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Must Licenses Be Contracts? Consent and Notice in Intellectual Property

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MUST LICENSES BE CONTRACTS? CONSENT AND NOTICE IN INTELLECTUAL PROPERTY

MARK R. PATTERSON*

ABSTRACT

Intellectual property owners often seek to provide access to their patented or copyrighted works while at the same time imposing restrictions on that access. One example of this approach is “field-of-use” licensing in patent law, which permits licensees to use the patented invention but only in certain ways. Another example is open-source licensing in copyright law, where copyright owners typically require licensees that incorporate open-source software in other products to license those other products on an open-source basis as well.

Surprisingly, though, the legal requirements for granting restricted access are unclear. The source of this lack of clarity is the ill-defined nature of a “license,” which is the usual means of granting access to intellectual property. Must a license be a contract? If so, then the imposition of restrictions presumably must satisfy the rules of contract formation. Or could a license be merely a unilateral commitment to allow limited access to intellectual property, as many open-source advocates contend? If so, then an intellectual property owner could grant access to its property while imposing restrictions to which a licensee has not consented, and of which the licensee might not even be aware.

This Article argues that the weight of judicial authority and sound policy support a contractual approach. A requirement that license restrictions be imposed only by contract ensures that intellectual property owners obtain both the consent of licensees to the restrictions and consideration sufficient to make the contract enforceable. As in contract law more generally, these requirements facilitate certainty, predictability, and care in entering productive relationships. Consent is especially important as intellectual property is passed downstream through the distribution chain, because it ensures that downstream market participants are aware of the limitations on their use of intellectual property. Simple notice, which some have proposed as an alternative to contract, has shortcomings that make it a poor criterion for the establishment of infringement liability.

This Article suggests, though, that in some circumstances notice of an upstream violation of a contractual license should indeed be sufficient to establish liability. Specifically, when a downstream user intentionally induces infringement by an upstream supplier, the downstream user should be liable. In such circumstances, the intent element serves as a substitute for the assent of contract law.

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I. INTRODUCTION

Intellectual property owners often seek to provide access to their patented or copyrighted works while at the same time imposing restrictions on that access. One example of this approach is “field-of-use” licensing in patent law, which permits licensees to use the patented invention but only in certain ways.¹ Another example is open-source licensing in copyright law, where copyright owners typically require licensees that incorporate open-source software in other products to license those other products on an open-source basis as well.² In circumstances such as these, licensees that violate the terms under which access is provided are typically viewed as acting outside the scope of their license, which can make them liable for patent or copyright infringement.³

Surprisingly, though, the legal requirements for granting restricted access are unclear. The source of the lack of clarity is the ill-defined nature of a “license,” which is the usual means of granting access to intellectual property.⁴ Must a license, or a license that imposes restrictions on a licensee, be a contract?⁵ If so, then the imposition of restrictions presumably must satisfy the rules of

1. See *infra* Part II.A.

2. See *infra* Part II.B.

3. See *infra* Part III.B-III.C.

4. Cf. Michael J. Madison, *Reconstructing the Software License*, 35 LOY. U. CHI. L.J. 275, 306-08 (2003) (considering various property-law interpretations—lease, bailment, and conditional gift—of a software “license”).

5. It is important that the focus here is on *restrictive* licenses. Licenses that do not bind licensees to any restrictions do not pose the same problems. This Article takes no position on whether every license, including licenses that do not impose restrictions on licensees but simply grant them access to intellectual property, must also be formed by contract. Cf. 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. (forthcoming March 2013), available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2010853 (discussing whether licenses must be contracts, but not addressing the requirements for imposing restrictions on licensees). If the licensee is not bound by restrictions though, one could argue (at least under contract law) that the licensor remains equally free. See *id.* at *16 (“A ‘bare license’ is understood to consist of nothing more than a use privilege, which remains liable to the licensor’s power of revocation at will.”); see also *infra* notes 63, 123-24 and accompanying text.

contract formation. Under that rule, only those who consent to the restrictions could be guilty of infringement by violating them. Or could a license be merely a unilateral commitment by the intellectual property owner to allow limited access to its intellectual property? If so, then the owner could grant access to its property while imposing restrictions to which a licensee has not consented, and of which the licensee might not even be aware.

These issues are not purely academic. In a well-publicized lawsuit, the Software Freedom Law Center (SFLC) alleged copyright infringement by Best Buy, Samsung, and other consumer-electronics companies for selling products with embedded software that was subject to an open-source license.⁶ According to the complaint,⁷ the license required that products containing the software be distributed “at no charge” and with any additional software also distributed in an open-source manner.⁸ The complaint did not allege—nor need it, according to open-source advocates⁹—that the defendant stores agreed to the license terms, or even that they were aware of the presence of the software at issue, only that they were distributing products that incorporated the software. If the intellectual property rights at issue had involved patents rather than copyrights, the SFLC could also have sued individual consumers who used the allegedly infringing products.¹⁰

Restrictive licenses lie at the intersection of property law and contract law. The usual way in which a private party is bound to restrictions on its conduct is by contract. But property law grants property owners the right to exclude others from their property. What, then, must an intellectual property owner do in order to grant access to its property while at the same time binding “licensees” to restrictions on the use of that property? Prominent advocates of open-source copyright licensing vigorously contend that access to open-source software is granted through property-law “bare licenses”

6. *Best Buy, Samsung, Westinghouse, and Eleven Other Brands Named in SFLC Lawsuit*, SOFTWARE FREEDOM LAW CENTER (Dec. 14, 2009), <http://www.softwarefreedom.org/news/2009/dec/14/busybox-gpl-lawsuit/>. The case was recently settled.

7. Complaint, *Software Freedom Conservancy, Inc. v. Best Buy Co.*, 783 F. Supp. 2d 648 (S.D.N.Y. 2011) (No. 09 Civ. 10155), available at <http://www.softwarefreedom.org/resources/2009/busybox-complaint-2009-12-14.pdf>.

8. *Id.* ¶¶ 23-24. The license at issue was the GNU General Public License, version 2. See *GNU General Public License, version 2*, GNU OPERATING SYS. (June 1991), <http://www.gnu.org/licenses/gpl-2.0.html>.

9. See *infra* Part III.C.2.

10. Patent law gives patentees the exclusive rights to use their inventions, see 35 U.S.C. § 271(a) (2006), while copyright law, broadly speaking, gives copyright owners the exclusive rights to copy and distribute their works. 17 U.S.C. § 106 (2006). So use of a patented product sold without authorization is infringement, but mere use of an unauthorized copyrighted product arguably is not (in the absence of an agreement making it so).

whose terms are binding on licensees even without their consent.¹¹ In contrast, under patent law the Court of Appeals for the Federal Circuit has held that license restrictions are enforceable only if they are contractual.¹² This nominal contractual rule is applied by the Federal Circuit and lower courts so creatively, however, that they in fact allow restrictive licenses founded only on constructive notice of the owner's desired restrictions.¹³ These three possibilities—"bare license" as a property concept, license as contract, and license derived from notice—have very different practical implications, and the question of which is applicable creates considerable uncertainty.¹⁴

The relationship between intellectual property licensing and contract has received significant attention in recent years in the copyright context of shrink-wrap, click-wrap, and browse-wrap licensing.¹⁵ The commentary in that context, however, has not focused on whether a contract is necessary to create a license—the necessity of a contract is generally assumed—but on two other issues: whether a contract has really been formed and whether allowing copyright owners to impose any restrictions by contract is consistent with copyright law.¹⁶ In contrast to the cases discussed in this Article, the

11. See, e.g., FADI P. DEEK & JAMES A. M. MCHUGH, OPEN SOURCE: TECHNOLOGY AND POLICY 233 (2008) (“[O]pen software requires a license for its distribution. The GPL licenses its copyrights . . . through what is called a *bare license*. A bare license is not considered a contract, because among other reasons it does not require an explicit manifestation of assent, which is one of the requirements for a valid contract.”); Groklaw, *The GPL is a License, Not a Contract, Which is Why the Sky Isn't Falling*, GROKLAW.NET (Dec. 14, 2003, 9:06 PM), <http://www.groklaw.net/article.php?story=20031214210634851> [hereinafter *The GPL is a License, Not a Contract*] (“So when you read people say that the GPL is perhaps not enforceable because you don't sign it or click on a form, or because of a lack of privity, or because there is a lack of consideration, or some such, you'll understand that the person misunderstood and thought in terms of contract law.”).

12. See *infra* text accompanying notes 75-80.

13. See *infra* text accompanying notes 87-107.

14. See *infra* note 31.

15. See, e.g., Mark A. Lemley, Beyond Preemption: The Law and Policy of Intellectual Property Licensing, 87 CALIF. L. REV. 111 (1999); Mark A. Lemley, Intellectual Property and Shrinkwrap Licenses, 68 S. CAL. L. REV. 1239 (1995); Mark A. Lemley, Terms of Use, 91 MINN. L. REV. 459 (2006) [hereinafter Lemley, Terms of Use]; Michael J. Madison, Legal-Ware: Contract and Copyright in the Digital Age, 67 FORDHAM L. REV. 1025 (1998) [hereinafter Legal-Ware]; Madison, *supra* note 4; Robert P. Merges, Intellectual Property and the Costs of Commercial Exchange: A Review Essay, 93 MICH. L. REV. 1570 (1995); Maureen A. O'Rourke, Drawing the Boundary Between Copyright and Contract: Copyright Preemption of Software License Terms, 45 DUKE L.J. 479 (1995); David A. Rice, Public Goods, Private Contract and Public Policy: Federal Preemption of Software License Prohibitions Against Reverse Engineering, 53 U. PITT. L. REV. 543 (1992).

16. Michael Madison made this observation in his exploration of software licensing as a private governance regime:

Within contract law itself, courts, scholars, and lawyers now mostly concern themselves not with whether these are contracts at all, but rather with the circumstances under which the act of “clicking” or “browsing” or “opening” or “using” will be deemed to constitute effective assent, despite the clicker's, browser's, opener's, or user's usually credible argument that no assent was intended or could be inferred reasonably. Second, assuming that mutual assent

shrink-wrap, click-wrap, and browse-wrap cases generally involve, and rely on, some act by the licensee that can be deemed to constitute assent to the contract.¹⁷ Some of the commentary has also touched on the property-contract issue that is central to the discussion here,¹⁸ but that issue has not been the primary focus.

This Article argues that the weight of judicial authority and sound policy support a contractual approach to license formation.¹⁹ In the courts, despite the uncertainty just described, no case has enforced a clearly noncontractual intellectual property license restriction.²⁰ From a policy perspective, a requirement that license restrictions be

of some sort is identified, the next stage of the analysis focuses on whether contractual enforcement of the obligation thus undertaken is or should be preempted by federal law.

Madison, *supra* note 4, at 296.

17. Where that is not true, as in some browse-wrap cases, the courts have been more cautious in their acceptance of the licenses as contracts. See Lemley, *Terms of Use*, *supra* note 15, at 472-77.

18. See *id.* at 470-73; Madison, *supra* note 4, at 279-80.

19. The focus here is license formation, not enforcement. That is, the argument is that restrictive licenses must be formed with contractual formalities. Once formed, however, the breach of a license could give rise not only to contractual remedies, but also to property remedies provided by patent and copyright law. This Article does not enter into the debate over which set of remedies is more appropriate for intellectual property. Cf., e.g., Mark A. Lemley, *Contracting Around Liability Rules*, 100 CALIF. L. REV. 463 (2012); Mark A. Lemley & Philip J. Weiser, *Should Property or Liability Rules Govern Information?*, 85 TEX. L. REV. 783 (2007); David McGowan, *The Tory Anarchism of F/OSS Licensing*, 78 U. CHI. L. REV. 207 (2011); Robert P. Merges, *Contracting into Liability Rules: Intellectual Property Rights and Collective Rights Organizations*, 84 CALIF. L. REV. 1293 (1996).

20. Even where courts have enforced license restrictions without explicitly requiring the existence of a contract, they have pointed to contract-like considerations, suggesting that they believed the existence of a contract was important. See *infra* text accompanying notes 139-43.

In a recent trademark case, the Supreme Court described a unilateral “Covenant Not to Sue” as “unconditional and irrevocable.” *Already, LLC v. Nike, Inc.*, No. 11-982, slip op. at 1-2, 6 (U.S. Jan. 9, 2013). The Court did not make clear, though, how such a covenant becomes binding. The Court simply cited a case involving judicial estoppel in stating that Nike, “having taken the position in court that there is no prospect of such [an infringing product], would be hard pressed to assert the contrary down the road.” *Id.* at 7 (citing *New Hampshire v. Maine*, 532 U.S. 742, 749 (2001)). Judicial estoppel might indeed have such an effect in the courtroom, but the Court went further, saying that “[b]eyond simply prohibiting Nike from filing suit, [the covenant] prohibits Nike from making any claim or any demand.” *Id.* at 6. Despite this observation, it is not at all clear how, or indeed whether, any such extra-judicial effect is created by a unilateral covenant. Cf. *Already, LLC v. Nike, Inc.*, No. 11-982, slip op. at 4 (U.S. Jan. 9, 2013) (Kennedy, J., concurring) (referring to the future effect of the covenant, but only in the context of “any future trademark proceeding”).

In any event, the covenant in *Already v. Nike*, even if unilateral, was an undertaking by Nike, the party whose conduct was purportedly restricted by it. The focus of this Article is on claims that intellectual property owners’ unilateral acts have binding effects on *others*. Treating a non-contractual commitment as binding on the one who makes it, through estoppel or a similar theory, is quite different from allowing one party’s unilateral acts to bind others. See *infra* text accompanying notes 128-29 (describing revocability of non-contractual copyright licenses).

imposed only by contract ensures that intellectual property owners obtain both the consent of licensees to the restrictions and consideration sufficient to make the contract enforceable. As in contract law more generally, these requirements facilitate certainty, predictability, and care in entering productive relationships.²¹ In contrast, the recognition of a new kind of “bare license” for intellectual property would run afoul of Thomas Merrill and Henry Smith’s admonition that “the adoption of novel forms of property has implications not only for the immediate parties to the transaction but also for third parties, who must incur additional costs of gathering information in order to avoid violating novel property rights”²²

Additional considerations come into play for parties that acquire intellectual property not from the original owner but from another licensee. It is obviously more difficult for intellectual property owners to ensure that contracts are formed with such downstream licensees. Here notice seems like a more appropriate solution.²³ However, although notice is a relevant criterion for finding violations of a license restriction, it is problematic as an exclusive one. Not all notices accurately represent a licensee’s rights, as the Supreme Court’s recent decision in *Quanta* illustrates,²⁴ and the costs of a notice scheme are likely to be considerable, especially given that potential infringers could try to avoid receiving notice.²⁵ The problem appears somewhat simpler though, in light of the fact that many of the cases that have been brought against downstream transferees for violating license restrictions have involved large-scale violations, like those of Best Buy and the other defendants discussed in this Article.

21. See Robert A. Hillman & Ibrahim Barakat, *Warranties and Disclaimers in the Electronic Age*, 11 YALE J.L. & TECH. 1, 3 (2009) (“An important goal of contract law is to enforce a party’s manifestation of assent to a contract made with full access to all pertinent information and with time to contemplate the terms. In so doing, contract law facilitates exchange and encourages reliance on contracts, which in turn maximizes resources and supports individual autonomy.”).

22. Thomas W. Merrill & Henry E. Smith, *The Property/Contract Interface*, 101 COLUM. L. REV. 773, 777 (2001). Although the creation of a “bare license” would not, strictly speaking, create a new form of property, a new technique for enforcing property rights raises the same issues. Note that, apropos of Merrill and Smith’s point, the “bare license” referred to by open-source advocates is not the same as the “bare license” of patent law. See *Intell. Prop. Dev., Inc. v. TCI Cablevision of Cal., Inc.*, 248 F.3d 1333, 1345 (Fed. Cir. 2001) (defining “a nonexclusive license or ‘bare’ license” as “a covenant by the patent owner not to sue the licensee for making, using, or selling the patented invention and under which the patent owner reserves the right to grant similar licenses to other entities”). Without a contract, it is not clear what would make a covenant, or promise, not to sue enforceable. Cf. *infra* Part IV.A.

23. See *infra* Part IV.C.

24. See *infra* text accompanying notes 208-10.

25. See *infra* Part IV.D.1.

For that reason, this Article argues that secondary infringement theories, which require some degree of intent combined with notice or willful blindness, provide an alternative test for downstream parties.²⁶

It is important to note that this Article does not take a position on the desirability of restrictive licenses. Some such restrictions are no doubt desirable; others probably are not. The focus here is not on the costs and benefits of the restrictions themselves, but on the requirements for making them enforceable.²⁷ Put another way, the focus here is whether achieving the benefits of restrictions really requires that they be enforceable even where there is no contractual relationship between the intellectual property owner and the party whose conduct is restricted. Some previous work in this area seems to take the view that if restrictive licenses or post-sale restrictions are desirable, then it follows that allowing enforcement of them through *in rem* property rules, without any requirement of assent, is also desirable.²⁸ This Article argues that the case for the sufficiency of a pure property approach has not been made.

To be sure, a contract requirement makes it more difficult for intellectual property owners to enforce license restrictions.²⁹ One might be concerned that this would make the owners less inclined to license, but there is no evidence that this is the case. There has been no claim that the Federal Circuit's stated rule that patent licenses must be contractual has caused a lessening of patent licensing. Copyright might be different, but the primary area in which this issue would be significant is open-source licensing, where licenses are often offered broadly, with little attempt to meet the requirements of contract formation.³⁰ Perhaps open-source licensing would be lessened, but given that the law is currently uncertain,³¹ it seems

26. See *infra* Part IV.D.1.

27. See *supra* note 19.

28. Some of this work addresses the property-contract issue by suggesting that notice will address any concerns about property's *in rem* character. See Herbert Hovenkamp, *Post-Sale Restraints and Competitive Harm: The First Sale Doctrine in Perspective*, 66 N.Y.U. ANN. SURV. AM. L. 487, 521 (2011) (“[A] notice requirement seems much more suitable to the problem than the more draconian route of forbidding such restraints altogether.”); Glen O. Robinson, *Personal Property Servitudes*, 71 U. CHI. L. REV. 1449, 1486 (2004) (“However, this at most argues for the simple expedient of requiring the seller to give the buyer notice of any limitations or conditions on the title of the property being transferred.”). On the alternative of notice, see the text accompanying notes 212-20 *infra*.

29. See Richard M. Stallman, *Don't Let 'Intellectual Property' Twist Your Ethos*, GNU OPERATING SYS. (June 9, 2006), <http://www.gnu.org/philosophy/no-ip-ethos.html> (“There's another reason not to use contract law: It would require every distributor to get a user's formal assent to the contract before providing a copy. To hand someone a CD without getting his signature first would be forbidden. What a pain in the neck!”). See also *infra* text accompanying note 203.

