
WHEN IS PROPERTY INTELLECTUAL? THE LEVERAGING PROBLEM

MARK R. PATTERSON*

I. INTRODUCTION

Patents and copyrights protect inventions and expression; they do not protect products. This distinction, I argue in this essay, is a key to the difficult antitrust problem of the “leveraging” of intellectual property.¹ In a typical leveraging case, the manufacturer of a durable good, like a copier or computer, refuses to sell replacement parts for its equipment unless the purchaser also hires the manufacturer to service the equipment. Such a practice can be illegal under antitrust law,² but when the leveraging products—in this example, replacement parts—are protected by patent or copyright, the manufacturer will often claim that the leveraging is a permissible use of its intellectual property.

The validity of this intellectual property defense is disputed, as two recent cases illustrate.³ In *Image Technical Services, Inc. v. Eastman Kodak Co.*, the Ninth Circuit held that although an intellectual property owner’s desire to profit from leveraging its intellectual property is

* Associate Professor of Law, Fordham University School of Law. The Ohio State University, B.S.E.E., 1978, M.S. 1980; Stanford Law School, J.D., 1991. I am grateful for helpful comments from Sergio Baches Opi, Mark Lemley, Gideon Parchomovsky, and Steve Thel. The Fordham University School of Law provided valuable financial assistance.

1. This problem has prompted other recent commentary. See Symposium, *Intellectual Property Rights and Federal Antitrust Policy*, 24 J. CORP. L. 477 (1999); Ronald W. Davis, *The FTC’s Intel Case: What Are the Limitations on “Throwing Your Weight Around” Using Intellectual Property Rights?*, ANTITRUST, Summer 1999, at 47; Charles L. Freed, *Antitrust and the Duty to License Intellectual Property—Can Manufacturers Be Compelled to Deal with ISOs?*, ANTITRUST, Fall 1999, at 33. For commentary addressing more generally the intersection between antitrust law and intellectual property law, see sources cited *infra* note 15.

2. The practice could be illegal either as a tying arrangement or an instance of monopoly leveraging. See *infra* notes 16–17.

3. See discussion *infra* Part III.A.

presumptively legitimate, the presumption can be rebutted.⁴ Because the court concluded that Kodak “was not actually motivated by protecting its intellectual property rights,”⁵ it affirmed the antitrust verdict against Kodak. In contrast, the district court in *In re Independent Service Organizations Antitrust Litigation (Xerox)*⁶ rejected the Ninth Circuit’s focus on the intellectual property owner’s intent,⁷ and held that the owner was entitled to profits derived from denying its intellectual property in as many markets as the denial was profitable.⁸ This decision was recently affirmed by the Federal Circuit, which accorded intellectual property owners similar freedom.⁹

The approach to this problem that I propose is supported by statements made in each of these cases. In *Kodak*, the court said that “patent and copyright holders may refuse to sell or license *protected work*.”¹⁰ Similarly, in *Xerox*, the district court said that “patent holders [have] the right to exclude others from . . . their *inventions*.”¹¹ The common, and commonly neglected, element in these statements is the focus on the “protected work,” i.e., the patented invention or the copyrighted expression.¹² Neither court considers, at least explicitly, whether an intellectual property owner’s right to deny access to its “protected work” gives it the right to deny access to any product in which that work is embodied.

I argue in this essay that intellectual property rights should provide special protection from the antitrust laws only when the owner of the rights is truly denying access to its *intellectual* property. That will never be the

4. 125 F.3d 1195, 1218 (9th Cir. 1997), *on remand from* 504 U.S. 451 (1992).

5. *Id.* at 1219.

6. *In re Independent Serv. Orgs. Antitrust Litig. (CSU, L.L.C. v. Xerox Corp.)*, 989 F. Supp. 1131 (D. Kan. 1997), *aff’d*, 203 F.3d 1322 (Fed. Cir. 2000).

7. *Xerox*, 989 F. Supp. at 1140–41.

8. *Id.* at 1134–39. Other courts have taken similarly broad approaches. See *Miller Insituform, Inc. v. Insituform of N. Am., Inc.*, 830 F.2d 606, 609 (6th Cir. 1987); *SCM Corp. v. Xerox Corp.*, 645 F.2d 1195, 1206 (2d Cir. 1981).

9. See *Xerox*, 203 F.3d 1322 (Fed. Cir. 2000). The Federal Circuit did acknowledge one limitation, observing that “the patent holder cannot use his statutory right to refuse to sell patented parts to gain a monopoly in a market beyond the scope of the patent.” *Id.* at 1327 (citing *Atari Games Corp. v. Nintendo of Am., Inc.*, 897 F.2d 1572, 1576 (Fed. Cir. 1990)). But it appeared to confine that limitation to tying agreements. See *id.*

10. *Kodak*, 125 F.3d at 1215 (emphasis added).

11. *Xerox*, 989 F. Supp. at 1136 (emphasis added).

12. The same focus appears in commentary on this issue, where it also is not explicitly acknowledged. See David McGowan, *Networks and Intention in Antitrust and Intellectual Property*, 24 J. CORP. L. 485, 491 (1999) (“I define cases of pure exclusion as those in which the owner of a valid intellectual property right, validly obtained, unilaterally refuses to sell or license the *technology* covered by the right to a party wishing to obtain the technology.”) (emphasis added).

case when the owner's property is denied to one who will not use the intellectual property. In *Kodak* and *Xerox*, independent service organizations sought access to the defendants' patented parts only in order to install them in the equipment of others. It was the equipment owners, not the service organizations, that benefited from any inventions embodied in those parts. Hence, the defendants' patents should not have allowed them to deny the parts to the service organizations.

Somewhat more broadly, intellectual property also should not allow owners of the property to discriminate among potential buyers or licensees if those buyers or licensees do not differ in their uses of the intellectual element of the property. That is, not only should a patent or copyright not give its owner the right to deny a product to one who would not use the invention or expression, but it also should not give the owner the right to deny the product to one who *would* use the protected work if the owner at the same time grants access to others who use it in the same way. Such discrimination where there is no difference in the use of the protected aspect of the property does not rest on a denial of access to the owner's *intellectual* property. A similar conclusion was in fact reached, though on somewhat different reasoning, in the Federal Trade Commission's recent case challenging Intel Corporation's licensing practices.¹³

I should note that my purpose in this essay is to address only whether an intellectual property owner's leveraging is truly a use of the intellectual aspect of its property. Even if an owner's refusal to deal is truly a denial of the owner's invention or expression, it might be appropriate to condemn the denial for other reasons. For example, the denial might constitute one of the other forms of exploitation of intellectual property that constitute "misuse."¹⁴ Or, more generally, it might be that some denials of intellectual property create monopolies whose costs outweigh the benefits of the incentives produced by those denials.¹⁵ I do not seek to address

13. See *infra* Part V.C.

14. See HERBERT HOVENKAMP, FEDERAL ANTITRUST POLICY: THE LAW OF COMPETITION AND ITS PRACTICE 240 (2d ed. 1999) ("Many, but not all, instances of patent misuse are practices analogous to unlawful tying arrangements . . .") (citing cases). The law of misuse is discussed *infra* in the text accompanying notes 22–25.

15. For more general analyses of the intersection of patent law and antitrust, see WARD S. BOWMAN, JR., PATENT AND ANTITRUST LAW (1973); William F. Baxter, *Legal Restrictions on Exploitation of the Patent Monopoly: An Economic Analysis*, 76 YALE L.J. 267 (1966); Louis Kaplow, *The Patent-Antitrust Intersection: A Reappraisal*, 97 HARV. L. REV. 1813 (1984). For more recent work, focusing particularly on the problems of "network" industries, see U.S. DEP'T OF JUSTICE & FED. TRADE COMM'N, ANTITRUST GUIDELINES FOR THE LICENSING OF INTELLECTUAL PROPERTY (1995); McGowan, *supra* note 12; Maureen A. O'Rourke, *Towards a Doctrine of Fair Use in Patent Law*, 100 COLUM. L. REV. (forthcoming 2000).

these more general problems here, but only to suggest that some instances of leveraging are not properly treated as involving intellectual property at all.

