's owner can't name everyone bound by the duty. In general, intellectual property law also protects what can be described as "in rem rights," because everyone has a duty to abstain from infringing behavior.¹⁴

EULAs create rights and duties that are neither purely in rem nor purely in personam. As in an "in rem" relationship, many people (the licensees) can have obligations to a single licensor under the EULA. But as in an "in personam" relationship, the duty holders are (or could be) known to the licensor. Merrill and Smith call this type of hybrid relationship "compound-paucital" and define it as when "a single identified person has rights against or is owed duties by a large number of identified persons."¹⁵ Compound-paucital relationships are like in personam ones, because the relevant parties are known to each other, but they also resemble in rem relationships because very large numbers of people owe duties to a single rights holder. One example of the compound-paucital relationship is that of a bailee who engages in transactions with many bailors, such as a coat check or a valet parking agent.¹⁶ Another example would be standard-form leases offered to tenants by the landlord of a large apartment building.¹⁷ Although compound-paucital relationships tend to involve the agreement of all parties, as do contracts, the terms of those relationships are not alterable by the numerous parties on one side of the transaction. Rather, as is the case with in rem property rights, a combination of immutable and default legal rules and the decisions of the single rights-holding party determine what rights and obligations are created and enforced.

In compound-paucital relationships, the single rights holder has tremendous cause to establish relationships that benefit its own interests, because those benefits will aggregate over the numerous parties on the other side of the relationship.¹⁸ Correspondingly, the numerous duty holders individually have less at stake. As a result of this asymmetry, Merrill and Smith anticipated that legal areas involving compound-paucital relationships would develop strategies to protect the numerous

13. See *id.* at 783.

14. See Christina Mulligan, *A Numerus Clausus Principle for Intellectual Property*, 80 TENN. L. REV. 235, 247–48 n.65 (2013).

15. Merrill & Smith, *supra* note 9, at 809. The term "compound-paucital" is derived from Wesley Newcomb Hohfeld's use of the word "paucital" to describe in personam rights. Hohfeld defined a paucital right as "a unique right residing in a person (or group of persons) and availing against a single person (or single group of persons); or else it is one of the few fundamentally similar, yet separate, rights availing respectively against a few definite persons." *Id.* at 782 (emphasis in original) (quoting WESLEY NEWCOMB HOHFELD, *Fundamental Legal Conceptions as Applied in Judicial Reasoning*, in *FUNDAMENTAL LEGAL CONCEPTIONS AS APPLIED IN JUDICIAL REASONING* 65, 72 (Walter Wheeler Cook ed., Greenwood Press 1978)).

16. *Id.* at 814. See generally Christopher M. Newman, *Bailment and the Property/Contract Interface* (George Mason Univ. Legal Studies Research Paper Series, Paper No. LS 15-12), <http://ssrn.com/abstract=2654988> [<https://perma.cc/2JMR-CGDR>].

17. Merrill & Smith, *supra* note 9, at 825–26.

18. *Id.* at 804–05.

parties.¹⁹ While contract law presumes that contracting parties are generally able to advocate for their own interests, Merrill and Smith recognize that the compound-paucital relationship inherently creates opportunities for the single rights holder to take advantage of the comparatively weaker duty holders, who are not in a position to negotiate the terms of their relationship.²⁰

Yet the evolution of the law of EULAs—and of contracts of adhesion more generally—has been anything but protective of licensees' interests. Indeed, EULAs are usually read to give their drafters wide discretion over the content of the license agreements.²¹

This Article investigates the nature of compound-paucital relationships and evaluates how particular types of terms in EULAs ought to be regulated in their light. By clearly and precisely conceptualizing how EULAs affect end users' rights and duties, we can develop a law of licenses that is internally consistent, economically efficient, and socially beneficial.

Part I of this Article makes the case that distinguishing between contract and property rights is not merely a formal exercise but is of practical importance. Part II explores the nature of compound-paucital relationships and evaluates how the law should approach regulating EULAs in light of their compound-paucital nature. Parts III and IV apply these insights to EULAs that limit how end users use and transfer rights to particular copies and to EULAs that allow licensors to revoke their licenses. Part VI concludes.

I. THE ROLE OF FORMAL CATEGORIES

What difference does it make whether the legal relationships created by EULAs are contract-like or property-like? Particularly in light of the popular framing of property as a "bundle of sticks,"²² the exercise of separating legal relationships into formal types seems increasingly outmoded. Formal categories are indeed not valuable

19. *Id.* at 805–06 (describing the protection strategy and stating "[w]e would expect compound-paucital situations to tend in the direction of the protection strategy").

20. *Id.* at 804–05.

21. See Joshua A.T. Fairfield, *The God Paradox*, 89 B.U. L. REV. 1017, 1047 (2009) ("EULAs are enforceable unless unconscionable."); see also Lydia Pallas Loren, *Slaying the Leather-Winged Demons in the Night: Reforming Copyright Owner Contracting with Clickwrap Misuse*, 30 OHIO N.U. L. REV. 495, 508–10 (2004) (discussing how the doctrine of unconscionability would function in the context of shrinkwrap and clickwrap licenses); Russell Korobkin, *Bounded Rationality, Standard Form Contracts, and Unconscionability*, 70 U. CHI. L. REV. 1203, 1204 (2003) ("If the non-drafting party [of a boilerplate contract] indicates his general assent to the form, courts will enforce the terms contained therein whether or not that party approves of the terms provided, understands those terms, has read them, or even has the vaguest idea what the terms might be about. Limited exceptions are made to this rule, most notably if the terms are found to be 'unconscionable.'").

22. J.E. Penner summarizes the "bundle of sticks" view:

In its conventional formulation, the bundle of rights thesis is a combination of Wesley Hohfeld's analysis of rights and A.M. Honoré's description of the incidents of ownership. According to Hohfeld, any right in rem should be regarded as a myriad of personal rights between individuals. Thus my ownership of a car should not be regarded as a legal relation between me and a thing, the car, but as

in and of themselves, but deciding whether to understand licenses as creatures on the property/contract interface has several practical implications. While it may be possible to decide how to apply and regulate EULAs without talking about contracts and property, or rights and duties, doing so helps crystalize the implications of each choice about what rights and obligations EULAs can and should create.

First, the question of whether to understand violations of EULA terms as breaches of contract or as infringements of intellectual property rights directly impacts what remedies are available to wronged parties. At the most practical level, whether someone has breached a contract or violated someone's physical or intellectual property rights has significant consequences for what remedies are available to the person whose interests were violated. The nonbreaching party in a contract typically is entitled to the "benefit of [the] bargain"—to be placed in as good a position as they would have been in if the contract had not been violated.²³ On the other hand, the violation of a property interest may result in damages that exceed the monetary harm caused to the aggrieved party,²⁴ or to nonmonetary remedies such as injunctions or

a series of rights I hold against all others, each of whom has a correlative duty not to interfere with my ownership of the car, by damaging it, or stealing it, and so on. Any standard right in property is properly treated as a bundle of rights the owner holds against many others. Furthermore, the substance of the property right itself is subject to fractionation. . . . Hohfeld's model is complemented by the list of the "incidents" of ownership described by Honoré in his landmark paper *Ownership*, which outlines in some detail the right to possess, the right to use, the right to capital, the liability to execution, the immunity from expropriation, and so on.

J.E. Penner, *The "Bundle of Rights" Picture of Property*, 43 UCLA L. REV. 711, 712–13 (1996) (discussing HOHFELD, *supra* note 15, at 67, and A.M. Honoré, *Ownership*, in OXFORD ESSAYS IN JURISPRUDENCE (FIRST SERIES) 107, 112–24 (A.G. Guest ed., 1961)). Penner goes on to observe that "[t]he prevalence of the [bundle of rights] paradigm is undeniable" while also criticizing it as "little more than a slogan. . . ., which does not represent any clear thesis or set of propositions." *Id.* at 713–14. For further discussions of the "bundle of rights" or "bundle of sticks" view, see LAWRENCE C. BECKER, PROPERTY RIGHTS 11–21 (1977); JOHN CHRISTMAN, THE MYTH OF PROPERTY 3–27 (1994); STEPHEN R. MUNZER, A THEORY OF PROPERTY 22–36 (1990); JEREMY WALDRON, THE RIGHT TO PRIVATE PROPERTY 47–53, 59–60 (1988); Thomas C. Grey, *The Disintegration of Property*, 22 NOMOS 69, 69 (1980).

23. See RESTATEMENT (SECOND) OF CONTRACTS § 347 cmt. a ("Contract damages are ordinarily based on the injured party's expectation interest and are intended to give him the benefit of his bargain by awarding him a sum of money that will, to the extent possible, put him in as good a position as he would have been in had the contract been performed."); 24 SAMUEL WILLISTON & RICHARD A. LORD, A TREATISE THE LAW OF CONTRACTS § 64:1 (4th ed. 2002) ("The fundamental principle that underlies the availability of contract damages is that of compensation. That is, the disappointed promisee is generally entitled to an award of money damages in an amount reasonably calculated to make him or her whole and neither more nor less; any greater sum operates to punish the breaching promisor and results in an unwarranted windfall to the promisee, while any lesser sum rewards the promisor for his or her wrongful act in breaching the contract and fails to provide the promisee with the benefit of the bargain he or she made.").

24. See *Jacque v. Steenberg Homes, Inc.*, 563 N.W.2d 154, 159 (Wis. 1997) ("[I]n certain situations of trespass, the actual harm is not in the damage done to the land, which may be minimal, but in the loss of the individual's right to exclude others from his or her property

restitution.²⁵ Violators of a copyright holder's exclusive rights can be liable for up to \$150,000 in statutory damages for willful infringement, even when the actual monetary harm to the copyright holder is quite low.²⁶

Second, the question of who has title to particular copies of works resolves other questions about who has the authority to take various actions with regard to copies, which may not be specified explicitly in a EULA or other document which transfers title. Consider the case of a EULA for an internet-connected device that includes the frequently seen statement, "this software is licensed and not sold to you." One could take the perspective that title to the software remained with the licensor (as the agreement indicates). In this case, attempts to transfer the device and its software to a third party would fail: the party transferring the device would violate the copyright holder's exclusive right to distribute the work,²⁷ and under one popular theory, future users of the device would also be violating the copyright holder's exclusive right to reproduce the work by running the software.²⁸ On the other hand, one could ignore

and, the court implied that this right may be punished by a large damage award despite the lack of measurable harm.").

25. *Restitution*, BLACK'S LAW DICTIONARY (10th ed. 2014) ("3. Return or restoration of some specific thing to its rightful owner or status.").

26. 17 U.S.C. § 504(c) (2012). See generally Pamela Samuelson & Tara Wheatland, *Statutory Damages in Copyright Law: A Remedy in Need of Reform*, 51 WM. & MARY L. REV. 439 (2009) (discussing the history of statutory damages in copyright law and suggesting reforms).

27. 17 U.S.C. § 106(3) (2012).

28. In 1993, a Ninth Circuit decision, *MAI Systems Corp. v. Peak Computer, Inc.*, held that, because running a program created a temporary copy in a computer's Random Access Memory (RAM), running a software program constituted prima facie copyright infringement of a copyright owner's exclusive right to reproduce a copyrighted work. 991 F.2d 511, 518 (9th Cir. 1993); see also JESSICA LITMAN, *DIGITAL COPYRIGHT* 92 (Mich. Publ'g 2017) ("For all works encoded in digital form, any act of reading or viewing the work would require the use of a computer . . . and would, under this interpretation, involve an actionable reproduction."). Although *MAI Systems* was initially controversial, two years later President Bill Clinton's Working Group on Intellectual Property released a White Paper expressing the view that *MAI Systems* was a correctly decided and routine application of the law. LITMAN, *supra*, 94–95. The White Paper concluded that any use of a digital work constituted a prima facie copyright infringement because any copy of a work loaded into a computer's RAM constituted an actionable copy under the copyright statute. See Information Infrastructure Task Force, *Intellectual Property and the National Information Infrastructure: The Report of the Working Group on Intellectual Property Rights* 65–66 (1995) [hereinafter White Paper]. As a result, the White Paper argued copyright owners had the right to control whether and how someone read, listened to, or viewed a digital work, even though the copyright statute did not allow copyright holders to exert the same control over the use of non-digital works. LITMAN, *supra*, at 94–95 (citing White Paper, *supra*, at 19–130). The prevailing interpretation of *MAI Systems* has, however, been called into question. In 2008, the Second Circuit held that while "loading a program into a computer's RAM can result in copying that program," it did not read *MAI Systems* as holding that, as a matter of law, "loading a program into a form of RAM always results in copying." *Cartoon Network LP v. CSC Holdings, Inc.*, 536 F.3d 121, 128 (2d. Cir. 2008). *Cartoon Network* emphasized that a copy still needed to be fixed for longer than a "transitory duration" to qualify as a potentially infringing copy under 17 U.S.C. § 101 (2012). *Id.* at 128–30. For an alternate theory of how digital copies should be treated under copyright

the text of the license, and treat the transaction as having sold a copy of the work to the end user while also requiring the end user to agree to a set of contractual terms about how they would use the work. In the latter case, reselling the device (along with its embedded software) would be legally effective; the end user would have had title to a copy of the software, and therefore could transfer it under the first sale doctrine.²⁹ However, if the end user had agreed not to transfer ownership of the software to a second-hand user, then a court might understand the transfer as violating a contract between the end user and the copyright holder, leading to contract damages. There are other possibilities as well, but in any case, the underlying question of who owns the copy of the licensed work plays a significant role in determining the outcome.

Third, understanding whether EULAs have contract-like or property-like characteristics will guide us towards learning what kind of regulation will allow EULAs to effectively and fairly delineate rights among licensors and licensees, based on what we know facilitates functionality and fairness in contracts and property. Concepts and values that historically animated contract and property law provide tools to evaluate whether end-user license agreements achieve the ends they seek or promote general social and economic well-being. As Julie Cohen argues, rather than focusing on the question of “what is property,” lawyers and commentators should focus on the more practical questions of whether laws governing resource management succeed, regardless of what the resource in question is.³⁰ Similarly, Merrill and Smith argue that understanding whether something is property-like or contract-like is helpful because the nature of the legal relationships at stake inform what kind of regulation will make those relationships succeed or fail.³¹ Even when legal topics are not classic examples of property or contract,³² we can still learn about them through reference to traditional property and contract law concepts. When a resource, here digital assets, shares some characteristics with the historic objects of contract or physical property law, it can be advantageous to reason by analogy and conclude what worked for one body of law will also work well for another one with which it shares key characteristics.³³

But beyond the direct implications of property and contract law, looking at legal issues through the lens of property and contract law can also be useful to guide and explain how the law has developed so far, and why it has. Both the words “property”

law, see Aaron Perzanowski, *Fixing RAM Copies*, 104 NW. U. L. REV. 1067 (2010).

29. 17 U.S.C. § 109(a) (2012).

30. Julie E. Cohen, *Property as Institutions for Resources: Lessons from and for IP*, 94 TEX. L. REV. 1, 20 (2015) (“[M]y aim . . . is not theoretical purity, but rather usefulness. Simply put, a theory of property as family resemblances provides a more useful foundation for understanding the types of rules and institutions through which existing systems of property perform their resource-coordination functions.”); *id.* at 32 (“Property rights are bundles of attributes constructed and assembled for particular purposes, and as such they exhibit systematic patterns. It seems most sensible to understand ‘property’ as an umbrella term covering a set of institutional choices that are related by an emphasis on exclusivity and exchange.”).

31. See Merrill & Smith, *supra* note 9, at 790–92.

32. “No litmus test can separate the rights of property from, say, those of contract in all cases.” MUNZER, *supra* note 22, at 24.

33. Christina Mulligan, *The Story of Land*, 95 TEX. L. REV. 12 (2016).

and “contract” evoke particular ideas, values, and general rules of thumb among those educated in the common-law tradition. The idea of property may evoke Blackstone’s often-quoted characterization of property as the “sole and despotic dominion which one man claims and exercises over the external things of the world, in total exclusion of the right of any other individual in the universe.”³⁴ Others hear the word “property” and reject Blackstone’s view (or, perhaps more accurately stated, this “hyperbolic” portrayal of Blackstone’s view)³⁵ in favor of the sense that property is a “bundle of sticks” that can be dis- and reaggregated in a variety of ways.³⁶ Similarly, the idea of “contract” makes many think of “freedom of contract”³⁷—and an intuition that people should be able to commit to anything they voluntarily agree to.³⁸ For others, this question of voluntariness immediately evokes concerns about

34. 2 WILLIAM BLACKSTONE, COMMENTARIES *2.