30. See *infra* Part II.B and text accompanying notes 154-56.

31. Importantly, the law is not only uncertain, but it is known to be so. See 2 RAYMOND T. NIMMER, INFORMATION LAW § 12:40 (2006) (“There are those who believe that a restricted transfer does not require assent to the terms of the restriction. Thus, for

unlikely that there is great reliance on legal protections, as compared, for example, to informal and reputational ones.³²

Part II of this Article provides a brief description of the basic problem, describing two common licensing scenarios in which contracts are often not present and highlighting the significance of the existence or nonexistence of an explicit license contract. Part III discusses three kinds of property: tangible property, patented inventions, and copyrighted works. For each, it describes the current, sometimes-uncertain legal treatment of licenses and, in light of this background, the views of those who advocate noncontractual licensing. Part IV rejects those views and argues on several grounds that a contract should be required for an intellectual property owner's grant of a restrictive license. Downstream transfers need not be contractual, but where they are not, the patentee or copyright owner should be required to establish the intent element of a secondary infringement claim.

II. LICENSING WITH USE RESTRICTIONS

The basic scenario at issue here is the transfer of some, but not all, rights to use a patented invention or copyrighted work. One can think of this scenario as involving two transactions: the first transaction provides access to the intellectual property (IP), and the second seeks to impose restrictions on its use. In the first transaction then, the IP owner performs some act, like selling a product or making it available for download on the internet, that the recipient could reasonably conclude gives it permission to use the product. In

example, some advocates of the open-source software movement believe that terms under which they distribute software need not be contractual, but are notices or permissions that, if violated, expose the violator to an infringement claim.”); LAWRENCE ROSEN, OPEN SOURCE LICENSING: SOFTWARE FREEDOM AND INTELLECTUAL PROPERTY LAW 51-71 (2005) (discussing whether open source licenses are contracts or pure licenses and the implications of the distinction); Robert A. Hillman, *Contract Law in Context: The Case of Software Contracts*, 45 WAKE FOREST L. REV. 669, 674-75 (2010) (“What is unique is the series of questions open-source software presents for contract law, such as whether the licenses are contracts, what constitutes assent to them, whether they are supported by consideration, whether any warranties attach to the quality of the software, and whether the copyleft and other provisions guaranteeing openness conflict with federal intellectual property law.”) (footnotes omitted). Although open-source advocates do not share this uncertainty, they do sometimes feel the need to defend the enforceability of open-source licensing. See Eben Moglen, *Enforcing the GNU GPL*, GNU OPERATING SYS. (Sept. 10, 2001), <http://www.gnu.org/philosophy/enforcing-gpl.html>; *The GPL is a License, Not a Contract*, *supra* note 11.

32. See Mariateresa Maggolino & Maria Lillà Montagnani, *From Open Source Software to Open Patenting—What's New in the Realm of Openness?*, 42 INT'L REV. INTELL. PROP. & COMPETITION 804, 818 (2011) (“[W]hen facing the issue of validity of [open-source software, or OSS] licenses, it is worth mentioning that within the OSS movement there is a strong mechanism of ‘informal enforcement.’”).

the second transaction, however, the IP owner purportedly restricts the transferee from using the IP in certain ways. Not every restrictive transfer, or “license,”³³ will actually involve two distinct transactions, but it is useful to separate the two steps conceptually. Doing so makes clear that in some circumstances an IP owner can provide access to its IP in a way that does not clearly incorporate restrictions on its use, even if the IP owner intends to incorporate those restrictions.

This point is critical because some cases and commentators argue that if a user has not agreed to the license restrictions intended by the IP owner, then the user has no license at all and is thus an infringer.³⁴ That is so only if the IP owner does nothing that could be construed as granting access to the IP. If the IP owner has provided access to its IP in some way that can be interpreted to exhaust its IP rights or impliedly grant a license to it,³⁵ then a subsequent or concurrent attempt to restrict use could be ineffective, while the basic right of access would remain. This situation can arise either in patent or copyright contexts.

A. Patent Law “Label Licenses”

So-called “label licenses” in patent law typically arise through a sale of a patented good that bears some use restriction on its label or on the product itself. Referring to the two-transaction model suggested above, the first transaction is the sale, in which the buyer pays money to the IP owner and receives in return the patented good, possibly with no stated restrictions on use of the good imposed at the time of the sale. The usual rule in patent law is that the sale of a patented product conveys the right to use it. As the Supreme Court said in *United States v. Univis Lens Co.*, “[a]n incident to the purchase of any article, whether patented or unpatented, is the right to use and sell it.”³⁶ Therefore, one would expect that in this scenario there would be no restrictions on the purchaser’s use of the patented product.

The Federal Circuit has suggested otherwise, however, by focusing on product labels and other forms of notice to the buyer that state the patentee did not intend the buyer’s rights to be unrestricted. The leading Federal Circuit case on this issue is *Mallinckrodt, Inc. v. Medipart, Inc.*, where the patentee put a “single use only” label on

33. For convenience, I will sometimes use the term “license” in this Article to refer to this scenario without regard to whether the particular transaction at issue meets the legal requirements for an enforceable license. Thus, even though this Article argues that a license should only be enforceable if it is a contract, the term will sometimes be used more broadly.

34. See *infra* text accompanying note 151.

35. See *infra* note 79.

36. 316 U.S. 241, 249 (1942).

its product, purporting to prohibit the buyer from cleaning and reusing the product.³⁷ The question, then, is whether the inclusion of this label, which the buyer may or may not notice, actually imposes an enforceable restriction on the buyer's use of the product. The Federal Circuit and courts following it have suggested that the answer can be yes, because the post-sale notice can create a contractual license restriction.³⁸

To reach this result, the courts distort contract law beyond recognition. The doctrinal problems will be discussed below,³⁹ but for present purposes the key point is that the approach allows a patentee to use labels (and, in one instance, even press reports⁴⁰) to take what a buyer would reasonably think was an unrestricted sale and convert it, after the sale, to a restrictive license.⁴¹ This goes well beyond even the shrink-wrap and click-wrap cases, which have generally required some sort of notice *at the time of sale* that additional restrictions will be forthcoming, in addition to a right to return the product if the additional restrictions are rejected.⁴² Those factors are not present in the "label license" cases.

B. Open-Source Software

Another context in which licensees can be caught unaware by restrictive licensing is that of open-source software licensing. Here the initial "transaction" can be the act of making the software available for download, often on a site dedicated to open-source software, like SourceForge.net. The circumstances here can be somewhat different from those in the patent context, because on some such sites the license terms for copyrighted software are made available.⁴³ Therefore, whereas in the patent example it is easy to see how the initial sale and the subsequent label notice are distinct, one might think that with open-source software, access to the IP is provided only through the same transaction that imposes the restrictive license; that is, clicking on the "download" button both grants access to the software and indicates the licensee's consent to the license.

37. 976 F.2d 700, 702-03 (Fed. Cir. 1992).

38. See *infra* Part III.B.

39. See *infra* Part III.B.1.

40. See *infra* text accompanying notes 103-07.

41. *Mallinckrodt*, 976 F.2d at 702-03.

42. See *infra* text accompanying notes 95-101.

43. See, e.g., *The WordPress License*, WORDPRESS.ORG, <http://wordpress.org/about/license/> (last visited Jan. 21, 2013) ("The license under which the WordPress software is released is the GPLv2 (or later) from the Free Software Foundation. A copy of the license is included with every copy of WordPress, but you can also read the text of the license here."). Note that although the page to which this passage links has the GNU General Public License, version 2 (GPLv2), the passage states that the applicable license is "GPLv2 (or later)," which leaves the actual license terms unclear.

It is often not the case, however, that access to open-source software is provided only after assent to, or even a specific reference to, a license.⁴⁴ Experimentation at SourceForge.net reveals that of twenty programs selected at random, only two required that the user provide any sort of assent to a license to run the program.⁴⁵ In the other eighteen cases, it was only necessary to click on a “download” button, with no reference to a license, and then install and run the program. Furthermore, users can download many open-source programs without going to the pages describing the programs, where the applicable licenses are identified. As a result, there is often not even notice of an applicable license. Even if a user looks for license information, the source of the software, such as SourceForge.net, sometimes provides only general notice of the type of license intended. For example, the applicable license may be listed as the “GNU General Public License (GPL),”⁴⁶ but because there are several versions of the GPL that differ significantly,⁴⁷ there is no way for a user to determine what specific license terms are intended. It is not even clear that the copyright owner intends any particular GPL, or if the owner just intends to enter into some sort of open-source license and chose the GPL from a list on the website.

C. Consent, Notice, and Property

The preceding paragraphs have shown that it is possible—indeed, common—for buyers and users to acquire access to intellectual property without being made aware of use restrictions that the IP owner intends to impose. The questions, then, are whether and how such restrictions can become enforceable. These questions are taken up in more detail in the remainder of this Article, but the answers fall into three categories: contract, notice, and “bare” property protection.

44. See Madison, *supra* note 4, at 301 (“[I]t is clear that software users frequently either do not assent to non-negotiated standard license forms or (particularly in the open source context) may experience the code in a technical environment where it is relatively easy to use the code without being confronted by a demand for assent.”). Even if this were true, it would not be sufficient to form a contract, because the transaction would not involve consideration. See *infra* text accompanying notes 134-44.

45. Record of experiment on file with author. See, e.g., *FileZilla*, SOURCEFORGE.NET, <http://sourceforge.net/projects/filezilla/?source=directory> (last visited Jan. 21, 2013). Actually, on this page, where one can download the FileZilla ftp client program, the terms of the license are not available, but the page identifies the “GNU General Public License (GPL)” as the applicable license. There are, however, three main versions of the GPL and several variants, so this does not actually define the terms to which the licensee would be subject. Of course, the terms of the license need not be available on the web site; they could be provided, and consent required, when the program is run. But our experiment showed that this was not the case. No consent at all was required to run eighteen of the twenty programs tested.

46. See *supra* note 45.

47. See Richard Stallman, *Why Upgrade to GPLv3*, GNU OPERATING SYS., <http://www.gnu.org/licenses/rms-why-gplv3.html> (last visited Jan. 21, 2013).

These approaches are outlined here, and the remainder of this Article questions whether they are appropriate means of structuring IP licensing.

The first approach is contractual, and it is the primary approach in patent law. Even though buyers may not be informed of intended restrictions when they buy the patented products, courts have held that knowledge of the IP owner's intentions—even if acquired after the purchase—can make the restrictions binding under contract, at least if the buyer does not return the product.⁴⁸ The basic theory here is similar to that of shrink-wrap licenses, where decisions like *ProCD, Inc. v. Zeidenberg* have held that purchases with knowledge that future terms are forthcoming can make those later terms binding.⁴⁹ In the patent licensing context, though, the courts do not inquire carefully into whether there was pre-purchase notice of additional terms.⁵⁰

The second approach, focusing on notice, derives to some extent from contract in two ways. First, the contractual approach in some instances effectively devolves into one involving notice because actual consent is not required but inferred. Additionally, notice of the IP owner's desired restrictions is said, with some Supreme Court support,⁵¹ to be sufficient to make the restrictions binding, at least if there has been a prior, contractual violation of those restrictions. In this way, notice serves to carry the breach downstream in the distribution chain to parties that are not in privity with the IP owner, providing a sort of *in rem*, property-like protection.

The final approach is a purely property-based one. This approach, which is advocated primarily by proponents of open-source software, relies neither on contract nor notice, but simply argues that licensees can obtain only those rights granted by the copyright owners. Therefore, if the copyright owners impose restrictions in their licenses, licensees are bound by those restrictions, regardless of whether they know of them. The problem with this claim is that, as discussed further below,⁵² the manner in which open-source software is made available could be viewed as making the software available *without* restrictions. In the end, both the property approach and the patent courts' notice or "contract lite" approach fall short on both doctrinal and normative grounds.

48. See *infra* text accompanying notes 87-107.

49. 86 F.3d 1447, 1451-52 (7th Cir. 1996); see *infra* text accompanying notes 95-97.

50. See *infra* Part III.B.1.

51. See *infra* text accompanying notes 114-17.

52. See *infra* text accompanying notes 154-56.

III. LICENSING IN DIFFERENT PROPERTY REGIMES

The following Parts describe the doctrinal rules for the licensing of both tangible and intellectual property. Although the focus of this Article is intellectual property, the law for tangible property is discussed as a contrast, and because it is relied upon by those who argue for the existence of bare licenses in the IP context. Because the focus here is on licensing, the discussion below does not include actual transfers of the tangible or intellectual property itself. Although real property owners can transfer property with restrictions using equitable servitudes, that result is generally achieved in the IP context through licensing (which does not involve transfers of the property rights), not assignment (which does).⁵³ Hence, the discussion is confined to similar transfers in the tangible-property context.

A. Tangible Property

In real property the closest analogy to an intellectual property license would be either a lease or a license, because both allow the property owner to give rights in the property to another without giving up ownership.⁵⁴ A lease, however, puts the lessee in possession of the property,⁵⁵ so it is more akin to a temporary assignment of intellectual property than to a license. A real property license, unlike a lease, leaves the property owner in possession of the property, but allows the licensee to enter on the property for specified purposes.⁵⁶ It is also the form of property transfer to which open-source advocates

53. Several authors have drawn analogies between IP licensing and property servitudes. See Robinson, *supra* note 28; Molly Shaffer Van Houweling, *The New Servitudes*, 96 GEO. L.J. 885 (2008). The analogy is complicated by the fact that in some of the cases discussed here, particularly the patent cases, there is a transfer of a tangible object embodying the intellectual property at issue. But the ownership of the intellectual property right itself is not generally transferred. Cf. *infra* text accompanying notes 62-63.

54. See, e.g., *In re Historical Locust St. Dev. Assocs.*, 246 B. R. 218, 225 (Bankr. E.D. Pa. 2000) (“A license is commonly defined as a mere permit or privilege to do what otherwise would be unlawful; it is generally revocable at the pleasure of the owner, and gives occupancy only so far as necessary to engage in the agreed acts of the performance of agreed services and no further. It is a privilege to occupy under the owner, and only insofar as the owner expressly allows.”) (quoting *In re Daben Corp.*, 469 F. Supp. 135, 142 (D.P.R. 1979)).

Sales of patented products do transfer ownership of the product, of course, but they do not transfer ownership of the patent itself, which is the intellectual property at issue. Thus, drawing analogies to the treatment of equitable servitudes in the transfer of tangible property can be misleading. Cf. Robinson, *supra* note 28. Nevertheless, equitable servitudes are discussed below in the context of personal property, and the law for real-property equitable servitudes is similar.

55. “A lease, on the other hand, gives the right of possession of the property leased, and exclusive use or occupation of it for all purposes not prohibited by its terms.” *In re Historical Locust St. Dev. Assocs.*, 246 B. R. at 225 (quoting *In re Daben Corp.*, 469 F. Supp. at 142).

56. Restatement (First) of Prop.: Servitudes § 512 (1944).

refer in analogy to their “bare licenses.” Therefore, it will be the focus here.

The Restatement of Property defines a license as “an interest in land in the possession of another which (a) entitles the owner of the interest to a use of the land, and (b) arises from the consent of the one whose interest in the land used is affected thereby”⁵⁷ There is no reference, under this definition, to consent of the licensee; consent of the licensor is sufficient. That approach appears also to extend to the imposition of restrictions, or the scope of the license, as the Restatement also states that “[t]he extent of a license is fixed by the terms of the consent which creates it.”⁵⁸ Because the consent that is referenced here is that of the property owner (or “the one whose interest in the land used is affected”⁵⁹), consent of the licensee to the restriction on scope appears not to be required.

Not only does the licensor not need a contract to impose restrictions on the licensee, it is also the case that even if the license is contractual, the contract will not prevent the licensor from exercising its property rights, at least in the context of revocation:

The essential characteristic of a license is that it is revocable at the will of the possessor of the land, subject only to the licensee’s right to be on the land for a reasonable time after revocation for the purpose of removing his goods thereon. Even though the revocation of a license may be a breach of contract and give rise to an action for damages, it is effective to deprive the licensee of all justification for entering or remaining on the land except as provided above.⁶⁰

That is, a court will not grant specific performance of a contractual obligation on the part of the real property owner to provide access.⁶¹

The reason for this relative unimportance, even subordination, of contract in the real-property context is important in determining its significance for IP licenses. The means by which real property owners can grant access to their property irrevocably and impose restrictions

57. *Id.* There are two additional elements, which require that the interest “(c) is not incident to an estate in the land, and (d) is not an easement.” *Id.*

58. *Id.* § 516. The position of downstream users—that is, transferees that receive access to property from an earlier, upstream transferee—a topic of great importance in the IP context, is not entirely clear for real property. The license may not be personal, but it appears that it also does not give the licensee the right to transfer it to unrelated parties: “A license is not necessarily limited in its extent to uses by the licensee through action by himself alone. His use may be made through the acts of his servants, members of his family, his guests, or others whom he is privileged by the terms of the license to authorize to act under it.” *Id.* cmt. d.

59. *Id.*

60. 28A MASS. PRACTICE § 626, at 12 (1981) (citing *Baseball Publ’g Co. v. Bruton*, 18 N.E.2d 362 (Mass. 1938)).

61. *See Baseball Publ’g*, 18 N.E.2d at 364 (“There can be no specific performance of a contract to give a license, at least in the absence of fraud or estoppel.”) (citations omitted).

on their grantees is not by license but by servitude,⁶² which requires either a contract or a conveyance, both of which must satisfy the Statute of Frauds or an exception to it.⁶³ Because the conveyance alternative to contract has its own formal requirements, the law of real property does not support the view that any “bare license,” without such formalities, can suffice to bind licensor and licensee. Moreover, both patent and copyright law offer formal alternatives akin to recording of real-property transactions for certain kinds of licenses, which suggests a recognition in IP of the value of formalities that ensure that care and consideration are given to the transaction.

For personal property, which is more analogous to IP than is real property, the enforceability of restrictions, generally in the form of equitable servitudes, is less well-accepted.⁶⁴ Glen Robinson, in his recent article on the issue, states that few personal property cases have enforced this form of restriction.⁶⁵ The reason for the scarcity of cases is perhaps that, as he writes, the general view is that personal property servitudes are impermissible.⁶⁶ This view has prevented much consideration of how such servitudes would be formed. Although Robinson’s work contends that the value of personal property servitudes has been underestimated, he focuses primarily on intellectual property, not on tangible personal property.⁶⁷

Nevertheless, Robinson points to several cases that discuss the issue in the context of tangible property. In *Clairol, Inc. v. Sarann Co.*, for example, the plaintiff, a manufacturer of hair coloring, sought to enforce a restriction on the labels of some bottles of its product that

62. An *irrevocable* license is a servitude. See RESTATEMENT (THIRD) OF PROP.: SERVITUDES § 1.2 cmt. g (2000). The term “servitude” is now used by the *Restatement* to refer to what were traditionally called “real covenants” or “equitable servitudes.” *Id.* § 1.4.