II. THE LAW OF LEVERAGING

The leading antitrust tying case defines “leverage” as “a supplier’s power to induce his customer for one product to buy a second product from him that would not otherwise be purchased solely on the merit of that second product.”¹⁶ “Monopoly leveraging” is defined similarly, as “the use of monopoly power attained in one market to gain a competitive advantage in another”¹⁷ It is generally when two markets are linked in

16. *Jefferson Parish Hosp. Dist. No. 2 v. Hyde*, 466 U.S. 2, 14 n.20 (1984) (quoting 5 PHILLIP AREEDA & DONALD F. TURNER, *ANTITRUST LAW: AN ANALYSIS OF ANTITRUST PRINCIPLES AND THEIR APPLICATION* ¶ 1134a, at 202 (1980)). Although the Court has never set out the elements of a tying violation, there appear to be four: (1) separate tying and tied products (2) that are tied together (3) by means of coercion derived from the tying seller’s market power in the tying product (4) in such a way as to affect a not insubstantial amount of interstate commerce in the tied product. *See Jefferson Parish*, 466 U.S. at 9–15; *Eastman Kodak Co. v. Image Technical Servs., Inc.*, 504 U.S. 451, 461–62 (1992).

Tying is a per se violation of section 1 of the Sherman Act, but section 1 condemns only anticompetitive agreements. *See* 15 U.S.C. § 1 (1994) (condemning “[e]very contract, combination . . . , or conspiracy, in restraint of trade”). Some leveraging arrangements involve no agreement, though, as when a manufacturer implements a unilateral policy of selling parts only to equipment owners that use its service (rather than entering into a contract with owners requiring them to use its service). In such instances, a challenge could be brought under a monopoly leveraging theory under section 2 of the Sherman Act, which requires no agreement. The validity of monopoly leveraging claims is discussed *infra* note 17.

17. *Berkey Photo, Inc. v. Eastman Kodak Co.*, 603 F.2d 263, 276 (2d Cir. 1979). Although monopoly leveraging claims have been approved by some courts under section 2 of the Sherman Act, the status of monopoly leveraging as an independent antitrust theory is uncertain. On the one hand, the Second Circuit explicitly said in *Berkey Photo* that such a claim is possible “even if there has not been an attempt to monopolize the second market,” *id.* at 276, and other circuits have agreed. *See Kerasotes Michigan Theatres, Inc. v. National Amusements, Inc.* 854 F.2d 135 (6th Cir. 1988) (accepting the possibility of a monopoly leveraging claim); *Advanced Health-Care Servs., Inc. v. Radford Community Hosp.*, 910 F.2d 139 (4th Cir. 1990) (reversing dismissal of monopoly leveraging claim). On the other hand, other circuits have said that a monopoly leveraging claim is valid only where the elements of an attempt-to-monopolize claim are present, which would require a showing not just that the defendant gained a competitive advantage in the leveraged market, but that it had a dangerous probability of achieving monopoly power in that market. *See Alaska Airlines, Inc. v. United Airlines, Inc.*, 948 F.2d 536, 546–49 (9th Cir. 1991); *Fineman v. Armstrong World Indus., Inc.*, 980 F.2d 171, 203–06 (3d Cir. 1992). *See also* *Multistate Legal Studies, Inc. v. Harcourt Brace Jovanovich Legal and Prof'l Publications, Inc.*, 63 F.3d 1540, 1551 n.8 (10th Cir. 1995) (noting split in circuits); *Twin Lab., Inc. v. Weider Health & Fitness*, 900 F.2d 566, 570–71 (2d Cir. 1990) (characterizing some of the statements regarding leveraging in *Berkey Photo* as dicta).

The Supreme Court’s statements on this issue are similarly ambiguous. On the one hand, the Court has made some statements that appear to accept the possibility of monopoly leveraging claims. *See United States v. Griffith*, 334 U.S. 100, 107 (1948) (stating that “the use of monopoly power, however lawfully acquired, to foreclose competition, to gain a competitive advantage, or to destroy a

this way that the problems that are the subject of this essay arise, though one can imagine similar uses of intellectual property in single-market contexts.¹⁸

The Supreme Court has been quite willing to discourage leveraging even where the seller's power is a product of intellectual property. In two of the earliest tying cases, *International Salt Co. v. United States*¹⁹ and *United States v. Paramount Pictures, Inc.*,²⁰ the tying products involved patented machines and copyrighted films, respectively. In each case, the defendant sought to use its intellectual property to increase sales of another product, and in each case the Supreme Court affirmed liability. Furthermore, the Court has recently said that "power gained through some natural and legal advantage such as a patent, copyright, or business acumen can give rise to [antitrust] liability if a seller exploits his dominant position in one market to expand his empire into the next."²¹

Intellectual property law has also discouraged leveraging. Indeed, the early antitrust tying cases relied on even earlier patent infringement cases in which the Court found patent misuse.²² The misuse doctrine was described broadly in *Mercoid Corp. v. Mid-Continent Investment Co.*:

The necessities or convenience of the patentee do not justify any use of the monopoly of the patent to create another monopoly. The fact that the

competitor, is unlawful"). On the other hand, the Court has recently said that an attempted monopolization claim requires proof that the defendant has a dangerous probability of achieving monopoly power. See *Spectrum Sports, Inc. v. McQuillan*, 506 U.S. 447, 456 (1993). Some have concluded that this eliminated monopoly leveraging as an independent claim.

I have argued elsewhere that a plaintiff could claim that leveraging is monopolization (rather than attempted monopolization), in that leveraging allows the defendant to maintain its power in the leveraging market, see Mark R. Patterson, *Coercion, Deception, and Other Demand-Increasing Practices in Antitrust Law*, 66 ANTITRUST L.J. 1 (1997), but the success of such an argument is uncertain. However, my goal here is to reconcile antitrust law and intellectual property law in the leveraging context, not to define when leveraging can be challenged under the antitrust laws.

18. For example, the Robinson-Patman Act makes price discrimination in the sale of "commodities" illegal, 15 U.S.C. § 13(a) (1994), but it does not restrict discriminatory prices in intellectual property licenses. See *infra* note 44. Thus, one could imagine that a seller seeking to price-discriminate might incorporate in its commodity a patented invention so as to be able to distribute its product through licenses that are discriminatorily priced, even if the invention added no value to the product.

19. 332 U.S. 392 (1947).

20. 334 U.S. 131 (1948).

21. *Eastman Kodak Co. v. Image Technical Servs., Inc.*, 504 U.S. 451, 480 n.29 (1992) (internal quotation marks and citations omitted).