35. Per Robert Ellickson, Blackstone “would have admitted that his sentence . . . was hyperbolic. His treatise explicitly discussed, for example, a variety of legal privileges to enter private land without the owner’s consent.” Robert C. Ellickson, *Property in Land*, 102 YALE L.J. 1315, 1362 n.237 (1993); see also Shyamkrishna Balganesh, *Debunking Blackstonian Copyright*, 118 YALE L.J. 1126, 1133 (2009) (“By most accounts, when Blackstone defined property as the sole and despotic dominion of its owners, he was far from advocating a form of property absolutism. As legal historians have pointed out, Blackstone’s own description of property doctrine of the time did not reflect this definition. Yet ironically, the Blackstonian idea of property is commonly associated with his definition, rather than his actual description of the subject.”); cf. Michael A. Carrier, *Cabining Intellectual Property Through A Property Paradigm*, 54 DUKE L.J. 1, 52–82 (2004) (exploring longstanding limitations on owner’s rights in property law); Richard A. Epstein, *Intellectual Property: Old Boundaries and New Frontiers*, 76 IND. L.J. 803, 805 (2001) (“[T]o look closely at all the forms of property that have existed even before reaching intellectual property is to realize that Blackstone engaged in injudicious overgeneralization . . .”). But even as there is widespread agreement that Blackstone was speaking hyperbolically, Blackstone does not appear to have embraced a proto-“bundle of sticks” view of property either. Adam Mossoff, *What Is Property? Putting the Pieces Back Together*, 45 ARIZ. L. REV. 371, 397–401 (2003) (“[I]t is anachronistic to impose this twentieth-century conception of property [as a bundle of sticks] upon Blackstone’s work”); Thomas W. Merrill & Henry E. Smith, *What Happened to Property in Law and Economics?*, 111 YALE L.J. 357, 361 (2001) (“Blackstone’s talk about property being a ‘sole and despotic dominion’ was clearly a bit of hyperbole and is inconsistent with the balance of his treatment of property, not to mention with the complexities of modern property law. But the hyperbole should not obscure the fact that, at bottom, Blackstone conceived of property as being a right in rem.”).

36. See *supra* note 22.

37. “The conventional account of American contract law traces the course of freedom of contract from triumph to decline to ultimate restoration. . . . Freedom of contract has gone in and out of fashion over time, and today it stands as a fundamental tenet of our jurisprudence.” Mark L. Movsesian, *Two Cheers for Freedom of Contract*, 23 CARDOZO L. REV. 1529, 1545 (2002) (reviewing *THE FALL AND RISE OF FREEDOM OF CONTRACT* (F.H. Buckley ed. 1999)).

38. “Once, they say, freedom of contract reigned in American law. Parties could make agreements on a wide variety of subjects and choose the terms they wished. Courts would refrain from questioning the substance of bargains and would ensure only that parties had observed the proper formalities.” *Id.* at 1529 (citing W. DAVID SLAWSON, *BINDING PROMISES* 12–16 (1996); GRANT GILMORE, *THE DEATH OF CONTRACT* 15 (1974); Friedrich Kessler, *Introduction: Contract as a Principle of Order*, in FRIEDRICH KESSLER, GRANT GILMORE &

power relationships and the circumstances under which individuals genuinely make choices freely.³⁹ But regardless of whether one hears “property” and “contract” and thinks of Blackstone,⁴⁰ *Lochner v. New York*,⁴¹ Hohfeld,⁴² or anything else, the notions of “property” and “contract” tend to carry powerful (if sometimes conflicting) associations for lawyers, jurists, and legal thinkers. If licensing software is described as a transfer of property rights or as making a contract, that manner of talking about the use fuels one’s intuitions about the legal consequences of that use and of violating the terms of it. And because the tendency to fall back on ideas like property and contract inspires lawyers, judges, and commentators to think about end-user license agreements in particular ways, it is worth exploring—and clarifying—what those intuitions mean for EULAs and digital assets, and when and whether they should be followed.

In short, considering the typical role of and rationale behind property and contract will not only help us to decide what kind of EULA law we should have, but also will help us recognize how prior framings of and decisions about licenses created the EULA law we have. By understanding the effects of these choices, we can craft better and more consistent law.

II. THE COMPOUND-PAUCITAL LICENSE

Consider a situation in which you come home from a local appliance or electronics store with (or, more likely, have ordered for delivery from a major online store) a new home cleaning device similar to the popular “Roomba” vacuum cleaners.⁴³ Your new device isn’t merely a vacuum cleaner—it is designed with various sensors, a computer inside, and the abilities to connect to your wifi network and plug into a general-purpose computer. You can program it to run when you are not home, to only clean certain parts of your house, and to respond to voice commands like “clean the living room on Tuesday at 9:00.” But when you open the box, several sheets of papers fall out. The form begins, “End-User License Agreement for the Smart Vacuum,” and continues,

ANTHONY M. KRONMAN, *CONTRACTS* 7–8 (3d ed. 1986) (reprinted in *A CONTRACTS ANTHOLOGY* 32, 34–35 (Peter Linzer ed., 2d ed. 1995)).

39. See, e.g., John S. Brubaker, *A Realistic Critique of Freedom of Contract in Labor Law Negotiation: Creating More Optimal and Just Outcomes*, 5 WASH. U. JURIS. REV. 107 (2012); Friedrich Kessler, *Contracts of Adhesion—Some Thoughts About Freedom of Contract*, 43 COLUM. L. REV. 629, 630–40 (1943); see also George L. Priest, *Contracts Then and Now: An Appreciation of Friedrich Kessler*, 104 YALE L.J. 2145, 2145 (1995) (“There is little question today that the role of courts in resolving contract disputes is to regulate underlying behavior and to protect parties in unequal bargaining positions.”).

40. See *supra* notes 33–34 and accompanying text.

41. 198 U.S. 45 (1905).

42. See HOHFELD, *supra* note 15; see also Penner, *supra* note 22, at 712–13 (describing how Hohfeld’s work led to the development of the “bundle of sticks” view of property).

43. See generally *Roomba Robot Vacuum*, IROBOT, <http://www.irobot.com/For-the-Home/Vacuuming/Roomba.aspx> [https://perma.cc/K4RR-4XFK].

When first using the Smart Vacuum, you will be prompted on the device's screen to agree to these terms. By clicking 'yes,' you agree to the following:

The Smart Vacuum software is licensed and not sold to you. Smart Vacuum Inc. grants you the rights to use the Smart Vacuum software for personal, non-commercial uses. You may not transfer your rights in the Smart Vacuum software to any third party. Any violation of the terms of this license agreement revokes your license to use this software

The Smart Vacuum's EULA creates a compound-paucital relationship. As in the case of in rem rights, large numbers of licensees have a relationship with the licensor who distributed the product, and the relationship exists because of the licensees' and licensor's connection to the copyrighted software. But the parties also know who each other are, as in the case of in personam rights, because many pieces of proprietary software and digital media require the licensee to identify themselves in order to access the copyrighted work.⁴⁴ The following sections analyze what these qualities teach us about how EULAs should be understood and regulated.

A. Idiosyncrasy and Information Asymmetries

One large difference between contract and property is that the number of people involved in contractual and property relationships changes how much negotiation over rights and duties is possible. Where two individuals sit down to hammer out a unique agreement for services from scratch, the costs each of them must shoulder, in terms of time and resources, to understand their agreement will be about the same. Moreover, to the extent that their contract covers unique circumstances, both parties may have similar interests in negotiating highly specific or idiosyncratic terms that advance their preferences for how the contract will be performed. And because the contract terms primarily affect those who are party to the contract, their idiosyncrasies won't impose information-cost burdens on others.

On the other hand, the transfer and form of property rights affects many people besides the owner of the property. As a result, property rights tend to be more standardized, because the existence of idiosyncratic property rights raises the costs of understanding their scope for third parties who must respect others' rights.⁴⁵

EULAs affect many people. In some cases, several licensors' EULAs may be similar, such as when EULAs are trying to address a common situation like the transfer of software that is already embedded in a physical device. EULAs that address these very common circumstances could plausibly be standardized. But in other cases, EULAs address circumstances where licensors' needs will widely vary, such

44. Sometimes works are purportedly licensed without the licensor knowing exactly whom the licensee is, for example if the licensor does not require downloaders to identify themselves in order to acquire and work the product. This phenomenon somewhat further undermines the in personam nature of some EULAs.

45. Merrill & Smith, *supra* note 9, at 802 ("[B]ecause in rem rights impinge on a very large and open-ended class of third persons, the legal rules must be designed so as to minimize the information-cost burden imposed on a great many persons beyond those who are responsible for setting up the right.").

as the use of specialized software or software that manages access to a shared resource like a massively multiplayer online game. As a result, at least sometimes, the ability for EULAs to create detailed and unique rights and duties is highly desirable by both licensor and licensee.

But, as license terms become more flexible and less standard, the costs associated with understanding them increases for licensees. In a purely in personam context, the complexity of these licenses would be bound by the costs the licensor and licensee would be willing to bear to draft the license. Where a potential use did not have significant economic implications, both licensor and licensee would be inclined to only devote minimal effort to reaching an agreement. Conversely, where a license has billion-dollar implications for multinational companies, the drafters might rationally pay close attention to every term and create a very long and detailed license, addressing many circumstances that could arise.

In a compound-paucital context, however, the costs borne by the licensor and licensee to understand the license are asymmetrical. Companies that license digital media and software to end users often use the same license for every download of a work. And as the number of end users increases, the asymmetry between the interests of licensors and end users grows. As of 2014, there were over 800 million iTunes accounts.⁴⁶ Assume that just 100 million of those accounts have downloaded 100 songs from the iTunes store for ninety-nine cents over the course of those accounts' lives. Each of those users will have invested \$99 in their relationship with Apple over the course of several years, often buying a single ninety-nine cent song at a time. On the other side, Apple will have earned \$10 billion of revenue from these transactions alone. With \$10 billion at stake, Apple has a powerful economic incentive to hire an experienced legal team to draft its end-user license agreement and to go over the language with excruciating attention. On the other hand, users who spend less than \$100 over a several-year period have much less of an incentive to pay attention to the content of the license's terms, especially if they believe that their failure to abide by the agreement will probably only result in the loss of the licensed music.⁴⁷ With

46. Nigam Arora, *Seeds of Apple's New Growth in Mobile Payments, 800 Million iTune Accounts*, FORBES (Apr. 24, 2014, 1:05 PM), <https://www.forbes.com/sites/nigamarora/2014/04/24/seeds-of-apples-new-growth-in-mobile-payments-800-million-itune-accounts/> [https://perma.cc/UWS3-BYQF].

47. This calculation changes if you are concerned that misusing the licensed work could result in a copyright infringement judgement against you, which could top out at \$150,000 per work infringed. 17 U.S.C. § 504(c) (2012). Given that one's anticipated loss also prices in the probability that one is sued for infringement, it is probably still rational for licensees not to read and understand the iTunes license agreement. On the other hand, Peggy Radin worries that one can easily overestimate one's chances of avoiding low-probability events such as being sued for violating a boilerplate agreement. See MARGARET JANE RADIN, *BOILERPLATE* 27 (2013) ("[I]t is hardly surprising that after we've received boilerplate [contracts so] many times without having any negative repercussions, we will persist in our acceptance of it. . . . It would take some extraordinary event, some real change in context, to make us stop doing what we're used to doing when it seems to work."); cf. *id.* at 103 ("Even if a recipient reads a boilerplate clause stripping him of his right to sue, and even if he then understands that this is what the clause does, he still would be very unlikely to take it seriously, because he is very unlikely to think the risk applicable to him."). Similarly, if having exceeded the terms of one's license

less than \$100 at stake, an end user doesn't have a strong economic incentive to try to read and understand the 20,000-word iTunes EULA.⁴⁸ Given an average human reading speed of 300 words per minute,⁴⁹ the iTunes EULA would take over an hour to read, not even considering any extra time necessary to understand what complicated or jargon-filled terms meant.

And although it might be reasonable to expect an end user to understand the terms of one EULA, the aggregate cost of understanding all licenses one encounters and agrees to become impracticable to bear as more appliances join the "Internet of Things," and become "smart" and connected to a network, and as more media consumption is of digital content rather than VHS tapes, over-the-air television, and LP records.⁵⁰ Because users will not be able to read and understand the scope of every license they are granted, any of several outcomes will happen: users will not follow the licenses because they are unable to learn their content, licensees will spend an economically irrational amount of time trying to understand the licenses they agree to (unlikely, given that users typically don't read licenses),⁵¹ or users will underuse the objects licensed to them out of fear of overstepping their rights.⁵²

Even if an end user did read the entire iTunes agreement, their options with respect to it would be limited. If the user thought a term was unfair, they could choose not to license songs from iTunes anymore. However, the user couldn't call up Apple

has never resulted in any negative consequences, end users may believe that their actions remain within the scope of the license or are so inconsequential that the licensor does not care. If accurate, the end user is fine, but if the end user is misjudging the likelihood, they may have to pay high penalties.

48. However, some more artistic approaches to engaging with the iTunes EULA might be more appealing. See Jacob Brogan, *Steve Jobs Explains Apple's User Agreement*, SLATE (Dec. 28, 2015, 10:24 AM), http://www.slate.com/articles/technology/future_tense/2015/12/the_itunes_terms_and_conditions_comic_book_is_odd_brilliant.html [<https://perma.cc/U97X-VYGK>] (discussing R. SIKORYAK, *iTunes Terms and Conditions: The Graphic Novel*, <https://itunestandc.tumblr.com/tagged/comics/chrono> [<https://perma.cc/EM8D-HG9N>]); Rafe Needleman, *Richard Dreyfuss Reads the iTunes EULA*, CNET (June 8, 2011, 4:00 AM), http://www.cnet.com/8301-30976_1-20068778-10348864.html [<https://perma.cc/BUP2-Y53A>].

49. Brett Nelson, *Do You Read Fast Enough To Be Successful?*, FORBES (June 4, 2012, 9:09 AM), <http://www.forbes.com/sites/brettnelson/2012/06/04/do-you-read-fast-enough-to-be-successful/> [<https://perma.cc/PGS2-P82P>].

50. See Henry Hansmann & Reinier Kraakman, *Property, Contract, and Verification: The Numerus Clausus Problem and the Divisibility of Rights*, 31 J. LEGAL STUD. 373, 375, 396 (2002); Mulligan, *supra* note 14, at 264; Mulligan, *supra* note 8, at 1139–42, 1146–50, 1154–57.

51. Clarisa Long, *Information Costs in Patent and Copyright*, 90 VA. L. REV. 465, 516 (2004) ("When boundaries are difficult for observers to decipher, . . . the chances are high that observers will inadvertently infringe or will spend inefficient amounts of time and cognitive resources attempting to determine the contours of the many facets of the proprietarian relationship."); Mulligan, *supra* note 8, at 1138 ("While some people will coolly decide that it is not worth doing a record search on a cheap glass, others will feel a moral obligation to respect others' rights and follow the law, even at a significant economic loss to themselves.")

52. See Hansmann & Kraakman, *supra* note 50, at 382–83 ("If two persons are both to have rights in a single asset, they need some means of assuring that they share a common understanding of those rights. Absent such understanding, the parties may mistakenly make inconsistent uses of the asset or underuse the asset."); Mulligan, *supra* note 14, at 244–45.

and ask to change one of the clauses in the term—and with good reason. If Apple has hundreds of millions of account holders, the company cannot individually negotiate the terms of their EULA with every account holder.⁵³

B. Regulating Licenses

EULAs need flexibility, and their use creates an information asymmetry between licensor and licensee. The result of these phenomena is that neither the typical contract nor property law strategy for regulation comfortably applies to EULAs. Property law typically relies on the use of standardized categories or forms, created by legislatures or judges, to delineate the scope of property rights.⁵⁴ Standardization keeps the costs associated with respecting property rights low.⁵⁵ But standard forms created by comparatively neutral actors, like legislators and judges, won't always allow licensors and licensees the flexibility to create the rights and obligations they'd prefer in a EULA.⁵⁶

On the other hand, contract law allows parties to negotiate flexible, idiosyncratic agreements, with a presumption that capable parties are relatively able to understand the contract terms and decide whether they want to agree to them.⁵⁷ But EULAs are often so lengthy that it's economically irrational for end users to read and evaluate the terms, while licensors have every incentive to draft EULAs that take advantage of the disparity between their and users' capacity to understand and dictate license terms.⁵⁸

Merrill and Smith argue that relationships on the property/contract interface have to, and do, adopt other tools to keep information costs associated with those relationships low enough for all parties. They explain:

[A]s rights take on more in rem features . . . informational demands become greater. Short of requiring standardization to remove the extra information-processing load, the law can adopt one of two strategies: It can either facilitate the generation of information—the notice strategy—or it can impose a rule that favors the uninformed party in order to reduce that party's need for information gathering—the protection strategy.⁵⁹

53. Merrill & Smith, *supra* note 9, at 793–94 (“[A]s societies become more complex, with increasing numbers of persons and resources, rules of exclusion quickly become the more cost effective strategy for determining use rights. The simple reason is that the information costs of fixing all use rights to resources by in personam contract . . . would be prohibitive.”).

