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IP Misuse and Innovation Harm

Thomas F. Cotter*

Christina Bohannan's recent article, *IP Misuse as Foreclosure*,¹ presents a provocative approach to thinking about the patent and copyright misuse doctrines.² In brief, Professor Bohannan argues (1) that equating misuse with a violation of substantive antitrust law is ill-advised;³ (2) that defining misuse as an attempt to obtain rights beyond the scope of the IP grant is inherently vague;⁴ and (3) that misuse nevertheless has a role to play in penalizing assertions of IP rights that threaten to foreclose competition, innovation, or access to the public domain.⁵ As some of my own previous scholarship on the misuse doctrine demonstrates, I agree with Professor Bohannan's conclusions that merely equating misuse with certain violations of substantive antitrust law is probably unwise;⁶ that the "beyond the scope" rationale nevertheless is vague;⁷ and that misuse doctrine might provide a useful tool for penalizing assertions of IP rights (principally copyright rights) that would foreclose access to the public domain and thus impinge

- 3. See id. at 487-95.
- 4. See id. at 495-97.
- 5. See id. at 503-25.

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^{1.} Christina Bohannan, IP Misuse as Foreclosure, 96 IOWA L. REV. 475 (2011).

^{2.} As discussed in Professor Bohannan's paper, misuse is an affirmative defense to a claim for patent or copyright infringement. If the infringement defendant successfully proves that the plaintiff has misused its patent or copyright, "the patent or copyright is rendered unenforceable until the misuse is 'purged.'" *See id.* at 478. According to most authorities, the infringer need not be a victim of the alleged misuse; in other words, there is no "standing" requirement. *See id.* at 477–78 ("Thus, the doctrine benefits primarily infringers, including infringers who have not been in any way injured by the misuse but instead argue that the IP holder has misused the IP right against others.").

^{6.} See Thomas F. Cotter, Four Questionable Rationales for the Patent Misuse Doctrine 3–9 (Minn. Legal Stud., Research Paper No. 10-30, 2010), available at http://ssrn.com/abstract=16 16275. My reasons for reaching this conclusion differ somewhat from those Professor Bohannan advances, however. Compare id. (questioning the need for a misuse doctrine that merely duplicates substantive antitrust law), with Bohannan, supra note 1, at 490–95 (arguing that misuse, "a creature of IP law," should not necessarily depend on proof of the same factors that are relevant to antitrust liability).

^{7.} See Cotter, supra note 6, at 10–11.

upon free speech.⁸ That said, for reasons presented below I remain skeptical about Professor Bohannan's call for courts to apply misuse doctrine to combat harms to competition and innovation in a manner that would depart from standard antitrust law,⁹ at least to the extent that she contemplates fairly widespread use of the doctrine in this fashion.¹⁰ My remarks in this Essay will therefore focus on what I shall refer to herein as "innovation harm."

To illustrate Professor Bohannan's argument about innovation harm, suppose that a patent owner will agree to license a prospective licensee only if the prospective licensee agrees to "Condition X." Condition X could be just about anything. Common examples might include a price term (i.e., the licensee agrees not to sell goods incorporating the patented invention below some specified price); a commitment to purchase or license some other product or patent from the patentee (or not to purchase some other product or patent from someone else); a field-of-use restriction; or a grantback or reach-through royalty.11 One possible response of the legal system would be to tolerate the patentee's insistence on Condition X, whatever Condition X might happen to be, on the ground that patentees should be able to dictate whatever terms of use they like, regardless of the consequences. No one, I suspect, would support this position if taken literally; at the very least, one would assume that Condition X must be something that is otherwise lawful.¹² A more temperate view would be that the patentee may extract whatever condition she likes, as long as the condition does not violate some other legal obligation. On this view, the patentee would not be free to insist upon the purchaser's or licensee's acquiescence in a tying arrangement that violates substantive antitrust law, but would be free to insist upon acquiescence in a tying arrangement that antitrust law condones.13 The law is (now) clear that antitrust evaluates the

^{8.} See id. at 17–18; Thomas F. Cotter, Misuse, 44 HOUS. L. REV. 901, 903, 962 (2007) [hereinafter Cotter, Misuse]; Thomas F. Cotter, Fair Use and Copyright Overenforcement, 93 IOWA L. REV. 1271, 1301–03 (2008).