22. See *Paramount Pictures*, 334 U.S. at 157 (citing *Ethyl Gasoline Corp. v. United States*, 309 U.S. 436, 459 (1940); *Morton Salt Co. v. G.S. Suppiger Co.*, 314 U.S. 488, 491 (1942); *Mercoid Corp. v. Mid-Continent Inv. Co.*, 320 U.S. 661, 665 (1944)); *International Salt*, 332 U.S. at 396 (citing *Morton Salt Co. v. G.S. Suppiger Co.*, 314 U.S. 488 (1942); *Mercoid Corp. v. Mid-Continent Inv. Co.*, 320 U.S. 661 (1944); *Mercoid Corp. v. Minneapolis-Honeywell Regulator Co.*, 320 U.S. 680 (1944)).

patentee has the power to refuse a license does not enable him to enlarge the monopoly of the patent by the expedient of attaching conditions to its use. The method by which the monopoly is sought to be extended is immaterial. The patent is a privilege. But it is a privilege which is conditioned by a public purpose. It results from invention and is limited to the invention which it defines. When the patentee ties something else to his invention, he acts only by virtue of his right as the owner of property to make contracts concerning it and not otherwise. He then is subject to all the limitations upon that right which the general law imposes upon such contracts. The contract is not saved by anything in the patent laws because it relates to the invention. If it were, the mere act of the patentee could make the distinctive claim of the patent attach to something which does not possess the quality of invention. Then the patent would be diverted from its statutory purpose and become a ready instrument for economic control in domains where the anti-trust acts or other laws, not the patent statutes, define the public policy.²³

The Court has since narrowed the misuse doctrine to apply only to extensions of the patent monopoly to staple goods—that is, goods that have commercial uses other than in connection with the patented invention.²⁴ More recently, however, several Courts of Appeals have extended the misuse doctrine from its original patent context to copyright cases.²⁵

The impetus for these antitrust and intellectual property doctrines is the concern that leveraging provides the intellectual property owner with a greater return than is necessary. Although intellectual property law grants monopolies in order to provide an incentive for the creation of inventions and expression, those monopolies are limited, because the goal of the law is to create the incentive while imposing no higher a monopoly cost than is necessary. The fear is that leveraging, by extending the intellectual property grant, may provide too great an incentive, and thus impose too high a cost.

Unfortunately, we simply do not know how much incentive is enough, or what cost is too high.²⁶ Therefore, just as permitting leveraging might allow excessive monopoly overcharges, forbidding it might create

23. 320 U.S. 661, 666 (1944) (internal citations omitted).

24. See *Dawson Chemical Co. v. Rohm & Haas Co.*, 448 U.S. 176, 184 (1980). The Court relied on 35 U.S.C. § 271(d), see discussion *infra* Part IV.A, and concluded that in that statute “[t]he approach that Congress took toward the codification of contributory infringement and patent misuse reveals a compromise between those two doctrines and their competing policies that permits patentees to exercise control over nonstaple articles used in their inventions.” *Dawson*, 448 U.S. at 200.

25. See *Lasercomb Am., Inc. v. Reynolds*, 911 F.2d 970 (4th Cir. 1990); *DSC Communications Corp. v. DGI Techs.*, 81 F.3d 597 (5th Cir. 1996).

26. See Kaplow, *supra* note 15, at 1818–20, 1833–34.

insufficient incentives.²⁷ For that reason, in recent decisions some courts have held that a seller's desire to exclude others from its intellectual property is a presumptively valid justification for leveraging.²⁸ The district court in *Xerox* went even further, stating categorically that "a patent holder's unilateral refusal to sell or license its patented invention does not constitute unlawful exclusionary conduct under the antitrust laws even if the refusal impacts competition in more than one relevant antitrust market."²⁹

Both of these approaches are too simplistic, as Louis Kaplow has pointed out.³⁰ Neither makes a real attempt to determine the proper balance of the benefits from the creation of intellectual property and the costs of monopoly overcharges. Instead, the courts just choose one option or the other,³¹ and many commentators do the same.³² One resolution of the problem would be to attempt an explicit balancing of the costs and benefits of the intellectual property grant for each case, as Kaplow has discussed.³³ Although this approach might be the ideal, Kaplow acknowledges that it is likely to be very difficult to implement.³⁴

The *Kodak* court's focus on intent is one possible alternative. Instead of trying to determine the proper economic balance, the court relied on what it viewed as evidence that "Kodak was not actually motivated by protecting its intellectual property rights."³⁵ Presumably, the court's rationale was that if Kodak was not motivated in its leveraging by protecting its intellectual property, whatever return it reaped from that leveraging would not, or at least did not, serve to provide the creative

27. This was a concern of the Ninth Circuit in *Kodak*:

Particularly where treble damages are possible, [antitrust claims based on unilateral refusals to sell or license intellectual property] will detract from the advantages lawfully granted to the holders of patents or copyrights by subjecting them to the cost and risk of lawsuits based upon the effect, on an arguably separate market, of their refusal to sell or license. The cost of such suits will reduce a patent holder's "incentive . . . to risk the often enormous costs in terms of time, research, and development."

125 F.3d at 1218 (quoting *Kewanee Oil Co. v. Bicron Corp.*, 416 U.S. 470, 480 (1974)).

28. See *Kodak*, 125 F.3d at 1195; *Data Gen. Corp. v. Grumman Sys. Support Corp.*, 36 F.3d 1147, 1187 (1st Cir. 1994).

29. *Xerox*, 989 F. Supp. at 1139.

30. See Kaplow, *supra* note 15, at 1845-49.

31. That is, antitrust tying law and the misuse doctrines choose to limit the monopoly overcharge by policing the limits of the intellectual property owner's monopoly, and the *Xerox* case seeks to ensure that there is sufficient incentive for the creation of intellectual property by allowing the intellectual property owner to reap profits wherever they are available.

32. See Kaplow, *supra* note 15, at 1845-55 (discussing commentary).

33. See *id.* at 1825-27.

34. See *id.* at 1842-45.

35. *Kodak*, 125 F.3d at 1219.

incentive that is the *raison d'être* for intellectual property. Although that rationale is not incontestable,³⁶ it seems at least plausible. The *Kodak* test has the weakness, however, of turning on the intellectual property owner's subjective motivation, which will always be difficult to determine.³⁷

I propose here an alternative approach, but one that also asks whether the leveraging is truly a use of intellectual property. The underlying rationale of this approach is similar to *Kodak's*, in that it avoids a difficult economic balancing in favor of an assessment of whether intellectual property is truly involved. However, my proposal differs from *Kodak's* approach, and I believe improves upon it, in two respects. First, by focusing not on intent but on actual business practice, it replaces *Kodak's* subjective test with an objective one. Second, by focusing on the one to whom the work would be denied rather than on the owner of the work, the proposal seeks to ensure that the return on intellectual property is related to its value.

III. LEVERAGING AND THE USE OF INTELLECTUAL PROPERTY

The basic insight of the test proposed here can be captured in a variation on the typical leveraging scenario. Assume, as described in the introduction of this essay, that the manufacturer of a durable good faces competition in servicing its equipment. Assume also that the manufacturer is the only seller of an unpatented replacement part for its equipment. Under certain circumstances,³⁸ it would be illegal for the manufacturer to condition sales of the part on the purchase of its service. Now suppose that the manufacturer physically attached to the part an unrelated and worthless,

36. It is not incontestable because even if the motivation for creating intellectual property is to gain profits unrelated to that intellectual property, those profits are still an incentive to create the intellectual property. Moreover, the patents would have some value to society, regardless of the motivation for their creation, because patent law has criteria for patentability that seek to ensure some level of inventiveness that will benefit society. See 35 U.S.C. §§ 102, 103 (1994). The case for copyright is less clear, because the threshold requirement for originality is quite low. See *Feist Publications, Inc. v. Rural Tel. Serv. Co.*, 499 U.S. 340 (1991).

37. The test does not, however, have another weakness attributed to it by the *Xerox* district court. That court said that *Kodak* failed to realize that intellectual property owners are always motivated by seeking profits from their intellectual property. See *In re Independent Serv. Orgs. Antitrust Litig.* (CSU, L.L.C. v. Xerox Corp.), 989 F. Supp. 1131, 1141 (D. Kan. 1997). The *Xerox* court said that under *Kodak*, "a company would be subject to antitrust liability for having a corporate memorandum which states that the company plans to use its intellectual property rights to exclude competitors and achieve a competitive advantage in the marketplace." *Id.* That is not true. The key issue in *Kodak* was not whether the patentee was seeking "to exclude competitors and achieve a competitive advantage in the marketplace," but whether it was truly using its intellectual property rights to do so. *Kodak*, 125 F.3d at 1219–20. This essay proposes a test for resolving that issue.

38. See *supra* notes 16–17 and text accompanying notes 22–25.

but patented, invention. Should the addition of the patented invention change the legality of the manufacturer's requirement that its service be used to install the (combination) part? The answer, I think, is no, as even leveraging defendants would probably agree.