54. See Merrill & Smith, *supra* note 6, at 3.

55. See *id.* at 35–40.

56. *Id.* at 35 (“[S]tandardization imposes its own costs. Mandatory rules sometimes prevent the parties from achieving a legitimate goal cost-effectively. Enforcing standardization can therefore frustrate the parties’ intentions.”).

57. *Id.* at 3 (“[O]utside . . . relatively narrow areas of proscription and requirements such as definiteness and (maybe) consideration, there is a potentially infinite range of promises that the law will honor.”).

58. Merrill & Smith, *supra* note 9, at 804–05.

59. *Id.* at 805.

Both strategies offer tools for governing EULAs, although the protection strategy holds more promise.

1. The Notice Strategy

Legal systems that create incentives for greater notice and transparency will be effective when information about the rights in question can be inexpensively produced.⁶⁰ But licenses are not impenetrable solely because licensors are choosing to obscure the terms of their agreements. Licenses are impenetrable because they are long, because each is different, and because nonexperts can't understand all the terms in each one in a reasonable amount of time. End users usually already possess the information they need to be notified about in the license terms—they just can't access it given how much information it is.

Indeed, the opacity of EULAs is legion. Jokes or promises of prizes are occasionally known to be written into licenses, as a hidden reward for the rare licensee who reads the terms.⁶¹ In 2005, PC Pitstop awarded \$1000 to the first user who found the clause in its EULA promising the same, after 3000 downloads of the licensed content had occurred and four months had past.⁶² Even Supreme Court Chief Justice John Roberts admits he doesn't read end-user license agreements.⁶³ But what is important about EULAs is not that people choose not to read them, but that this choice stems from the reality that licensees cannot read all the licenses they agree to, let alone understand them. An analogous study of user privacy policies from 2008 estimated that individuals who read every privacy policy they agreed to online would each spend about 244 hours, or forty minutes a day, per year reading policies.⁶⁴ As the number of networked objects and digital files we interact with everyday increases, we can expect that the figure for reading EULAs in general to also be both impracticable to read and to grow over time. As discussed above, the iTunes Terms

60. *Id.* at 805 (“Notice will generally work best where information can be cost effectively produced, but this may not happen because those who have the information do not have sufficient incentive to produce it or disclose it, or have a strategic incentive to keep the information secret.”).

61. See, e.g., Nick Diamon, *At Least 100 People Read the Fine Print in Divinity: Original Sin Enhanced Edition*, QUARTER TO THREE (Oct. 28, 2015), <http://www.quartertothree.com/fp/2015/10/28/at-least-100-people-read-the-fine-print-in-divinity-original-sin-enhanced-edition> [https://perma.cc/V5LY-SCMR] (describing a EULA offering a reward “to the first 100 authorized licensees to actually read this section of the EULA and contact” the licensor).

62. The Pit Crew, *It Pays To Read License Agreements (7 Years Later)*, TECHTALK (June 12, 2012), <http://techtalk.pcpitstop.com/2012/06/12/it-pays-to-read-license-agreements-7-years-later/> [https://perma.cc/ASC4-GVWF].

63. Mike Masnick, *Supreme Court Chief Justice Admits He Doesn't Read Online EULAs or Other 'Fine Print,'* TECHDIRT (Oct. 22, 2010, 9:48 AM), <http://www.techdirt.com/articles/20101021/02145811519/supreme-court-chief-justice-admits-he-doesn-t-read-online-eulas-or-other-fine-print.shtml> [https://perma.cc/CRE8-EPYA]; Debra Cassens Weiss, *Chief Justice Roberts Admits He Doesn't Read the Computer Fine Print*, ABA J. (Oct. 20, 2010, 12:17 PM), http://www.abajournal.com/news/article/chief_justice_roberts_admits_he_doesnt_read_the_computer_fine_print/ [https://perma.cc/9HKA-2MCH].

64. Aleecia M. McDonald & Lorrie Faith Cranor, *The Cost of Reading Privacy Policies*, 4 I/S 543, 563 (2008).

and Conditions are about 20,000 words alone. If an average adult reads 300 words per minute,⁶⁵ it would take over an hour to read it. One hour may not sound like much, but the aggregate amount of time it would take someone to read all their agreements to use intellectual property would not be practicable for an individual to allocate, especially as more and more appliances and devices we purchase run software.

The worry about end users' inability to understand licenses might be less of a problem if consumer expectations tended to coincide with the rights granted by licenses. Then, even if licensees didn't know what was in the license, it could be the case that end users would tend to follow licenses' terms because they happened to coincide with the end users' intuitions about what one can do with one's purchases. But a recent study of end-user expectations by Aaron Perzanowski and Chris Hoofnagle belies this possibility. Perzanowski and Hoofnagle offered mock digital downloads to survey takers and asked them whether they believed it would be legal to use the licensed digital work in a way commonly associated with ownership: lending the work, giving it away, devising it in one's will, or reselling it.⁶⁶ Among e-book readers surveyed given the option to license a digital e-book, 46% believed they could lend the book, 36% believed they could give the book away, 26% believed they could devise the work in a will, and 14% believed that they could resell it.⁶⁷ For comparison, of those surveyed given the option to buy a physical paperback book, 75% believed they could lend it, 70% believed they could give it away, 47% believed they could devise it in a will, and 53% believed they could resell it.⁶⁸ Perzanowski and Hoofnagle established that there is a large difference in expectations about what one can do with a purchased physical book and a licensed e-book, which does reflect how e-books are typically licensed. But they also showed that likely a quarter to a third of all e-book readers have a very mistaken set of expectations about what they can do with the books they have licensed.

Although Perzanowski and Hoofnagle did not survey individuals about licensing software that runs in appliances, there is reason to expect that if they did, end users would be even more likely to be mistaken about their usage rights than they are about digital media. The networked objects that make up the "Internet of Things" and other software-embedded goods look to the outside observer like their nondigital counterparts. There are film cameras and digital cameras, clocks with and without gears, vacuums that must be moved by hand and vacuums whose movements are dictated by a computer algorithm. But although these tools perform the same functions, the property rights associated with them may be quite different. Traditionally, the law did not recognize usage restrictions of the type seen in license agreements on chattel property.⁶⁹ Predigital copyright law also reflected the traditional first-sale doctrine

65. Nelson, *supra* note 49.

66. Aaron Perzanowski & Chris Jay Hoofnagle, *What We Buy When We Buy Now*, 165 U. PA. L. REV. 315, 343–45 (2017).

67. *Id.* at 378 tbl.3.

68. *Id.*

69. See Merrill & Smith, *supra* note 6, at 18 (“[A]lthough the case law is rather thin, it . . . appears that one cannot create servitudes in personal property.”); Molly Shaffer Van Houweling, *Touching and Concerning Copyright: Real Property Reasoning in MDY Indus., Inc. v. Blizzard Entm’t, Inc.*, 51 SANTA CLARA L. REV. 1063, 1068 (2011) (“While courts have increasingly accommodated land servitudes, the conventional wisdom under Anglo-American

from personal property law. First under the Supreme Court decision *Bobbs-Merrill Co. v. Straus*,⁷⁰ and then codified in statute,⁷¹ nondigital copies of copyrighted works were usually understood to be sold, not licensed or subject to later use or transfer restrictions, when acquired permanently after making a one-time payment. A store couldn't sell a mop or typewriter for noncommercial use, or a nontransferable paperback book. But the software in digital appliances is often stated to be "licensed and not sold" or for "non-commercial use,"⁷² purportedly creating the same kind of usage restrictions that courts have refused to recognize on traditional appliances and tools.

Given that the public has longstanding experience with property rights over physical objects, an instruction not to use a networked or software-embedded appliance for certain purposes would likely be even more unexpected than similar license terms applying to digital content like e-books and mp3s. Restrictive software license terms may be similarly surprising when a user does not directly experience their interaction with the software. When we drive a modern car or use a networked kitchen appliance, we usually don't have the experience of downloading and executing the software. In contrast, when we download digital content or install software for a general-purpose computer, we are more aware that we are interacting with licensed material.

In light of the length and variety of EULAs, a "notice strategy" could only effectively inform end users of the content of the licenses if the relevant information were provided in a more pronounced and more abbreviated way. One potential strategy would be to try to highlight key terms to end users, such as how many copies of a work they can make and whether the copies can be transferred. Perzanowski and Hoofnagle have demonstrated that there's reason to think highlighting terms could be mildly effective. In their study, Perzanowski and Hoofnagle used survey evidence to test what consumers thought they were doing when they acquired digital goods on

law has long been that the types of servitudes that can be attached to land cannot be attached to chattels." See generally Mulligan, *supra* note 8 (exploring the tension between disallowing usage restrictions on personal property while permitting licenses on software embedded in personal property). Some courts have recognized particular chattel servitudes, but those cases are seen as rare exceptions to the general practice and belief that chattels cannot be burdened with servitudes. See Zechariah Chafee, Jr., *The Music Goes Round and Round: Equitable Servitudes and Chattels*, 69 HARV. L. REV. 1250, 1255 (1956) [hereinafter Chafee 1956] (discussing *Pratte v. Balatsos*, 113 A.2d 492 (N.H. 1955), which appeared to recognize a servitude on a jukebox, and noting that "[s]ince 1928 and until *Pratte v. Balatsos*, [the author had] found seven cases of attempts to bind personal property by restrictions unsanctioned by legislation, and only three of these were successful"); Merrill & Smith, *supra* note 6, at 18–19; Glen O. Robinson, *Personal Property Servitudes*, 71 U. CHI. L. REV. 1449, 1455–57 (2004) (noting that the author had "discovered only a few cases decided since 1956 involving attempts to create common law servitudes" on chattel property).

70. 210 U.S. 339 (1908).

71. Section 41 of the Copyright Act of 1909 provided, "[N]othing in this Act shall be deemed to forbid, prevent, or restrict the transfer of any copy of a copyrighted work the possession of which has been lawfully obtained." Now, the first sale doctrine is codified in 17 U.S.C. § 109(a) ("Notwithstanding the provisions of section 106(3), the owner of a particular copy or phonorecord lawfully made under this title, or any person authorized by such owner, is entitled, without the authority of the copyright owner, to sell or otherwise dispose of the possession of that copy or phonorecord.").

72. E.g., *Kindle Store Terms of Use*, *supra* note 1.

legal sites.⁷³ Participants were given a hypothetical digital good to acquire, and a button saying “Buy Now,” “License Now!,” or specifying a short list of key license terms.⁷⁴ When participants were shown a short list of key license terms, they were somewhat more likely to correctly understand how the license affected the issues highlighted in the key terms than when they were merely urged to “license” the work.⁷⁵ The largest difference was seen in participants asked whether they could lend an mp3 file. Of those who had only seen a “License Now!” button during the survey, 42% believed they could lend the file to another person. But of those who had seen a short notice (which included a display indicating: “YOU MAY NOT: . . . Lend this mp3 album”),⁷⁶ only 27% believed they could lend the file to another person.⁷⁷ Other questions created notably smaller differences.⁷⁸

While Perzanowski and Hoofnagle’s survey indicates that better notice can more effectively communicate to end users, even the mild effectiveness of the strategy tested in their survey relied on more than simply better notice; it also relied on a presumed expectation about what terms are salient to licensees. Perzanowski and Hoofnagle focused on licenses for end users to consume copies of digital media. In these cases, they (probably correctly) surmised that end users cared most about whether the copies could or could not be lent or transferred and whether they could or could not be copied to other devices. If correct, a short list of key terms may be capable of telling consumers of digital media a lot of the information they might want to know about how they can use the work. But for more varied licenses, or for licenses with many more important terms, a short list of license terms will be less helpful. Either the list will be too short, and leave out key terms, or the list will be comprehensive, and recreate the impenetrability problems associated with long license agreements discussed above. While notice may be of some help, it won’t fully

73. Perzanowski & Hoofnagle, *supra* note 66, at 330–33.

74. *Id.*

75. *Id.* at 345–50, 378 tbl.3.

76. *Id.* at 348 fig.9.

77. *Id.* at 378 tbl.3.

78. For example, of those offered an mp3 to “License Now,” 42% believed they could give the work away, 26% thought they could bequeath it in a will, and 13% thought they could resell it. *Id.* In comparison, of those offered an mp3 with a short notice of terms, 36% believed they could give the work away, 21% thought they could bequeath it in a will, and 6% thought they could resell it. *Id.* Of those offered an eBook to “License Now,” 46% believed they could lend it, 36% believed they could give the work away, 26% thought they could bequeath it in a will, and 14% thought they could resell it. *Id.* In comparison, of those offered an eBook with a short notice of terms, 35% believed they could lend it, 28% believed they could give the work away, 13% thought they could bequeath it in a will, and 6% thought they could resell it. *Id.* Of those offered a digital movie to “License Now,” 42% believed they could lend it, 39% believed they could give the work away, 28% thought they could bequeath it in a will, and 23% thought they could resell it. *Id.* In comparison, of those offered a digital movie with a short notice of terms, 31% believed they could lend it, 36% believed they could give the work away, 29% thought they could bequeath it in a will, and 17% thought they could resell it. *Id.* Contrary to the other comparisons, a slightly greater percentage of participants who received a short notice about a digital movie believed they could bequeath the film in a will than those who just saw “License Now.” *Id.*

keep licensees informed of the substance of EULAs, nor will it give them the ability to substantively protect themselves from unfair terms.

2. The Protection Strategy

A protection strategy has wider ability to resolve the potential problems that EULAs can pose for licensees, particularly those problems that licensees are rationally ignorant of.⁷⁹ Indeed, Merrill and Smith's survey of other institutions on the property/contract interface revealed that compound-paucital relationships tended to incorporate substantive protections for the numerous duty holders, rather than rely on providing better notice. In the case of bailments, bailees often issue tickets and receipts to bailors that "seek to disclaim the bailment relationship or to impose very low limits on the bailee's liability."⁸⁰ Bailors' stakes in most cases of bailment are quite small—the value of the bailed good, adjusted for the probability that it will be lost or destroyed. Resultingly, it's neither plausible nor economically rational for bailors to try to negotiate the terms of their bailments with every coat check agent or valet.⁸¹ So the law steps in to protect bailors in the aggregate. Merrill and Smith identified "widespread legislative intervention" to regulate bailees trying to limit their liability, as well as "judicial policing" of unconscionable bailment agreements.⁸²

The evolution of landlord-tenant law also reveals the protection strategy at work. Where landlords use identical-form leases to let apartments in multiunit buildings, the landlord-tenant relationship can also develop a compound-paucital character, in which the standard-form leases "tend to be drafted from a pro-landlord perspective."⁸³ Tenants often do not understand the information in a long lease and are not in a position to evaluate whether a particular landlord is offering them favorable or unfavorable terms.⁸⁴ And as Merrill and Smith note, "[I]t would not be cost effective for a tenant to retain a private lawyer at market rates to review a lease . . . or to hire an architect to inspect the premises."⁸⁵ They surmise that this reality may be one reason that the implied warranty of habitability in residential leases is not merely a default rule but an immutable rule.⁸⁶ Tenants cannot waive it, and residential landlords cannot draft around it.

Fans of private ordering might find themselves suspicious of Merrill and Smith's argument that protective government intervention in compound-paucital relationships is actually beneficial. After all, if the parties all assent to a license, or lease, or

79. Merrill & Smith, *supra* note 9, at 807–08 ("We would expect compound-paucital situations to tend in the direction of the protection strategy. This is because the stakes for the numerous parties on one side of the relationship are apt, in most cases, to be too small to justify much processing of information over any but the most salient issues.").

80. *Id.* at 814.

81. *Id.* at 814–15.

82. *Id.*

83. *Id.* at 826.

84. *Id.* ("This would appear to be a classic instance of a compound-paucital relationship, characterized by incomplete information, especially on the part of the tenant.").

85. *Id.* at 827.