63. *Id.* § 2.1. This rule applies only to an irrevocable license. See *supra* note 62. But if a license is to be revocable then the contract has no binding implications for the licensor. It should therefore have none for the licensee either. That is, the licensee’s property rights should not turn on contract, even if its contractual ones might do so. After all, if the licensor may revoke the license at any time, the licensee cannot rely on the contract anyway. So, far from providing notice and consent in those circumstances, the contract is more likely to be misleading. It is possible that a contract would not even be possible if the licensor could revoke the license at will, because in that case the licensor would have provided no consideration. See, e.g., *Wickham & Burton Coal Co. v. Farmers’ Lumber Co.*, 179 N.W. 417 (Iowa 1920) (promise that preserves full discretion of the promisor is not consideration). Whether there was consideration would depend on whether the licensor promised not to revoke for a period of time. In that case, even if the licensor could revoke as a matter of property law, the contract would be valid and the licensor would have to pay damages, as stated in the quoted passage accompanying note 60 *supra*.

64. See Robinson, *supra* note 28.

65. *Id.* at 1455.

66. *Id.* at 1450-52.

67. *Id.* at 1452 (“Because the most important contemporary occasion for considering personal property restrictions arises in the field of intellectual property, that special form of property rights will receive the lion’s share of attention in this Article, but this should not obscure the fact that I am concerned about property rights in general, not simply intellectual property rights.”).

prohibited sales to the general public.⁶⁸ There was no contract between the plaintiff and the defendant retail store that was violating the restriction, but the court allowed notice to substitute for contract:

There is, however, one serious problem with plaintiff's reliance on the theory of equitable servitudes. Most of the cases and articles on the subject seem to assume the existence of a contractual restriction agreed to between the buyer and seller, which is then enforceable against subsequent purchasers with notice. There is no such express contractual restriction here. There does exist, however, an implied restriction, considering all of the circumstances of this case, including the prominence of the legend and the fact that professional purchasers from plaintiff know that the basis of the price differential they get is their place in the marketing scheme. However, even if this were not so, *Waring* is authority for the proposition that a purchaser with knowledge of a restriction is bound thereby, regardless of whether the restriction is contractual in nature This court, therefore, holds that plaintiff is also entitled to the relief it seeks under the theory of equitable servitudes.⁶⁹

Although this passage seems to support the enforcement of personal property servitudes generally, in fact the case's position is more limited. For one thing, it requires knowledge of the restriction on the part of the party against whom it is enforced, a problematic requirement for several reasons.⁷⁰ More importantly, the court did not hold that every equitable servitude would be enforced, because it said that "[t]he commentators have agreed on the need for a careful examination of the equitable servitude sought to be applied, in order to determine whether public policy will be furthered by its application."⁷¹ The case made much of the possible harms that could result from using hair coloring without proper instructions, and because those harms could have injured the reputation of *Clairol*, the court also found the defendant liable on an unfair competition theory.⁷² The same two factors—public policy concerns and unfair competition—were also present in *Waring v. WDAS Broadcasting Station, Inc.*, the case cited in the passage quoted above.⁷³ Even more significantly, *Waring* noted that the cases in which equitable servitudes had not been enforced typically involved intellectual property and were cases in which "the attempted restrictions, being in restraint of trade, were against public policy."⁷⁴ That points to a

68. 37 Pa. D. & C. 2d 433 (Ct. Com. Pl. 1965).

69. *Id.* at 453-54 (citing *Waring v. WDAS Broadcasting Station, Inc.*, 194 A. 631 (Pa. 1937); *Nadell & Co. v. Grassom*, 175 Cal. App. 2d 420, 346 P.2d 505 (Cal. Dist. Ct. App. 1959)).

70. See *infra* Part IV.C-D.

71. *Clairol*, 37 Pa. D. & C. 2d at 452.

72. *Id.* at 442-51.

73. 194 A. 631 (Pa. 1937).

74. *Clairol*, 37 Pa. D & C 2d. at 445.

need to consider the particular factors that are presented by non-contractual restrictions in the IP context.

B. Patents

Patent licensing law formally attributes more significance to contracts than did *Clairol*, but in substance the result is often much the same. It is formally different because the Federal Circuit has said that a contract is required to restrict purchasers of patented products. In reality, though, the lower courts, including the Federal Circuit, in fact apply the doctrinal “contract” rule in such a way as to make notice of the restriction sufficient for its enforceability. Moreover, the Supreme Court has enforced a restriction against a purchaser that had knowledge of the restriction but was not contractually bound by it, thus effectively applying a notice rule.

1. Patent Licenses Must Be Contracts

In *Hewlett-Packard Co. v. Repeat-O-Type Stencil Manufacturing Corp.*, the Federal Circuit stated clearly that a patentee can impose restrictions on purchasers only through contract:

Each case turns on its own particular facts, but a seller’s intent, unless embodied in an enforceable contract, does not create a limitation on the right of a purchaser to use, sell, or modify a patented product as long as a reconstruction of the patented combination is avoided. A noncontractual intention is simply the seller’s hope or wish, rather than an enforceable restriction.⁷⁵

The context in *Hewlett-Packard* was the defendant’s effort to use the patent-law right of repair⁷⁶ to modify Hewlett-Packard’s patented inkjet printer cartridges to make them refillable. Hewlett-Packard sought to prevent these actions on the ground that it had “clearly manifested its intent that the ink jet cartridges be non-refillable.”⁷⁷ The court thus rejected what it called this “intent-of-the-patentee analysis.”⁷⁸

Although the passage just quoted refers to a purchaser, rather than to a licensee, which would seem to implicate exhaustion of the patent, not licensing,⁷⁹ the court also explicitly connected the purchase to licensing:

75. 123 F.3d 1445, 1453 (Fed. Cir. 1997); see also *Jazz Photo Corp. v. Int’l Trade Comm’n*, 264 F.3d 1094, 1106 (Fed. Cir. 2001) (“[T]he patentee’s unilateral intent, without more, does not bar reuse of the patented article, or convert repair into reconstruction.” (citing *Hewlett-Packard*, 123 F.3d at 1453)).

76. On the right of repair, see *Aro Mfg. Co. v. Convertible Top Replacement Co.*, 365 U.S. 336 (1961).

77. *Hewlett-Packard*, 123 F.3d at 1453.

78. *Id.*

79. Generally speaking, an unconditional sale of a patented product “exhausts” the patentee’s rights in it, *Quanta Computer, Inc. v. LG Elecs., Inc.*, 553 U.S. 617, 618 (2008),

Generally, when a seller sells a product without restriction, it in effect promises the purchaser that in exchange for the price paid, it will not interfere with the purchaser's full enjoyment of the product purchased. The buyer has an implied license under any patents of the seller that dominate the product or any uses of the product to which the parties might reasonably contemplate the product will be put.⁸⁰

Thus, *Hewlett-Packard* stands for the proposition that a contrary intent of the patentee will not prevent a purchaser or other licensee from making uses of the patented invention, unless those uses are prohibited in an enforceable contract.

Moreover, *Hewlett-Packard* is consistent with earlier Supreme Court cases. In *Hobbie v. Jennison*, for example, the defendant was an assignee with rights to sell patented pipe in Michigan, but not in Connecticut.⁸¹ The defendant sold the pipe to a customer for use in Connecticut, and another assignee, one with the rights to sell in Connecticut, sued.⁸² The Court said that "neither the actual use of the pipes in Connecticut, or a knowledge on the part of the defendant that they were intended to be used there, can make him liable."⁸³ Moreover, the Court drew a contrast between mere knowledge and binding conditions:

It is easy for a patentee to protect himself and his assignees, when he conveys exclusive rights under the patent for particular territory. He can take care to bind every licensee or assignee, if he gives him the right to sell articles made under the patent, by imposing conditions which will prevent any other licensee or assignee from being interfered with.⁸⁴

Although the Court did not make clear whether these "conditions" would be contractual, it clarified the point in a subsequent case, *Keeler v. Standard Folding Bed Co.*⁸⁵ There the Court said that if the patentee can impose such restrictions, it would be by contract: "Whether a patentee may protect himself and his assignees by special

and copyright's first-sale doctrine produces a similar result, see 17 U.S.C. § 109 (2006). But even if an IP owner's rights are not exhausted, a transaction can create an implied license or prevent infringement suits through estoppel theories. See *TransCore, LP v. Elec. Transaction Consultants Corp.*, 563 F.3d 1271, 1278-79 (Fed. Cir. 2009); *Wang Labs., Inc. v. Mitsubishi Elecs. Am., Inc.*, 103 F.3d 1571, 1581 (Fed. Cir. 1997); *infra* note 156. The courts' conclusions regarding implied terms of license agreements can be surprising. See Phillip B.C. Jones, *Violation of a Patent License Restriction: Breach of Contract or Patent Infringement?*, 33 IDEA 225 (1993).

80. *Hewlett-Packard*, 123 F.3d at 1451.

81. 149 U.S. 355 (1893).

82. *Id.*

83. *Id.* at 363.

84. *Id.*

85. 157 U.S. 659 (1895).

contracts brought home to the purchasers is not a question before us, and upon which we express no opinion.”⁸⁶ *Keeler* thus seems to say that if a patentee seeks to restrict the uses to which transferees put patented products, it can only do so by contract.

Those patent cases that enforce, or at least suggest the possible enforcement of, license restrictions also point to contract. For example, in *Mallinckrodt, Inc. v. Medipart, Inc.*, the patentee put a “single use only” label on its product, but the alleged infringer repaired the product for reuse.⁸⁷ The court held that for this repair to be prohibited, it was necessary that the sale of the product be “validly conditioned under the applicable law such as the law governing sales and licenses”⁸⁸ This seems to look to contract law,⁸⁹ an interpretation strengthened by its statement that “private parties retain the freedom to contract concerning conditions of sale.”⁹⁰ In a footnote, the court also pointed to contract, stating that “[i]n accordance with the Uniform Commercial Code a license notice may become a term of sale, even if not part of the original transaction, if not objected to within a reasonable time.”⁹¹

It is clear though, that *Mallinckrodt’s* approach to contract formation is an incorrect interpretation of the formation rules of U.C.C. § 2-207, for at least two reasons.⁹² First, under § 2-207, it is not the case that a contract can incorporate any term in an unobjected-to notice, but only (sometimes) an “additional term” that is included in “[a] definite and seasonable expression of acceptance or a written confirmation.”⁹³ Surely a label license does not constitute a contract acceptance. It is also unclear how a label license could constitute a “confirmation,” given that it bears no indicia of confirming the previous formation of a contract. And even if some notices might be confirmations, a “single use only” label on a product could not reasonably be characterized in that way. Second, even if a label license were a confirmation, the recipient’s failure to object to the term is not the only requirement for the new term to become part of the contract. It can only become part of the contract, and then only between “merchants,” if the term does not “materially alter” the

86. *Id.* at 666. Indeed, the Court in the next sentence suggested that even breach of such a contract would not give rise to an infringement suit: “It is, however, obvious that such a question would arise as a question of contract, and not as one under the inherent meaning and effect of the patent laws.” *Id.*

87. 976 F.2d 700 (Fed. Cir. 1992).

88. *Id.* at 709.

89. The “law governing sales,” at least, is contract law, so one assumes that “the law governing sales and licenses” must be contract law. *Id.*

90. *Id.* at 708.

91. *Id.* at 708 n.7 (citing U.C.C. § 2-207(2)(c)).

92. An additional peculiarity of the statement in *Mallinckrodt* is its claim that a new term may be applicable “even if not part of the original transaction.” *Id.*

93. U.C.C. § 2-207(1) (2011).

contract, which a term significantly restricting use of the patented product likely would.⁹⁴ The courts relying on § 2-207 entirely fail to address these issues.

Thus, these “label licenses” do not satisfy the rules of contract formation, a fact that can be emphasized by comparing them to their closest analogs: shrink-wrap and click-wrap licenses. Although the shrink-wrap and click-wrap license cases have made contract formation relatively easy, they still require an act from which contractual consent can be inferred.⁹⁵ For example, in *ProCD, Inc. v. Zeidenberg*, where the buyer of a software database claimed that he could not be bound by terms of which he was unaware at the time of purchase, Judge Easterbrook argued that post-purchase consent could form a contract.⁹⁶ But he still required consent: “A buyer may accept by performing the acts the vendor proposes to treat as acceptance. And that is what happened. ProCD proposed a contract that a buyer would accept by *using* the software after having an opportunity to read the license at leisure.”⁹⁷ The failure to exercise the right of return was the act of consent that contract law requires.⁹⁸

In cases where no such act was present, courts have not found the formation of a contract. For example, in *Specht v. Netscape Communications Corp.*, the court confronted a situation where the plaintiffs received no presentation of a license agreement but merely clicked “download” to obtain the software at issue.⁹⁹ Subsequently, the “plaintiffs encountered no further information about the plug-in program or the existence of license terms governing its use.”¹⁰⁰ Then-Judge Sotomayor stated that “a consumer’s clicking on a download button does not communicate assent to contractual terms if the offer did not make clear to the consumer that clicking on the download button would signify assent to those terms.”¹⁰¹

Label licenses are more akin to *Specht* than to *ProCD*. Generally speaking, nothing requires a buyer to read a label license before purchasing or even using the product. The license terms are merely written on the product or perhaps even merely published in trade

94. Official Comment 4 to § 2-207 indicates that a material alteration is one that would “result in surprise or hardship if incorporated without express awareness by the other party.” *Id.* cmt. 4.

95. The shrink-wrap cases have generally involved copyrighted works rather than patented inventions, but the contractual issues are the same.

96. 86 F.3d 1447, 1451 (7th Cir. 1996).

97. *Id.* at 1452.

98. *ProCD*’s contractual analysis has been heavily criticized. See, e.g., *Legal-Ware*, *supra* note 15, at 1049-54.

99. 306 F.3d 17, 22-23 (2d Cir. 2002). Cf. *supra* text accompanying notes 44-46; *infra* text accompanying notes 154-56 (discussing open-source software downloads).

100. *Specht*, 306 F.3d at 23.

101. *Id.* at 29-30.

journals.¹⁰² Although it is certainly possible that buyers might see the notice, there is generally no effort made to ensure it. Nor is there generally any effort made to ensure an act of assent, or even an explicit indication like *ProCD*'s that return of the product is possible. And even if return were possible, notice prior to purchase that further terms will be forthcoming is generally absent. Hence, even under *ProCD*, there is no reason to think that a contract is formed.

A particularly egregious example of the application of U.C.C. § 2-207 is found in *Monsanto Co. v. Scruggs*.¹⁰³ The defendant in *Scruggs* argued that he bought patented seed from an authorized dealer but had not been required to execute a license agreement.¹⁰⁴ The court relied on *Mallinckrodt*'s interpretation of § 2-207 in rejecting the argument:

The *Mallinckrodt* case specifically notes: "In accordance with the Uniform Commercial Code a license notice may become a term of sale, even if not part of the original transaction, if not objected to within a reasonable time." Mitchell Scruggs and the other defendants were aware of the conditions under which Monsanto and its seed partners made its technology available to consumers. Their failure to contest the terms of the conditional license within a reasonable time after sale suggests that Monsanto's licensing conditions became an enforceable term of sale.¹⁰⁵

The court did not even attempt to show that the term was included in an acceptance or confirmation, as § 2-207 requires. That requirement was replaced, apparently, by the observation that the defendants "were aware of the conditions."¹⁰⁶ As the court noted, "[t]he restrictions in Monsanto's licenses have been advertised in trade journals, have been publicized through public meetings with farmers, and appear on the product label."¹⁰⁷ Despite the reference to § 2-207, this replaces the contractual requirement with one of mere notice.

102. See *infra* text accompanying note 107.

103. 249 F. Supp. 2d 746 (N.D. Miss. 2001), *aff'd*, 459 F.3d 1328 (Fed. Cir. 2006). See also *Mallinckrodt, Inc. v. Medipart, Inc.*, 976 F.2d 700 (Fed. Cir. 1992).

104. 249 F. Supp. 2d at 751, 754.

105. *Monsanto*, 249 F. Supp. 2d at 754 (citations omitted).

106. *Id.*

107. *Id.* at 750. Cf. Landgericht Frankfurt [LG Frankfurt] [District Court of Frankfurt] Sept. 6, 2006, No. 2-6 O224/06 at 6 (Ger.), http://www.jbb.de/fileadmin/download/urteil_lg_frankfurt_gpl.pdf [hereinafter *Frankfurt District Court*], unofficial translation available at http://thinkingopen.files.wordpress.com/2007/07/d-link-verdict-english-translation-061028_2_.pdf [hereinafter *Frankfurt District Court translation*] ("Since the conditions of the license granted by the GPL are easily available on the Internet, they were without a doubt incorporated into the contractual relationship between the authors and Defendant.") (citation omitted).

2. *Non-Contractual Restriction by Notice?*

Despite its reference to contract law, the Federal Circuit in *Mallinckrodt* was somewhat vague in stating that for a post-sale restriction to be enforced, it is necessary that the sale of the product be “validly conditioned under the applicable law such as the law governing sales and licenses.”¹⁰⁸ Is “the law governing . . . licenses” distinct from the law governing sales, *i.e.*, contract law? The court said that it was “not decid[ing] whether the form of the restriction met the legal requirements of notice or sufficed as a ‘label license,’ as Mallinckrodt calls it, for those questions were not presented on this motion for summary judgment.”¹⁰⁹ It is not at all clear what legal significance the court ascribes here to “notice,” which might be distinct from contract. Although the issue would seem to have been resolved by the subsequent decision in *Hewlett-Packard*,¹¹⁰ whether notice can substitute for contract remains unclear.

For example, in *Pioneer Hi-Bred International, Inc. v. Ottawa Plant Food, Inc.*, the court said, referring to notices on bags of patented corn seed, “that *knowledge of the limitations plus failure to object* makes the terms of a ‘limited label license’ enforceable”¹¹¹ The court here also purported to be interpreting the contract formation rules of U.C.C. § 2-207,¹¹² but it did not seem entirely sure,

108. 976 F.2d at 709.

109. *Id.* at 701.

110. *See supra* text accompanying notes 76-80. It is supported also by a more recent opinion. *See Jazz Photo Corp. v. Int’l Trade Comm’n*, 264 F.3d 1094 (Fed. Cir. 2001). In *Jazz Photo*, Fuji alleged that replacing the film in its single-use cameras was infringement, relying in part on notices on the cameras. *Id.* at 1107. The administrative law judge described the notices:

A Fuji flash QuickSnap single use camera is in a box and each of the box and the outer cardboard cover of the camera has statements instructing the purchaser to not remove the film and return the camera to the photoprocessor and further cautioning the purchaser about the risk of electrical shock if opened by the purchaser [The packaging also] instructs the purchaser that the single use camera will not be returned to the purchaser after processing.