A leveraging defendant would also say, of course, that *its* patented inventions are truly useful parts of its products, not things tacked on merely in order to claim patent protection. That is no doubt generally true, but is it the relevant question? To test it, consider another variation on the leveraging scenario. Suppose that the replacement part at issue was not initially protected by a patent, but that the manufacturer made a patented improvement to it. The improvement would certainly justify the manufacturer in charging a higher price for the part,³⁹ but should it make permissible a requirement that buyers use the manufacturer's service if that requirement was not permissible when the part contained no patented invention?

I believe that the answer to this question is also no. To allow the manufacturer to charge a monopoly price for the product with its patented invention is to allow it a return on its intellectual property. To allow it also to implement a tie that would otherwise be illegal, however, is to allow it a return—an anticompetitive return—that has no necessary relation to the manufacturer's *intellectual* property.⁴⁰ Unless the manufacturer can show some relationship between its invention (or copyright) and the leveraging arrangement, its intellectual property should provide no special exemption

39. Indeed, although the Ninth Circuit in *Kodak* condemned the defendant's leveraging, it said that it could charge whatever price it liked for its parts. *See Kodak*, 125 F.3d at 1224–26.

40. It has long been recognized that leveraging does not allow a seller to reap profits from its power over the leveraging product more than once. It can take those profits in the leveraging market or the leveraged market, but not in both. *See* Ward S. Bowman, Jr., *Tying Arrangements and the Leverage Problem*, 67 *YALE L.J.* 19 (1957). Leveraging can, however, allow a seller more fully to exercise the power it has in the leveraging market. That is, leveraging does not permit the seller to exercise its power twice, but it may permit it to exercise power that it could not use when it was confined to a single, non-discriminatory price. *See* Keith K. Wollenberg, *An Economic Analysis of Tie-In Sales: Re-examining the Leverage Theory*, 39 *STAN. L. REV.* 737, 743–52 (1987). Whether leveraging in such circumstances is procompetitive or anticompetitive is a matter of some dispute, but tying law condemns it, at least for sellers that have market power. *See supra* note 16.

It is also unclear whether price discrimination in the licensing of intellectual property is procompetitive or anticompetitive, but it is permissible. *See infra* note 44. The justification for this different rule, of course, is the incentive it produces for the creation of inventions and expression. The point in the text, then, is that where price discrimination would be illegal under antitrust law in the absence of intellectual property, a seller that argues that *its* price discrimination should be legal because it is based on intellectual property should be required to show that it is based not just on a product that incorporates intellectual property, but on the intellectual property incorporated in that product.

from the antitrust law. The following paragraphs discuss when such a showing might be possible.

A. *KODAK AND XEROX*

The facts of *Kodak* and *Xerox* closely resembled those just discussed. There were a large number of replacement parts for the equipment of each manufacturer. Some of the parts were patented, but all of them were denied to independent service organizations,⁴¹ and in any event, the manufacturers offered no explanation for why the patented inventions would justify those denials.⁴² Indeed, the service organizations sought the parts not because of whatever inventions were embodied in them, which might in fact have improved the performance of the copiers, but because they were the only available parts that fit the machines.

The benefits of whatever inventions were embodied in the parts accrued to the equipment owners, not to the service organizations. That is not to say that the independent service organizations would not have preferred the patented parts, even if unpatented alternatives had been available, but if they did have such preferences, they would have been derived from those of their customers, the equipment owners. Therefore, it cannot really be said that the manufacturers were denying their intellectual property to the service organizations; instead, they were denying it to the equipment owners, who used the service organizations.

As suggested above,⁴³ the problem here is that the inventions in the parts were not shown to have any relationship to the servicing that justified the denial of the parts to the service organizations. This is apparent when one considers the justification often offered for such leveraging arrangements: price discrimination. The argument for price discrimination, particularly in the intellectual property context,⁴⁴ is that the manufacturer

41. Xerox allowed the equipment owners themselves to purchase the parts. See *In re Independent Serv. Orgs. Antitrust Litig.* (Creative Copier Servs. v. Xerox Corp.), 85 F. Supp. 2d 1130, 1146 (D. Kan. 2000); *Xerox*, 989 F. Supp. at 1133. Those owners could then hire independent service organizations. But that still denied the parts to the service organizations qua service organizations, and prevented them from maintaining the parts availability that they needed to offer an attractive service package. See *Creative Copier*, 85 F. Supp. 2d at 1147.

42. This point provided much of the justification for the Ninth Circuit's conclusion that Kodak's reliance on its intellectual property rights was pretextual. See *Kodak*, 125 F.3d at 1219–20.

43. See *supra* text accompanying note 39.

44. Price discrimination is not generally a legal justification for a leveraging arrangement, but it can be one in the intellectual property context. See HOVENKAMP, *supra* note 14, at 245 n.45 (“Licensing agreements containing discriminatory rates do not violate the Robinson-Patman Act, which applies only to ‘commodities.’”).

ought to be able to charge those who value its invention highly a high price and those who value it less a lower price. In that way, more buyers will have access to the invention, and society will benefit.⁴⁵

It is unclear, though, how denying patented inventions to independent service organizations could further this goal. It is true that a manufacturer could charge supracompetitive prices for service and thus effectively charge a higher price to those owners who make greater use of their equipment (and require more service). If these heavy-use owners valued the equipment more highly, as seems plausible, this could be an effective method of price discrimination. However, if price discrimination in the absence of patents is impermissible,⁴⁶ the question is not whether using leverage to gain control over service allows the manufacturer to discriminate in the price of the equipment, but whether it allows it to discriminate in the price of the patented inventions.

The policies of Kodak and Xerox did not allow them to discriminate based on buyers' valuations of the inventions, rather than on their valuations of the equipment as a whole (if they in fact did that). It was generally the patented parts that required replacement most often.⁴⁷ Therefore, the manufacturer could have discriminated among buyers simply by charging a higher price for the patented parts. That is, the parts themselves could have served as a metering device. There was no need, if the discrimination was in fact based on the patents, to make service the vehicle of that discrimination.⁴⁸ Indeed, service pricing would be an inaccurate discrimination device to the extent that customers' valuations of the inventions were not exactly correlated with their service needs.

Thus, the imposition of leveraging arrangements in *Kodak* and *Xerox* had no apparent relation to the manufacturers' intellectual property. It is true that the tie might have enabled the manufacturers to extract higher returns from their intellectual property, and that seemed to be sufficient for

45. The high return for the owner will also benefit society in that it will create a greater incentive for the creation of intellectual property, and (perfect) price discrimination creates no monopoly deadweight loss.

46. We must make that assumption because the goal here is not to determine whether price discrimination is procompetitive in general, but whether, if it is anticompetitive, or at least illegal, the presence of intellectual property should make it permissible. *See supra* note 40.

47. *See In re Independent Serv. Orgs. Antitrust Litig. (Creative Copier Servs. v. Xerox Corp.)*, 85 F. Supp. 2d 1130, 1146, 1147–48 (D. Kan. 2000) (“Xerox has patents on the fuser/heat rolls . . . and the photoreceptor belts and dicorotrons For the average life of a . . . copier, photoreceptors are the number one cost of servicing, fuser rolls are the number two cost and dicorotrons are the number five cost.”).