86. *Id.* at 826–27.

bailment agreement, does that not indicate that they are better off for doing so than they would be otherwise? Would limiting how a license may be written discourage licensors from licensing certain products, or drive the cost of products up beyond that which licensees would prefer to pay? Does the implied warranty of habitability increase rents and perversely render residential housing out of reach for the poorest renters? Would bailees simply not offer valet and coat check services if they would be liable for the full value of lost or damaged goods?

These are important questions, but there is reason to believe that the information asymmetry present in compound-paucital relationships creates precisely the kind of market failure that can justify public intervention in the marketplace. As George Akerlof argued in his 1970 work *The Market for Lemons*, situations where buyers can't evaluate the quality of a good can eventually drive down the quality of the good in question and lower sellers' profits.⁸⁷ Consider the example of digital media. Suppose a license for digital work that is very favorable to consumers is worth \$3 to end users, and that a license to digital work that is very favorable to licensors is worth \$1 to end users. If a licensee cannot evaluate the terms of the license themselves, they won't be able to know if a given work is worth \$3 or \$1 to them. As a result, the perceived value of any given digital work will be the perceived average value of licenses in the marketplace—a value less than \$3. Licensors will realize that licensees will be willing to pay the same price for both consumer-favorable and licensor-favorable licenses because they can't tell the difference. As a result, licensors develop the incentives to offer fewer licenses on consumer-favorable terms, because they can't command a higher price for them even if consumers would actually prefer licenses that offer consumer-friendly terms and would pay more for them if they could be identified.⁸⁸ As licensors offer more licensor-favorable licenses and fewer consumer-favorable licenses, the average value of EULAs available to consumers decreases, lowering the price consumers are willing to pay for digital media. The ensuing cycle of behavior can result in licensors offering licenses that consumers prefer less and in licensors earning less money from those licenses over time, because of the information asymmetry.

Some solutions to Akerlof's "lemon problem" are aimed at correcting the information asymmetry.⁸⁹ But at least in the context of EULAs, better notice can't correct

87. George A. Akerlof, *The Market for "Lemons": Quality Uncertainty and the Market Mechanism*, 84 Q.J. ECON. 488, 489–90 (1970). Russell Korobkin described how a "lemon market" might appear in the context of boilerplate contracts. Korobkin, *supra* note 21, at 1235 ("Economists will recognize [the described] result as a type of 'lemons' problem: When buyers cannot verify quality, the market will produce lower-quality goods. Ironically, far from guaranteeing a market equilibrium of efficient terms, competition can guarantee an equilibrium of inefficient terms.").

88. See Guy A. Rub, *Rebalancing Copyright Exhaustion*, 64 EMORY L.J. 741, 789–90 (2015) ("If buyers do not know if the copyrighted products they are buying can be transferred . . . , their purchasing decisions cannot incentivize the sellers to offer resale rights. This might encourage the sellers to sell . . . products that do not allow resale . . . for a price that is suitable for superior goods.").

89. See Akerlof, *supra* note 87, at 499–500 (describing how repeat players in the marketplace like brand names and chain restaurants can help buyers better evaluate products over time). See generally Howard Beales, Richard Craswell & Steven C. Salop, *The Efficient*

the market failure unless we know that only a small number of terms in the license will actually be relevant to consumers. Another way to prevent the spiral towards worse products could be by mandating substantive floors on the quality of what can be offered to licensees (or to any group in a compound-paucital situation). We see an instance of this strategy appearing in compound-paucital relationships where residential landlords must warrant that the property is habitable. Mandating that particular uses of licensed works must be afforded to end users could have a similar effect.

Of course, it is not certain that EULA-covered products are a “lemon market” as Akerlof describes. While there is an asymmetry in how well licensees and licensors understand the content of EULAs, licensees are not wholly ignorant of what they are purchasing. Because the digital content is accessible, they can correctly assess that the license renders the content accessible to them for at least some period of time, and that correct perception creates a floor for what consumers are willing to pay to access the content.

Thus, there are two possibilities for how the market for licensed works has developed. First, we could be functioning in the “lemon” scenario, in which consumers would prefer more consumer-friendly licenses, and licensors would earn more by selling consumer-friendly licenses at a higher price. Second, we could be functioning in an environment where no market failure is present, in which customers or licensors genuinely wouldn’t prefer there to be more consumer-friendly licenses offered at a higher price. Although we can’t prove definitively what scenario we are in, the information asymmetries at play suggest that the former is very possible. As Russell Korobkin explains in an article discussing rights in boilerplate contracts generally, “Except in the unlikely circumstance in which all efficient terms are low quality, . . . there is reason to suspect that form contracts will contain some terms that reduce both the welfare of buyers and social welfare generally.”⁹⁰

Another way of understanding some corrective consumer-protection efforts in compound-paucital relationships would be framing them as another instance of law setting “the rules of the road” on which transactions can occur. Judges and legislatures regulate property transfers, such as when they invalidate or refuse to recognize restraints on the alienation of property, dictate that one must have capacity to alienate property through a will, or specify that ownership of land does not extend to the airspace above it. Even if one believes natural rights in property precede government, one can also recognize the government’s being justified in regulating—in the sense of “making regular”—how property ownership occurs, the edges of what counts as a property right, and how property may be transferred. Such protective rules need not only serve the interests of the numerous parties to a compound-paucital relationship, any more than the general rules of property law only benefit purchasers or non-owners.

The question of what protective measures are desirable is inherently specific to the particular compound-paucital relationship at issue. That an implied warranty of habitability developed in landlord-tenant law tells us little about what specific protective terms are justified in EULAs. Nonetheless, we can be guided in choosing

Regulation of Consumer Information, 24 J.L. & ECON. 491 (1981) (suggesting measures to improve communication of information to customers).

90. Korobkin, *supra* note 21, at 1234.

what substantive protections are justified by focusing on the problems that might arise from market failure and from the creation of negative externalities. Substantive regulation in EULA law should be most appropriate when we have reason to believe that consumers would prefer a protection and that licensors would prefer to offer the term if that meant they could earn a suitably higher profit on the licensed work, or when the term will lower information costs associated with parties to the license and third parties using the work. The following two Parts evaluate particular terms common in EULAs and suggest consumer protection measures that can mitigate the problems they cause.

III. RESTRAINTS ON ALIENATION AND USE

Many licenses to use digital content and software claim to “license and not sell” copies of a work to the end user.⁹¹ By licensing uses rather than selling the copy, licensors try to prevent end users from securing the legal rights typically associated with ownership, such as a general right to use and to alienate the property to another party. Instead, they offer the end user limited rights, often a perpetual right to make “personal uses” of the work,⁹² which cannot be transferred to other parties. As with purely in rem property, restraints on the use and alienation of copies raise information costs associated with property use and transfer, and can prevent assets from finding their highest-valued uses. The balance of this Part explores those effects, and suggests that certain use rights be guaranteed or favored and that restraints on alienation be void.

A. Harms Caused by Restraints on Alienation and Use

1. Increased Information Costs

In previous works, I have criticized EULAs that purport to grant users narrow, idiosyncratic rights, largely on economic grounds.⁹³ Foremost, permitting licenses to set forth narrow and idiosyncratic rules for how digital works may be used will raise the costs associated with making uses of those works, specifically “discovery costs” and “processing costs.”⁹⁴ Discovery costs are the effort associated with locating the information needed to understand how the work may be used.⁹⁵ In the typical end

91. E.g., *Kindle Store Terms of Use*, *supra* note 1; *Apple Media Services Terms and Conditions*, *supra* note 3.

92. E.g., *Kindle Store Terms of Use*, *supra* note 1.

93. See generally Mulligan, *supra* note 14; Mulligan, *supra* note 8.

94. See Mulligan, *supra* note 8, at 1132.

95. *Id.* Discovery costs are one of the types of transaction costs identified by Ronald Coase in *The Problem of Social Cost*. Coase explained:

In order to carry out a market transaction *it is necessary to discover who it is that one wishes to deal with*, to inform people that one wishes to deal and on what terms, to conduct negotiations leading up to a bargain, to draw up the contract, to undertake the inspection needed to make sure that the terms of the contract are being observed, and so on. These operations are often extremely costly, sufficiently costly at any rate to prevent many transactions that would be carried out

user's case, in order to be confident that one's uses are legal, one must locate the end-user license agreement or terms of use that delineates how the work can be used. Processing costs are the cost of understanding that information once it is found—the time it takes to read and understand the license agreement.⁹⁶ As discussed above, these costs can grow excessively high for licensees and prevent them from understanding the scope of their license.⁹⁷

Superficially, a license's restraint on alienation might appear to limit the information costs borne by parties not subject to the license. After all, someone who can't get permission to interact with the licensed work has the same obligation there as they have to any "thing" they don't own or have permission to use: to abstain from interacting with the item. But restraints on alienation do cause third parties' information costs to rise in a marketplace for second-hand goods. If some digital copies and even smart appliances' software are not transferrable, then third parties must endure higher information costs in the marketplace when faced with a purported "owner" of the item. In order to know if the seller has the authority to transfer the item, the aspiring purchaser must inquire about whether the item includes any digital content or software that was licensed and what the terms were, facing potentially high discovery and processing costs. Buyers must shoulder this cost even if it turns out that the item they are interested in purchasing is transferrable.⁹⁸

Moreover, the stakes for the aspiring second-hand purchaser are higher than that of an original licensee of a smart appliance or digital work. Original licensees generally correctly surmise that licenses offered by original sellers allow them to privately use the appliance or experience the work. Indeed, even if such licenses were not explicitly granted, consumers would have a strong argument that, by offering the appliance or digital copy to consumers in the first place, manufacturers had implicitly licensed necessary uses of the work to those end users.⁹⁹ Companies have additional incentives not to bring lawsuits against their customers for de minimus, good-faith uses of licensed works that exceed the scope of the license. To avoid alienating their customer base with negative public relations, they might prefer to ignore some misuse, to merely issue warnings, or to use technological protection measures to enforce limitations on how the work is used. However, the landscape for second-hand buyers is quite different. Unlike an original licensee, a second-hand buyer cannot have a reasonable belief that they will have the legal authority to use the work, so long as it is possible that the initial license to use the work was nontransferable. Moreover, the producer of the product or work won't have the same incentives to promote goodwill and not take legal action against second-hand buyers who have not paid the licensor

in a world in which the pricing system worked without cost.

R. H. Coase, *The Problem of Social Cost*, 3 J.L. & ECON. 1, 15 (1960) (emphasis added).

96. See Mulligan, *supra* note 8, at 1132; Henry E. Smith, *The Language of Property: Form, Context, and Audience*, 55 STAN. L. REV. 1105, 1108 (2003).

97. See *supra* text accompanying notes 46–48.

98. See Merrill & Smith, *supra* note 6, at 26–27, 33; Mulligan, *supra* note 14, at 243–44.

99. See *Parker v. Yahoo!, Inc.*, 88 U.S.P.Q.2d 1779, 2008 WL 4410095 (E.D. Pa. 2008); *Field v. Google, Inc.*, 412 F. Supp. 2d 1106, 1116 (D. Nev. 2006); WILLIAM F. PATRY, PATRY ON COPYRIGHT § 5:131 ("[C]ourts have noted the potential availability of an implied nonexclusive license when the circumstances . . . demonstrate that the parties intended that the work would be used for a specific purpose.").

at all. As a result, the information costs for second-hand buyers will be higher—they really do need to locate and understand the license to have reason to believe they can legally use the work—as well as the stakes, given that second-hand buyers are likely at greater risk of incurring significant legal liability for infringement.

In the context of physical property law, the risks incurred by good-faith buyers were generally limited to the value of the good purchased. At common law, actions for trover and replevin would force the wrongful possessor of a chattel to pay the object's value or to return the chattel to its true owner.¹⁰⁰ Comparatively, the costs of mistakenly acquiring and using a copyrighted digital work or copyrighted software are dramatically higher and disproportionate to the value of the copy, because copyright law provides for statutory damages of up to \$30,000 per work infringed, rising to \$150,000 if the infringement is willful.¹⁰¹ Efforts to challenge the statutory damages provisions for violating procedural due process have failed to date.¹⁰² As a result, although few license violators are taken to task for their actions, the consequences if one is sued are potentially life changing. The risk of liability also stays constant so long as the work continues to be used. Although there is a three-year statute of limitations on bringing an action for copyright infringement, each new use of the work that creates a potentially infringing reproduction restarts the clock on the copyright owner's ability to sue for infringement.¹⁰³

Notably, the information costs associated with wanting to acquire a second-hand copy of a digital work or smart appliance must be paid by all aspiring second-hand purchasers, whether or not the work or appliance a buyer is interested in is subject to a nontransferable license.¹⁰⁴ Even though many smart appliances may include software that is sold or for which the license is transferable, a potential buyer won't know whether the present possessor has the right to transfer the work unless they investigate whether there was a license and what the terms provided. As a result, the existence of nontransferable licenses to digital works and to the software in smart devices raises the costs for all second-hand buyers who might want to acquire copies of digital copyrighted works.

Present practice indicates many freestanding digital works, such as music files and e-books, are not transferable, so a critic might suggest that buyers should resolve this problem by presuming that no digital works can be resold. But this is not entirely true—at least some popular authors, such as Cory Doctorow, and musicians, such as Jonathan Coulton, license their work in order to explicitly permit someone in the

100. *Trover*, BLACK'S LAW DICTIONARY (10th ed. 2014) (defining "trover" as "[a] common-law action for the recovery of damages for the conversion of personal property, the damages generally being measured by the property's value"); *Replevin*, BLACK'S LAW DICTIONARY (10th ed. 2014) (defining "replevin" as "[a]n action for the repossession of personal property wrongfully taken or detained by the defendant").

101. 17 U.S.C. § 504(c) (2012).

102. See David Kravets, *Supreme Court Lets Stand \$675,000 File-Sharing Verdict*, WIRED (May 21, 2012, 11:06 AM), <https://www.wired.com/2012/05/supreme-court-file-sharing/> [<https://perma.cc/TL9B-SAZB>]; David Kravets, *Supreme Court OKs \$222k Verdict for Sharing 24 Songs*, WIRED (Mar. 18, 2013, 11:58 AM), <https://www.wired.com/2013/03/scotus-jammie-thomas-rasset/> [<https://perma.cc/76CM-6RQ5>].

103. See 17 U.S.C. § 507(b) (2012).

104. See Merrill & Smith, *supra* note 6, at 26–27, 33; Mulligan, *supra* note 14, at 243–44.

second-hand buyer's position to acquire and use it.¹⁰⁵ And even if restraints on alienation are dominant in licenses for digital media, there seems to be more variety among licenses for the software inside smart appliances and devices. For example, the Sodastream Carbonator appliance comes with a user license that specifies, "[t]he Carbonator, together with this User License, may be transferred to a third party provided the third party agrees to be obligated by the conditions and ownership rights expressed herein."¹⁰⁶ And as more and more appliances and devices are developed to include small computers, it may get less clear whether an appliance like a coffee machine or blender includes licensed, copyrighted software at all.

Nontransferability clauses raise the costs for everyone to buy and borrow any good that might include digital, copyrighted works. But beyond increased information costs, restraints on alienation and usage restrictions also decrease the value and usefulness of valuable works and objects.

2. Waste

Restraints on the alienation of digital content and software create waste. Any inalienable copy of a work has the potential to be used by another or repurposed for a new use, but the fact that licensees often do not have the right to transfer their rights eliminates this potential. Depending on the nature of the licensed work, the perniciousness of this phenomenon varies. The most problematic case involves the appliances that run software. Software-embedded goods have two conceptually separate parts that are subject to very different property regimes: the physical object, and the intellectual-property-protected software.¹⁰⁷ Usually the physical object—the vacuum cleaning parts of the Roomba, the lenses of one's digital camera—is sold to a buyer, and may be resold under the traditional first sale doctrine. But the software that runs inside the object is typically licensed and may purport to limit licensees' ability to alienate their rights to use the software.¹⁰⁸ If a licensee decides they no longer want their smart device, they may not have the rights to transfer the copy of the device's software to a second-hand buyer. In this case, they must either unlawfully distribute the work, or they can simply throw away or destroy the work, eliminating any potential value it could have to others. Although the appliance itself may be transferred, an inability to transfer the license to use an appliance's software will often render the appliance itself useless to anyone but the licensee. In this case, we get not just a waste of valuable resources—someone could derive benefit from the appliance but is not

105. See Glenn, Cory Doctorow, CREATIVE COMMONS (Aug. 1, 2005), <https://creativecommons.org/2005/08/01/doctorow> [<https://perma.cc/5BZQ-XW4K>]; Melissa, *Commoner Letter #3: Jonathan Coulton*, CREATIVE COMMONS (Nov. 17, 2008), <https://creativecommons.org/2008/11/17/commoner-letter-3-jonathan-coulton/> [<https://perma.cc/P978-FL5C>].