Id. The Federal Circuit rejected the notice approach though, as it did in *Hewlett-Packard*, stating “[a] license is governed by the laws of contract.” *Id.* It emphasized the contract view by observing that “[t]here was no express contractual undertaking by the purchaser,” and that “[t]hese statements [on the camera and packaging] are instructions and warnings of risk, not mutual promises or a condition placed upon the sale.” *Id.* at 1108.

111. 283 F. Supp. 2d 1018, 1047-48 (N.D. Iowa 2003).

112. As in *Mallinckrodt*, the court entirely ignored the fact that the notice was not in an acceptance or written confirmation. *See supra* text accompanying notes 92-93. Its analysis of the licensee’s failure to object was similar to that of *Mallinckrodt*, but the *Pioneer* court also addressed the materiality issue, *cf. supra* text accompanying note 94, though not satisfactorily. The court relied on Official Comment 4 of § 2-207, which indicates that whether an additional term “materially alters” the agreement depends “on whether the additional term ‘result[s] in surprise or hardship if incorporated without express awareness by the other party.’” *Pioneer*, 283 F. Supp. 2d at 1048. Then the court said Ottawa could not “generate a genuine issue of material fact that it was, itself, actually ‘surprised’ by the restriction on resale in the ‘limited label license.’” *Id.* But the test is one of materiality, not surprise, and the Official Comment asks not whether the party was

stating that “[a]t least in the first instance, the conditions of a waiver of patent rights—*i.e.*, the terms of a grant of a license to make, use, or sell the patented item—are subject to contract considerations.”¹¹³ Does the court’s reference to “the first instance” suggest that there is a noncontractual “second instance”? And is “subject to contract considerations” the same thing as “governed by contract law”? In *Pioneer*, as in *Mallinckrodt* and *Scruggs*, the court seemed to leave open the possibility of some sort of noncontractual notice that would be binding on licensees.

In fact, there is support from the Supreme Court for a noncontractual notice interpretation. In *General Talking Pictures Corp. v. Western Electric Co.*, patent rights for audio amplifiers were separately licensed to manufacturers for “private” and commercial use.¹¹⁴ One of the “private” licensees, “knowing that it had not been licensed to manufacture or to sell amplifiers for use in theatres as part of talking picture equipment, made for that commercial use the amplifiers in controversy and sold them to Pictures Corporation for that commercial use.”¹¹⁵ The Court held that Pictures Corporation, the buyer, was liable:

As the restriction was legal and the amplifiers were made and sold outside the scope of the license the effect is precisely the same as if no license whatsoever had been granted to [the “private” licensee]. And as Pictures Corporation knew the facts, it is in no better position than if it had manufactured the amplifiers itself without a license. It is liable because it has used the invention without license to do so.¹¹⁶

The key point here is that although the original licensee was party to a contract with the patentee, Pictures Corporation was not—it had no commercial relationship with the patentee. Yet it was still held liable because it knew of the infringement. That raises the question, however, of the potential liability of buyers who are *not* on notice of the original restriction and of what sort of notice would be sufficient to create liability. The Court declined to answer these questions:

We have consequently no occasion to consider what the rights of the parties would have been if the amplifier had been manufactured “under the patent” and “had passed into the hands of a purchaser in the ordinary channels of trade [which presumably

surprised in fact, but whether it would be if the term was “incorporated without [its] express awareness.” In other words, would Ottawa have been surprised by a no-resale restriction if it did not know of it previously? Surely the answer is yes.

113. 283 F. Supp. 2d at 1036.

114. 305 U.S. 124, 125-26 (1938).

115. *Id.* at 126.

116. *Id.* at 127.

would mean that it was sold to a ‘commercial’ buyer by a ‘private’ buyer].” Nor have we occasion to consider the effect of a “licensee’s notice” which purports to restrict the use of articles lawfully sold.¹¹⁷

Those questions remain unanswered today, despite the Supreme Court’s recent decision in *Quanta Computer, Inc. v. LG Electronics, Inc.*¹¹⁸ In *Quanta*, LG had licensed Intel to sell the patented products, but LG had also required Intel to give notice to Intel’s customers that LG had not licensed those customers. LG argued that this meant that the unlicensed customers were infringing LG’s patents.¹¹⁹ The Court disagreed, holding that Intel’s authorized sale of the products exhausted LG’s patent rights because “[n]o conditions limited Intel’s authority to sell products substantially embodying the patents.”¹²⁰

Quanta leaves unclear what actions LG needed to take to impose restrictions on Intel’s customers. Presumably LG could have contractually required Intel to sell only to customers that themselves had licenses from LG. In that case, would buyers without licenses be liable for infringement if they had no notice of the restriction? And could LG have imposed the restriction on Intel noncontractually? That is, suppose that LG had simply informed Intel that it was not permitted to sell to unlicensed buyers (rather than, as in the case, contracting with Intel to inform buyers that they were unlicensed). Would the Court have viewed this instruction as a “condition” that “limited Intel’s authority” to resell the product? *Quanta* provides no answers to these questions.

Some writers, however, argue that *Quanta* allows a “notice and restriction” approach, which “provides flexibility but requires careful drafting in view of *Quanta*”¹²¹:

In addition, a notice provision must be included, which requires written notification to buyers of the restriction in addition to specifying exactly what parties, what sales, or what circumstances define an “authorised” sale. The notice provision must also be directly tied to the restricted licence grant and must clearly state that failure to comply with the notice provision constitutes a breach of the licence agreement itself. In this way, the notice requirement operates to quash a defence brought by unauthorised buyers.¹²²

What the buyers’ defense would be is unclear. Presumably the authors are suggesting that a purchaser in an unauthorized sale could be free

117. *Id.*

118. 553 U.S. 617 (2008).

119. *Id.* at 630.

120. *Id.* at 637.

121. Dorothy R. Auth & Jason M. Rockman, *Conditional Patent Licensing After the Supreme Court’s Decision in Quanta*, 2 BLOOMBERG EUR. BUS. L. REV. 415, 419 (2008).

122. *Id.*

from liability if it did not know that the sale was unauthorized, but the law here is not clear.

In any event, a rule that notice or knowledge is required to establish liability for patent infringement, which is normally a strict-liability offense, would be odd. It makes perfect sense, however, if the offense at issue is not direct infringement but inducement, because the Supreme Court recently held that “induced infringement under § 271(b) requires knowledge that the induced acts constitute patent infringement.”¹²³ In a context like that of *General Talking Pictures*, where the third-party infringer was profiting from and aware of the infringement of the original licensee or purchaser, liability for *inducing* the direct violation seems appropriate and does not require adding an additional knowledge or notice element to the definition of direct infringement. This approach to the issue is especially appropriate given that § 271(b) was added to the Patent Act in 1952, meaning the section was not available at the time of *General Talking Pictures*. The advantages of this approach are discussed further below.¹²⁴

C. Copyright Cases

In copyright, no court has clearly stated that a contract is required to impose license restrictions, but none has held that a contract is unnecessary either. This has led to a conflict in the statements of courts and commentators. Although the courts do not explicitly require a contract, they still seem to look for the indicia of contract formation, and some commentators argue for creative interpretations of contract law to ensure contractual enforceability. Other commentators, however, use the absence of a clear contractual requirement to argue for the enforceability of “bare licenses.”

1. Copyright Licenses as Contracts

Compared to real property and even to patent law, the law on whether copyright licenses must be contracts is unclear. As one of the leading cases states, “[t]he enforcement of a copyright license raises issues that lie at the intersection of copyright and contract law, an area of law that is not yet well developed.”¹²⁵ A leading copyright treatise generally seems to assume that licenses are contracts, stating that “[i]f the grantee under an assignment or license uses the work in violation of the provisions of the authorizing instrument, . . .

123. *Global-Tech Appliances, Inc. v. SEB S.A.*, 131 S. Ct. 2060, 2068 (2011). Section 271(b) provides that “[w]hoever actively induces infringement of a patent shall be liable as an infringer.” 35 U.S.C. § 271(b) (2006).

124. See *infra* Part IV.D.2.

125. *Sun Microsystems, Inc. v. Microsoft Corp.*, 188 F.3d 1115, 1122 (9th Cir. 1999).

[w]hether [the grantor] will be entitled to damages or injunctive relief, or a combination of both, depends on general principles of contract law beyond the scope of this treatise.”¹²⁶ However, the treatise, like other sources, does not explicitly state that a license must be a contract.

In fact, the same treatise suggests that at least some copyright licenses need not satisfy all the requirements of contract formation: “Notwithstanding that feature of state law, no consideration is necessary under federal law to effectuate a transfer of copyright ownership that does not purport to require consideration.”¹²⁷ But the cases cited for this proposition relate only to revocability of licenses, where some cases hold that the absence of consideration makes a license revocable.¹²⁸ Those cases are consistent with the view that a license, to be enforceable, must be a contract. Revoking a license is the licensor’s act of ceasing to comply with its previous promise not to sue for infringement, and if that previous promise was not contractually enforceable because of the absence of consideration, then there would be no obstacle to revocation. That is, these cases can be interpreted to mean that revocation is permissible where the license is noncontractual.

126. 3 MELVILLE B. NIMMER & DAVID NIMMER, NIMMER ON COPYRIGHT § 10.15[A][1] (Matthew Bender rev. ed., 2012). Moreover, the treatise discusses the implications of state contract law for copyright transfers, and if such transfers were not contracts, it is not clear why contract law would be relevant. *See id.* § 10.03[A][8].

127. *Id.* As the text indicates, although this statement refers to transfer of ownership of the copyright, it appears to be intended to apply more broadly since it cites licensing cases.

128. *See id.* § 10.02[B][5] (“[N]onexclusive licenses are revocable absent consideration.”). Where consideration is present, however, the license is irrevocable, and “[t]his is so because a nonexclusive license supported by consideration is a contract.” *Lulirama Ltd. v. Axxcess Broad. Servs., Inc.*, 128 F.3d 872, 882 (5th Cir. 1997); *see also Carson v. Dynegy, Inc.*, 344 F.3d 446, 451 (5th Cir. 2003).

Consideration would presumably not be sufficient in itself, because it would also be necessary that the terms of the agreement included irrevocability. Most of the cases appear to make this assumption so long as there has been no reference to revocability, which appears to make it a question of interpretation. *See, e.g., Lulirama*, 128 F.3d at 883 (“The record in this case provides no indication that the parties intended that Axxcess’s right to use the jingles was terminable at the will of Lulirama.”). Interestingly, one court appeared to tie this interpretation question to the question of whether a contract existed: “If [the licensor] had the ability to terminate the license at will, then no contract could exist because [the licensor’s] obligation under the contract would be illusory. . . . A presumption exists that parties to a purported contract did not intend to make illusory promises.” *Id.* at 882-83 (citations omitted). The reasoning here appears to rely on an assumption that the parties must have intended to create contractual obligations. If no contract was necessary to create a license, that assumption would presumably be unwarranted.

Even where consideration is lacking, licenses are sometimes deemed irrevocable on other grounds. Several courts have concluded in cases where there was no such irrevocable license supported by consideration that the copyright owner was nevertheless estopped from bringing an infringement claim. *See, e.g., Carson*, 344 F.3d at 453-55; *Keane Dealer Servs., Inc. v. Harts*, 968 F. Supp. 944, 947-48 (S.D.N.Y. 1997). These courts have generally referred to the estoppel as a copyright doctrine, but it might also be possible to treat it as promissory estoppel that would substitute for consideration and thus support a contractual approach.

A leading case addressing the issue of a licensor's effort to impose restrictions on the licensee's use of the copyrighted work is *Sun Microsystems, Inc. v. Microsoft Corp.*¹²⁹ The question at issue was whether Microsoft's violation of a license term was (1) merely a breach of a covenant or promise, which would give rise only to a breach of contract claim, or (2) exceeded the scope of the license, meaning Sun could sue Microsoft for infringement. In line with other courts,¹³⁰ the court stated that "[t]he determination of whether the [terms at issue] are covenants or limitations on the scope of the license is likewise a contractual issue, for it requires us to construe the license."¹³¹ This seems to assume that this central issue is one of contract, but there was no doubt that the license in *Sun Microsystems* was a contract. In those circumstances, contract law would of course be used to interpret the license, but in another case where the presence of a contract was not so clear, another approach might be taken.

Jacobsen v. Katzer is perhaps the case that has come closest to addressing this issue. Jacobsen made his copyrighted computer code available through an open-source "artistic license."¹³² The issue presented in the case was whether the defendant Katzer's failure to comply with the terms of the license gave rise to an action for copyright infringement. Jacobsen argued that it did but that the parties had not entered into a contract. Instead, he argued that he had granted a so-called "bare license," which "define[d] the scope of the license grant."¹³³ Katzer, on the other hand, argued both that he possessed a license and that the parties had entered into a contract.¹³⁴ Katzer's argument, however, did not make clear whether he viewed a contract as being necessary to the existence of the license.

The Federal Circuit, without extensive explicit consideration of the issue, appeared to treat the license as a contract, applying a contract-law analysis to decide the case and referring, as did *Sun*

129. 188 F.3d 1115 (9th Cir. 1999).

130. Other courts have characterized the question as whether the licensee breached a covenant or violated a condition. *See, e.g., Graham v. James*, 144 F.3d 229, 236-37 (2d Cir. 1998). Regardless, courts have treated the issue as one of contract law. *See, e.g., id.* at 236 ("This argument turns—and fails—on the distinction in contract between a condition and a covenant.").

131. *Sun Microsystems*, 188 F.3d at 1122.

132. 535 F.3d 1373, 1376 (Fed. Cir. 2008). The current versions of this license are available on the website of the Open Source Initiative. *See Artistic License 1.0*, OPEN SOURCE INITIATIVE, <http://www.opensource.org/licenses/artistic-license-1.0.php> (last visited Jan. 21, 2013).

133. Corrected Brief of Plaintiff-Appellant Robert Jacobsen at 43, *Jacobsen*, 535 F.3d 1373 (No. 08-1001). *See also id.* at 28-35, 39-41 (arguing that no contract existed).

134. Brief of Appellees at 16-17, *Jacobsen*, 535 F.3d 1373 (No. 08-1001).

Microsystems, to the contract-law condition-covenant distinction.¹³⁵ The key requirements for the existence of a contract would be acceptance of the license by Katzer and consideration. Neither topic was addressed carefully by the court. The court's discussion of the acceptance issue was limited to this statement: "The downloadable files contain copyright notices and refer the user to a 'COPYING' file, which clearly sets forth the terms of the Artistic License."¹³⁶ But other courts have refused to accept that being pointed toward a license is acceptance of it, as the discussion above of shrink-wrap and click-wrap licenses illustrates.¹³⁷

The court addressed the consideration issues somewhat more explicitly, if not more satisfactorily. The court's basic approach focused on the collaborative aspect of open-source work:

Through such collaboration, software programs can often be written and debugged faster and at lower cost than if the copyright holder were required to do all of the work independently. In exchange and in consideration for this collaborative work, the copyright holder permits users to copy, modify and distribute the software code subject to conditions that serve to protect downstream users and to keep the code accessible.¹³⁸

But this is not a valid theory of consideration. Some licensees of open-source programs no doubt contribute to the debugging and improvement of the programs, but not all do. More to the point, none of them promise to do so, so there is no promise that would constitute consideration.¹³⁹

The court also offered other possibilities based on more specific requirements in the license: "The choice to exact consideration in the form of compliance with the open source requirements of disclosure [of the source of software] and explanation of changes, rather than as

135. The implications of the court's condition-covenant distinction are thoughtfully discussed in Robert W. Gomulkiewicz, *Conditions and Covenants in License Contracts: Tales From a Test of the Artistic License*, 17 TEX. INTELL. PROP. L.J. 335 (2009).

136. *Jacobsen*, 535 F.3d at 1376.

137. *See supra* text accompanying notes 95-102.

138. *Jacobsen*, 535 F.3d at 1379.

139. *See* Axel Metzger & Till Jaeger, *Open Source Software and German Copyright Law*, 32 INT'L REV. INTELL. PROP. & COMPETITION 52, 72 (2001) ("While it is true that the acquisition of a right of use to open source software is subject to conditions, nevertheless these have no final binding effect in the sense of a validity condition for one's own obligation to perform, such as is the case for the promise of a reward. . . . The obligations attached to modified software are only 'added on,' *i.e.*, they are not directly connected with the benefit itself, but only result once additional acts have been effected. One can therefore speak of the donation of a conditional right."). *See also* Clive Gringras, *The Validity of Shrink-Wrap Licenses*, 4 INT'L J.L. & INFO. TECH. 77, 89 (1996). Nor is there any indication that the copyright owner anticipated a unilateral contract, *see* Corrected Brief of Plaintiff-Appellant Robert Jacobsen, *supra* note 133, at 39-41, under which the actual collaborative effort, rather than a promise of such effort, could be consideration. In any case, as noted in the text, not all licensees engage in such effort.

a dollar-denominated fee, is entitled to no less legal recognition.”¹⁴⁰ But this does not constitute valid consideration either. A gift is not consideration, nor is a conditioned gift.¹⁴¹ So, for example, if an offeror said, “I will give you \$3000 if you promise to use it to buy a car,” a commitment to use the money to buy a car would not be consideration. That is so because in the exchange the recipient gives up no legal right, having had no prior right to the money or to any particular use of it.

For the same reason, a licensee’s commitment to use offered software in a particular way cannot constitute consideration. Because the licensee has no right prior to the license to use the software in any way, a grant of only limited uses of it is merely a gift. The fact that the giver could have been even more generous by granting use of the software with no restrictions does not alter this conclusion. It is still the case that the licensee has not given up anything. Only if the licensee gives up some right, says contract law, will there be valid consideration.¹⁴²

So the license in *Jacobsen* appears not to have constituted a valid contract. *Jacobsen*, the copyright owner, conceded (or contended) as much.¹⁴³ Yet the Federal Circuit appeared to consider it important to address acceptance (even if obliquely) and consideration.¹⁴⁴ This presumably is evidence of the court’s view, consistent with its patent cases, that a license *must* be a contract. As in *Mallinckrodt*, however, the court in *Jacobsen* was quite creative in determining that such a contract exists.

Some commentators, however, argue that licenses like those in *Jacobsen* do indeed meet the requirements of contract formation.¹⁴⁵

140. *Jacobsen*, 535 F.3d at 1382.

141. Ben Giles makes a somewhat similar argument, though couched in terms of a pre-existing duty on the part of the promisee. See Ben Giles, *Consideration and the Open Source Agreement*, § 4.2, NSW SOC’Y FOR COMPUTERS & THE LAW, https://www.nswscl.org.au/index.php?option=com_content&view=article&id=78:consideration-and-the-open-source-agreement&catid=21:september-2002-issue&Itemid=31 (last visited Jan. 21, 2013).