48. Even more straightforwardly, the manufacturer could simply have charged license fees for the invention itself that discriminated among the owners. *See supra* note 44.

the court in *Xerox*.⁴⁹ But the same rationale would allow a manufacturer with a patent on product A to impose a tie between products B and C. That is not the law,⁵⁰ but it could be said to describe the facts in *Kodak* and *Xerox*.⁵¹ To justify their denials of their parts to independent service organizations, the defendants in those cases should have been required to explain how those denials were related to their intellectual property.⁵²

B. DATA GENERAL

In *Data General Corp. v. Grumman Systems Support Corp.*, a computer manufacturer, Data General, denied Grumman, an independent service organization, access to its copyrighted computer program, MV/ADEX, which was used in diagnosing computer problems.⁵³ In this case, the service organization did indeed seek to use the intellectual property of the equipment manufacturer. In copying MV/ADEX and in running the program, the service organization would have been using Data General's copyrighted expression. Moreover, it was only the service organization that would have used MV/ADEX; the equipment owners would have had no occasion to use it once their machines were repaired.⁵⁴

49. See *Xerox*, 989 F. Supp. at 1138-39.

50. As described above, though, it might be economically efficient if the profits otherwise provided by the manufacturer's intellectual property were insufficient to encourage production of that property.

51. In those cases, product A is the manufacturer's invention, product B is an unpatented (perhaps hypothetical) version of the part in which the manufacturer's invention is embodied, and C is the manufacturer's service. The equipment owner needs product B to keep its equipment running. If the part were available in an unpatented version, the manufacturer would not be permitted to require that the owner purchase C, the manufacturer's service, in order to obtain it. But by adding A, the patented invention, the manufacturer can, under *Xerox*, require the purchase of C, without showing that the requirement is related to the invention. It is immaterial whether the unpatented part is only hypothetical; the essential point is that the source of the equipment owner's leverage over the owner is not the invention but the owner's need for the part (patented or unpatented).

52. This seems to have been the view of the European Court of Justice in *AB Volvo v. Erik Veng (UK) Ltd.*, Case 238/87, [1988] ECR 6211. The court there refused to require Volvo to license its body panel designs to third parties, because, the court said, Volvo's refusal to license those designs "constitutes the very subject-matter of [its] exclusive right." *Id.* ¶ 8. The court noted, however, that "the arbitrary refusal to supply spare parts to independent repairers" would be "abusive conduct." *Id.* ¶ 9. See also Opinion of Mr. Advocate General Mischo, *AB Volvo v. Erik Veng (UK) Ltd.*, Case 238/87, [1988] ECR 6211, ¶ 28 (referring to "discriminatory conditions of sale (refusal to supply spare parts to independent repairers, for instance)").

53. 36 F.3d 1147, 1154 (1st Cir. 1994).

54. In this respect, *Data General* differs from those cases in which computer manufacturers have sought not only to deny service organizations their diagnostic software, but also to deny them operating system software. See *MAI Sys. Corp. v. Peak Computer, Inc.*, 991 F.2d 511, 518 n.4 (9th Cir. 1993); *Advanced Computer Servs. of Mich., Inc. v. MAI Sys. Corp.*, 845 F. Supp. 356, 360 (E.D. Va. 1994). Because operating system software is necessary to enable the computer to run any other software, it

These facts present a better case for leveraging than do those in *Kodak* and *Xerox*, for two related reasons. First, in *Data General* there was in fact a relationship between the intellectual property at issue—computer servicing software—and the market in which the competitive effect was felt—computer servicing. Second, there was a plausible argument that the leveraging arrangement was necessary to achieve a possibly procompetitive effect—price discrimination. Because the software, unlike the patented parts in *Kodak* and *Xerox*, would be purchased only once, price discrimination could not be achieved by pricing it at a supracompetitive level.⁵⁵

The likelihood that price discrimination, or some procompetitive justification, was at issue in *Data General* is increased by the fact that the MV/ADEX software was not necessary to keep the equipment running. That is, it was possible to perform service on the equipment without the MV/ADEX program. In a sense, then, there was an alternative “uncopyrighted product” available,⁵⁶ in that performing service with the aid of no program was possible. Hence, those who chose the copyrighted product did so because they preferred it, and thus paid whatever premium was required to use Data General service because they valued the software.

If the alternative of servicing the equipment without Data General’s protected work had not been available, whether the leveraging should have been permissible is somewhat less clear. For example, imagine that Data General had denied independent service organizations access to a patented device necessary for installing some essential, but unpatented and widely available, replacement part.⁵⁷ In this case, Data General could have argued, just as it could have for the computer program, that the patented device would be more highly valued by those who required the replacement part more often, but that it could sell the patented device only once. Therefore, price discrimination through service pricing might have been a reasonable approach.

would be needed by the service organization regardless of whether it used the manufacturer’s diagnostic software. Indeed, it would be needed regardless of whether the computer was being serviced at all, which indicates that in these cases the manufacturer was not seeking a return related to its development of the operating system software.

55. Data General could perhaps have used characteristics of the buyers or licensees as its basis for price discrimination, and thus discriminated even in single purchases, but that would likely have been a less precise approach than using service needs.

56. *Cf. supra* note 51.

57. Assume also that it was the invention embodied in the device, not some other aspect of the device, which was necessary for the installation.

The situation would have been different, though, if the patented device were used to install an essential replacement part that was patented, or over which Data General otherwise held a monopoly.⁵⁸ In that case, as was described above in the *Kodak-Xerox* context, Data General would not have had to resort to service pricing in order to price discriminate, but could simply have set the price of the replacement part so as to effectively charge a higher price to those who installed more of those parts, and thus presumably valued the patented device more highly.⁵⁹ The key consideration in deciding which of these scenarios applies is whether the manufacturer's denial or discriminatory grant of its intellectual property is related to buyers' or licensees' use of that property.

C. OTHER FACTUAL CONTEXTS

In all of the cases discussed above—*Kodak*, *Xerox*, and *Data General*—the manufacturers appeared to be discriminating against independent service organizations. There is an alternative to this sort of user-based discrimination: use-based discrimination. Because the Federal Circuit has said that field-of-use restrictions on intellectual property licenses are generally permissible,⁶⁰ a manufacturer might seek to accomplish its goal through that means. It is important, however, to distinguish true field-of-use restrictions from restrictions that appear to be based on use, but are in fact based on users.

One of these disguised restrictions was in fact also presented in *Data General*. Data General refused to allow some of its equipment owners to license MV/ADEX, but permitted others to do so. Specifically, it licensed the software to those who used it—those who serviced their own equipment—but refused to license it to owners who did not use the software—those who hired service organizations.⁶¹ This practice appeared to discriminate based on the use of Data General's intellectual property,

58. In the absence of intellectual property protection, Data General might have had a monopoly over sales of one of its replacement parts because, for example, it had economies of scale, which others could not match, in producing the part.

59. It might be argued that if the manufacturer could use service pricing to discriminate, it should be permitted to do so, even if it could also use parts pricing to accomplish the same goal. The point, though, is that the existence of intellectual property does not permit anything; the manufacturer's actions must be considered against a background in which antitrust law forbids tying and intellectual property law forbids going beyond "the scope of the patent." See *supra* notes 9 & 16. Therefore, it is reasonable to require the manufacturer to use the means that most closely accomplish its stated goals.

60. See *B. Braun Med. Inc. v. Abbott Lab.*, 124 F.3d 1419, 1426 (Fed. Cir. 1997) ("[F]ield of use restrictions . . . are generally upheld . . .").