106. SODASTREAM, USER LICENSE FOR ONE SODASTREAM CARBONATOR, <https://www.sodastreamusa.com/assets/ulc.pdf> [<https://perma.cc/2U25-69C7>].

107. For an in-depth discussion of how these dual property systems work, see Shyamkrishna Balganesh, *Copyright and Good Faith Purchasers*, 104 CALIF. L. REV. 269 (2016).

108. For an explanation of why merely running a piece of software may be interpreted as infringing the software's copyright, see *supra* note 28.

legally permitted to—but a physical waste, where otherwise useful objects are destroyed or thrown away, or costs must be paid to recycle or repurpose the object.¹⁰⁹ The law works to artificially limit the good's value.

For purely digital content, the waste is not physical—mp3 files will not take up space in a landfill—and the cost of making an additional, new copy is negligible for the copyright owner. But the potential waste of economic and social value remains real. Disallowing alienation of copies means that everyone who wants to access a work must locate and deal with someone authorized to grant licenses to the work, usually the copyright owner itself and large intermediary actors.¹¹⁰ If the copyright holder goes out of business or stops selling the work, the costs of merely figuring out who to deal with rise dramatically.¹¹¹ As technology changes, compatibility and preservation issues also arise.¹¹² Over time, digital works will remain easier to access and will be more likely to remain in existence and accessible if more parties have legal and actual access to them.¹¹³

B. Limiting Harm with Protective Standardization

The previous section set forth several concerns about using licenses to grant idiosyncratic rights to use copyrighted works and to restrain alienation of copies of those works. One protective response would be to render void any restrictions on the alienation of licensed products. Another would be to limit what use restrictions could be placed on licenses, or mandate that particular uses be authorized under any license. But because any movement towards standardization comes at the cost of flexibility, particular licensee-protective measures must be considered carefully.¹¹⁴

109. The inability to alienate or change how software-running objects can be used echoes the concern Zechariah Chafee had about creating servitudes or use restrictions on chattels: that there would be “no possibility of affixing a reasonable termination to the life of the restriction [on a chattel] coextensive with the realization of [its] purpose.” Zechariah Chafee, *Equitable Servitudes on Chattels*, 41 HARV. L. REV. 945, 985 (1928).

110. See Aaron Perzanowski & Jason Schultz, *Digital Exhaustion*, 58 UCLA L. REV. 889, 894 (2011) (“[F]irst sale improves both the affordability and availability of copyrighted works by fostering secondary markets for lawful copies and distribution models that operate outside of copyright holder control.”); R. Anthony Reese, *The First Sale Doctrine in the Era of Digital Networks*, 44 B.C. L. REV. 577, 585–94 (2003).

111. See Perzanowski & Schulz, *supra* note 110, at 894–85; Reese, *supra* note 110, at 633.

112. “[W]ithout some sort of digital resuscitation, every application [program] . . . eventually stops working, and every data file eventually becomes unreadable. Every application and every file.” Reese, *supra* note 110, at 638–39 (alterations not pertaining to capitalization in original) (emphasis omitted) (quoting Claire Tristram, *Data Extinction*, MIT TECH. REV. (Oct. 1, 2002), <http://www.technologyreview.com/communications/12975> [<https://perma.cc/X2GL-CY52>]); see also Mulligan, *supra* note 14, at 280. A common mantra associated with digital preservation is “lots of copies keeps stuff safe.” See, e.g., *Preservation Principles*, LOCKSS, <http://www.lockss.org/about/principles> [<https://perma.cc/K5E8-DU95>].

113. As Reese explained, if there is one copy of a work with a one in one hundred chance of being destroyed in a given year, there is only a 13% chance it will still exist in two hundred years. Whereas, if there are 100 copies, the chance that at least one copy will survive in a hundred years is 99.9999944%. Reese, *supra* note 110, at 605–06.

114. Cf. Korobkin, *supra* note 21, at 1245 (“Despite the likelihood that the unregulated

One measure worth considering would be to treat EULAs that authorize indefinite use of a particular copy of a work as transferring title of the relevant copy to an end user. This would allow the copy to be transferred to second-hand customers and provide a floor of rights that end users could be confident about exercising over copies of digital works.

Consider, as an example, the software that runs in smart appliances, such as the smart vacuum cleaner described at the beginning of this Article. This vacuum is given to the end user indefinitely, in exchange for a one-time payment. The end user need not act in concert with the manufacturer to maintain the functionality of the vacuum cleaner over time. Compared to other established ways of transferring possession of a copy—by rental, lease, and lending¹¹⁵—this behavior looks most like a sale, largely because there is no requirement that the vacuum's software be returned to the seller.

Two challenges stand in the way of protectively reading EULAs to favor title transfer. First, case law has been developing in the opposite direction, tending to validate licensors' claims that works are "licensed not sold." Second, the notion of what a "digital sale" even would be is very difficult to specify in a workable fashion given current law. The rest of this section will explore and attempt to resolve those challenges.

1. The License v. Sale Distinction in Practice

Most purveyors of software and digital goods attempt to license, rather than sell, copies of their works. Whether a copyright holder characterizes a transfer as a license or sale has legal consequence: in the 2010 Ninth Circuit decision *Vernor v. Autodesk, Inc.*, the panel held that one of the three factors relevant to whether a copy had been licensed or sold was "whether the copyright owner specifies that a user is granted a license."¹¹⁶ Nonetheless, the statement that a work is "licensed and not sold" is not the end of the story. On the same day the *Vernor v. Autodesk* decision was argued,¹¹⁷ the same panel of judges also heard the case *UMG v. Augusto*,¹¹⁸ which ultimately held that the plaintiff, UMG Recordings, had effectively transferred title to several promotional CDs, despite its stated attempts to merely transfer a license.¹¹⁹ UMG had sent promotional music CDs to music critics and disc jockeys. Written on some CDs was the statement,

market will produce inefficiently low-quality terms, . . . it is not obvious a priori that the market would lead to worse results than available alternatives The virtues and vices of government intervention must be compared carefully to those of non-intervention.").

115. See 17 U.S.C. § 106(3) (2012).

116. 621 F.3d 1102, 1110–11 (9th Cir. 2010). The other two factors were "whether the copyright owner significantly restricts the user's ability to transfer the software" and "whether the copyright owner imposes notable use restrictions" on the work. *Id.*

117. Aaron Perzanowski & Jason Schultz, *Reconciling Intellectual and Personal Property*, 90 NOTRE DAME L. REV. 1211, 1227 (2015).

118. *UMG Recordings, Inc. v. Augusto*, 628 F.3d 1175 (9th Cir. 2011).

119. *Id.* at 1180.

This CD is the property of the record company and is licensed to the intended recipient for personal use only. Acceptance of this CD shall constitute an agreement to comply with the terms of the license. Resale or transfer of possession is not allowed and may be punishable under federal and state laws.¹²⁰

The defendant, Augusto, acquired the CDs from various sources and then resold them on eBay.¹²¹ Despite the statement written on the CDs, the court held that title had been transferred to the CDs' initial recipients, and that Augusto was therefore able to acquire title to them himself.¹²²

Reconciling the holdings of *Vernor* and *Augusto* is difficult. One possibly dispositive difference is that the initial recipients of the CDs in *Augusto* did nothing to assent to the license. A second possibility is "software exceptionalism"—the notion that courts are simply more willing to recognize attempts to license software (and other digital media) than they are to license physical copies of copyrighted works like CDs. *Augusto* hints at this possibility by noting that "[p]articularly with regard to computer software, we have recognized that copyright owners may create licensing arrangements."¹²³

The holdings of *Vernor* and *Augusto* teach that, while copyright holders can strongly influence the legal character of what they do by labeling it, those labels are not dispositive. Sometimes courts are willing to look beyond statements that a work is "licensed but not sold" and decide that, legally, the copy of the work had been sold and title to it had been transferred. The difficult question is when courts should ignore the terms of a license and declare that what *really* has occurred is a transfer of title.

Other scholars have wrestled with this question, among them Aaron Perzanowski, Jason Schultz, and Brian Carver. Carver surveyed existing cases and described five approaches courts have taken in practice to decide whether a transaction was a sale or granted a license. One is the "reservation of title" or "magic words" approach, in which a copyright holder's statement that they are reserving title to the copy alone determines whether a copy is licensed or sold.¹²⁴ A second option, the "agreement controls" approach, is to look to the four corners of the terms of the agreement between copyright holder and end user and look at whether the terms as a whole create a situation more like a license or a sale.¹²⁵ Although this approach still gives the

120. *Id.* at 1177–78. Others simply were marked "Promotional Use Only—Not for Sale." *Id.* at 1178.

121. *Id.* at 1178.

122. *Id.* at 1180.

123. *Id.* (emphasis added).

124. Brian W. Carver, *Why License Agreements Do Not Control Copy Ownership: First Sales and Essential Copies*, 25 BERKELEY TECH. L.J. 1887, 1898–1904 (2010). Carver cited several cases as examples of the magic words or reservation of title approach, including *MAI Systems Corp. v. Peak Computer, Inc.*, 991 F.2d 511 (9th Cir. 1993); *Wall Data Inc. v. L.A. County Sheriff's Department*, 447 F.3d 769 (9th Cir. 2006); *S.O.S., Inc. v. Payday, Inc.*, 886 F.2d 1081 (9th Cir. 1989); and *Microsoft Corp. v. Harmony Computers & Electronics, Inc.*, 846 F. Supp. 208 (E.D.N.Y. 1994). Carver, *supra*.

125. Carver, *supra* note 124, at 1898, 1905–13. As examples of the "agreement control" approach, Carver cites *Vernor v. Autodesk, Inc.*, 621 F.3d 1102 (9th Cir. 2010); *DSC Communications Corp. v. Pulse Communications, Inc.*, 170 F.3d 1354 (Fed. Cir. 1999); *MDY*

copyright holder the ability to decide whether they are licensing or selling the copy, it takes into account what the agreement actually grants, rather than merely relying on the label the copyright holder has used.

A third approach relies on the terms of the Uniform Commercial Code (“UCC”) to ascertain when a transfer of title has taken place.¹²⁶ According to Carver, cases that follow the UCC “tend[] to arise when courts are more concerned with the goods being transferred and less focused on the copyrighted works that may be embodied in those goods” and when “there is less of a dispute about whether a sale occurred or was attempted, and more of a question of who currently owns the underlying goods.”¹²⁷ The UCC does not really contemplate the licensing of physical goods. It provides, “[t]he retention or reservation of title by a seller of goods notwithstanding shipment or delivery to the buyer under Section 2-401 is limited in effect to the reservation of a ‘security interest.’”¹²⁸

Fourth, some courts have looked more at the “actual character . . . of the transaction” rather than the label the copyright holder put on it or the written terms of the license.¹²⁹ Carver deems this the “economic realities” approach. Each of the three cases he cites as exemplary of this approach present very different fact patterns, but the overall tenor of the decisions is that the courts looked at the underlying qualities of what the recipient acquired, rather than the terms used in the agreement.¹³⁰ In one case, an actress was deemed to be the owner of a film print given to her perpetually for her “personal use and enjoyment,” despite a term stating that she could not transfer ownership of the print.¹³¹ In another case, a distributor of Microsoft software was deemed to be the owner of several units of software that had been transferred permanently to the distributor, to be paid on an installment plan, even though the agreement between the distributor and Microsoft declared that the software units were licensed.¹³² In the third case, the Second Circuit evaluated whether a custom piece of

Industries, LLC v. Blizzard Entertainment, Inc., No. CV-06-2555-PHX-DGC, 2008 WL 2757357 (D. Ariz. July 14, 2008); *Novell, Inc. v. Unicom Sales, Inc.*, No. C-03-2785, 2004 U.S. Dist. Lexis 24538 (N.D. Cal. Aug. 17, 2004); and *Novell, Inc. v. CPU Distributing, Inc.*, No. H-97-2326, 2000 U.S. Dist. Lexis 9975 (S.D. Tex. May 4, 2000). Carver, *supra*. The holding in the 2008 *Blizzard* court opinion that the World of Warcraft software had been licensed and not sold was later affirmed in *MDY Industries, LLC v. Blizzard Entertainment Co.*, 629 F.3d 928, 938–39 (9th Cir. 2010).

126. Carver, *supra* note 124, at 1898, 1914–15. Carver cites as examples of this approach: *Classic Concepts, Inc. v. Linen Source, Inc.*, Nos. 04-8088 & 04-0857, 2006 U.S. Dist. Lexis 96767, at *49–50 (C.D. Cal. Apr. 27, 2006); *Synergistic Technology, Inc. v. IDB Mobile Commissions, Inc.*, 871 F. Supp. 24, 29 (D.D.C. 1994); *Mahru v. Superior Court*, 237 Cal. Rptr. 298, 300 (Cal. Ct. App. 1987); *Old West Realty, Inc. v. Idaho State Tax Commission*, 716 P.2d 1318, 1320–21 (Idaho 1986); *Skripak v. Commissioner*, 84 T.C. 285, 315 (T.C. 1985); and *Middlebrooks v. Commissioner*, 34 T.C.M. (CCH) 1187, at *12–15 (T.C. 1975). Carver, *supra*.

127. Carver, *supra* note 124, at 1914.

128. U.C.C. § 1-201(35) (AM. LAW INST. & UNIF. LAW COMM’N 2018).

129. Carver, *supra* note 124, at 1915 (quoting RAYMOND T. NIMMER, *THE LAW OF COMPUTER TECHNOLOGY* § 1.18[1][a], at 1-103 (1992)).

130. See Carver, *supra* note 124, at 1915–19.

131. *United States v. Wise*, 550 F.2d 1180, 1192 (9th Cir. 1977).

132. *Microsoft Corp. v. DAK Indus., Inc.*, 66 F.3d 1091, 1093–96 (9th Cir. 1995); see also

software had been sold or licensed for purposes of the recipient's relying on the rights enumerated under 17 U.S.C. § 117(a), stating,

[I]t seems anomalous for a user whose degree of ownership of a copy is so complete that he may lawfully use it and keep it forever, or if so disposed, throw it in the trash, to be nonetheless unauthorized to fix it when it develops a bug, or make an archival copy as backup security. . . . [In determining ownership under 17 U.S.C. § 117(a),] courts should inquire into whether the party exercises sufficient incidents of ownership over a copy of the program The presence of absence of formal title may of course be a factor in this inquiry, but the absence of formal title may be outweighed by evidence that the possessor of the copy enjoys sufficiently broad rights over it to be sensibly considered its owner.¹³³

The division of "formal title" from the rights of ownership may perhaps better be framed as the Second Circuit's recognizing that the choice of a seller to use the label "license" or "sale" does and should not determine who an owner is. Rather, ownership is and should be determined by the actual, overall character of the rights granted to the software's recipient.

Finally, Carver notes that the district court opinions in *UMG Recordings, Inc. v. Augusto*¹³⁴ and *Vernor v. Autodesk*¹³⁵ seemed to narrow the considerations in play in the "economic realities" approach and hold that the right to perpetual possession of a copy was enough to trigger a sale.¹³⁶ This is the position Carver ultimately advocates.¹³⁷ Carver concludes that perpetual possession "is the key factor that distinguishes sales and gifts on the one hand, and leases and lending on the other" and that "transferring perpetual possession of a copy but retaining title to the copy, is both incoherent and not found in the Copyright Act."¹³⁸

Writing five years later, in a different era for e-commerce, Perzanowski and Schultz believe that perpetual possession is a key factor, but cannot be dispositive alone given recently developed business models for providing digital content.¹³⁹ They write,

When a user rents a movie from iTunes, for example, a full copy is delivered to her hard drive that she can retain in perpetuity. What distinguishes that file from a purchased movie title is not that it must be returned, but that a small bit of code renders the file unplayable after a

Datalex (Ireland) Ltd. v. PSA, Inc., No. CV 01-06482 DDP, 2003 U.S. Dist. Lexis 27563, at *6 (C.D. Cal. Jan. 30, 2003) (citing *DAK Indus.*, 66 F.3d at 1095) (stating that the economic realities of a transaction determine whether it is a sale, lease, or license).

133. Krause v. Titleserv, Inc., 402 F.3d 119, 123–24 (2d Cir. 2005).

134. *UMG Recordings, Inc. v. Augusto*, 558 F. Supp. 2d 1055 (C.D. Cal. 2008), *aff'd*, 628 F.3d 1175 (9th Cir. 2011).