^{9.} See Bohannan, supra note 1, at 514–15 (proposing that courts find misuse when there is "some realistic possibility of harm to innovation" that is "not justified by offsetting efficiencies"). Elsewhere, she uses the term "restraints on innovation," see, for example, *id.* at 511, or "harm to IP policy," see *id.* at 500. I understand her use of these three terms to be synonymous. As indicated above, however, in this Essay I will use the term "innovation harm" to refer to these concepts.

^{10.} As I have put it before, I adhere to the view that successful assertions of the misuse defense should remain "safe, legal, and rare." Cotter, *Misuse, supra* note 8, at 903.

^{11.} For more on grantbacks and reach-through royalties, *see* Bohannan, *supra* note 1, at 518–23.

^{12.} A patent may not be a "hunting license," Brenner v. Manson, 383 U.S. 519, 536 (1966); but neither is it, *pace* James Bond, a license to kill.

^{13.} Under standard antitrust law, the four elements of a "per se" tying violation are: "(1) the tying and tied goods are two separate products; (2) the defendant has market power in the tying product market; (3) the defendant affords consumers no choice but to purchase the tied

legality of tying arrangements involving patents (and, presumably, copyrights) in the same way it evaluates the legality of tying arrangements that do not involve IP.¹⁴ A virtue of this approach is that it avoids creating multiple and potentially conflicting standards for evaluating the legality of Condition X.15 It also *largely* avoids the need for courts to favor competition over IP policy, or vice versa, in determining the legality of Condition X; ownership of a patent is not a defense to an otherwise valid antitrust tying claim.¹⁶ Nevertheless, the ability to avoid such conflicts is not absolute. Like it or not, courts sometimes may have to determine whether ownership of a valid patent is a sufficient justification for allowing, say, the patentee to condition a license on the licensee's agreement to a grantback or reachthrough royalty, or to settle infringement litigation by paying the defendant to delay entry.¹⁷ In such cases, there may be no ready demarcation between the lawful and unlawful exercise of patent rights; courts may have to choose which policy will prevail in a given case.¹⁸ Again, though, nothing so far has suggested that the legality of Condition X need be determined in light of anything other than antitrust standards, though sometimes those standards may need to take into account the importance of the patent or copyright incentive scheme.

Professor Bohannan argues, however, that in some instances antitrust law would condone the patentee's imposition of Condition X, whereas IP law should not do so because of the condition's potential negative impact on

product from it; and (4) the tying arrangement forecloses a substantial volume of commerce." United States v. Microsoft Corp., 253 F.3d 34, 85 (D.C. Cir. 2001).

^{14.} See Ill. Tool Works Inc. v. Indep. Ink, Inc., 547 U.S. 28, 45–46 (2006) (noting that many tying arrangements, including those involving patents, are consistent with a free market and holding that "in all cases involving a tying arrangement, the plaintiff must prove that the defendant has market power in the tying product). To be fair, patent pools, package licenses, and block booking could all be viewed as variations of tying with respect to which the courts apply (or have applied) a somewhat different approach. See U.S. DEP'T OF JUSTICE & FED. TRADE COMM'N, ANTITRUST GUIDELINES FOR THE LICENSING OF INTELLECTUAL PROPERTY §§ 4.2, 5.5–6 (1995) (discussing patent pools); Cotter, *supra* note 6, at 17 n.80 (citing package license and block booking cases).

^{15.} It also renders the misuse defense duplicative, and thus arguably irrelevant, unless the addition of the misuse defense is necessary for attaining the optimal deterrence of substantive antitrust violations. *See* Cotter, *supra* note 6, at 3–9, 17 (noting, but casting doubt on this rationale).

^{16.} See Thomas F. Cotter, *Reflections on the Antitrust Modernization Commission's Report and Recommendations Relating to the Antitrust/IP Interface*, 53 ANTITRUST BULL. 745, 748 n.5 (2008) (stating and citing sources for the proposition that "IP law confers no general right to flout antitrust law").

^{17.} On "reverse payment" agreements to settle pharmaceutical patent litigation, see generally, C. Scott Hemphill, *Paying for Delay: Pharmaceutical Patent Settlement as a Regulatory Design Problem*, 81 N.Y.U. L. REV. 1553 (2006); Herbert Hovenkamp et al., *Anticompetitive Settlement of Intellectual Property Disputes*, 87 MINN. L. REV. 1719 (2003).