61. See *Data Gen.*, 36 F.3d at 1154. There was no need for those equipment owners who used Data General service to license the software, because the software then was used by Data General.

suggesting that it was a valid use of the property. However, although the equipment owners who hired independent service organizations would not have used the software themselves, the service organizations, as their agents, would have. It is unclear why Data General should be permitted to discriminate between those who use its intellectual property as principals and those who allow their agents to use the property.⁶²

In this respect, one can compare *Data General* with *B. Braun Medical Inc. v. Abbott Laboratories*.⁶³ In *Braun*, the Federal Circuit found erroneous the district court's use of a jury instruction that defined as patent misuse a patent holder's use of conditional sales of the patented product. The restrictions at issue in *Braun* allowed Abbott to attach Braun's needleless syringe directly to an intravenous line, but did not allow attachment to an "extension set," which the court said would have "permit[ted] the delivery of additional fluids and drugs."⁶⁴ The court's view was that in the case of a field-of-use restriction, it is "reasonable to infer that the parties negotiated a price that reflects only the value of the 'use' rights conferred by the patentee."⁶⁵

This sort of restriction on the *use* of a protected product is more closely tied to the underlying intellectual property protection than is a restriction on the *user* of the protected product. The Federal Circuit said as much in another field-of-use case:

Should the restriction be found to be reasonably within the patent grant, i.e., that it relates to subject matter within the scope of the patent claims, that ends the inquiry. However, should such inquiry lead to the conclusion that there are anticompetitive effects extending beyond the patentee's statutory right to exclude, these effects do not automatically impeach the restriction.⁶⁶

Because the patent defines an invention, which in many cases will have a variety of uses, it is reasonable to believe that discrimination among those uses is within the scope of the grant, in a way that discrimination among those implementing the same use is not. Indeed, the courts have found

62. *Cf. In re Independent Serv. Orgs. Antitrust Litig. (Creative Copier Servs. v. Xerox Corp.)*, 85 F. Supp. 2d 1130, 1147 (D. Kan. 2000) (quoting a Xerox letter to an equipment owner, stating that "Xerox will not deal with an end-user through an independent service organization acting as the user's agent or intermediary.").

63. 124 F.3d 1419 (Fed. Cir. 1997).

64. *Id.* at 1422 & n.1.

65. *Id.* at 1426.

66. *Mallinckrodt, Inc. v. Medipart, Inc.*, 976 F.2d 700, 708 (Fed. Cir. 1992). For a discussion of the implications of *Mallinckrodt*, see Richard H. Stern, *Post-Sale Patent Restrictions After Mallinckrodt—An Idea in Search of Definition*, 5 ALB. L.J. SCI. & TECH. 1 (1994).

restrictions on users not to be within the patent grant, though they generally do not characterize the question in that way.⁶⁷

Returning to *Data General*, it seems clear that Data General's discrimination in licensing to equipment owners that did not use independent service organizations but not to those that did use them was not "relate[d] to subject matter within the scope of" Data General's protection for its copyrighted expression.⁶⁸ The situation might have been different, though, if Data General had shown that there was some difference in use, or even extent of use, between the two classes of equipment owners. If, for example, those owners that used service organizations did so because they used their equipment much more intensively, and thus required more service, the restriction could possibly have been defended as a use restriction.⁶⁹

In fact, the Federal Circuit has treated intensity-of-use restrictions as field-of-use restrictions, upholding a license limited to a single use in *Mallinckrodt, Inc. v. Medipart, Inc.*⁷⁰ Although one could perhaps argue that restrictions based on intensity of use are not best described as related to the "field" of use, they do appear useful in discriminating among customers based on their valuations of the intellectual property at issue, just as field-of-use restrictions are. Indeed, Data General's refusal to license its software to independent service organizations can be characterized in this way, as a means of denying use of the software to those who would use it more than a certain amount. The *Kodak* and *Xerox* restrictions cannot be characterized in this way, because in those cases the service organizations did not in fact "use" the patented parts at all.

IV. THE STATUTES AND "UNILATERAL" REFUSALS TO DEAL

The leveraging in many of the recent cases—including *Kodak*, *Xerox*, and *Data General*—is accomplished through actions by the intellectual property holders that are at least formally unilateral. Consequently, to the extent that the leveraging law discussed above⁷¹ arose from cases under

67. See, e.g., *United States v. Glaxo Group Ltd.*, 410 U.S. 52 (1973); *Unidisco, Inc. v. Schattner*, 824 F.2d 965 (Fed. Cir. 1987).

68. *Mallinckrodt*, 976 F.2d at 708. The analogy drawn here is between a patented invention and copyrighted expression, on the one hand, and the unpatented elements of a part embodying a patented invention and the uncopyrightable ideas incorporated in a copyrighted work, on the other. See *infra* Part IV.B.

69. In such circumstances, for example, Data General might have sought to price discriminate among the heavy users, where such discrimination might be profitable, while ignoring the other users.

70. *Mallinckrodt*, 976 F.2d at 708.

71. See *supra* Part II.

section 1 of the Sherman Act, which requires an agreement, that law is inapplicable to the recent cases. Instead, if the leveraging test proposed here were to be adopted, it would have to be pursuant to an interpretation of the patent and copyright statutes. The following paragraphs discuss whether the test would be consistent with those statutes.

A. PATENT LAW

Patent law forbids the infringement of a “patented invention.”⁷² One “infringes” the invention if one “makes, uses, offers to sell, or sells” it.⁷³ A service organization that buys and installs a part that incorporates a patented invention certainly does not “make” that invention. It seems reasonably clear, also, that the service organization does not “use” the invention if, as the test proposed here requires, the organization simply installs the part, and the invention does not play a role in the installation.

A more difficult question is whether the service organization “sells” (or “offers to sell”) the invention. If what the organization offers for sale is its service, in which parts are included, but it does not sell the manufacturer’s parts independently of that service, it seems that a reasonable argument can be made that it does not “sell” the parts. That would especially be so if the organization priced the parts at its cost. In any event, a service organization would not perform any forbidden acts if it simply installed a part purchased by the equipment owner, yet such purchases are sometimes forbidden by manufacturers if the part is to be installed by an independent service organization.⁷⁴

More broadly, the distinction between an invention and the particular product in which it is embodied is one specifically recognized by patent law. The distinction, in fact, is a central one in the use of commercial success as evidence of the nonobviousness of an invention. The rationale for the use of the commercial success test is that an invention that meets with such success was presumably nonobvious, else the commercial need would previously have been met. Patent law recognizes, though, that the success of the product in which the invention at issue is embodied must be due to the invention, not to some other factor, for this test to serve its intended purpose. Thus, the Federal Circuit has said that commercial success “must be shown to have in some way been due to the nature of the

72. 35 U.S.C. § 271(a) (1994).

73. *Id.*

74. *See supra* note 62 and accompanying text.

claimed invention, as opposed to other economic and commercial factors unrelated to the technical quality of the patented subject matter.”⁷⁵

Furthermore, the “other economic and commercial factors” recognized by patent law include the market position and economies of scale that could, as suggested above,⁷⁶ give a provider of replacement parts the power to force buyers to take its service. For example, in *Schwinn Bicycle Co. v. Goodyear Tire & Rubber Co.*, the court noted that “the position of Schwinn as a national leader in the design and manufacture of bicycles” may have been “largely responsible for the success of the design [for a bicycle seat].”⁷⁷ This point would seem to apply a fortiori to the manufacturer of equipment selling replacement parts for its own equipment. The courts have also recognized the importance of scale economies in commercial success.⁷⁸ In sum, patent law offers ample reason to reject the view that the leveraging power of a product embodying an invention is necessarily a product of that invention.

It has been suggested, notably by the *Xerox* court, that leveraging is permitted by a provision of the 1988 legislation that changed the law of patent misuse:

No patent owner otherwise entitled to relief for infringement . . . of a patent shall be denied relief or deemed guilty of misuse or illegal extension of the patent right by reason of his having . . . (4) refused to license or use any rights to the patent; or (5) conditioned the license of any rights to the patent or the sale of the patented product on the acquisition of a license to rights in another patent or purchase of a separate product, unless, in view of the circumstances, the patent owner has market power in the relevant market for the patent or patented product on which the license or sale is conditioned.⁷⁹

Xerox relied on subsection (4),⁸⁰ but that subsection refers to a wholesale refusal to license the patent, rather than to selective licensing, as the

75. *Cable Elec. Prods., Inc. v. Genmark, Inc.*, 770 F.2d 1015, 1027 (Fed. Cir. 1985).

76. *See supra* note 58.

77. 444 F.2d 295, 300 (9th Cir. 1970). *See also* *Pentec, Inc. v. Graphic Controls Corp.*, 776 F.2d 309, 316 (Fed. Cir. 1985) (upholding district court’s finding that commercial success of recorder pen design was largely attributable to market leadership and “extensive advertising”).