142. It is possible that if the licensees agreed to contribute something independent of their use of the copyrighted software, they might have provided consideration, but the terms of open-source licenses impose restrictions only on the use of the copyrighted software. See *infra* text accompanying note 160.

143. See *supra* text accompanying note 133.

144. *Jacobsen*, 535 F.3d at 1381-82.

145. Some commentators make general statements about the enforceability of open-source licenses without engaging in doctrinal analysis, sometimes instead relying on court decisions that also have not carefully addressed challenges. See, e.g., James G. Gatto, *Doubts Wane Over GPL Enforceability*, MANAGING INTELL. PROP., Feb. 2007, available at <http://www.pillsburylaw.com/siteFiles/Publications/A9A22185D029BBE6EAA4332F1A7249E2.pdf> (“Most of these lawsuits are resolved before a full trial and, in some cases, the issue of GPL enforceability was only tangentially addressed by the court.”).

In a recent article, Robert Hillman and Maureen O'Rourke argued that open-source licenses provide consideration:

More challenging are open source licenses that do not contemplate any of the above exchanges, but simply authorize licensees to transfer, copy, or modify the software, subject to certain conditions. Such "terms of use" often include (and we focus on) the "copyleft" and "same terms" provisions discussed earlier. These terms should also constitute consideration under the bargain theory. Recall that general contract law finds consideration if a condition constitutes more than is necessary to transfer a gift. Terms of use, such as "copyleft" and "same terms," are not necessary to convey software and therefore constitute consideration under general contract law if at least part of the vendor's motive (however insubstantial), judged objectively, is to extract agreement to the terms of use.¹⁴⁶

This is a creative interpretation of the consideration doctrine.¹⁴⁷ The cases to which they cite involve "minor" promises made in the context of a gift, where the goal is to determine whether the promisor really sought "more than is necessary to transfer a gift,"¹⁴⁸ in which case the bargain requirement of consideration would be met. Those facts seem to have little to offer in the open-source context, where the "consideration" is not necessary at all to effect the transfer, but involves limitations on what can be done with the transferred work. In the end, Hillman and O'Rourke's argument seems to be colored by their view that "open source licenses nicely fit into the category of promises that contract law *should* enforce,"¹⁴⁹ but the desirability, if any, of open-source licensing does not justify a distortion of the consideration doctrine.¹⁵⁰

2. Copyright "Bare Licenses"

Many of those who argue that IP licenses need not be contracts come from the open-source software movement. According to Eben Moglen, one of the leaders of that movement:

The essence of copyright law, like other systems of property rules, is the power to exclude. The copyright holder is legally empowered to exclude all others from copying, distributing, and making derivative works.

146. Robert A. Hillman & Maureen A. O'Rourke, *Rethinking Consideration in the Electronic Age*, 61 HASTINGS L.J. 311, 328 (2009).

147. See McGowan, *supra* note 19, at 211-12 (expressing skepticism regarding Hillman & O'Rourke's argument).

148. Hillman & O'Rourke, *supra* note 146, at 328.

149. *Id.* at 331.

150. In fact, Michael Madison argues that the desirability of using contract law to govern open-source licensing is questionable, and he suggests that another scheme, distinct from traditional licensing law, should be considered. See Madison, *supra* note 4, at 317-39.

This right to exclude implies an equally large power to license—that is, to grant permission to do what would otherwise be forbidden. Licenses are not contracts: the work’s user is obliged to remain within the bounds of the license not because she voluntarily promised, but because she doesn’t have any right to act at all except as the license permits.¹⁵¹

This may be a plausible story when the owner has not given the user any reason to believe that the user may have unlimited access to the copyrighted work. But in some circumstances the user (a) reasonably believes that it has the right to use the work,¹⁵² and (b) has not agreed to, and may not even be aware of, any purported restrictions on its use.¹⁵³ In such circumstances, it is not clear what it means to say that the user “doesn’t have any right to act at all except as the license permits.” Is that the “license” as it appears to the user (or objective observer) or as intended by the copyright owner? Another perspective is that a grant of access that appears to be unrestricted should in fact be unrestricted, and a copyright owner that wants to restrict the terms of a license must get the licensee’s consent or at least ensure that the licensee knows of the restrictions or that the restrictions are intended.

In fact, not only is open-source software often offered through a “Download” button without providing any sort of notice of or requiring any consent to restrictive terms,¹⁵⁴ but it is sometimes offered in a way that emphasizes the freedom that licensees purportedly receive. When a user arrives at SourceForge.net, the banner at the top of the page encourages the user to “Find, Create, and Publish Open Source software for free.”¹⁵⁵ Nothing in that

151. Moglen, *supra* note 31. Many of these claims have been made in the particular context of the Free Software Foundation’s General Public License (GPL):

The GPL, however, is a true copyright license: a unilateral permission, in which no obligations are reciprocally required by the licensor. Copyright holders of computer programs are given, by the Copyright Act, exclusive right to copy, modify and redistribute their programs. The GPL, reduced to its essence, says: “You may copy, modify and redistribute this software, whether modified or unmodified, freely. But if you redistribute it, in modified or unmodified form, your permission extends only to distribution under the terms of this license. If you violate the terms of this license, all permission is withdrawn.”

Pamela Jones, *The GPL Is a License, not a Contract*, LWN.NET (Dec. 3, 2003), <http://lwn.net/Articles/61292/> (quoting Eben Moglen); *see also* Robert Pierce, *Principles of Software Licensing*, THE SOFTWARE LAWYER (Aug. 30, 2009), <http://softwarelawyer.blogspot.com/2009/08/principles-of-software-licensing.html>.

152. *See* Maggiolino & Montagnani, *supra* note 32, at 811 (“[I]t is commonly believed that the computer programs produced and distributed with [open-source software] belong to the public domain.”).

153. *See supra* Part II.B.

154. *See supra* text accompanying notes 44-46.

155. *SourceForge – Download, Develop and Publish Free Open Source Software*, SOURCEFORGE.NET, <http://sourceforge.net/> (last visited Jan. 21, 2013).

slogan—or indeed elsewhere in the general material on the website—alerts users that use of the software that they obtain on the site is subject to restrictions. This marketing approach can easily be understood to provide users with an implied license to unrestricted use of the software.¹⁵⁶

Advocates of bare licensing, like Moglen, actually appear to acknowledge the significance of this point in principle. That is, they do seem to acknowledge, implicitly at least, that binding the user requires consent in some circumstances. But those circumstances, they say, are only present for some open-source licensing:

But it is sometimes said that the GPL [GNU General Public License] can't be enforced because users haven't "accepted" it. This claim is based on a misunderstanding. The license does not require anyone to accept it in order to acquire, install, use, inspect, or even experimentally modify GPL'd software. All of those activities are either forbidden or controlled by proprietary software firms, so they require you to accept a license, including contractual provisions outside the reach of copyright, before you can use their works. The free software movement thinks all those activities are rights, which all users ought to have; we don't even *want* to cover those activities by license. Almost everyone who uses GPL'd software from day to day needs no license, and accepts none. The GPL only obliges you if you distribute software made from GPL'd code, and only needs to be accepted when redistribution occurs.¹⁵⁷

This passage seems to accept that restrictions on redistribution require consent. But Moglen apparently does not mean actual consent: "And because no one can ever redistribute without a license, we can safely presume that anyone redistributing GPL'd software intended to accept the GPL."¹⁵⁸ The flaw in this argument is that a user who obtains a work in a manner that appears to involve the grant of a license without restrictions (like downloading from a site like SourceForge) may not even know of the intended restrictions, let alone "intend[] to accept" them.

156. It has been argued that licensing under the GPL will also grant an implied license to any patents that cover the licensed software. See Adam Pugh & Laura A. Majerus, *Potential Defenses of Implied Patent License Under the GPL*, FENWICK & WEST LLP, http://www.fenwick.com/FenwickDocuments/potential_defenses.pdf. Several authors have argued recently for expansive use of implied copyright licenses. See Orit Fischman Afori, *Implied License: An Emerging New Standard in Copyright Law*, 25 SANTA CLARA COMPUTER & HIGH TECH. L.J. 275 (2009); Raghu Seshadri, *Bridging the Digital Divide: How the Implied License Doctrine Could Narrow the Copynorm-Copyright Gap*, 11 UCLA J.L. & TECH. 1 (2007), available at http://www.lawtechjournal.com/articles/2007/03_071220_seshadri.pdf; John S. Sieman, *Using the Implied License To Inject Common Sense into Digital Copyright*, 85 N.C. L. REV. 885 (2007).

157. Moglen, *supra* note 31.

158. *Id.*

Moglen also seems to derive support for his less-than-strict approach to consent through the claim that the GPL imposes only “a very minor restriction, from the copyright point of view.”¹⁵⁹ There are several flaws in the argument. First, the GPL license in fact imposes more than one restriction, as Moglen explained in a declaration filed in a suit in which the GPL was at issue:

19. If a user wishes to redistribute software she has received under the GPL, whether in modified or unmodified form, the license permits that activity as well. Here, however, the permission is qualified by three primary conditions:

- Redistribution must itself occur under GPL and only GPL, with no additional license conditions. (See Exhibit B, §2(b));
- Redistribution must include “source code,” the human-readable form of computer programs that allows programmers to understand and modify computer programs for themselves, as opposed to “object code,” which is the “machine language” version of computer programs that is very difficult for programmers to understand or modify. (See Exhibit B, §3(a)); and
- Redistribution must include a copy of the GPL, so that users are aware of their rights to use, copy, modify and distribute, and so that anyone engaged in redistribution is also aware of the conditions under which redistribution is permitted. (See Exhibit B, §1).¹⁶⁰

The GPL-license-only restriction is probably the most significant, but the requirement of disclosure of source code is important as well, and has in fact been the focus of some GPL enforcement actions.¹⁶¹

Second, even if only one restriction was imposed, and even if it was minor, it is not at all clear that there is some sort of *de minimis* exception for imposing binding restrictions on licensees. Though he is not clear, Moglen appears to argue that multiple or major restrictions would require a contract, but single, minor restrictions do not.¹⁶² He

159. *Id.*

160. Declaration of Eben Moglen in Support of Defendant’s Motion for a Preliminary Injunction on Its Counterclaims ¶ 19, *Progress Software Corp. v. MySQL AB*, 195 F. Supp. 2d 328 (D. Mass. 2002) (No. 01-CV-11031), available at <http://www.gnu.org/press/mysql-affidavit.pdf> [hereinafter *Moglen Declaration*].

161. See McGowan, *supra* note 19, at 210-11 (contrasting the GPL with other licenses which impose obligations that are “mild and undemanding”).

162. In the preceding paragraph in the same declaration, Moglen actually made comments suggesting that users must “accept” licenses for restrictions to be enforceable:

18. The GPL is a very simple form of copyright license, as compared to other current standards in the software industry, because it involves no contractual obligations. Most software licenses begin with the exclusive rights conveyed to authors under copyright law, and then allow others access to the copyrighted work only under additional contractual conditions. The GPL, on the other hand, actually *subtracts* from the author’s usual exclusive rights under copyright law, through the granting of unilateral permissions. When a work of copyrighted software is released under the GPL, all persons everywhere observing its terms are unilaterally permitted all rights to use, copy, and modify the software. Because these permissions are unilaterally given, users who wish only to use

cites no case for this proposition, and I am aware of none that would support it. Indeed, there is a certain irony in this claim, given that it is made in support of the claim that the restrictions could be the basis of infringement suits. If the restrictions were truly minor, copyright owners presumably would not bother to enforce them.

In the end then, there is no doctrinal support for the “bare license” approach, at least in the U.S.¹⁶³ The issue is more closely approached in two German cases.¹⁶⁴ In each, the court expressed uncertainty regarding the validity of the GPL license restrictions,¹⁶⁵ but noted that if the licensee had not entered into a valid license, then any use of the software would be illegal.¹⁶⁶ This conclusion has been criticized, however: “On the face of it, that sounds plausible, but it is not. If somebody offers software on the Internet for downloading and links the download with invalid general terms, he can hardly sue for copyright infringement.”¹⁶⁷ There is no discussion in the German cases of an implied license theory, which could serve to permit access by those who download software from a website without notice of any restrictions, let alone invalid ones.¹⁶⁸

the software themselves, making copies for their own use, or who wish only to make derivative works for their own use, do not have to “accept” the license, because they have no reciprocal obligations under it.

Moglen Declaration, *supra* note 160, ¶ 18.

163. This Article focuses on the law in the United States. For discussions of the law in other jurisdictions, see, for example, Andrés Guadamuz-González, *The License/Contract Dichotomy in Open Licenses: A Comparative Analysis*, 30 U. LA VERNE L. REV. 296 (2009); Herkko A. Hietanen, *A License or a Contract: Analyzing the Nature of Creative Commons Licenses* (July 20, 2008), available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1029366; Metzger & Jaeger, *supra* note 139; Jennifer Buchanan O'Neill & Christopher J. Gaspar, *What Can Decisions by European Courts Teach Us About the Future of Open-Source Litigation in the United States*, 38 AIPLA Q.J. 437 (2010).

164. See sources cited *supra* note 107; Landgericht München I [LG München I] [District Court of Munich I] May 19, 2004, No. 21 O6123/04 at 8 (Ger.), available at http://www.jbb.de/fileadmin/download/urteil_lg_muenchen_gpl.pdf [hereinafter *Munich District Court*], unofficial translation available at http://www.jbb.de/fileadmin/download/judgment_dc_munich_gpl.pdf [hereinafter *Munich District Court translation*].

165. One commentator noted that the Munich District Court did not consider whether a contract had been formed: “The fact that the Court jumped straight to this question, without dealing with the question of whether a contract had been concluded in the first place, can be explained by the fact that the conclusion of the contract had never been disputed by the defendant.” Julian P. Höppner, *The GPL Prevails: An Analysis of the First-Ever Court Decision on the Validity and Effectivity of the GPL*, 4 SCRIPTED 628, 632 (2004).

166. *Frankfurt District Court translation*, *supra* note 107, at 6; *Munich District Court translation*, *supra* note 164, at 12.

167. Thomas Hoeren, *The First-Ever Ruling on the Legal Validity of the GPL—A Critique of the Case*, OXFORD INTERNET INST., http://www.oii.ox.ac.uk/downloads/index.cfm?File=resources/feedback/OIIFB_GPL3_20040903.pdf.

168. See *Frankfurt District Court translation*, *supra* note 107; *Munich District Court translation*, *supra* note 164.

IV. WHY CONTRACTS SHOULD (USUALLY) BE REQUIRED FOR IP LICENSES

Given the lack of clarity in the law and the advocacy of non-contractual licenses, it is important to consider the normative justifications for requiring, or not requiring, licensors to use contracts to bind their licensees to license restrictions. The next two sections discuss two issues that support the requirement of a contract. First, in the absence of contract, the framework for enforcement of licenses is not clear. No other body of law is an obvious choice to fill the gap. Second, in the absence of contract, the variety of possible property interests that could be created by restrictions would impose information costs on transferees, who would have to determine what restrictions were imposed upstream. Although notice of restrictions might seem like a sufficient solution to these problems, Part IV.C argues that it poses its own problems, so that contract is the better solution. A contract requirement may be too burdensome, however, for transfers to downstream licensees. As a result, this Article proposes an alternative: secondary liability, which requires an intent to induce infringement. The intent requirement here would substitute for contractual consent, and this approach would not interfere with IP owners' achievement of their legitimate goals in enforcing their rights.

A. Interpretation and Enforcement

If licenses need not be contracts, it is not clear under what body of law they would be enforced. Although some license restrictions may be easy or uncontroversial to interpret under whatever body of law is used, others may be less clear. For example, some websites specify a particular type of license for computer software, but they do not indicate which version of the license is applicable.¹⁶⁹ What body of law should apply in such circumstances to determine which version applies, or even to determine if the uncertainty makes the "license" unenforceable?

Consider, for example, an issue that arose in the *Progress Software* litigation, which involved the GPL and an allegation that a party had distributed software without complying with the GPL's requirement that source code be made available.¹⁷⁰ Eben Moglen, who was responsible for enforcement of the GPL for the Free Software Foundation (FSF),¹⁷¹ argued for the FSF that failure to comply with the GPL terminates distribution rights of a person failing to comply and that those rights cannot be reinstated without some sort of

169. See *supra* text accompanying notes 46-47.

170. *Progress Software Corp. v. MySQL AB*, 195 F. Supp. 2d 328, 329 (D. Mass. 2002).

171. See *Moglen Declaration*, *supra* note 160, ¶ 24.

affirmative action by the copyright holder.¹⁷² But where the software is continuously made available to the public under the GPL, it seems that the formerly non-complying licensee, like everyone else, should be able at any time to begin distributing software in compliance with the license. The FSF's position presumably relies on a view that some body of law prohibits that option, but it does not identify that body of law.¹⁷³ In an order granting partial summary judgment, the *Progress Software* judge seemed to imply that the breach could be "cured" by subsequent compliance. Like the FSF though, the judge did not make clear from what body of law she derived the "cure" principle.¹⁷⁴

Whether the "cure" option, specifically, is available is not the important issue. The issue is whether this question should be answered by reference to contract law, copyright law, or some other body of law, like a "law of bare IP licenses." In fact, the "cure" concept employed in *Progress Software* appears to be derived from contract law. The *Restatement (Second) of Contracts* provides that "it is a condition of each party's remaining duties . . . that there be no uncured material failure by the other party."¹⁷⁵ Although what would be required for a breaching party to cure a license violation may not always be clear, it seems clear that the contract-law concept of cure does not require any sort of action by the nonbreaching party, or permit it to refuse to accept an otherwise valid cure. Thus, the *Progress Software* judge appeared implicitly to apply contract law rather than Professor Moglen's somewhat different approach.

One might object that, regardless of what body of law applies, limitations and provisions that are incorporated in the license would be enforced. That would generally be true, but the section of the GPL on which Moglen relied, § 4 of version 2,¹⁷⁶ does not in fact provide for any particular means of reinstating license rights. The portion of the section on which he apparently relied states only that "[a]ny attempt [not permitted by the license] to copy, modify, sublicense or distribute the Program is void, and will automatically terminate your rights

172. See *Moglen Declaration*, *supra* note 160, ¶ 22 ("Under §4, any licensee who violates the GPL loses his right of distribution, until such time as that right is restored by affirmative act of the copyright holder.").

173. This issue was also important in the Best Buy litigation. See *supra* text accompanying notes 6-10. Several recent blog entries highlighted the issue with reference to Android, but they did not discuss the validity of the claim that the copyright owner can demand affirmative action. See Edward J. Naughton, *License Revoked: Applying Section 4 of the GPL and the Lessons of Best Buy to Google's Android*, EMERGING TECH. BLOG (Aug. 8, 2011), <http://brownrudnick.com/blog/emerging-technologies/license-revoked-applying-section-4-of-the-gpl-and-the-lessons-of-best-buy-to-googles-android/>.