135. *Vernor v. Autodesk, Inc.*, No. C07-1189RAJ, 2009 WL 3187613, at *11–14 (W.D. Wash. Sept. 30, 2009); *Vernor v. Autodesk, Inc.*, 555 F. Supp. 2d 1164 (W.D. Wash. 2008).

136. See Carver, *supra* note 124, at 1920–25.

137. *Id.* at 1952, 1954.

138. *Id.* at 1954.

139. See Perzanowski & Schultz, *supra* note 117, at 1256.

designated period of time. An exhaustion rule premised on perpetual possession alone could foreclose this business model and interfere with creative incentives. Conversely, a transaction that is called a sale and requires a one-time payment for unlimited ongoing access to a work may not require possession in the traditional sense of the word at all. A consumer who “buys” an MP3 from Amazon and stores and accesses that file from Amazon’s Cloud Player appears to satisfy the requirements for exhaustion despite never having done more than access a temporary, ephemeral data stream.¹⁴⁰

Perzanowski and Schultz advocate for taking three key factors into account when determining whether a sale has taken place and the copyright holder has exhausted their rights to a particular copy of the work: “[t]he duration of consumer possession or access; . . . [w]hether the payment structure is one-time or ongoing; and . . . [t]he characterization of the transaction communicated to the consumer, including whether it is referred to as a sale or purchase.”¹⁴¹ Although a copyright holder’s stated intent is still relevant, Perzanowski and Schultz move the focus from what a copyright holder says to how the transaction actually works outside the stated terms of the license: if an end user pays once or a fixed number of times in exchange for perpetual possession or access, courts should be more inclined to understand the activity as a sale.¹⁴² In more pithy terms, for Perzanowski and Schultz, if it walks like a sale, and acts like a sale, the transaction is a sale.

2. What Is a Digital Sale?

Even if we accept Carver’s or Perzanowski and Schultz’s conclusion about when transactions should qualify as sales or licenses, the question of what rights are associated with a digital sale remain a separate, vexing puzzle under current law. When a purchaser buys a nondigital good containing a copyrighted work, the purchaser gains the right to distribute and display that particular copy of the work.¹⁴³ They also may read or privately perform (i.e., play) the work, because neither of these acts implicates any of the exclusive rights of the copyright holder.¹⁴⁴ Owning a nondigital work is thus a valuable proposition: when you own a book or an LP record, you generally have the legal authority to use it privately however you like.¹⁴⁵

However, owning a digital file is far more complicated under current law. Under a widely held, though much-criticized, interpretation of the copyright holder’s exclusive right to reproduce a copyrighted work, the very act of opening or running a digital file is enough to create an actionable reproduction of the work because running the file creates a temporary copy of the work in a computer’s random access

140. *Id.* at 1256–57.

141. *Id.* at 1256.

142. *See Id.* at 1256.

143. 17 U.S.C. § 109(a), (c) (2012).

144. *See* 17 U.S.C. § 106 (2012).

145. *See* Perzanowski & Schultz, *supra* note 117, at 1249 (arguing that owning a copy of a good, and the right to alienate it, “offer[s] consumers real value,” while licensed copies “lack the freedoms customers expect” and are therefore “less desirable” to acquire legally).

memory (RAM).¹⁴⁶ This interpretation is commonly referred to as the “RAM copy doctrine”¹⁴⁷ or as the holding of *MAI Systems v. Peak Computer*.¹⁴⁸ The reasons to resist the RAM copy doctrine are fairly plain. First, it turns any use of a digital work into an action that requires a copyright holder’s permission, in stark contrast to how copyright applies in nondigital situations. Second, the doctrine exists in tension with the Copyright Act’s apparent requirement that copies be “sufficiently permanent or stable to permit it to be perceived, reproduced, or otherwise communicated for a period of more than transitory duration.”¹⁴⁹ Nonetheless, many courts and copyright holders follow the RAM copy doctrine.

Besides the RAM copy doctrine, however, there are more fundamental differences in how digital works are used. If you want to read a physical book that you keep at home on a bus, you just carry it out your front door. If you want to play a song from a record for a friend, you carry the record over to your friend’s house to play it on their record player. These activities do not require any copyright-implicating behavior. But digital files are often not merely carried around. If you have a file saved on your desktop or laptop computer, it might not be possible or useful to carry that computer onto a busy bus or to a friend’s house. To be as functional as their analog equivalents, people make a copy of the work on small devices like a tablet, phone, or flash drive, even when no one is going to use the works but themselves. Digital goods are most useful when someone is not worried about making copies for personal uses and convenience. Making copies for personal use creates the same functionality as carrying a nondigital work around. Yet, with far more certainty than cases involving the RAM copy doctrine, each of these copies plainly qualifies as a reproduction under the Copyright Act.

The absurdity inherent in owning, but being unable to use, a digital good is theoretically mitigated by § 117 of the Copyright Act. Section 117 attempts to write sensible rules for ownership of a software program. Under § 117, it is not an infringement of copyright to make a copy of a work if it is an “essential step” in using the program with a machine or if the copy is for archival purposes (keeping in mind that computers can unexpectedly break without external indication).¹⁵⁰ Copies made under § 117 can only be transferred to others if the owner of the copy they were made from is transferring their original, owned copy as well.¹⁵¹ Additionally, copies of an owned work can be made if it is a necessary part of activating a computer in the course of repairing it.¹⁵² Cases like *MAI Systems v. Peak Computer*¹⁵³ have limited the application of § 117 because so many copyright holders successfully maintain that their software is “licensed and not sold” to end users.¹⁵⁴ But if it were more

146. See *supra* note 28.

147. See, e.g., Perzanowski, *supra* note 28, at 1070 (“The Rise of the RAM Copy Doctrine”).

148. *MAI Sys. Corp.*, 991 F.2d at 518.

149. See 17 U.S.C. § 101 (2012) (defining copies as “fixed” and defining “fixed” as being perceivable for “a period of more than transitory duration”).

150. 17 U.S.C. § 117(a) (2012).

151. *Id.* § 117(b) (2012).

152. *Id.* § 117(c) (2012).

153. 991 F.2d at 511.

154. *Id.* at 518 n.5.

broadly applicable, § 117 would provide a fairly workable system for rendering owned copies of software useful to their owners, particularly when the sold copy arrives already inside a smart appliance.

Unfortunately, the Copyright Act does not have anything like § 117 that applies to digital files or digital media in general. As a result, it is difficult to decipher what the idea of “owning a file” means in practice for digital media. Under the RAM copy doctrine, one would be forbidden from even opening an owned media file, and if one had downloaded the sold copy initially onto one device, or brought it home on a CD, one would not be able to transfer it to another platform without implicating the reproduction right. Many advocates and commentators have tried to use doctrines of fair use and implied licensure to cobble together a path through which owned digital media would be useful.¹⁵⁵ The Ninth Circuit stated in dicta that moving a media file from one location to another, or “space-shifting,” for personal use should qualify as a fair use of a copyrighted work.¹⁵⁶ But the status of space-shifting remains in legal limbo, in part because digital media sellers have not been inclined to litigate the position that space-shifting is illegal.¹⁵⁷

Despite the puzzle surrounding ownership of digital files, it is possible to make some minimal claims of what this ownership must consist of. Take the case of an independent filmmaker who has completed a homemade documentary and who purports to sell a digital copy of the film to a viewer. The viewer downloads a copy onto the hard drive of his laptop computer. Everything about the transaction indicates that the filmmaker intended the viewer to be able to watch the film, not just passively keep the file. If you asked the filmmaker whether she wanted the viewer to see the film, she would clearly say, “Of course, that’s why I sold him the file.” Even though technically viewing the film would make a potentially infringing copy, it is plain that the filmmaker would have licensed the viewer to make the RAM reproductions necessary to watch the movie. The case for an “implied license” to watch the film being present is overwhelming.

But implied licensure doesn’t entirely clarify the notion of “selling a digital file.” Suppose the viewer in the story sells their laptop and every file on it, including the filmmaker’s documentary. Because he owns the file, he has a right to distribute his copy, and merely handing the laptop to another person does not implicate any of the

155. See Aaron Perzanowski & Jason Schultz, *Copyright Exhaustion and the Personal Use Dilemma*, 96 MINN. L. REV. 2067, 2070 (2012) (“Courts and commentators have generally taken one of three approaches to justify personal uses: narrow interpretations of exclusive rights, fair use, and implied license. While each approach can resolve some aspects of the personal use dilemma, none are able to provide fully satisfying rationales or coherent doctrinal rules, and all three are limited in important respects and potentially vulnerable to erosion in the long term.”).

156. See *Recording Indus. Ass’n of Am. v. Diamond Multimedia Sys.*, 180 F.3d 1072, 1079 (9th Cir. 1999) (“[A digital music player] makes copies in order to render portable, or ‘space-shift,’ those files that already reside on a user’s hard drive. Such copying is paradigmatic noncommercial personal use entirely consistent with the purposes of the Act.” (citing *Sony Corp. of Am. v. Universal City Studios*, 464 U.S. 417, 455 (1984))).

157. Cf. Fred Von Lohmann, *RIAA Says Ripping CDs to Your iPod Is Not Fair Use*, ELECTRONIC FRONTIER FOUND. (Feb. 15, 2006), <https://www.eff.org/deeplinks/2006/02/riaa-says-ripping-cds-your-ipod-not-fair-use> [<https://perma.cc/Q7SK-ANUB>].

exclusive rights of copyright. But what happens to the filmmaker's implied license to view the film? Would she have wanted the license to extend to a downstream buyer of the file? We can imagine that some "sellers" would want downstream owners of the file to be able to access it as well, but it also seems probable that many would not have wanted the implied license to extend to others besides the initial purchaser. A court might find that the implied license exists even over the objections of the copyright holder¹⁵⁸ or that viewing the file would be fair use. But these findings are not at all guaranteed. In short, a sale coupled with implied licensure and the fair use doctrine does not necessarily create a kind of ownership akin to personal property law, which customers have come to expect and understand.

Coming up with an understanding of what a digital sale means is a necessary prerequisite to digital sales being something that copyright holders can offer. If courts rule consistently, notions of fair use and implied license could create a viable framework for "digital ownership" over time. More narrowly and immediately, if courts or Congress rejected the RAM copy doctrine, owned digital files would be initially usable, if not movable or easily transferrable. Section 117 could also be expanded to reach all copyrighted digital works, and not just computer programs. Another possible route is for courts or Congress to radically reevaluate what ownership means in a digital context, to focus on granting end users the functional equivalent of chattel ownership. This approach is exemplified in the European Court of Justice (ECJ) case *UsedSoft GmbH v. Oracle*,¹⁵⁹ in which the ECJ held that ownership of a particular copy of software extended to any "functional equivalent" of a tangible copy, including altering the copy to update or patch it, or making a copy to transfer it to another purchaser so long as one made their own copy unusable.¹⁶⁰

3. Favoring Sales Without Losing Flexibility

If courts begin to favor finding that EULAs transfer copies of works to end users, rather than licensing some uses to them indefinitely, a number of information-cost and waste-related issues will be mitigated. Purchasers will be more assured of their ability to make personal uses of works and their right to transfer their rights to others, without having to suffer high discovery and processing costs to understand the scope of their purchases' EULAs. Moreover, viable copies and appliances won't have to lie fallow because of improvident restraints on their alienation.

But many EULAs offer licensees terms that permit uses beyond that which owners of copies possess, and some licensors would deem it very important to restrict licensees to having fewer rights than copy ownership would provide. One might fairly wonder if a jurisprudence that favors finding copies are transferred to end users would unwisely inhibit licensors' ability to craft extra permissions or restrictions. This section tries to articulate a workable balance between flexibility and standardization, proposing that, through a combination of offering additional license terms

158. See, e.g., *Field v. Google Inc.*, 412 F. Supp. 2d 1106, 1115–16 (D. Nev. 2006).

159. Case C-128/11, *UsedSoft GmbH v. Oracle Int'l Corp.*, 2012 E.C.R. 407, <http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:62011CJ0128&from=EN> [<https://perma.cc/2U88-R5Q9>].

160. *Id.* ¶¶ 61, 63, 67, 70.

and terms that sound in contract, licensors can largely retain flexibility while guaranteeing a minimum set of rights for consumers.

As a threshold matter, it's important to note that even if a work is sold, further licenses to use a copyrighted work can always be granted. When discussing EULAs, this insight is easy to lose; several of the cases referenced above, including *Augusto* and *Vernor*, grappled with whether a work had been licensed or sold. But it is also possible for works to be licensed *and* sold.¹⁶¹ In nondigital contexts, understanding these rights as separable does not seem difficult. I can sell or give you a copy of my book, and then grant you a license to make a derivative work of it, if you are a screenwriter and we want to turn the book into a film. The license to do an activity that implicates one of the exclusive rights of copyright holders is entirely separate from the ownership of the book. If you knew the plot of the book, you could get a license to write the screenplay without owning a copy. Similarly, you could own a copy and have no rights to draft a derivative screenplay. Digitally, we could understand an analogous situation involving an end-user license agreement. An end user could be sold a copy of a digital media file and then also be given a license to publicly perform the work for a large audience. Put another way, owning a copy gives you rights to that copy—to distribute and display it—whereas licensure can give you the right to make more copies (or otherwise engage in the activities associated with copyright ownership).¹⁶²

Recognizing that holding a license is not necessarily alternative to owning a copy sheds lights on two kinds of license agreements: the end-user license agreements we have been largely been discussing, and public licenses such as the General Public License (GPL)¹⁶³ or Creative Commons licenses.¹⁶⁴ When distributing a work under a public license, a copyright owner allows anyone to use the work according to the license terms. Typically, but not necessarily, public licenses allow licensees to share or distribute the licensed material under specific conditions. For example, the GPL and Artistic License for software allow anyone to make derivative works based on licensed works, so long as derivatives include access to the source code for the program.¹⁶⁵

Although EULAs and public licenses are both called “licenses,” their creators tend to have very different goals. Licensors offering EULAs tend to be concerned with how particular copies of their content are used but rarely permit their end users to alter the underlying work and distribute copies to new users. But licensors of publicly licensed material are not nearly as concerned with how a particular user uses a

161. See Carver, *supra* note 124, at 1930, 1934–37 (“One key to a proper resolution of the ‘license versus sale’ question is a recognition that the two concepts are not mutually exclusive. Consequently, the entire framing of the question as one of ‘license versus sale’ presents a false dichotomy that should be avoided.”).

162. See *id.* at 1935–37; Mulligan, *supra* note 14, at 266 (discussing the rights to make copies and to use and convey particular copies).

163. GNU General Public License Version 3, GNU OPERATING SYS. (June 29, 2007), <https://www.gnu.org/licenses/gpl-3.0.en.html> [<https://perma.cc/R9Z9-3SRV>].

164. CREATIVE COMMONS, <https://creativecommons.org> [<https://perma.cc/XPN7-VPG2>].

165. See, e.g., GNU OPERATING SYS., *supra* note 163, § 6; Artistic License 2.0, OPEN SOURCE INITIATIVE §§ 4–5, <http://www.opensource.org/licenses/artistic-license-2.0> [<https://perma.cc/2B5B-Y4UN>].

particular copy and instead aim to create an environment where their work can be shared and used widely. Licensees of publicly licensed material are often granted not only the rights necessary to use a particular copy of the product themselves, indefinitely, but also the rights to copy, distribute, and make derivative works of the licensed material under particular but broad conditions.

Although both EULAs and public licenses are typically characterized as licenses and not sales, a better way to conceptualize their characters would be as documents that sell or transfer a copy, plus offer a license to engage in further behavior that implicates the exclusive rights of a copyright holder. In both cases, a copy of the “licensed” work is given to the licensee indefinitely and irrevocably: a hallmark of a sale or transfer of ownership for Carver, Perzanowski, and Schultz.¹⁶⁶ And in both cases, additional license to engage in copyright-implicating behavior may be granted to the licensee. In the case of the end user, the additional license may be minimal, such as an allowance to make extra copies that increase the work’s usability to the end user. In the case of the licensee of the public license, the additional license may allow the licensee to alter and redistribute the work. Both types of “licenses” can be reframed as combinations of a sale and a license, which provide a “floor” of expected rights to the licensee or end user, plus additional permissions.