78. *See* *American Infra-Red Radiant Co. v. Lambert Indus., Inc.*, 360 F.2d 977, 990 (8th Cir. 1966) (concluding an enumeration of the possible explanations for the commercial success of the plaintiffs’ product with the observation that “[l]ast, but not least, plaintiffs have developed an organization for the manufacture and sale of these devices that is international in scope”).

79. 35 U.S.C. § 271(d) (1994).

80. *See* Brief for Defendant-Appellee Xerox Corporation at 25–32, *In re Independent Serv. Orgs. Antitrust Litig.* (CSU, L.L.C. v. Xerox Corp.), 203 F.3d 1322 (Fed. Cir. 2000) (No. 99-1323).

legislative history makes clear.⁸¹ A manufacturer in Xerox's position generally cannot refuse entirely to license the patents that are embodied in its parts, because those parts are necessary for the manufacturer's equipment. Instead, the manufacturer engages in selective licensing or sales, dealing with equipment owners but not with service organizations, or, as described above, with only certain equipment owners.

This sort of selective approach appears to implicate not subsection (4) but subsection (5), because access to parts is effectively conditioned on the additional purchase of the manufacturer's service. Xerox argued that this is not true, because subsection (5) applies only to "certain tying arrangements, arrangements that already violate the antitrust laws."⁸² The "conditioning" referred to by subsection (5) is, however, broader than the explicit agreement that is required under tying law. A patentee can unilaterally "condition" a license on the purchase of another product without requiring an explicit agreement to make that purchase.

Such "conditioning" was present in *Data General*. In an earlier case on similar facts,⁸³ Data General argued that it did not condition the license to its protected work⁸⁴ on the purchase of its service. Instead, it said, it licensed its work without conditions to equipment owners who did their own service, and refused entirely to license its work to equipment owners who hired independent service organizations. The court accepted this argument, in a sense, stating that Data General's licensing decisions were unilateral, lacking a conditional contract that would implicate section 1 of the Sherman Act.⁸⁵

But the absence of a contract does not necessarily imply the absence of conditioning. Those equipment owners that hired Data General for service, and only those equipment owners, got access to its protected work.

81. With regard to subsection (4), the legislative history cites two cases, both of which involved complete refusals to license patents, not conditional or selective licensing. See 134 CONG. REC. H10646, H10648 (daily ed. Oct. 20, 1988) (citing *Continental Paper Bag Co. v. Eastern Paper Bag Co.*, 210 U.S. 405 (1908); *SCM Corp. v. Xerox Corp.*, 645 F.2d 1195 (2d Cir. 1981)).

Moreover, the legislative history of earlier versions of what became the 1988 legislation makes clear that the law was intended only "to reform the doctrine of patent misuse so it will not be used to restrict the rights of patent owners when their licensing practices do not violate the antitrust laws." S. REP. NO. 100-492, at 2 (1988). The history reveals no intent to make conditional or selective licensing per se legal.

82. See Brief for Xerox at 31, *Xerox*, 203 F.3d 1322 (No. 99-1323).

83. See *Service & Training, Inc. v. Data Gen. Corp.*, 963 F.2d 680 (4th Cir. 1992).

84. In *Data General*, the work at issue was copyrighted, not patented, but the issues are the same.

85. See *Service & Training*, 963 F.2d at 685-88. The First Circuit's *Data General* decision reached a similar conclusion, but did so only after reviewing the evidence from which an agreement might have been inferred. See *Data Gen.*, 36 F.3d at 1179, 1180-81.

There is no indication that 35 U.S.C. § 271(d)(5) was only intended to apply to explicit agreements. Indeed, the Federal Circuit has described the section broadly, stating that it makes it an “impermissible broadening” of the patent grant to “us[e] a patent which enjoys market power in the relevant market to restrain competition in an unpatented product.”⁸⁶

Therefore, so long as the manufacturer has market power, as required by § 271(d)(5), it seems that the licensing approach challenged in *Kodak* and *Xerox* is not protected by the 1988 legislation. The requirement of market power, though long a part of antitrust law,⁸⁷ has not always been part of the law of patent misuse. Thus, the 1988 act, whose legislative history indicates that it was intended to conform misuse law to antitrust law,⁸⁸ can reasonably be read to do so by requiring that market power be shown by a plaintiff arguing that a licensing arrangement conditioned on the purchase of an unpatented product is misuse. In this way, subsection (5) is given some content, without reducing it to a simple duplication of antitrust tying law, as some (including *Xerox*) have argued.⁸⁹

B. COPYRIGHT LAW

Copyright protects “original works of authorship fixed in any tangible medium of expression,”⁹⁰ and, as relevant here, one infringes a copyright when one “reproduce[s] the copyrighted work” or “distribute[s] copies . . . of the copyrighted work.”⁹¹ This does not offer the freedom of interpretation of patent law; any reproduction appears to violate the statute, regardless of whether that reproduction is by one who uses the software. However, there are two possible exceptions: the exclusion of “ideas” and “methods of operation” from protection, and the fair use doctrine.

“In no case does copyright protection for an original work of authorship extend to any idea, procedure, process, system, method of operation, concept, principle, or discovery, regardless of the form in which it is described, explained, illustrated, or embodied in such work.”⁹² This idea-expression dichotomy, as it is often known, shares an important similarity with the approach to leveraging proposed in this essay—it distinguishes between the protected work and the product in which it is

86. *B. Braun Med. Inc. v. Abbott Lab.*, 124 F.3d 1419, 1426 (Fed. Cir. 1997).

87. *See supra* note 16.

88. *See supra* note 81.

89. *See* Brief for *Xerox* at 25–32, *Xerox*, 203 F.3d 1322 (No. 99-1323).

90. 17 U.S.C. § 102(a) (1994).

91. *Id.* § 106(1), (3).

92. *Id.* § 102(b).

sold or licensed. That is, copyright law acknowledges explicitly that only the expressive portion of the product is protected, in the same way that I propose that only the patented invention that is sold as part of a product is protected.

Copyright decisions have recognized this distinction in explicitly rejecting copyright owners' efforts to deny others access to their unprotected work. The problem in the copyright context is that, whereas a service organization can install a patented part without making, using, or selling an invention embodied in it, it is not always possible to make use of the underlying ideas in a copyrighted work without also copying the work's protected expression. Courts usually solve this problem by applying the fair use doctrine.⁹³

Fair use is generally intended to address certain circumstances in which it is thought to be desirable to allow the use of protected expression. That is, it is not specifically aimed at those instances in which a user seeks to make an incidental copy of the protected expression to gain access to an underlying, and unprotected, idea. Nevertheless, courts have applied the fair use doctrine to permit such copying.⁹⁴ The cases have generally arisen when a user copies a protected computer program to reverse-engineer it—to determine how the program works—in order to create another program that performs the same or a related function.⁹⁵

In such cases, the courts' decisions have generally turned on whether the program that the user creates can itself be viewed as an infringement of the original copyright owner's copyright.⁹⁶ That is, if the user copies the

93. *See id.* § 107. Another possible solution would be to apply 17 U.S.C. § 117, which states that it is not infringement to copy a computer program provided that the copy "is created as an essential step in the utilization of the computer program in conjunction with a machine and that it is used in no other manner." *Id.* § 117(a)(1). The courts are undecided, however, with regard to the applicability of this section in the reverse engineering context. *Compare* *Sega Enters. Ltd. v. Accolade, Inc.*, 977 F.2d 1510, 1520 (9th Cir. 1992) ("Section 117 does not purport to protect a user who disassembles object code, converts it from assembly into source code, and makes printouts and photocopies of the refined source code version."), *with* *Sony Computer Entertainment, Inc. v. Connectix Corp.*, 203 F.3d 596, 600 (9th Cir. 2000) (stating that court's application of the fair use doctrine made it unnecessary to address the applicability of 17 U.S.C. § 117(a)(1)).