174. The judge said only that she was "not persuaded based on this record that the release of the Gemini source code in July 2001 didn't cure the breach." *Progress Software*, 195 F. Supp. 2d at 329. Although the use of the word "breach" might be read to suggest a contract analysis, the same word might be used if a license were only a property concept.

175. *Restatement (Second) of Contracts* § 237 (1981).

176. See *supra* note 172 and accompanying text.

under this License.”¹⁷⁷ Because this section does not require an affirmative act by the copyright owner for reinstatement of the license, Moglen’s claim that such a requirement existed was presumably derived from some background rule of law (though he did not identify that rule).

The need for such background rules is common, of course. Many contract cases turn on issues for which the parties have not provided expressed provisions, so that interpretation often relies on factors from outside the four corners of the contract, such as trade usage. More to the point, contract law has rules (or meta-rules) for how the interpretation process is conducted and when different sources for applicable rules can be used.¹⁷⁸ If IP licenses are not governed by contract law, it is not clear where courts could turn for such rules. Moreover, to turn to some other body of law would be especially odd because licenses that *are* contracts surely would be governed by contract law.¹⁷⁹ The idea that contractual licenses would continue to be governed by contract law but that “bare licenses” would be governed by some other body of law has little to recommend it.

To be sure, courts need not require the niceties of contract law to justify using contract law to interpret licenses:

It may be that bare licenses will be interpreted by the courts under contract law principles, even in the absence of the contract

177. *GNU General Public License*, *supra* note 8. The full section reads as follows:

You may not copy, modify, sublicense, or distribute the Program except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense or distribute the Program is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.

Id.

178. Lawrence Rosen makes this point in drawing a distinction between bare licenses and contracts:

In the absence of a contract, the terms and conditions of a bare license may be subject to varying court interpretations around the world. . . .

. . . .
Contract law, unlike copyright and patent law, provides procedures and rules for license interpretation and enforcement. Contract law, in the published court decisions and in the statutes adopted by legislatures around the world, addresses almost every possible term or condition a lawyer could dream up for a contract. Contract law specifies how contracts are to be formed, how they are to be interpreted, how they are to be enforced, and the remedies for breach. In many situations, where a license is silent about a particular term or condition, contract law even provides default “fill-in” provisions.

ROSEN, *supra* note 31, at 55, 57-58.

179. For patent law, see, for example, *Power Lift, Inc. v. Weatherford Nipple-Up Sys., Inc.*, 871 F.2d 1082, 1085 (Fed. Cir. 1989) (“A license agreement is a contract governed by ordinary principles of state contract law.”). For copyright, see, for example, *ProCD, Inc. v. Zeidenberg*, 86 F.3d 1447, 1450 (7th Cir. 1996) (“Following the district court, we treat the licenses as ordinary contracts accompanying the sale of products, and therefore as governed by the common law of contracts and the Uniform Commercial Code.”).

formalities of offer, acceptance, and consideration. After all, major software companies around the world distribute open source software as part of their products; those open source licenses may be technically and economically impossible to revoke. Furthermore, in commercial dealings of any significance worthy of being turned into litigation, there are almost certainly other aspects of *offer*, *acceptance*, and *consideration* that can be invoked by creative lawyers as proof that a contract was formed.¹⁸⁰

This argument resembles the position of Hillman and O'Rourke, who say that “[b]y providing a framework for adjudication that respects the structure of the movement and . . . the importance of intellectual property law to it, contract law provides a measure of certainty that will prevent the inevitable disputes from undermining the movement.”¹⁸¹ It is certainly true that applying contract law, even if no contract was formed, would provide a measure of certainty, but that may not be desirable. Contract law lets parties create their own law, but it assumes the consent of both parties. Even the attenuated evidence of consent that courts require for shrink-wrap and click-wrap licenses has some minimal requirements, and as discussed above,¹⁸² many open-source licenses do not meet these requirements. If instead the IP owner is permitted to set the terms of a “bare license” unilaterally, a sufficient justification for enforcing those terms may not exist. That is, it may not be legitimate for open-source advocates to seek the interpretive benefits of contract law without accepting even its minimal formation burdens. In fact, they do not rely on contract law, at least explicitly, or indeed on any other specific body of law.

Some commentary suggests other avenues for enforcing bare licenses:

A bare license—which, by definition, is not a part of a contract—must be enforced outside the rubric of contract law. A bare license is enforceable by the licensee under either equity concepts such as *promissory estoppel* or, alternatively, under property law that independently recognizes the effectiveness of licenses as a means for unbundling and sharing ownership interests.¹⁸³

180. ROSEN, *supra* note 31, at 278.

181. Hillman & O'Rourke, *supra* note 146, at 332. Hillman and O'Rourke are also the Reporter and Associate Reporter, respectively, for the ALI's Principles of the Law of Software Contracts. In a recent article discussing the Principles, they state that they “apply to software transfers supported by consideration, meaning software contracts, including contracts denominated as licenses, sales, or access contracts.” Robert A. Hillman & Maureen A. O'Rourke, *Principles of the Law of Software Contracts: Some Highlights*, 84 TUL. L. REV. 1519, 1522 (2010).

182. *See supra* text accompanying note 137.

183. Pierce, *supra* note 151.

Enforcement through property law is certainly an option,¹⁸⁴ but may not provide a useful interpretive apparatus. Although the common law of real property has developed rules for real property licenses, there is a dearth of tangible property cases concerning *restrictive* licenses,¹⁸⁵ which is the particular issue most relevant in the IP context. In any event, there is no such common law of intellectual property, which has always used contract law to interpret licenses. To be sure, a property law of IP licensing could develop either independently or as part of patent law, copyright law, or both. We are not yet at a point though, where intellectual property is “property law that independently [presumably meaning independently of contract law] recognizes the effectiveness of licenses”¹⁸⁶

Moreover, it is not clear that even open-source advocates would want licenses to be interpreted under IP law. One such advocate says that “[m]ost free software licenses are based on copyright law, and for good reason: Copyright law is much more uniform among countries than contract law, which is the other possible choice.”¹⁸⁷ This claim is questionable in several respects. First, it is not obviously true, even on its own terms.¹⁸⁸ Second, the relevant question is not whether

184. It is not so clear that promissory estoppel is a valid approach to license enforcement, even if it is put in italics. Promissory estoppel is a contract doctrine that allows reliance on a promise to substitute for consideration and allows formation of a contract, but that formation still requires an offer and acceptance. Perhaps the suggestion is only that when offer and acceptance are present, a bare license could be enforced even absent consideration through promissory estoppel. That is presumably true, but it is not clear that the typical license situation satisfies the usual promissory estoppel standard.

Under the *Restatement (Second) of Contracts*, a promise that can be enforced via promissory estoppel is one “which the promisor should reasonably expect to induce action or forbearance on the part of the promisee or a third person and which does induce such action or forbearance” RESTATEMENT (SECOND) OF CONTRACTS § 90 (1981). The usual scenario is that of a gift promise that induces reliance on the potential donee. In the open-source context though, the only promise is the IP owner’s promise not to sue if the licensee uses the IP as directed. Open-source advocates take pains to point out that in many open-source licenses the licensee makes no promise. However, there is then no promise that would bring the doctrine of promissory estoppel into play. Lydia Pallas Loren argues that the *licensor’s* promise could be enforced through promissory estoppel. Focusing on whether a promise to grant an irrevocable license—or irrevocable promise not to sue—is binding, she says, “uses which involve attribution, identifying the license status, and release of a derivative work under the share-alike requirements, should constitute sufficient detriment to make the promise of non-revocability enforceable.” Lydia Pallas Loren, *Building a Reliable Semicommons of Creative Works: Enforcement of Creative Commons Licenses and Limited Abandonment of Copyright*, 14 GEO. MASON L. REV. 271, 318 (2007). But it is still the case that the licensee has made no promise to be enforced.

185. See *supra* Part III.A.

186. Pierce, *supra* note 151.

187. Stallman, *supra* note 29.

188. Richard Stallman, the author of this claim, does not offer any support for it, and Lawrence Rosen takes issue with it:

Some suggest that since contract law varies around the world, open-source contributors and distributors should rely exclusively on consistent copyright and patent law for their licenses. But the varieties of contract law are exaggerated, as are the similarities of copyright and patent law around the

contract law is uniform, but whether contract-law interpretation of similar terms would be uniform. It seems at least possible that contract law, a body of law whose purpose is to let parties define their own legal relationships, would result in more uniform interpretations than would copyright.

B. Information Costs

Another form of uncertainty would be created if property law applied to licenses in the absence of contract. As described above, in the absence of contract a licensee will often have no way of knowing at the time of acquiring intellectual property what restrictions the licensor seeks to impose. This presents a problem not only when violations of the restrictions are sought to be enforced but also when licensees consider entering into licenses. As in other contexts, the presence of information costs creates a burden for the formation of productive relationships.

In a series of articles, Thomas Merrill and Henry Smith have outlined the relative costs of property law and contract law in a variety of circumstances, and the balance weighs in favor of contract law for IP licenses.¹⁸⁹ The key feature of property rights is that they are rights *in rem* that can be enforced against anyone who violates them. Hence, all potential violators/infringers must consider those rights, and to the extent that the rights are uncertain or unclear, the total societal costs of avoiding violation/infringement are dramatic.¹⁹⁰ Contract, in contrast, binds only those who have consented to the contract, and they presumably are aware of the limits of their rights.¹⁹¹

One of the examples offered by Merrill and Smith is very similar to a restrictive license:

Suppose one hundred people own watches. A is the sole owner of a watch and wants to transfer some or all of the rights to use the watch to B. The law of personal property allows the sale of A's entire interest in the watch, or the sale of a life estate in the watch, or the sale of a joint tenancy or tenancy in common in the

world. The global requirement for consistency of commercial transactions—a requirement of the capitalist market system—helps ensure that contracts are interpreted in much the same way around the world. Meanwhile copyright law is *not* consistent; the courts around the world, for example, don't agree on what constitutes a derivative work of software.

ROSEN, *supra* note 31, at 58.

189. See Thomas W. Merrill & Henry E. Smith, *Optimal Standardization in the Law of Property: The Numerus Clausus Principle*, 110 YALE L.J. 1, 3-4 (2000) [hereinafter *Optimal Standardization*]; Merrill & Smith, *supra* note 22, at 776-77; Henry E. Smith, *Intellectual Property as Property: Delineating Entitlements in Information*, 116 YALE L.J. 1742, 1765-67 (2007).

190. See, e.g., Merrill & Smith, *supra* note 22, at 777.

191. *Id.*

watch. But suppose *A* wants to create a “time-share” in the watch, which would allow *B* to use the watch on Mondays but only on Mondays (with *A* retaining for now the rights to the watch on all other days). As a matter of contract law, *A* and *B* are perfectly free to enter into such an idiosyncratic agreement. But *A* and *B* are not permitted by the law of personal property to create a *property right* in the use of the watch on Mondays only and to transfer this property right from *A* to *B*.

Why might the law restrict the freedom of *A* and *B* to create such an unusual property right? Suppose, counterfactually, that such idiosyncratic property rights are permitted. Word spreads that someone has sold a Monday right in a watch, but not which of the one hundred owners did so. If *A* now decides to sell his watch, he will have to explain that it does not include Monday rights, and this will reduce the attractiveness of the watch to potential buyers. Presumably, however, *A* will foresee this when he sells the Monday rights, and is willing to bear the cost of that action in the form of a lower sales price. But consider what will happen now when any of the *other* ninety-nine watch owners try to sell their watches. Given the awareness that someone has created a Monday-only right, anyone else buying a watch must now also investigate whether any particular watch does not include Monday rights. Thus, by allowing even one person to create an idiosyncratic property right, the information processing costs of all persons who have existing or potential interests in this type of property go up.¹⁹²

This hypothetical is quite similar to some post-sale patent license restrictions. Some restrictive practices address the informational issue to some extent, as did the placement of a “single use only” inscription on the patentee’s product in the *Mallinckrodt* case described above, but others do not. For example, seed manufacturers sometimes sell their patented seeds in bags that bear use restrictions, but of course the seeds themselves cannot bear the same restrictions.¹⁹³ Indeed, in a case currently before the Supreme Court, the alleged patent infringer obtained patented, but unlabeled seed, from a grain elevator.¹⁹⁴ Moreover, a seller that seeks to avoid license restrictions could remove a label notice, making it extremely difficult for an unsuspecting purchaser to determine that the product is protected. It is one thing to apply patent law’s strict liability approach to eliminate an “innocent infringer” defense when patents are public records; it is quite another to use it to create a trap for the unwary when there is no centralized database for license restrictions.

192. *Optimal Standardization*, *supra* note 189, at 27.

193. See *Monsanto Co. v. Scruggs*, 459 F.3d 1328, 1336 (Fed. Cir. 2006); *Monsanto Co. v. McFarling*, 363 F.3d 1336, 1343-44 (Fed. Cir. 2004).

194. See *Bowman v. Monsanto Co.*, 657 F.3d 1341 (Fed. Cir. 2011), *cert. granted*, 80 U.S.L.W. 3380 (U.S. Oct. 5, 2012) (No. 11-796).

The problem illustrated by Merrill and Smith's hypothetical is also present in open-source licensing. As in their hypothetical, there are different versions of open-source licenses. Even the GNU General Public License has had three different versions, plus other variations, and, as described above,¹⁹⁵ copyright owners sometimes do not specify which version is applicable. This can create significant uncertainty, as illustrated in this question and answer from the FAQs for GPL version 3:

My company owns a lot of patents. Over the years we've contributed code to projects under "GPL version 2 or any later version", and the project itself has been distributed under the same terms. If a user decides to take the project's code (incorporating my contributions) under GPLv3, does that mean I've automatically granted GPLv3's explicit patent license to that user? . . .

No. When you convey GPLed software, you must follow the terms and conditions of one particular version of the license. When you do so, that version defines the obligations you have. If users may also elect to use later versions of the GPL, that's merely an additional permission they have—it does not require you to fulfill the terms of the later version of the GPL as well.¹⁹⁶

The problem here is that it seems impossible to determine which version of GPL would be applicable. As the question is posed, the company has never specified to those using its code which version applied. Indeed, a company could license software under the GPL without making a decision about which version is applicable. And the answer expresses no concern about whether the patent-licensing provisions of GPL version 3 are applicable, or even about whether a user making a decision whether to use the code would be able to determine whether they would be applicable. Even though a user knows that some version of the GPL is applicable, it cannot know which version that is, and therefore, it cannot know which licensing provisions apply.

Molly Van Houweling presents a more detailed discussion of notice and information costs in the context of IP licensing, comparing license restrictions to personal property servitudes.¹⁹⁷ Like Merrill and Smith, she notes the costs of such servitudes:

The information costs (and resultant clogging of transactions) imposed by chattel servitudes may not be different in kind from the costs that can be imposed by bilateral contracts (which are also often unread, misunderstood, and not fully contemplated). . . . But servitudes (including nominal "contracts" that behave like servitudes

195. See *supra* text accompanying notes 46-47.

196. Free Software Found., *Frequently Asked Questions about the GNU Licenses*, GNU OPERATING SYS., <http://www.gnu.org/licenses/gpl-faq.html> (last visited Jan. 21, 2013).

197. Van Houweling, *supra* note 53, at 932-39.

by running automatically to every possessor of an object to which their terms are attached) exacerbate and magnify what might otherwise be a problem of limited duration and scope.¹⁹⁸

She is ambivalent when it comes to considering the analogous effect of licensing restrictions: “When we turn to running restrictions imposed on computer software and other intangible works (and on the objects embodying them), the notice and information-cost calculus becomes yet more complicated.”¹⁹⁹ Her ambivalence derives from the fact that most such restrictions do not go beyond the protections granted by copyright.²⁰⁰

That seems like the wrong question. The question is not whether licensees are restricted from conduct in which they could engage with no copyright license, but whether they are restricted from conduct in which they might reasonably believe they could engage, given how they obtained the licensed product. Here, Van Houweling points out that licensors “impose these restrictions in the context of inexpensive transactions in which restrictive terms are bundled with access to unique intellectual assets that are partially insulated from competition—thereby reducing consumers’ motivation and opportunity to fully understand and compare terms.”²⁰¹ This is to some extent a circular question, of course, but as she says with regard to tangible property, non-contractual restrictive terms are problematic “because people are conditioned to associate possession with certain rights of use and transfer, and because the high salience of immediate possession is likely to swamp accompanying terms.”²⁰² It seems likely that the same expectations accompany intellectual property, at least in the absence of prior notice or consent.

C. Consent and Notice

The most obvious solution to the interpretation and enforcement problems described in the previous sections is simply to require that license restrictions be imposed by contract. Not everyone would agree, of course, and a simple statement of the counterargument for this solution has been offered by Richard Stallman, one of the founders of the free software movement: “There’s another reason not to use contract law: It would require every distributor to get a user’s formal assent to the contract before providing a copy. To hand

198. *Id.* at 916.

199. *Id.* at 933.

200. *Id.* at 935-39.

201. *Id.* at 938.

202. *Id.* at 916.

someone a CD without getting his signature first would be forbidden. What a pain in the neck!”²⁰³

Stallman presumably does not believe that it is appropriate to impose restrictions on licensees without providing them at least with notice of the restrictions. Indeed, no one seems to argue that notice should be unnecessary; instead, the presence of notice seems to be assumed.²⁰⁴ That assumption though, is surely incorrect, particularly for downstream transferees that may have no direct contact with the IP owner, and are thus less likely to have notice of the IP owner’s intentions. Lydia Pallas Loren has observed that “[m]any works licensed under Creative Commons licenses are freely available on the internet,” and because access often does not require an affirmative act like clicking on an “I agree” button, “[i]t is entirely plausible for an individual to engage in activity that the license deems to be manifestation of assent without awareness of the license.”²⁰⁵ More importantly, “a user may be unaware of the offer because she has accessed a copy of the work that did not contain a notice of the license’s existence.”²⁰⁶

The problem with notice as a test for enforceability is that there is no “law of notice.” In that respect, echoing the “if not contract, what?” arguments discussed above, even if notice is the goal, the use of contract may be the most efficient means of attaining that goal. Contract law has well-established rules for determining whether terms have been accepted, and though the law of contract has developed (or devolved) to the point where acceptance may not be compelling evidence of notice,²⁰⁷ the current contractual rules are now well-established and apparently reflect a determination of what level of notice is sufficient. Contrary to Stallman’s claim, the avenues the law provides for the imposition of standard terms through form contracts and click-wrap licenses should hardly be a pain in the neck, even for the most sensitive licensor.

203. Stallman, *supra* note 29. It is not the case, of course, that with a contract requirement an IP owner would need to get a transferee’s consent, let alone its assent, every time the owner wanted to transfer its IP. The owner would need to do so only if it wanted to restrict the transferee’s use of the IP in some way.