^{18.} See Cotter, supra note 6, at 16; Cotter, supra note 16, at 796–97.

innovation.¹⁹ In one sense, the existence of such cases might seem unremarkable. The entire structure of patent and copyright rights, after all, can be viewed (ideally) as an effort to attain the maximum surplus of social benefits over costs, where the costs and benefits include both short-term effects (such as monopoly and transaction costs) as well as long-term consequences (such as the impact on future innovation).²⁰ Put another way, roughly speaking patent and copyright law trade off a degree of short-term (static) efficiency in exchange for prospective long-term (dynamic) gains. Where the short-term costs likely outweigh the long-term gains, however—or where the exercise of IP rights would tend to undermine, rather than enhance, long-term gains—IP doctrine itself (ideally) imposes limitations on IP rights. Examples would include the idea–expression and fact–expression dichotomies in copyright, as well as copyright's fair use and other exceptions. In patent law, common examples would include doctrines such as nonobviousness and enablement.

Matters become more complicated, however, when IP law itself does not clearly address the legality of certain exercises of IP rights, and the longterm effects of those practices are ambiguous. To clarify, suppose that a patentee's insistence upon Condition X poses some risk to long-term innovation, but that the risk is not quite salient enough to merit scrutiny under current antitrust law. (As I have discussed in other work, scholars sometimes posit antitrust doctrine as a tool for minimizing the aggregate cost of "false positives," or wrongly condemning procompetitive conduct; "false negatives," or wrongly exonerating anticompetitive conduct; and administrative costs.21 Thus, in some contexts a speculative threat of anticompetitive harm may be insufficient to condemn a practice that plausibly promises some procompetitive benefit, particularly when the cost of accurately distinguishing pro- from anticompetitive behavior is high.) In theory, it might make sense to invoke some IP doctrine (misuse, fair use, preemption-something of sufficient flexibility to cover the situation at hand) and prohibit the patentee from imposing Condition X, on the ground that the risk of harm to long-term innovation, though perhaps remote, is of sufficient gravity as to outweigh a small interference with the IP incentive scheme. To illustrate, suppose that one could calculate that tolerating the imposition of Condition X poses a ninety percent chance of having on net a small positive effect on long-term innovation (perhaps because inventors will be encouraged by the possibility of deriving future profits from the licensing of patents that impose Condition X), but a ten

^{19.} See Bohannan, supra note 1, at 507-17 (arguing that misuse of IP rights can frustrate innovation apart and aside from antitrust law).

^{20.} See, e.g., Cotter, Misuse, supra note 8, at 940 ("The optimal IP system would maximize the surplus of social benefits over social costs.").

^{21.} See Thomas F. Cotter, The Procompetitive Interest in Intellectual Property Law, 48 WM. & MARY L. REV. 483, 490–91 (2006).

percent chance of having on net a catastrophic negative effect on long-term innovation (because Condition X could inhibit the development of some application of or improvement on the patented invention that would have significant positive spillover effects).²² In such a case, it might make sense for IP law to step in and prohibit Condition X, even if antitrust law, ever cognizant of the risk of false positives, would not. Indeed, I have argued before that some IP doctrines, including some applications of fair use and of trademark law's functionality doctrine, can be understood along these lines.²³

For present purposes, the question is whether there are circumstances like the one sketched out above, in which Condition X poses an undue risk to future innovation but neither antitrust nor other IP doctrines are up to the task of prohibiting the condition, such that misuse (perhaps by default) is the best available means to fill the gap. In this regard, Professor Bohannan suggests that a finding of misuse might have been appropriate in cases such as U.S. Philips Corp. v. International Trade Commission,²⁴ Princo Corp. v. International Trade Commission,²⁵ and Lasercomb v. Reynolds.²⁶ At first blush, her position has some appeal. In all three cases, the probability that the restraints at issue would have foreclosed competition in any meaningful sense might have been too speculative to support antitrust liability.²⁷ Deploying IP doctrine to condemn restraints like the ones at issue in these cases nevertheless might make sense, as long as courts could be reasonably certain that (1) condemning them would have little if any negative impact on IP incentives, and (2) the short-term efficiency consequences would be either positive or of minimal importance. When both conditions are

^{22.} To complicate matters further, Condition X is also likely to have some short-term consequences as well, which could be either positive or negative depending on the circumstances. A patent pool or package license, for example, may decrease short-term transaction costs, whereas a resale price condition could have both positive and negative short-term effects.