A more challenging case involves how to approach a rights holder who wants to license use of a copy to an end user and heavily restrict how that copy is used. At present, courts tend to understand those efforts as creating a license and not a sale. But if, as suggested, courts evolve to find more “licenses” actually transfer title to copies of works, the question emerges how to handle further attempts to restrict how those sold works are used. One path would be, echoing the holding of *Bobbs-Merrill Co. v. Straus*¹⁶⁷ and other first-sale cases, to hold that sellers simply could not place further limitations on the buyers of particular copies.¹⁶⁸ This choice would maintain a clear floor of rights, which consumers could feel confident about exercising without having to read and understand the fine print of an EULA. Having considered the potential harms and inefficiencies of permitting EULAs to be infinitely malleable, the notion of a “rights floor” is appealing.

But we can also imagine that sometimes it might genuinely be desirable for a rights holder to limit how a copy of a work could be used. As a compromise in this case, we could understand such an agreement between seller and end user as taking a purer in personam form, only affecting the parties and avoiding increased information costs for others. Thus, restrictive terms could be recognized as part of a contract between seller and end user but would not run with the asset (i.e., would not attach to downstream owners of the copy). Violations of the restriction by the end user could also be penalized with contractual remedies rather than remedies for copyright infringement. This notion of “selling a copy, and contracting for its limited use” could be compatible with existing law, and its theoretical underpinnings are explored in the following part.

166. See *supra* notes 125–29 and accompanying text.

167. 210 U.S. 339 (1908).

168. See, e.g., *id.* at 350; *UMG Recordings, Inc. v. Augusto*, 628 F.3d 1175, 1183 (9th Cir. 2011).

C. Distinguishing Between In Rem and In Personam License Terms

Recognizing that EULAs are compound-paucital helps us understand how they can be best regulated and understood, but this recognition does not tell us how EULA violations should be remedied. This section addresses that problem by delving into the reasons for framing different rights and obligations in EULAs as property- or contract-like.

One particularly vexing quality of licenses is that, even when they are clearly trying to grant some set of rights, not every term of the license is necessarily specifying the scope of the property rights granted to the end user. For example, a licensee might have agreed to only use licensed software while wearing a red hat, to submit conflicts over the license terms to arbitration, or to write an online review of the content. Although part of the purported “license,” these terms are quite unrelated to the property rights that the copyright owner has to transfer. The recent Ninth Circuit case *MDY Industries, Inc. v. Blizzard Entertainment, Inc.*¹⁶⁹ helped tease out the notion that some “license” terms delineated the scope of the property rights granted to the end user, while other terms were merely additional contract terms between the licensor and licensee. In *Blizzard*, some *World of Warcraft* players were using a “bot” called Glider to aid their game play.¹⁷⁰ Blizzard argued that the bot-using players were infringing on Blizzard’s copyrights when they used the bot because using bots was disallowed by Blizzard’s EULA.¹⁷¹

The Ninth Circuit rejected Blizzard’s characterization of the license agreement by distinguishing between terms of the license and terms of the contractual agreement between Blizzard and its players.¹⁷² Although the opinion slips between using property and contract terms to describe the conditions of the license, the panel’s distinction is helpful to understanding how to separate terms of an agreement that sound in contract and copyright. The court explained, “We refer to contractual terms that limit a license’s scope as ‘conditions,’ the breach of which constitute copyright infringement. We refer to all other license terms as ‘covenants,’ the breach of which is actionable only under contract law.”¹⁷³ The *Blizzard* court found that the term requiring players to avoid using bots was a contractual covenant—an agreement the players made with Blizzard separate from any grant of copyright rights—rather than a part of the license.¹⁷⁴ In other words, Blizzard granted players the copyright permissions necessary to play the game, and then players contracted with Blizzard not to use a bot. By contrast, if the prohibition on bots would have been understood as part of the license, we might have counterfactually understood Blizzard’s license as constituting an idiosyncratic set of copyright rights—the copyright permissions necessary to play *World of Warcraft* without the use of bots.

The reasoning behind the *Blizzard* court’s characterization of the antibot term is worth meditating on. At first, the court seems to clearly distinguish between copy-

169. 629 F.3d 928 (9th Cir. 2011).

170. *Id.* at 937–38.

171. *Id.* at 936.

172. *Id.* at 939.

173. *Id.* (citation omitted).

174. *Id.* at 939–40.

right-implicating acts and other sorts of agreements. If a license states I have permission to make two copies of a work, and I make three, I have plainly exceeded the scope of the license and would be liable for copyright infringement. If a license includes a term saying that I promise to write and post an online review of the work, and I do not, I may have breached the contract, but I have not exceeded the scope of the license granted to me.

But the court's distinction between license conditions and contractual covenants is less clear when a non-copyright-related activity purports to set the license terms. Blizzard's terms of use provide a useful example of these hard cases. Blizzard's terms purport to grant a license to "use the Service solely for your own non-commercial entertainment purposes by accessing it with an authorized, unmodified Game Client."¹⁷⁵ Although Blizzard employs the word "use" in this term, there is no general "exclusive right to use" a copyrighted work under federal copyright law.¹⁷⁶ So, one can more precisely understand Blizzard as granting a license to engage in otherwise rights-infringing activities (such as reproducing Blizzard's copyrighted works on one's computer) when playing *World of Warcraft* for "non-commercial entertainment purposes."¹⁷⁷ The terms then go on to specify that "[a]ny use of the Service or the Game Client in violation of the License Limitations will be regarded as an infringement of Blizzard's copyrights in and to the Game."¹⁷⁸ These limitations include a prohibition on using "cheats, automation software (bots), hacks, mods or any other unauthorized third-party software designed to modify the World of Warcraft experience."¹⁷⁹ Blizzard's goal in drafting these terms is to render "not using bots" a condition of the license. From Blizzard's perspective, granting someone permission to reproduce Blizzard's copyrighted works when not using a bot is the same as granting someone permission to make a copy two times and not three. They draft their terms to try to achieve this result as explicitly as possible. But the Ninth Circuit rejected that this could be a term of the license because "using a bot" did not implicate one of the § 106 rights.¹⁸⁰ When one "uses a bot," one does not make any more copies of the work than would have existed before; one does not publicly perform the work any more times. In the words of the court, there is no "nexus between the condition and the licensor's exclusive rights of copyright."¹⁸¹

The *Blizzard* court recognized the curious results that could come from treating non-copyright-related behaviors as exceeding the copyright license. It noted, "Were we to hold otherwise . . . any software copyright holder . . . could designate any disfavored conduct during software use as copyright infringement, by purporting to condition the license on the player's abstention from the disfavored conduct."¹⁸²

Blizzard's reasoning has significant implications. For instance, consider the popular "noncommercial use" term that appears in many software licenses and digital content licenses. Many commentators presume that these common terms sound in

175. *World of Warcraft Terms of Use*, *supra* note 5, § 1.

176. See 17 U.S.C. § 106 (2012).

177. *World of Warcraft Terms of Use*, *supra* note 5, § 1.

178. *Id.* § 2.

179. *Id.*

180. *MDY Indus., Inc. v. Blizzard Entm't Inc.*, 629 F.3d 928, 944 (9th Cir. 2011).

181. *Id.* at 941.

182. *Id.*

property law. Both for-profit companies like Microsoft and public licensing groups like Creative Commons employ licensing terms that specify that the license only is granted for noncommercial uses of the licensor's work. For-profit companies typically use these terms as tools to price discriminate.¹⁸³ But, the holding of *Blizzard* raises questions about the relative efficacy of noncommercial license agreements. If I have installed Excel on one of my computers at home, my use makes the same number of RAM copies and displays the same copyrighted images, regardless of whether I am using the program to keep track of my personal finances or my small business's. Just like the *World of Warcraft* players using the Glider bot, my use of the program for one purpose rather than another does not directly implicate one of the copyright holder's exclusive rights. Under *Blizzard*, it would seem the very common noncommercial license term often cannot sound in copyright, but rather must sound in contract law. In such a case, copyright holders would be limited to their actual damages—possibly the difference in price between a commercial and a non-commercial copy of the software—rather than the statutory damages permitted in copyright law.

But courts appear to disagree here. In the Federal Circuit decision *Jacobsen v. Katzer*,¹⁸⁴ for instance, the court found that several terms in a publicly licensed work were enforceable copyright conditions, even though those terms did not directly implicate copyright-infringing behavior.¹⁸⁵ The district court had initially denied granting a preliminary injunction in favor of the copyright holder, reasoning that there was no likelihood of irreparable harm because the party would have violated a contractual agreement but not a copyright.¹⁸⁶ But the Federal Circuit reversed. Explaining their decision, it reasoned that the terms about what materials to distribute along with the Artistic License were conditions of the license.¹⁸⁷ Its reasoning appears to center on two elements: the fact that the Artistic License describes the distribution requirements as conditions of the license and the reality that public licensing would be less effective if the terms at the licenses' core sounded in contract and not copyright.¹⁸⁸ But neither of these reasons sufficiently explains why *Jacobsen* and *Blizzard* come out differently. In both cases, the copyright holders describe certain terms that don't

183. See generally Julie E. Cohen, *Copyright and the Perfect Curve*, 53 VAND. L. REV. 1799 (2000); John P. Conley & Christopher S. Yoo, *Nonrivalry and Price Discrimination in Copyright Economics*, 157 U. PA. L. REV. 1801 (2009); William W. Fisher III, *When Should We Permit Differential Pricing of Information?*, 55 UCLA L. REV. 1 (2007); Herbert Hovenkamp, *Post-Sale Restraints and Competitive Harm: The First Sale Doctrine in Perspective*, 66 N.Y.U. ANN. SURV. AM. L. 487, 532 (2011); Louis Kaplow, *The Patent-Antitrust Intersection: A Reappraisal*, 97 HARV. L. REV. 1813, 1874–75 (1984); Glynn S. Lunney, Jr., *Copyright's Price Discrimination Panacea*, 21 HARV. J.L. & TECH. 387 (2008); Michael J. Meurer, *Copyright Law and Price Discrimination*, 23 CARDOZO L. REV. 55 (2001); Guy A. Rub, *Rebalancing Copyright Exhaustion*, 64 EMORY L.J. 741, 793 (2015); Christopher S. Yoo, *Copyright and Product Differentiation*, 79 N.Y.U. L. REV. 212 (2004).

184. 535 F.3d 1373 (Fed. Cir. 2008).

185. *Id.* at 1380, 1382–83.

186. *Id.* at 1376.

187. *Id.* at 1381–82.

188. See *id.* at 1381 (“The Artistic License states on its face that the document creates conditions These restrictions were both clear and necessary to accomplish the objectives of the open source licensing collaboration, including economic benefit.”).

directly implicate the exclusive rights of copyright as conditions of the license. One explanation for the different holdings is that the two courts simply understood the possible scope of licensing law differently. Another explanation is a more realist one: a public licensor got more protection because public licenses are seen as beneficial and because framing the license terms as contractual would have likely rendered them effectively unenforceable, given the difficulty of making out a case for actual damages. A third possibility, and perhaps the best distinction, is that the terms in *Jacobsen* were appropriately understood as consideration for receiving the software in the first place, whereas the terms in *Blizzard* are not easily or realistically characterized that way. Regardless of how courts draw the line between license and contract terms, the distinction has practical consequences. Licensors may have enormous discretion in how a copyrighted work can be used, but many limitations will and should only be enforced through contract law remedies.

IV. LICENSE REVOCATION

While the previous Part has asked what licenses can do when they are granted, this Part explores when licenses can be revoked. As in the previous part, there are benefits to approaches that give licensors significant flexibility to revoke permissions and to approaches that restrict revocability in favor of protecting the interests of licensees. Revocable licenses are most beneficial in cases where licensors are managing a single resource shared among the licensees because the option to revoke a license allows the licensor to manage access to the resource in a way that maintains its usefulness for everyone. In contrast, irrevocable licenses best serve licensees' interests when licensees need to rely on the licensed resource and when the licensed resource is an integral part of licensee's self-conception.

A. Timing Revocation

The rights EULAs purport to grant can vary widely. Sometimes EULAs grant rights that are plainly irrevocable because the license agreement states this affirmatively. Sometimes use of works are not licensed, but rather copies are sold, and those sold copies can't be taken back. Yet at other times, licensors purport to retain the ability to withdraw permissions granted in EULAs.

At a minimum, licenses to use a copyrighted work transfer a "bare license,"¹⁸⁹ unilaterally granted and revocable at the will of the rights holder,¹⁹⁰ to use a work in

189. *License*, BLACK'S LAW DICTIONARY (10th ed. 2014) (defining "bare license" as a license that is "revocable at will," and "in which no property interest passes to the licensee, who is merely not a trespasser."). For a discussion of why a license should be understood as granting, at a minimum, a bare license and should not be conceptualized as merely "a contract not to sue" the licensee, see Christopher M. Newman, *A License Is Not a "Contract Not To Sue": Disentangling Property and Contract in the Law of Copyright Licenses*, 98 IOWA L. REV. 1101 (2013).

190. Newman, *supra* note 189, at 1158 ("[A] license is a property interest giving a non-titleholder use-privileges to a licensed work. . . . Licenses are created simply by virtue of the licensor's unilaterally manifested intent to permit use. . . . Licenses are presumptively revocable by the licensor at will and are not transferable without the licensor's consent." (emphasis

the stated manner. Holders of a bare license have a privilege of using property in the granted way, and while a property owner can alter or revoke that privilege going forward, they may not change their minds and hold the bare licensee liable for trespass or infringement for actions taken while the license was still in force.¹⁹¹ In this sense, granting a bare license to use the software copy could have no greater effect than granting someone permission to come to a party at your house.¹⁹² Just as you are free to revoke someone's ability to drink tea on your porch for any reason or no reason, we could understand software licensors as granting permission to use their property and accept that this permission is revocable at will.

Several licenses appear to be drafted with the goal of creating bare licenses. For example, in its terms of use for playing the massively multiplayer online game *World of Warcraft*, Blizzard Entertainment Company states that "Blizzard may suspend, terminate, modify, or delete any BNet account or World of Warcraft account at any time for any reason or for no reason, with or without notice to you."¹⁹³ Other terms of service, such as those for Linden Lab's *Second Life*, are nominally narrower in scope but nonetheless purport to grant unreviewable discretion to a licensor over whether a licensee may continue to enjoy the licensed content: "Linden Lab may suspend or terminate your Account if you violate this Agreement . . . as determined by Linden Lab in its discretion."¹⁹⁴

A question surrounding bare-license-granting EULAs is what circumstances can trigger revocation. Reading Blizzard and Linden Lab's licenses, one might imagine that Blizzard and Linden Lab would terminate the licenses by preventing users' access to the game or by sending a user an email informing them that their agreement with Linden or Blizzard had been terminated. But one could also maintain that the license is automatically revoked if the licensee engages in a proscribed activity. For example, the *World of Warcraft* terms of use specify to the licensee, "You agree that you will not . . . use cheats, automation software (bots), hacks, mods or any other unauthorized third-party software designed to modify the World of Warcraft experience," or "use any unauthorized third-party software that intercepts, 'mines,' or otherwise collects information from or through the Game or the Service . . ."¹⁹⁵ In *MDY v. Blizzard*, Blizzard maintained that *World of Warcraft* players were committing copyright infringement by using a bot called Glider to aid their game play.¹⁹⁶ Blizzard argued, unsuccessfully, that players had exceeded the scope of the license agreement

omitted)); *id.* at 1110 ("In copyright, as with tangible property, the creation of a bare license interest is not a matter of contract but a unilateral exercise of power by the copyright owner, requiring no more than a manifestation of consent to use.").

191. See *id.* at 1119 ("Property law . . . mak[es] license privileges revocable only prospectively and . . . requir[es] that licensees be given a reasonable amount of time in which to extricate themselves . . . from a revoking licensor's property before they can be treated as trespassers.").

192. See BLACK'S LAW DICTIONARY, *supra* note 189.

193. *World of Warcraft Terms of Use*, *supra* note 5, § 6.

194. *Terms of Service*, LINDEN LAB, § 5.2, <http://www.lindenlab.com/tos> [<https://perma.cc/XT4H-54FH>].

195. *World of Warcraft Terms of Use*, *supra* note 5, § 2; see *supra* note 161 and accompanying text.

196. See *MDY Indus., LLC v. Blizzard Entm't, Inc.*, 629 F.3d 928, 937–38 (9th Cir. 2011).

when using Glider.¹⁹⁷ But Blizzard could have also argued that the moment someone used the Glider bot in violation of the license agreement, the license to use the *World of Warcraft* software was automatically revoked even though no one at Blizzard yet knew about the violation or had acted to revoke the license agreement.