204. See Moglen, *supra* note 31 (“After all, the GPL requires each copy of covered software to include the license text, so everyone is fully informed.”). This is unrealistic, of course. The fact that a license requirement exists does not mean that all users are aware of it.

205. Loren, *supra* note 184, at 311.

206. *Id.*

207. Van Houweling makes this point:

The problem that remains, however, is that even explicit and firmly attached notice is not effective for people who do not read it or fully integrate it into their decisions. This is, of course, a potential problem with traditional, bilateral contracts as well—one to which contract doctrine is not normally very sympathetic.

Van Houweling, *supra* note 53, at 933.

Indeed, the use of standard contracts may avoid more fundamental problems that a notice approach would present, as the Supreme Court's recent decision in *Quanta* illustrates. In *Quanta*, the patentee, LG, licensed its invention to Intel with a contractual provision requiring Intel to provide a notice to its customers stating that the purchase of the patented product from Intel did not give the customers the rights to use it with non-Intel components.²⁰⁸ Intel's license from LG did not, however, prohibit Intel from selling the patented product to unlicensed customers.²⁰⁹ As a result, the Court found that the authorized sale exhausted LG's rights, and the downstream customers were not in fact subject to the purported restriction in the notice they received from Intel.²¹⁰

The key point is that the purchasers from Intel, despite having received notices stating that certain uses of the products that they purchased would be infringing, were in fact freely able to use those products, free of restrictions and free of infringement liability. The only way for them to know that, however, was for them to investigate both Intel's conduct and the transaction between LG and Intel to determine whether Intel's sales were consistent with its contractual obligations. Notice, in other words, can be false notice, and it is costly, if not impossible, for licensees to determine the validity of the notices they receive.

In *Quanta*, this problem was created in part because the purchasers were downstream licensees that did not purchase directly from the patentee, but the same problem could arise for direct licensees. For example, suppose a patentee provided its licensees with notice that certain conduct was prohibited, when in fact that conduct was permissible under patent law.²¹¹ In that case, the notice

208. *Quanta Computer, Inc. v. LG Elecs., Inc.*, 553 U.S. 617, 623-24 (2008).

209. *Id.* at 636.

210. *Id.* at 637-38. The same rule presumably applies to other products. Two commentators have suggested, however, that the result might be different for seeds: "The question of whether a bag tag license affirmatively restricts downstream use of the product or merely provides notice has not yet been addressed in view of *Quanta*." Tanya D'Souza & Denise Kettelberger, *Patent Exhaustion: Implications of Quanta on Seed Licenses and Downstream Purchasers*, 3 BLOOMBERG L. REP. INTELL. PROP. 6, 7 (2009), available at <http://www.faegre.com/webfiles/Bloomberg%20IP%20Law%20Report%20092109.pdf>.

Quanta in fact seems quite clear on this issue: a bag tag on seeds cannot itself impose restrictions, but can only provide notice that might carry upstream infringement liability downstream. That upstream infringement, however, can only derive from violation of a contractual provision, not from nonconformity with notices. Thus, when the same authors say that "[p]urchasers of seed take the product with the same restrictions of sale imposed on the first purchaser in the chain," *id.*, that does not appear to be correct. They take the product with restrictions only if the restrictions are incorporated in a contract.

211. This hypothetical might in fact have been presented by the *Mallinckrodt* case discussed above. The "single use only" restriction might have conflicted with the right that patent law gives to purchasers to repair (though not to "reconstruct") the patented products they purchase. See *Aro Mfg. Co. v. Convertible Top Replacement Co.*, 365 U.S. 336 (1961). The Federal Circuit in *Mallinckrodt* stated that the patentee was permitted to eliminate

would be false, and it presumably would not restrict the licensee, perhaps contrary to the expectation of the patentee. But if the licensee agreed to the restriction, the argument that it would be binding is more compelling. In that case, it would raise difficult questions about preemption of the contractual restriction by patent law, but the difficulty would not be compounded by the question of the validity of the notice.

D. Downstream Users and Secondary Infringement

A contract requirement poses significant problems, however, when products pass to downstream users. Although an IP owner generally will not find it prohibitively difficult to enter into contracts with its immediate purchasers and licensees, those purchasers and licensees may themselves pass on products without imposing similar contractual restrictions. Even advocates of a notice approach recognize this problem. In recent work, Herbert Hovenkamp has said that “a notice requirement seems much more suitable to the problem than the more draconian route of forbidding such restraints altogether,”²¹² but he seems to harbor some doubts. He notes that in one of the Supreme Court’s first-sale cases, *Henry v. A.B. Dick Co.*,²¹³ the defendant was not a purchaser of the patented product (ink), but a seller to the purchaser whose use violated the license restriction.²¹⁴ Although the Court said that the ink seller had knowledge of the license restriction,²¹⁵ Hovenkamp notes that “ordinarily an office supply store selling ink would not be in a position to know what kind of notice is printed on an ink-consuming machine back at the purchaser’s office.”²¹⁶ Other cases pose similar issues.

This contingency of notice would lead to different treatment for similarly situated parties who make the same contribution to infringement,²¹⁷ depending on whether they have notice of the

the right of repair by imposition of the “single use only” restriction, *Mallinckrodt, Inc. v. Medipart, Inc.*, 976 F.2d 700, 709 (Fed. Cir. 1992), but that is likely incorrect. See Mark R. Patterson, *Contractual Expansion of the Scope of Patent Infringement Through Field-of-use Licensing*, 49 WM. & MARY L. REV. 157, 171, 193-200 (2007).

212. Hovenkamp, *supra* note 28, at 521.

213. 224 U.S. 1 (1912).

214. Hovenkamp, *supra* note 28, at 518.

215. *A.B. Dick*, 224 U.S. at 11-12.

216. Hovenkamp, *supra* note 28, at 518.

217. It also could be inconsistent, at least in a case like *A.B. Dick*, with the law of contributory infringement, which requires not just knowledge of the infringement, but sale of a component “constituting a material part of the invention” and “especially made or especially adapted for use in an infringement . . . and not a staple article or commodity of commerce.” 35 U.S.C. § 271(c) (2006). In a case like *Mallinckrodt, Inc. v. Medipart, Inc.*, where the third party’s activity would directly infringe, there would be no such problem. 976 F.2d 700 (Fed. Cir. 1992).

restrictions at issue. That is not necessarily a problem: it is exactly what is contemplated by a notice requirement. So long as we believe that being on notice correlates with culpability,²¹⁸ or we at least believe that any discrepancies are not sufficiently unfair or otherwise undesirable, the difference in legal treatment can be tolerated. But if notice were an accepted part of the law,²¹⁹ parties would diligently seek to avoid notice of post-sale restrictions, and proof of notice would become central to infringement actions. As noted above, the law relating to such proof is not currently well-developed, so this area would be subject to much uncertainty.²²⁰

More fundamentally, notice is an imperfect proxy for culpability. In fact, IP law has developed its own approach to imposing liability on indirect users, and that approach does not rely purely on notice. Secondary infringement theories impose liability on parties that promote infringement by others, which the law presumably has determined strikes a better balance between culpability and innocent infringement.²²¹ In the absence of a contractual license, then, IP owners

218. In this respect, it is worth noting that copyright law provides an “innocent infringer” defense that provides for a reduction of damages when the “infringer was not aware and had no reason to believe that his or her acts constituted an infringement of copyright.” 17 U.S.C. § 504(c)(2) (2006). Although this defense does not eliminate liability, it reflects an understanding that the copyright owner has some responsibility for ensuring that others are aware of the circumstances that will constitute infringement. It also seems well-adapted to the situation in which a defendant has innocently exceeded the scope of a license, although a search did not locate any case in which it was applied in that context. *Cf. Encore Entm’t, LLC v. KIDdesigns, Inc.*, 2005 WL 2249897, at *10-13 (M.D. Tenn. 2005) (mentioning, though apparently not considering, innocent infringement where a defendant claimed that it believed that the allegedly infringing conduct was within the scope of its licenses).

219. Because a violation of a post-sale restriction could occur in many circumstances that would not constitute contributory infringement, *see supra* text accompanying notes 6-10, proof of notice would become important in a much broader range of cases.

220. *See supra* Part IV.C.

221. This approach, which balances the need for IP owners to control distribution of their products against the costs of post-sale restrictions, echoes the balance arguably struck by statute for importation of protected goods. The issue of the importation and resale of copyrighted books manufactured abroad is currently before the Supreme Court in *John Wiley & Sons, Inc. v. Kirtsaeng*, 654 F.3d 210 (2d Cir. 2011), *cert. granted*, 132 S. Ct. 1905 (U.S. Apr. 16, 2012) (No. 11-697). In that case, the Solicitor General, like others, argues that the best reading of the Copyright Act is one that does not treat foreign sales of foreign-made works as exhausting the copyright owner’s rights but that does treat authorized importation of such works to the U.S. as sales that exhaust the owner’s rights. *See* Brief for the United States as Amicus Curiae Supporting Respondent at 7-13, *Kirtsaeng v. John Wiley & Sons, Inc.*, No. 11-697 (U.S. Sept. 7, 2012). Although the arguments in the Solicitor General’s brief are primarily statutory, it also addresses the policy concerns about downstream control of IP, touching on some of the issues discussed in this Article. *See id.* at 26-30. In a forthcoming Article, Professor Guy Rub makes those issues more explicit, arguing for a similar result but specifically relying on factors that are important in evaluating claims of secondary infringement. *See* Guy A. Rub, *The Economics of Kirtsaeng v. John Wiley & Sons: The Efficiency of a Balanced Approach to the First Sale Doctrine*, 81 *FORDHAM L. REV. RES. GESTAE* (forthcoming 2013) (manuscript at 13), available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2189955, (“[M]ost importers know that the goods being imported are manufactured abroad and in fact there

should be required to rely on these theories. Liability based on notice alone disturbs the balance that IP law has developed.

1. *Intentional Inducement and Notice*

One approach to the problem of downstream users that are not contractually bound would be to allow them to use the products free of liability, as suggested by the dissenting opinion of Justice Black in *General Talking Pictures*:

Petitioner is held liable for using an ordinary vacuum amplifying tube bought from one who had title and the right to sell. Notice to petitioner that the vendor was violating *its* (the vendor's) contract with respondents gave the latter no right *under the patent* and imposed no responsibility on the petitioner *under the patent*. Petitioner became the owner of the tubes.

At this time a great portion of the common articles of commerce and trade is patented. A large part of the machinery and equipment used in producing goods throughout the country is patented. Many small parts essential to the operation of machinery are patented. Patented articles are everywhere. Those who acquire control of numerous patents, covering wide fields of industry and business, can—by virtue of their patents—wield tremendous influence on the commercial life of the nation. If the exclusive patent privilege to “make, use and vend” includes the further privilege after sale, to control—apart from contract—the use of all patented merchantable commodities, a still more sweeping power can be exercised by patent owners.²²²

That approach might be valid for some innocent downstream purchasers, but the concern that animates many of the decisions in this area seems to be that of intentional downstream avoidance of license restrictions. This was the view of the majority in *General Talking Pictures*, which unlike Justice Black did not view the defendant, a downstream infringer, as a mere purchaser with notice:

Petitioner puts its first question in affirmative form:

“The owner of a patent cannot, by means of the patent, restrict the use made of a device manufactured under the patent after the device has passed into the hands of a purchaser in the ordinary channels of trade and full consideration paid therefor.”

But that proposition ignores controlling facts. The patent owner did not sell to petitioner the amplifiers in question or authorize the Transformer Company to sell them or any amplifiers for use in

is a reasonable chance that they are aware that their actions conflict with the copyright owner's attempt to segment the market. . . . When it comes to resale markets the balance is different.”)

222. *Gen. Talking Pictures Corp. v. W. Elec. Co.*, 304 U.S. 175, 186 (1938) (Black, J., dissenting).

theaters or any other commercial use. The sales made by the Transformer Company to petitioner were outside the scope of its license and not under the patent. Both parties knew that fact at the time of the transactions.

There is no ground for the assumption that petitioner was “a purchaser in the ordinary channels of trade.”²²³

Thus, the Supreme Court relied not only on the defendant’s knowledge that it was violating the license restriction, though it was not contractually bound, but also its knowledge that the original licensee, which *was* contractually bound, was also violating it. Moreover, the Court’s rejection of the idea that the defendant was “a purchaser in the ordinary channels of trade”²²⁴ suggests a view that the defendant’s role in the infringement was not a passive one. Indeed, the Court did not rely purely on the defendant’s notice of infringement: “As petitioner at the time it bought the amplifiers knew that the sales constituted infringement of the patents embodied in them, petitioner’s second question, as to effect of the license notice, need not be considered.”²²⁵

The facts of *General Talking Pictures*, and of other situations in which liability for downstream acquirers seems warranted, fit within the statutory prohibition of inducing infringement: “Whoever actively induces infringement of a patent shall be liable as an infringer.”²²⁶ The Supreme Court recently clarified the law of inducing infringement in *Global-Tech Appliances, Inc. v. SEB S.A.*²²⁷ In *Global-Tech*, the defendant, a subsidiary of Global-Tech, was a Hong Kong-based manufacturer that Sunbeam requested manufacture a deep fryer that met particular specifications. The defendant copied SEB’s patented deep fryer, but the fryer it copied was purchased in Hong Kong and bore no U.S. patent indication. SEB alleged that the defendant had induced Sunbeam to infringe, but the defendant argued that it did not know of SEB’s patent and that knowledge was an essential element of inducement liability under § 271(b).

The Court agreed that the statute “requires knowledge that the induced acts constitute patent infringement,”²²⁸ but said that the knowledge element could be met by willful blindness. The Court stated that willful blindness, in turn, has “two basic requirements: (1) the defendant must subjectively believe that there is a high probability

223. *Id.* at 180-81.

224. *Id.* at 181.

225. *Id.* at 182. The second question to which the Court referred was: “Can a patent owner, merely by a ‘license notice’ attached to a device made under the patent, and sold in the ordinary channels of trade, place an enforceable restriction on the purchaser thereof as to the use to which the purchaser may put the device?” *Id.* at 177.

226. 35 U.S.C. § 271(b) (2006).

227. 131 S. Ct. 2060 (2011).

228. *Id.* at 2068.

that a fact exists and (2) the defendant must take deliberate actions to avoid learning of that fact.”²²⁹ The Court concluded that there was “more than sufficient [evidence] for a jury to find that [the defendant] subjectively believed there was a high probability that SEB’s fryer was patented, that [the defendant] took deliberate steps to avoid knowing that fact, and that it therefore willfully blinded itself to the infringing nature of Sunbeam’s sales.”²³⁰

The same approach could be taken to many violations of restrictive licenses. The key difference lies in the nature of the direct infringement that is induced. In *Global-Tech*, Sunbeam had infringed because it sold infringing products. In the restrictive-license context, the direct infringement is more problematic, because, as noted above, there is no central database for license restrictions as there is for patents. Therefore, for the reasons discussed above, there should be direct infringement, which is the violation of the license restriction, only where the direct infringer has contractually agreed to the restriction. But once there is such a contractual violation, then the inducement theory could apply to others who are not contractually bound.

This is exactly the approach taken by the Court in *General Talking Pictures*. The original licensee violated its contractual license by making sales for commercial use, thus making it a direct infringer.²³¹ Then the buyer from the licensee purchased the products for infringing purposes, making it liable for inducing infringement.²³² That is so, at least, if the buyer, as the Court said in *Global-Tech*, “persuade[d] another to engage in conduct that the inducer knows is infringement.”²³³ The intent aspect of inducement, the Court said, “involve[s] the taking of affirmative steps to bring about the desired result.”²³⁴ That seems an appropriate standard under which to judge parties who violate license restrictions but are not contractually bound by them. Only where their actions contribute to the infringement by another who is contractually bound should the inducer be liable.

In a case like *Mallinckrodt*,²³⁵ for example, if the defendant, which refurbished the “single use only” products, knew of the license violation by the owners,²³⁶ the inducement theory could easily and appropriately be applied. Under the current rule, the fact that the defendant was violating the license restriction is sufficient to establish a violation, regardless of the defendant’s knowledge of the restriction. Focusing on

229. *Id.* at 2070.

230. *Id.* at 2072.

231. *Gen. Talking Pictures Corp. v. W. Elec. Co.*, 304 U.S. 175, 181-82 (1938).

232. *Id.* at 182.

233. *Global-Tech*, 131 S. Ct. at 2065.

234. *Id.*

235. 976 F.2d 700, 702-03 (Fed. Cir. 1992); *see supra* text accompanying notes 37-42.

236. This assumes that using the product more than once *was* a violation. *See supra* note 210.

the notice issue, the Court in *Global-Tech* made clear that the notice must establish “knowledge that the induced acts constitute patent infringement.”²³⁷ Mere notice that the patentee believes that the acts at issue are infringement would not constitute knowledge of infringement, as *Quanta* shows.²³⁸ Instead, what is needed is knowledge that a contractual license restriction has been violated upstream.

Inducement liability also requires the persuasive element of inducement, of course. But it seems clear that in a case like *Mallinckrodt*, the sale of refurbishment services to parties with a license obligation not to refurbish the products would constitute inducement. Here we can turn to the Supreme Court’s recent decision in *Grokster*,²³⁹ where it said that what is required is “clear expression or other affirmative steps taken to foster infringement,” but that “mere knowledge of infringing potential or of actual infringing uses would not be enough”²⁴⁰ Surely the refurbishing of a product to permit an infringing use goes beyond knowledge of the infringement to constitute an affirmative step to foster it.²⁴¹

In the open-source licensing context, however, the facts are not typical of those in which inducement liability is found. Generally speaking, secondary liability cases involve third parties, like the defendants in *Mallinckrodt* and *Grokster*, that provide a good or service to customers that directly infringe.²⁴² In the open-source context, the downstream parties that might be liable for inducement would not be providers to the direct infringers, but customers of them. For example, in the action referred to at the beginning of this article,²⁴³ where the Software Freedom Law Center (SFLC) alleged copyright infringement by Best Buy and other consumer electronics companies for selling products with embedded open-source software, the original contractual license violation, if any, would be the initial failure by an upstream producer to comply with the GPL restrictions. Best Buy, in the absence of a contract with the original software copyright owner, would be liable for infringement only if purchasing and marketing the products incorporating the non-GPL-compliant software constituted inducement of that infringement.

Although this is not the typical inducement context, it nevertheless seems to fit comfortably within the concept, as a leading licensing treatise observes:

237. 131 S. Ct. at 2068.

238. See 553 U.S. 617, 636-37 (2011).

239. *Metro-Goldwyn-Mayer Studios Inc. v. Grokster, Ltd.*, 545 U.S. 913 (2005).

240. *Id.* at 937.

241. Refurbishment might, however, fall within the category of repair, as distinguished from reconstruction. The Supreme Court has established that repair is not infringement. See *supra* text accompanying note 76.