^{23.} See Cotter, supra note 21, at 506–20 (discussing the fair use and functionality doctrines and their affect on competition policy).

^{24. 424} F.3d 1179, 1198 (Fed. Cir. 2005) (holding that a package-licensing arrangement did not constitute patent misuse). *See* Bohannan, *supra* note 1, at 510 (noting, however, that "[p]ackage licensing will not always cause foreclosure").

^{25. 616} F.3d 1318, 1340 (Fed. Cir. 2010) (en banc) (holding that an alleged agreement between patent owners/joint venturers to suppress a rival technology did not constitute patent misuse). *See* Bohannan, *supra* note 1, at 512–15 (discussing *Princo*).

^{26. 911} F.2d 970, 976–77 (4th Cir. 1990) (holding that a license provision requiring licensees not to compete in marketing a type of software product for ninety-nine years constituted copyright misuse). *See* Bohannan, *supra* note 1, at 512 (noting the outcome in *Lasercomb* and its impact on the misuse doctrine).

^{27.} See Cotter, supra note 6, at 7 (noting that antitrust liability might have been difficult to prove in *Princo*); Cotter, *Misuse, supra* note 8, at 920–27 (discussing whether conventional antitrust tying doctrine would have permitted the package licensing at issue in *U.S. Philips*, and suggesting that antitrust liability was unlikely in *Lasercomb*).

present, the reduction of even a remote probability of harm to future innovation would seem to be well worth avoiding.

The problem, as I see it, is that in none of the three cases above could one be entirely confident that both conditions were satisfied. Condemning the package licensing in U.S. Philips could, in theory, increase innovation harm by making it more difficult to reduce the transaction costs attendant upon the licensing of complementary patents.28 Similarly, in Princo, condemning the alleged agreement between joint venturers to favor one technology over another might have discouraged future technological joint ventures, by removing a means by which the venturers could commit themselves to refrain from opportunistic conduct that might undermine the venture.²⁹ And while it's hard to imagine that prohibiting the specific condition at issue in Lasercomb (which prevented licensees from selling a competing product for ninety-nine years) would have much of an effect on IP incentives, the broader implications of the case-that courts will in effect render copyrights unenforceable when licensors include what a court deems to be a substantively unconscionable term in a licensing agreement—may pose more of a risk to future innovation than might at first seem apparent.³⁰

^{28.} See Cotter, supra note 6, at 17.

^{29.} *See id.* at 7 (expressing no opinion, however, on whether the effects of the agreement alleged in *Princo* would have been, on net, pro- or anticompetitive).

^{30.} See Cotter, Misuse, supra note 8, at 925-27. On the other hand, perhaps one could analogize the restraint at issue in *Lasercomb* to a more familiar type of agreement—an employee noncompete. Commentators have long noted that employee noncompete agreements rarely result in the imposition of antitrust liability. See, e.g., Charles A. Sullivan, Revisiting the "Neglected Stepchild": Antitrust Treatment of Postemployment Restraints of Trade, 1977 U. ILL. L. F. 621, 666 (concluding that federal antitrust law had largely ignored employee noncompetes). From an antitrust perspective this probably makes sense, however, because the typical employer lacks the market power that might give rise to a plausible antitrust claim in this context. See Gillian Lester, Restrictive Covenants, Employee Training, and the Limits of Transaction-Cost Analysis, 76 IND. L.J. 49, 61 (2001); Maureen B. Callahan, Comment, Post-Employment Restraint Agreements: A Reassessment, 52 U. CHI. L. REV. 703, 712-18 (1985). Moreover, it is certainly possible to muster a variety of plausible business justifications in support of noncompetes, among them the role of noncompetes in encouraging employers to share valuable information with employees. See, e.g., Lester, supra, at 60-71 (critically appraising various proposed economic justifications for noncompetes). On the other hand, noncompetes also pose an obvious threat to employee mobility, which can be not only normatively problematic (the employee is not an indentured servant, after all) but also, by interfering with the spread of employee know-how, may diminish the overall level of innovation in an economy. Indeed, a few states, including California, view these negative consequences as being of sufficient gravity to justify outlawing employee noncompetes altogether, subject to a few exceptions. See CAL. BUS. & PROF. CODE § 16600 (West 2008); see also Annalee Saxenian, Regional Advantage: Culture and Competition in SILICON VALLEY AND ROUTE 128 (1994) (arguing that a culture of employee mobility was a significant factor in the success of Silicon Valley in comparison with Massachusetts' Route 128). For an overview of relevant literature on the law and economics of noncompetes, see Orly Lobel, Intellectual Property and Restrictive Covenants, in ENCYCLOPEDIA OF LABOR AND EMPLOYMENT LAW AND ECONOMICS ch. 18 (Kenneth G. Dau-Schmidt et al. eds., 2009). The law's treatment of employee noncompetes thus may provide an interesting parallel for Professor Bohannan's idea that misuse doctrine should condemn certain restraints that interfere with innovation, even