Some licenses purport to automatically terminate in more explicit terms. The educational software company Articulate is one example. Its EULA provides, "This Agreement shall automatically terminate without further action by any party, immediately upon any material breach by Licensee of any limitation or restriction set forth in" several sections of its agreement.¹⁹⁸ Blizzard more cryptically provides, "Blizzard may suspend, terminate, modify, or delete any . . . World of Warcraft account at any time for any reason or for no reason, with or without notice to you,"¹⁹⁹ apparently implying that Blizzard can choose to render anyone a license infringer at its whim without any warning to the user.

Looking at these licenses from a property perspective suggests limits on when these termination clauses can activate. Under the common law, revocation of a bare license to use or access a piece of property requires giving the former licensee enough time to extricate themselves from the property.²⁰⁰ In the case of subjective license terms particularly, the licensee ought to be notified of the revocation before it can be effective.

B. Benefits and Concerns

1. Managing Shared Resources vs. Upset Reliance Interests

Playing massive online games such as *World of Warcraft* and *Second Life* involves an ongoing interaction with a community of players in an online environment that is roughly designed to look like a physical place. Thus, it is understandable that Blizzard and Linden Lab want to maintain absolute authority to decide who can interact in that space and how. Similarly, it is also not surprising that Blizzard and Linden Lab's terms of service activate Blackstonian-type instincts about property rights: it's Blizzard's and Linden Lab's gaming environment; they should be able to choose who has access to their "despotic dominion."²⁰¹ In circumstances where many licensees must simultaneously participate in the licensors' resources or interact with each other, revocable licenses are appealing because they allow licensors to manage

197. See *id.* at 939–41.

198. *Articulate Global, Inc.—End-User License Agreement*, ARTICULATE, <https://www.articulate.com/terms/end-user-license-agreement.php> [<https://perma.cc/L4GP-ZDS5>]; cf. *Kindle Store Terms of Use*, *supra* note 1, § 3 ("Your rights under this Agreement will automatically terminate if you fail to comply with any term of this Agreement. In case of such termination, you must cease all use of the Service, and Amazon may immediately revoke your access to the Service without refund of any fees. Amazon's failure to insist upon or enforce your strict compliance with this Agreement will not constitute a waiver of any of its rights.").

199. *World of Warcraft Terms of Use*, *supra* note 5, § 6.

200. Newman, *supra* note 189, at 1119 ("Property law . . . requir[es] that licensees be given a reasonable amount of time in which to extricate themselves . . . from a revoking licensor's property before they can be treated as trespassers.").

201. 2 BLACKSTONE, *supra* note 34, at *2.

their resources effectively. The circumstances where this interest is strongest are those where a licensor is managing many licensees' access to one resource, such as a multiplayer video game or a subscription service where a user's actions may strain the system and degrade the quality of other licensees' experiences.

In analogous real property cases, property owners often attempt to grant bare licenses even when they also create a contractual obligation to allow licensees onto the property. The right to revoke licenses in these cases, despite possibly having to pay contractual damages later, helps prevent, in the words of Justice Holmes, some "obvious inconveniences."²⁰² Christopher Newman paints a picture of how being able to revoke licenses to enter land can prevent such inconvenience:

A landowner who holds an event on her land to which members of the public are invited is taking on the burden of organizing and overseeing the activities of those persons in such a way as to maximize the success of the shared activity. Her right to admit or exclude individuals at will gives her the ability to manage the event; to prevent overcrowding and damage to the property; and to maintain order and safety by promulgating rules tailored to the nature of the event, the characteristics of the property, and the circumstances prevailing moment to moment. . . . If she [wrongfully excludes someone], she can be held accountable for this later, but in the meantime she will have the clear authority to manage the orderly use of resource in the moment.²⁰³

But not all end-user license agreements or terms of use involve management of shared resources. Many EULAs govern the use of specific pieces of copyrighted software or content to be used indefinitely by a single purchaser. Other EULAs cover software in the objects that make up the growing Internet of Things, digital audio and video files, or software designed for use in a general-purpose computer. In many of these examples, a purchaser makes one payment in exchange for perpetual use and possession of the digital file or networked object.²⁰⁴ Here, the notion that a licensor may choose to revoke the license at any time, for any reason, seems intuitively less appropriate or desirable. The licensor's interest in effectively managing a larger resource are absent, and the licensees' interests would be better served by their acquiring a more stable set of rights. End users often come to rely on the use of networked objects or digital works. Losing the ability to use a work or object abruptly and possibly without warning may cause an end user to suffer further harms and inconven-

202. *Marrone v. Wash. Jockey Club*, 227 U.S. 633, 636 (1913).

203. Newman, *supra* note 189, at 1133; *see also id.* at 1131–37 (describing situations in which a property owner has granted a revocable license and has entered into a contract with the licensee).

204. *See, e.g., Kindle Store Terms of Use*, *supra* note 1, § 1 ("Upon your download or access of Kindle Content and payment of any applicable fees . . . , the Content Provider grants you a non-exclusive right to view, use, and display such Kindle Content an unlimited number of times . . . solely through a Kindle Application or as otherwise permitted as part of the Service, solely on the number of Supported Devices specified in the Kindle Store, and solely for your personal, non-commercial use. Kindle Content is licensed, not sold, to you by the Content Provider.").

ience. For example, suppose an interior design firm purchased a piece of design software for commercial purposes and used a digital camera to photograph spaces to design. Having the license to use the design software or camera software abruptly revoked by the licensee could significantly harm the firm's business. Staff would have to be retrained on a new brand of design software, and someone would have to acquire a new camera. On a tight deadline, a firm's ability to perform for clients as promised could be compromised, and providing contractual damages to the firm is hardly a satisfying solution. Part of the purpose of property law is to allow people to "incorporate resources into their long-term plans without fear of interference."²⁰⁵ Many potential purchasers wouldn't be interested in a product without the assurances that they would continue to be able to access it.²⁰⁶ Although terms that render a license defeasible—that is, subject to conditions, specified *ex ante*, that would terminate the license or render it revocable²⁰⁷—may be marketable, terms that purport to allow a licensor the option to revoke the license at will would likely be significantly less desirable in the marketplace.

Closely related to the concern about at-will revocation is a concern about licenses that purport to allow licensors to redraft them without notice to or agreement from licensees. For example, Kindle's terms, which govern e-books that the end user may keep and use indefinitely, provide, "We may amend any of this Agreement's terms at our sole discretion by posting the revised terms on the Amazon.com website."²⁰⁸ The apparent appropriateness of this term changes based on whether we understand the rights Kindle grants its end users to be bare or irrevocable. If using a Kindle e-book that one has purchased is like going to a friend's house for a dinner party or paying to go to a concert, then we might appreciate that it is appropriate for Amazon to have the right to change the terms under which you may continue to access the e-books, even after you have paid for the license. On the other hand, if licensing an e-book is more like acquiring an easement to lay cable wire or pipes, we might want to acknowledge the reliance interests the license holder has in their use of the licensed work.

In terms of the interests of the licensor, it is worth noting that the case of an e-book—a copy of a file that need not interact with the rest of the licensor's works or with other licensees—is quite different from that of virtual worlds such as *Second Life* and *World of Warcraft* and from real-world establishments such as concerts, baseball stadia, and private homes. While participants in virtual worlds and other group endeavors will benefit from the owners of the game or property having the right to exclude players, these sorts of coordination benefits are not present in cases where individual copies of works are licensed to particular individuals who do not necessarily interact with other users of the property. One would thus hypothesize that

205. Newman, *supra* note 189, at 1111.

206. See *id.* at 1120 ("Before investing resources in a project whose ultimate value I can reap only through continued access to your property for two years, I will want some legal assurance that you will not revoke my license privileges before then."); *id.* at 1147 (observing that those who wish to license works under open source licenses "have an interest in being able to grant irrevocable privileges because people are rightly wary of investing effort in using or modifying a work if the fruits of their investment are subject to arbitrary reassertion of copyright.").

207. *Id.* at 1120 (distinguishing between revocable and defeasible interests).

208. *Kindle Store Terms of Use*, *supra* note 1, § 3.

the licensees of Kindle e-books would generally prefer to be able to rely on having continuing access to the books, and this interest would not be offset by an interest in the licensor needing to coordinate access to the property from moment to moment. Given anecdotal evidence, there is support for this hypothesis. In 2009, Amazon suffered a small scandal concerning incorrectly licensed copies of the George Orwell novels *1984* and *Animal Farm* that had been sold through its Kindle store.²⁰⁹ Rather than just removing those editions from the Kindle store and preventing future purchases, Amazon also remotely deleted existing, paid-for copies from its users' Kindle devices.²¹⁰ Although the irony of doing this with *1984* was initially lost on Amazon, the company later acknowledged that remote deletion had not been a good idea and pledged "in the future . . . not [to] remove books from customers' devices in these circumstances."²¹¹ Some readers expressed their frustration with Amazon in terms that could be characterized as reliance interests. For example, one seventeen-year-old had been reading the book for a school summer assignment and lost the notes and annotations that he had written "on" the book in his Kindle. He remarked to the *New York Times*, "They didn't just take a book back, they stole my work."²¹² The outrage among Kindle users was understandable. Under Kindle's terms of use that were in force at the time, end users acquired the right to keep a "permanent copy of the applicable digital content."²¹³ Although Amazon in theory never had the right to license those works to its users, the notion that it could delete already purchased books left many unsettled, largely because it would be unthinkable for a bookstore owner to show up in your house and remove purchased books from your home.²¹⁴ Regardless of the actual terms of the Kindle license, however, the end users' reaction to their books' deletion indicates that even for users' making primarily personal uses of work, reliance interests and the expectation that works will remain accessible are present.

A related reason that revocable licenses would sometimes be a poor fit for governing access to individual works is that their revocation directly conflicts with consumer expectations. In Perzanowski and Hoofnagle's survey, participants were given a hypothetical digital good to acquire and a button saying "Buy Now," "License Now," or specifying a short list of key license terms.²¹⁵ Among participants who saw the "Buy Now" button, 87% believed they could keep the acquired e-book indefinitely.²¹⁶ Those faced with the pitch to "License Now" had similar expectations: 81% believed they could keep the e-book.²¹⁷ Perzanowski and Hoofnagle's findings indicate that those who acquire digital files believe they are acquiring something that

209. See Brad Stone, *Amazon Erases Orwell Books from Kindle*, N.Y. TIMES (July 17, 2009), <http://www.nytimes.com/2009/07/18/technology/companies/18amazon.html> [https://perma.cc/XU68-EPN3].

210. *Id.*

211. *Id.*

212. *Id.*

213. *Id.*

214. See *id.*

215. See Perzanowski & Hoofnagle, *supra* note 66, at 330–34.

216. *Id.* at 343–44.

217. *Id.*

cannot be revoked on a whim. Indeed, this belief is hardly irrational: even the Kindle Terms of Use indicate that end users may keep the Kindle content indefinitely.²¹⁸

2. Destabilizing Personhood

Striking a less concrete note is a second reason that revocable licenses should be avoided in cases where end users are granted use of particular, unshared works: losing a license may create a harmful psychological experience for licensees. Margaret Radin explored this possibility in her article *Property and Personhood*,²¹⁹ building off the work of Georg Hegel in *Philosophy of Right*.²²⁰ Radin considered what she deemed “personal property,” not to be conflated with tangible, chattel property (although the term personal property is often used to describe chattel property as well). Radin’s “personal property” is to be contrasted with “fungible property.”²²¹ Fungible property is property one does not have a personal attachment to. Most of the time, objects like plastic silverware, nuts, bolts, and nails are fungible property.²²² If we lose one, an identically produced replacement completely suffices. Personal property, on the other hand, has a personal connection to the owner that also helps the owner to create their own identity and sense of self.²²³ In Radin’s words, “Personal property is important precisely because its holder could not be the particular person she is without it.”²²⁴ One might similarly say that one’s relationships with personal property help one to self-actualize. Particular objects may be personal or fungible depending on the circumstances; in one example, Radin explains that a wedding ring may be fungible to a jeweler, but personal to the wearer who associates it with their personal relationships and identity.²²⁵ The importance of personal property is bound up in the idea that, to develop as human beings, we must be able to exert a degree of control over our external environment.²²⁶ Radin writes, “If an object you now control is bound up in your future plans or in your anticipation of your future self, and it is

218. See *Kindle Store Terms of Use*, *supra* note 1, § 1 (“Upon your download or access of Kindle Content and payment of any applicable fees (including applicable taxes), the Content Provider grants you a non-exclusive right to view, use, and display such Kindle Content an unlimited number of times . . .”).

219. Margaret Jane Radin, *Property and Personhood*, 34 STAN. L. REV. 957 (1982).

220. *Id.* at 958 & n.4 (citing GEORG HEGEL, *PHILOSOPHY OF RIGHT* (T. Knox trans., 1967)).

221. *Id.* at 960.

222. See *id.* at 960 n.6.

223. See *id.* at 988 (describing the personhood theory of property as “focusing attention on the importance of certain property to self-constitution”).

224. *Id.* at 972.

225. See *id.* at 959 (“For instance, if a wedding ring is stolen from a jeweler, insurance proceeds can reimburse the jeweler, but if a wedding ring is stolen from a loving wearer, the price of a replacement will not restore the status quo—perhaps no amount of money can do so.”); *id.* at 987–88 (“The same claim can change from fungible to personal depending on who holds it. . . . Conversely, the same item can change from fungible to personal over time without changing hands. People and things become intertwined gradually.”).

226. *Id.* at 957 (“The premise underlying the personhood perspective is that to achieve proper self-development—to be a person—an individual needs some control over resources in the external environment. The necessary assurances of control take the form of property rights.” (emphasis omitted)).

partly these plans for your own continuity that make you a person, then your personhood depends on the realization of these expectations.”²²⁷ To a degree, it may sound like Radin is making an argument about reliance interests, but her focus is not on economic interests. Rather, it is on deeply personal ones.

Even if one subscribes to Radin’s theory of property and personhood, one might still wonder whether digital files and networked appliances qualify as the kind of personal, as opposed to fungible, property that gives rise to the kind of interest that at-will license revocation could undercut. In isolation, it might be appealing to see most files and devices as fungible. But in the aggregate, lack of control and stability over the balance of objects in one’s life—the kind of control over one’s external environment which Radin discusses—can be deeply emotionally destabilizing and, perhaps, do damage to one’s sense of self even though no individual object is particularly personal. The experience of moving homes or having to sell and replace many of one’s possessions brings this phenomenon to light. Each chair, table, and decoration may not be particularly meaningful in isolation, but together they create the tableau of one’s home, a core expression of one’s personal identity. If one has ever had to move across the country or internationally, one quickly realizes the experience of changing every part of one’s home environment creates a degree of emotional discord. Often this experience is a feature not a bug: sometimes when people move a long distance, a reason is that they want to grow into a new, better, and different person, or to “start a new life.” The instability is part of recreating one’s self. But in circumstances where the change is involuntary, losing the experience of one’s home can be genuinely painful. Just as believing you might be evicted from your home at any moment, the prospect that one could lose access to the information goods and networked objects in one’s life may create a similar type of stress, particularly as computers become more commonplace and integrated into one’s everyday life.

CONCLUSION

EULAs exist on the property/contract interface, creating rights and obligations whose natures blend in rem and in personam characteristics. Their hybrid status indicates that EULAs will be most economically efficient and socially beneficial when they are less standardized than property interests and less flexible than contract interests can be. Practically speaking, more effective EULA regulation can be achieved by providing better notice to licensees about the content of licenses and by creating substantive legal protections for licensees. Possible protective measures involve regulating how courts and other legal actors should approach use-restrictive license terms and revocable licenses.

Regarding usage restrictions, courts should be skeptical of EULA terms that grant narrow, nontransferable, or idiosyncratic intellectual-property rights to use particular copies of a work because of the information costs and confusion these rights create for end users and the waste of resources that enforcing the terms will ensure. Rather, licenses to particular copies of a work should be understood, when possible, to transfer title to a copy of the work to the end user, and to then impose additional

227. *Id.* at 968.

limitations on use by contract or create additional intellectual property rights through licensure.

Turning to revocation, where reliance or personality interests in using a work are significant, terms should be read as granting more than a bare license to use a licensed work. However, license terms may beneficially be read as granting bare licenses when the license governs access to a shared resource. Regardless of type, licensees should be notified if their license to use a work is revoked before they can be held liable for copyright infringement.

But these specific suggestions pale in comparison to the larger conclusion of this Article, that there are structural reasons to believe that EULAs will neither be just nor economically efficient so long as their terms are enforced as though they are contractual, while their violations are punished with supercompensatory and injunctive property remedies. While the best corrective protections may vary as the subjects of EULAs change, legislators and judges should take actions recognizing that licensors, licensees, and third parties can be better off if we craft the law of EULAs in light of their position on the property/contract interface.