242. See *supra* text accompanying notes 6-10.

243. See *supra* text accompanying notes 235-41.

When a buyer purchases a patented product from a manufacturing licensee in violation of a field-of-use restraint in the latter's license, both parties are likely to be aware of the violation, because the nature of the buyer's business is likely to reveal its intention to violate the restraint. Under those circumstances, the manufacturing licensee should be liable for infringement in knowingly making and selling a patented product in violation of the limits of the license, and the buyer, if aware of the restraint, should be liable for inducing that infringement.²⁴⁴

That is, purchase of a product, if one knows that it was produced in violation of a contractual licensing restriction, is an "affirmative step[] taken to foster infringement."²⁴⁵ Indeed, that hypothetical describes *General Talking Pictures* exactly; although the Court there found liability for direct infringement rather than secondary infringement, § 271(b) of the Patent Act, establishing liability for inducement of infringement, had not yet been enacted when the case was decided.

To establish infringement in its case, then, the SFLC would need to do three things. First, it would need to show that the restriction that it seeks to enforce was the subject of a contract with some user, though not necessarily with a defendant like Best Buy. That would ensure that it did not provide its software in a way that led users to believe that unrestricted use was permitted. Second, it would need to show that the contractual restriction was violated. Third, it would need to establish, if it alleged infringement by a party like Best Buy that was not contractually bound, that the alleged infringer had taken "affirmative steps to foster infringement" by another party that was contractually bound. This requirement would ensure that the nature of the defendant's involvement in the alleged infringement was sufficient to satisfy the criteria that IP law has established.²⁴⁶ What it may *not* do is distribute its software in a way that does not make clear whether users are bound by restrictions and then pursue any party that takes part in downstream distribution of non-complying products.

244. Jay Dratler, Jr., 2 Licensing of Intellectual Property § 7.05, at 7-54, 7-55 n.38 (2012).

245. *Grokster*, 545 U.S. at 937.

246. There are interesting questions about whether this condition would be satisfied by a party like Best Buy that is presumably several steps downstream of any contractual violation. It might be that a court would determine that only the parties further upstream, like the electronic equipment manufacturers or even the providers of electronic components to those manufacturers, took "affirmative steps to foster infringement." This determination, however, seems exactly the one that IP law should be making, and one that is avoided by allowing IP owners to pursue any downstream transferee of non-complying products.

2. *Inducement and the Purposes of License Restrictions*

The proposal of inducement as an alternative test for enforcing license restrictions would presumably make enforcement more difficult than it would be under a pure property approach, and perhaps even more difficult than the “contracts lite” approach employed in patent law.²⁴⁷ The question this raises, from an IP perspective, is whether this denies IP owners returns to which they should otherwise be entitled. That requires that we consider the purposes that are served by downstream license restrictions. The reason for many post-sale restrictions is price discrimination, and although price discrimination can be beneficial, Part IV.D.3 below argues that its value decreases as restrictions are imposed downstream. If price discrimination does not appear to be the likely reason for many post-sale restraints, though, then why do IP owners employ such restraints? The second possibility discussed below is that many restraints are not being used to price discriminate, but to prevent competition.

a. *Price Discrimination*

Price discrimination is a commonly cited justification for IP protection.²⁴⁸ For example, price discrimination, or metering, was surely at least part of the purpose of the “single use only” restriction in *Mallinckrodt*.²⁴⁹ If customers were permitted to use the product only once, then Mallinckrodt could capture all the benefits provided by its product in each use of the product. If, on the other hand, the product could be reused, then Mallinckrodt would be required to set a single price for multiple uses, which would likely either fail to capture all the value from high-volume users and or price low-volume users out of the market. This sort of price discrimination is not always desirable, but it sometimes is, which raises the question of whether it would still be permitted by an approach that relied on inducement liability.

Inducement liability would not capture all instances in which downstream purchasers use products in violation of license restrictions. If the downstream use is purely passive, *i.e.*, involves no “affirmative steps taken to foster infringement,”²⁵⁰ inducement liability would not apply. In fact, though, none of the infringement

247. See *supra* Part III.B.2.

248. See, e.g., Wendy J. Gordon, Intellectual Property as Price Discrimination: Implications for Contract, 73 CHI.-KENT L. REV. 1367 (1998); Guy A. Rub, Contracting around Copyright: The Uneasy Case for Unbundling of Rights in Creative Works, 78 U. CHI. L. REV. 257 (2011).

249. *Mallinckrodt* also justified the restriction based on concerns about quality and safety. *Mallinckrodt, Inc. v. Medipart, Inc.*, 976 F.2d 700, 702 (Fed. Cir. 1992).

250. *Grokster*, 545 U.S. at 937.

actions against downstream parties discussed in this Article, either under patent law or copyright law, seem to have pursued passive parties. That is not surprising: it makes more sense for an IP owner to pursue those who are actively profiting from infringement, partly because there are likely to be fewer of them, so that the litigation will be more cost-effective.

Nevertheless, there might be cases in which suits against ultimate consumers would be prevented by a rule that allowed infringement actions only against those that induce infringement. To determine the significance of the elimination of such suits, we must compare their costs and benefits. The usual benefit cited, price discrimination, becomes less compelling as the restriction moves downstream. Price discrimination is beneficial to the extent that it allows the IP owner to increase output, lessening or eliminating the deadweight loss of monopoly. But this benefit is produced only to the extent that the IP owner is able to accurately assess downstream demand. There is little reason to think that an IP owner can do that for purchasers with which it has no contractual relationship (and it is only for those purchasers that the issue is important, because there is no dispute that restraints can be imposed through contract).

For example, consider the facts of *Quanta*.²⁵¹ LG's reason for seeking to ensure the ability to license to the downstream purchasers individually was presumably price discrimination. Because Intel's product was a general purpose computer,²⁵² it could have been used for a variety of purposes, which presumably would have had different values. As a result, price discrimination could theoretically have been a profitable approach. Had LC properly restricted downstream sales in its agreements with Intel, some if not all of those downstream purchasers could probably have been pursued under an inducement theory. Assuming that would not have been possible, though, it is not clear what benefit the ability to pursue them as direct infringers would have provided, for two reasons.

First, it seems likely that the cost of contracting with downstream purchasers would be little more than the cost of determining their valuations of the IP at issue. Indeed, determining downstream purchasers' valuations would probably be accomplished through negotiations with them, which of course could as easily be contractual negotiations as negotiations over settlement of infringement suits. Indeed, it is difficult to see how *ex post* litigation could be more efficient than *ex ante* negotiation in a case like *Quanta*. LG could presumably have entered into a license contract with Intel that prohibited it from selling the patented product to purchasers

251. See *supra* text accompanying notes 118-20.

252. See *Quanta Computer, Inc. v. LG Elecs., Inc.*, 553 U.S. 617, 633-34 (2008).

that themselves did not have licenses, which would have allowed LG to set the license prices for those purchasers. The main advantage of not doing so and instead seeking to extract “license” fees through infringement suits seems to be an increase in bargaining power, but that is not an approach that IP law should facilitate.

An approach that could be more efficient, though, would be for an IP owner like LG to use field-of-use restrictions tied to the markets in which the purchasers operated, obviating the need for individual negotiations. That would be similar to the effort in *General Talking Pictures* to divide the market into private and commercial users, or that in *Mallinckrodt* to charge for each use of the patented product. As discussed above, attempts to avoid such pricing schemes could likely be pursued under the inducement approach described here. Regardless, however, of whether effective enforcement of these schemes would require direct infringement liability or could be accomplished through a secondary infringement approach, the value of use-restricted pricing depends on how well the patentee can set the prices for different users. If the patentee miscalculates its pricing, the costs of its attempt at price discrimination could easily outweigh the benefits, and in that case IP law arguably should not facilitate the price discrimination.

This points to the second reason why direct infringement claims against the downstream purchasers could provide little gain. Cases in which neither direct infringement actions based on violation of contractual restrictions nor secondary infringement actions based on inducement of direct violation are sufficient would presumably involve purchasers that are several steps downstream. As the infringement moves downstream, though, the value of price discrimination by the IP owner becomes less. Consider the *Quanta* case once again. There is no reason to think that LG would have been better able than Intel to assess the downstream demand of Intel’s customers sufficiently accurately to effect efficient price discrimination. Consequently, LG could simply have used a pricing structure with Intel that gave Intel the incentive to perform the downstream price discrimination. Intel, because of its direct relationships with the downstream purchasers, could then have chosen both the prices at which it would sell to those purchasers and whether to contract with them to restrict their uses of the patented invention.

Moreover, in some circumstances there could also be other, lower-cost approaches to price discrimination. The patentee could simply design a higher-quality product for the high-demand users. That would distinguish the two markets, and allow different prices without the need for post-sale restraints. That technique would have the benefit of ensuring that the difference in prices is justified by some difference in value, rather than a higher demand that could be

unrelated to the innovation at issue.²⁵³ A price-discrimination system that does not rely on post-sale restraints is especially important, because the costs of the restraint system are considerable. As discussed above,²⁵⁴ providing notice to downstream acquirers will not always be easy, and the patentee is likely to incur significant costs both in ensuring notice, and perhaps in proving it in subsequent litigation. And downstream market participants may make efforts to avoid receiving notice, or to prevent notice of restrictions from being received by their customers, in order to get a higher price. At the very least, these costs should be considered in the determination of whether property-based restrictions on downstream purchasers are desirable.

None of this is to say that there are not circumstances in which limiting infringement liability as described here would prevent efficient price discrimination. But current law does not even ask if there is a satisfactory justification for infringement liability in this context. In that respect, it differs from those few cases considering servitudes for personal property, which as noted above have emphasized the need for scrutiny “in order to determine whether public policy will be furthered by” enforcement of such restrictions.²⁵⁵ As the next section explains, some license restrictions do not in fact further public policy.

b. Restriction of Competition

Infringement suits challenging noncompliance with license restrictions have often prompted antitrust counterclaims or analogous misuse defenses, particularly in the patent context. Such claims have been less common in copyright, but similar issues arise in that context as well.²⁵⁶ The likelihood that a restriction of competition is impermissible is highest where the IP owner employs post-sale restraints against downstream purchasers. Where restraints are employed downstream, they will likely affect markets independent of those to which the IP owner’s innovation is directed. As a result, the exclusive right that IP provides may not itself be an effective means of preventing competition, and IP owners can turn to supplemental restraints. But where IP rights affect competition

253. I have argued elsewhere that this principle should be applied in other contexts as well. See Mark R. Patterson, *When Is Property Intellectual? The Leveraging Problem*, 73 S. CAL. L. REV. 1133, 1155-58 (2000).

254. See *supra* text accompanying notes 212-20.

255. See *supra* text accompanying notes 67-73.

256. See Lemley, *Terms of Use*, *supra* note 15, at 462; Van Houweling, *supra* note 53, at 921-22 (discussing “servitude” cases involving patents and copyrights and noting that “[a]ll of the servitude-skeptical cases described above involved restrictions aimed either at fixing minimum prices, leveraging market power from one market to another through tying the use of specific products to the burdened chattel, or dividing a market by territory—that is, restrictions with potentially anti-competitive effects that could harm third-party market participants”).

beyond the IP owner's innovation, the competition concerns can easily outweigh the IP justification.²⁵⁷

In the patent context, licensing is sometimes used to provide a means of eliminating competition where no other means would be available. One example is *Pioneer Hi-Bred International, Inc. v. Ottawa Plant Food, Inc.*, where Pioneer used “no resale” label licenses to make possible an infringement suit against an unauthorized distributor of its products, which had purchased them from authorized distributors.²⁵⁸ Normally, a manufacturer like Pioneer would have no avenue for pursuing an unauthorized distributor because there would be no contractual relationship with it, but in *Pioneer* the court held that the label licenses created an enforceable restriction that made the unauthorized distributor also an infringer.²⁵⁹ This allowed Pioneer's seed patents to be used to restrict competition in the market for seed distribution, where the seed innovations of course played no role.²⁶⁰

Another example, involving open-source software, arose in the *Progress Software* litigation, where Progress was accused by MySQL of distributing MySQL's software without being in compliance with the GPL. MySQL, unlike its licensees, was not required to comply with the GPL:

MySQL AB engages in “dual licensing.” This means that it licenses a version of MySQL to be freely used, copied, modified and distributed by everyone under the GPL, and also makes versions of its program that are distributed to particular customers without the right of free distribution. Those who receive MySQL under the GPL, however, are not entitled to engage in “dual licensing.” Having received their copy of the program under GPL, they may freely modify and redistribute, but that redistribution, under GPL §2(b), must occur under the terms of the GPL, without any additional limitation. In particular, anyone who modifies MySQL must release that modified version in compliance with the GPL's requirement that everyone who receives the program must receive “source code,” or all the materials required so that they

257. Ariel Katz has made a complementary point, arguing that as the connection between the IP owner and the possible enforcement target becomes less close (in terms of both transactional relationships and time), the valid competitive concerns decrease. See Ariel Katz, *What Antitrust Law Can (and Cannot) Teach About the First Sale Doctrine* 27-37 (Jan. 23, 2012) (unpublished manuscript), available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1845842.

258. 283 F. Supp. 2d 1018, 1035 (N.D. Iowa 2003).

259. *Id.* at 1046.

260. The court did consider the effects of the restriction, concluding that there was “no evidence in the record identifying restraints on competition within any appropriately defined relevant market.” *Id.* It is quite difficult to prevail under the rule of reason, though, so a patentee is likely to prevail simply by making the patent infringement suit possible.

themselves can understand, share and improve the program in its modified form.²⁶¹

Thus, MySQL's open-source software was a component of both its commercial product and Progress's. But only Progress was required to disclose its source code, which put it at a competitive disadvantage with MySQL. Of course, because MySQL's software was copyrighted, Progress had no pre-existing right to use it; MySQL could have excluded others from its software entirely. But the mandated use of open-source licensing for competitors distorts competition beyond the use of MySQL's open-source contribution, and thus is not clearly within MySQL's copyright rights.²⁶²

This sort of extra-copyright effect was even more dramatic in early drafts of GPL v. 3, and continues to be so in other open-source licenses. The first discussion draft of GPL v. 3 included what is known as a "patent retaliation" clause: "This License gives unlimited permission to privately modify and run the Program, provided you do not bring suit for patent infringement against anyone for making, using or distributing their own works based on the Program."²⁶³ This clause was directed at licensees who also had patent rights, presumably in related inventions. It would have denied those licensees-patentees, if they used the licensed software, the ability to enforce their patent rights against others who used the software.²⁶⁴ This restriction, too, extends the licensor's power beyond its innovative contribution.²⁶⁵

261. Moglen Declaration, *supra* note 163, ¶ 30.

262. Furthermore, by distributing the software freely, MySQL is able to establish an installed base of users, and then exclude Progress from competing against it in a derivative proprietary market. This scenario is reminiscent of Microsoft's use of Internet Explorer to give Windows a competitive advantage. In each case, there is free distribution of one program and the use of control over that program to gain an advantage in a related market. And the case against Microsoft was made more difficult because the conduct at issue was for the most part assessed under Sherman Act § 2, rather than § 1. Of course, the case against Microsoft succeeded, but that was in part because the court applied a standard more similar to the typical § 1 standard than to the usual § 2 standard.

263. *GPLv3, 1st Discussion Draft*, FREE SOFTWARE FOUNDATION, <http://gplv3.fsf.org/gpl-draft-2006-01-16.html> (last modified June 29, 2007). The second draft narrowed this provision somewhat, *see Opinion on Patent Retaliation*, FREE SOFTWARE FOUNDATION, <http://gplv3.fsf.org/patent-dd2.html> (last modified Aug. 3, 2006), and the final version eliminated it entirely because "its enforceability and effectiveness [were] decided to be too dubious to be worth the added complexity." *See Software Patents and Free Software*, WIKIPEDIA, http://en.wikipedia.org/wiki/Software_patents_and_free_software (last modified Dec. 5, 2012). In fact, the source cited for this explanation says only that "We took that out because it didn't seem like it would be terribly effective." *Transcript of Richard Stallman on GPLv3 in Brussels, Belgium; 1st of April 2007*, FREE SOFTWARE FOUNDATION EUROPE (Apr. 4, 2007), <http://fsfe.org/projects/gplv3/brussels-rms-transcript>.

264. This would have been true, apparently, even if the patentee did not itself use its patented work with the licensed software.

265. They are similar to grantback clauses, which require licensees to grant a licensor rights to any improvements. The GPL provision is similar to a grantback, but it is broader: it effectively requires the licensee-patentee to grant patent rights to every user of the licensed program, not just the licensor, and the patent rights need not related to an

As stated above, the purpose of this Article is not to assess the desirability of license restrictions. To the extent that IP owners argue that enforcement of such restrictions should be facilitated, though, the justifications for the restrictions must be considered. The point of the previous paragraphs is to argue that the case for easy enforcement has not been made. Some effects of license restrictions appear to be undesirable and it seems likely that those restrictions that are legitimate can be successfully enforced through the contract/inducement rules proposed here.

V. CONCLUSION

Open-source advocate Richard Stallman has decried “a vicious and absurd system that puts all software developers in danger of being sued by companies they have never heard of”²⁶⁶ Stallman’s focus was software patents,²⁶⁷ but the danger of which he writes derives not from software patents particularly, or even from patents or copyrights generally, but from any unexpected property protections. Ironically, the open-source software movement promoted by Stallman is one the primary sources of this sort of “stealth” IP protection, as are patent-law “label licenses.” As this Article has shown, with noncontractual IP “licenses” those who acquire intellectual property, particularly indirectly, can find themselves subject to restrictions of which they had no knowledge. And even when acquirers of intellectual property are aware of the restrictions to which the patentee or copyright owner seeks to subject them, they may not be able easily to determine if those restrictions are valid and enforceable.

The solution is simple: conform licensing law to clearly defined and already-existing rules based on contract and secondary infringement, rather than relying on ill-defined conceptions of “notice.” This approach is generally consistent with the statements of patent courts, if not their holdings, and is not inconsistent with copyright law. Enforcement of license restrictions would be possible against two types of infringers: those that violated contractual license restrictions, and those that induce the infringement of such contractual restrictions. These rules would allow the enforcement of

improvement to the licensed software. The *Antitrust Guidelines for the Licensing of Intellectual Property*, promulgated by the U.S. Department of Justice and the Federal Trade Commission, state that “[g]rantbacks may adversely affect competition . . . if they substantially reduce the licensee’s incentives to engage in research and development and thereby limit rivalry in innovation markets.” U.S. Dep’t of Justice & Federal Trade Comm’n, *Antitrust Guidelines for the Licensing of Intellectual Property* § 5.6 (Apr. 6, 1995).

266. Stallman, *supra* note 47.

267. They were the subject of the quotation: “Software patents are a vicious and absurd system that puts all software developers in danger of being sued by companies they have never heard of” *Id.*

desirable licensing restrictions, but they would preclude the sort of surprise enforcement actions that Stallman rightfully criticized.