Alternatively, if one believes that the possibility of harm to future innovation was sufficiently strong to merit condemnation of the types of practices at issue in *U.S. Philips, Princo*, and *Lasercomb*, perhaps antitrust law *should* loosen up some of its concerns over false positives and in similar cases find practices of this sort to be in violation of the Sherman Act.³¹

I suspect that Professor Bohannan might respond to this line of reasoning by arguing that her concern is not necessarily with antitrust harm at all, but rather with what she views as a distinct harm to future innovation.32 In my view, however, innovation harm of the type that concerns Professor Bohannan is a harm that can (and should) be taken into account in conventional antitrust analysis when the facts so warrant. Suppose, for example, that Condition X requires a licensee to refrain from using the licensed patent or copyright for certain purposes; or (as in Professor Bohannan's examples relating to reach-through royalties and grantbacks) to convey future revenues from, or rights in, inventions that incorporate or build upon the licensed IP rights.33 Conditions of this nature surely can have a negative impact on future innovation, but it seems to me that antitrust law as it currently exists already recognizes this possibility. Under conventional antitrust analysis, the legality of Condition X would depend upon whether that potential harm to future innovation is both substantial (which in turn depends upon the probability and magnitude of the potential harm) and unjustified by plausible procompetitive benefits (both static and dynamic).³⁴ For misuse to have any additional bite, then, in

when they do not threaten cognizable antitrust harm; this parallel might be worth pursuing in future work.

^{31. 15} U.S.C. §§ 1–7 (2006). This is not to say that I am necessarily advocating this view. A court that condemns a restraint because of the restraint's impact on future innovation must have some basis for concluding that the net impact on innovation will be negative, and it's not clear to me that contemporary antitrust law systematically underestimates those effects (though there is surely room for improvement in our understanding of how restraints affect innovation). My point is merely that antitrust law has an existing framework for addressing these problems, and that I am not confident that courts applying misuse doctrine would be any better poised than are courts applying antitrust law to predict net future harms to innovation—particularly if, as Professor Bohannan rightly urges, courts applying misuse doctrine should only condemn restraints when "some appreciable harm to innovation is possible and that the conduct is not justified by offsetting efficiencies." Bohannan, *supra* note 1, at 514-15; *see also id.* at 510 ("[T]here must be more than pure speculation that the rival's efforts would have come to fruition but for the IP holder's conduct.").

^{32.} *See* Bohannan, *supra* note 1, at 496. Professor Bohannan recognizes, however, that the two harms may sometimes converge. *See id.* at 497 ("Because competition and innovation are related, conduct that is anticompetitive is often also *anti-innovative.*").

^{33.} See id. at 519-23.

^{34.} See, e.g., United States v. Microsoft Corp., 253 F.3d 34, 50–51, 79 (D.C. Cir. 2001) (affirming a finding that Microsoft's conduct posed a sufficient threat to certain nascent markets to justify the imposition of liability under Sherman Act § 2); Cotter, *supra* note 16, at 748 n.5 (stating that antitrust "can and does consider harm to both static and dynamic efficiency").

combating innovation harm, it would have to reach conduct that antitrust law would not condemn.

In this regard, Professor Bohannan suggests, if I understand correctly, that misuse doctrine sometimes should condemn conditions imposed by IP owners who lack market power (and who therefore would, by virtue of their lack of market power, most likely prevail against an antitrust challenge).35 Absent market power on the part of the IP owner, though, it's not clear to me how a court can be confident that the condition at issue poses any serious threat to future innovation. By definition, a lack of market power would seem to imply that adequate substitutes for the IP rights in question exist, which in turn means that the prospective licensee could turn to other sources for the technology it needs to build its own innovations.36 In addition, Professor Bohannan (rightly, in my view) recognizes that arrangements such as grantbacks and reach-throughs might have compensating efficiency justifications that should immunize at least some of them even under her more aggressive misuse regime.³⁷ Perhaps, then, a stronger showing of such efficiencies should be necessary to rebut the misuse defense than would be required in an antitrust context. Without at least a rough sense of how much stronger the evidence of compensating efficiencies must be, however, to rebut misuse (or how much stronger the evidence of dynamic efficiency losses must be to support misuse), I fear that courts will be free to find misuse in a broad range of cases in which, on balance, enforcing the condition at issue (and any otherwise valid patent or copyright claims asserted by the IP owner) would have been welfareenhancing.38

^{35.} See Bohannan, supra note 1, at 491-95.

^{36.} See, e.g., U.S. DEP'T OF JUSTICE & FED. TRADE COMM'N, supra note 14, § 2.2 (stating that "[m]arket power is the ability profitably to maintain prices above, or output below, competitive levels for a significant period of time," but that the agencies will not presume that patents confer market power because "there will often be sufficient actual or potential close substitutes for such product, process, or work to prevent the exercise of market power" (footnotes omitted)).

^{37.} See Bohannan, supra note 1, at 519–23.

^{38.} A possible rejoinder to my argument—that antitrust should address innovation harm, if the risk of incurring such harm is substantial, and thus render the misuse doctrine nugatory—is that misuse is a lesser penalty than antitrust liability. As a result, in the context of misuse the potential cost of a false positive is less than it is in the context of antitrust. A finding of misuse, after all, only renders a patent unenforceable (and only until the misuse is purged); it does not render the patentee liable for treble damages and attorney's fees, as does a finding of antitrust liability. Depending on the circumstances, though, rendering a patent unenforceable might be a substantially more onerous penalty than treble the amount of some inherently speculative award of damages for future harm. In addition, misuse (unlike antitrust) lacks a standing requirement, thus potentially increasing the number of settings in which a misuse defense might be raised. *See id.* at 477–78. If the penalty for misuse were more finely tailored, however, the rejoinder would have greater purchase. One possibility might be to reform the misuse doctrine by rendering only the offending condition enforceable, thus leaving the patent itself intact, and by imposing a standing requirement. *See generally* Cotter, *supra* note

At the end of the day, Professor Bohannan has developed an interesting method of analysis, and we probably agree more than we disagree. As for our areas of disagreement, time will tell whether courts come to embrace Professor Bohannan's more aggressive approach, or my more cautious approach, to the misuse doctrine. There is a good deal at stake, and whether Professor Bohannan's approach or mine is better for stimulating innovation remains indeterminate. (To paraphrase Kierkegaard, innovation can only be understood backwards; but it must be lived forwards.³⁹) Perhaps the patent and copyright systems are less important to innovation than conventional wisdom (and my own scholarship) sometimes suggests, in which case efforts to reduce the strength of patent and copyright rights overall might be worthwhile.⁴⁰ If so, an expanded misuse doctrine might be one way to achieve this goal, though probably not the most direct or obvious. Professor Bohannan's article nevertheless is an important contribution to the ongoing debate over the optimal scope of the misuse doctrine. Courts would be welladvised to consider her thoughtful arguments for reform.

^{6,} at 15 n.72; *see also* Bohannan, *supra* note 1, at 515 (suggesting that lesser penalties for misuse may be appropriate in some instances).

^{39.} SØREN KIERKEGAARD, THE ESSENTIAL KIERKEGAARD 12 (Howard V. Hong & Edna H. Hong eds. & trans., Princeton Univ. Press 2000) (1843) ("Philosophy is perfectly right in saying that life must be understood backward. But then one forgets the other clause—that it must be lived forward.").

^{40.} See, e.g., MICHELE BOLDRIN & DAVID K. LEVINE, AGAINST INTELLECTUAL MONOPOLY 136–37 (2008) (stating that collaboration can greatly enhance innovation, especially in the early stages of development); STEVEN JOHNSON, WHERE GOOD IDEAS COME FROM: THE NATURAL HISTORY OF INNOVATION 230–36 (2010) (arguing that IP protection is often less important to innovation than are other factors, including collaboration).