94. The Digital Millennium Copyright Act affirms the view that reverse engineering is not necessarily a copyright violation. *See* 17 U.S.C. § 1201(f) (Supp. 1998) (permitting the circumvention of technological copy protection measures for the purpose of reverse engineering, so long as the reverse engineering itself is not an infringement).

95. *See* *Connectix*, 203 F.3d at 596; *Sega*, 977 F.2d at 1510; *Atari Games Corp. v. Nintendo of Am., Inc.*, 975 F.2d 832, 844–45 (Fed. Cir. 1992).

96. *See* *Connectix*, 203 F.3d at 602 ("Where disassembly is the *only way to gain access to the ideas and functional elements embodied in a copyrighted computer program* and where there is a legitimate reason for seeking such access, disassembly is a fair use of the copyrighted work, as a matter

original program, but the program that the user produces is a non-infringing one, the copying will be treated as a fair use.⁹⁷ If, on the other hand, the user copies the original program and produces an infringing program, the copying will not be viewed as a fair use.⁹⁸

In other words, a formal infringement—the copying of the original program—is not generally illegal if the user’s goal is a non-infringing use—the production of a non-infringing program. One can apply this rule, extending it only slightly, to the patent context of *Kodak* and *Xerox*. Assume that in those cases the independent service organizations were able to obtain access to the manufacturers’ patented parts (because, say, the manufacturers had licensed them to equipment owners), but that the manufacturers were not willing to license their use by the service organizations. Then one could argue that if the service organizations used the parts anyway, their formal infringement—the use of the patented parts—was done with the goal of engaging in a competing, and non-infringing use—servicing the owners’ equipment.⁹⁹

This is not to say, of course, that the copyright fair use law applied in the context of the reverse engineering of computer software is applicable in any direct way in the patent context.¹⁰⁰ But it is telling that in copyright law, where the difference between the protected work and the product in which it is embodied is explicitly acknowledged in the idea-expression dichotomy, the courts reject efforts to extend legal rights over the protected work to unprotected aspects of the product.

of law.”) (quoting *Sega*, 977 F.2d at 1527–28) (emphasis added by *Connectix*); *Atari*, 975 F.2d at 843 (“[R]everse engineering object code to discern the unprotectable ideas in a computer program is a fair use.”).

97. See *Connectix*, 203 F.3d at 606 (“Sony does not claim that the [defendant’s program] itself contains object code that infringes Sony’s copyright.”). Cf. *Sega*, 977 F.2d at 1527–28 (concluding that the defendant’s reverse engineering was a fair use, but observing that that “conclusion does not, of course, insulate [the defendant] from a claim of copyright infringement with respect to its finished products”).

98. See *Atari*, 975 F.2d at 844–45 (“[T]he trial court detected similarities between the programs beyond the similarities necessary to accommodate the programming environment, or similarities necessary to embody the unprotectable idea, process, or method of the . . . program.”).

99. The service organizations would not be prevented from using this argument by the fact that their ultimate goal was to compete with the intellectual property owner. See *Connectix*, 203 F.3d at 606.

100. However, Julie Cohen and Mark Lemley have recently relied on points similar to those made here in arguing that the scope of patent protection for computer software should be limited. See Julie E. Cohen & Mark A. Lemley, *Patent Scope and Innovation in the Software Industry* 89 CAL. L. REV. (forthcoming 2001). They argue that “the majority of software patents . . . cover only a single part of a computer program,” so that reverse engineering of computer programs should be permitted to allow access to the unpatented portions of the programs. *Id.* (manuscript at 23–24) (available at http://papers.ssrn.com/paper.taf?ABSTRACT_ID=209668).

V. BROADER IMPLICATIONS

The distinction proposed in this essay between a protected work and the commercial product in which it is embodied is of value beyond the specific context of leveraging. Indeed, although it is sometimes overlooked, I believe it is fundamental to intellectual property law. The following paragraphs discuss three ways in which the distinction is significant.

A. INTELLECTUAL MONOPOLIES AND PRODUCT MONOPOLIES

A leveraging claim requires the use of power in one market to gain an advantage in another. The district court in *Xerox* rejected the plaintiff's reliance on the Ninth Circuit's *Kodak* decision in part because it believed that the Ninth Circuit had misunderstood the relationship between the parts and service markets:

We begin with a discussion of the distinction between a "patent monopoly" and an "economic monopoly." The scope of a "patent monopoly" is defined by the claims of the patent, not by the limits of what a court determines is the most analogous antitrust market. On the other hand, an "economic monopoly," as we have used the term, refers to a firm's power to control the price of a product in a properly defined relevant antitrust market.

We believe that the Ninth Circuit in *Kodak*, in reaching its conclusion, implicitly assumed that a single patent can create at most a single "inherent" economic monopoly There is no unlawful leveraging of monopoly power when a patent holder merely exercises its rights inherent in the patent grant. In other words, to the extent Xerox gained its monopoly power in any market by unilaterally refusing to license its patents, such conduct is permissible under the antitrust laws. Xerox's legal right to exclude [independent service organizations] in the service markets from using Xerox's patented inventions arose from its patents, not from an unlawful leveraging of its monopoly power in the parts market.¹⁰¹

There are in fact three, not two, "markets" in the *Xerox* context, and the district court confused them. First, there is what the court called the "patent monopoly," which is defined by the claims of the patent. Second, there is a relevant antitrust market—what the court called the "economic monopoly"—in which the product in which the invention is embodied is sold. Third, and occupying a conceptual position somewhere between

101. *Xerox*, 989 F. Supp. at 1134–35 (citations omitted).

these two, is the product in which the invention is embodied. This “market”—or, more properly, the control which the patentee possesses over the product—is no more narrow than the invention and no more broad than a relevant antitrust market.

The court was correct in stating that it is the economic monopoly that matters for leveraging purposes; only economically relevant leveraging is important, at least to antitrust law. The court was too quick, though, in suggesting that Xerox’s power to exclude independent service organizations from the replacement parts market “arose from its patents.”¹⁰² If there were no alternative unpatented products available, Xerox’s power might have arisen not from equipment owners’ desire for its patented inventions, but from their need for replacement parts that fit Xerox equipment, regardless of whether those parts incorporated Xerox’s patented inventions. As discussed above, there might have been other reasons why no alternative parts were available. It might have been, for example, that the economies of scale were such that only Xerox could effectively compete in the market for its replacement parts.¹⁰³

Actually, the *Xerox* court did not say that Xerox’s market control arose from its patents. Rather, it said that “Xerox’s *legal right* to exclude [independent service organizations] in the service markets from using Xerox’s patented inventions arose from its patents.”¹⁰⁴ But the focus on the source of Xerox’s “legal right to exclude” is exactly wrong. The issue is the source of Xerox’s economic ability to exclude, not its legal right to do so; that is the point of the court’s focus on the “economic monopoly.” In order to be allowed to defend its leveraging by pointing to a legal right, Xerox should be required to show that it is in fact that legal right that is the source of its economic leveraging power.

B. A FOCUS ON USERS

In another respect, though, the *Xerox* court’s focus on economic market power is exactly right. In antitrust law in general, and in tying law

102. *Id.* at 1135.

103. This point was made in another parts-leveraging case, *Servicetrends, Inc. v. Siemens Med. Sys., Inc.*, 1994 U.S. Dist. LEXIS 15997 (N.D. Ga. 1994). The court in *Servicetrends*, after noting that the replacement components of a patented shocktube assembly were not themselves patented, so that “any other manufacturer can legally duplicate them,” noted that “[o]f course, whether production of these specialized parts is economically feasible in a competitive market is not a legal question.” *Id.* at *2. In fact, the plaintiff service organization apparently was unable to interest a manufacturer in producing the parts. *Id.*

104. *Xerox*, 989 F. Supp. at 1135 (emphasis added).

in particular, relevant antitrust markets are defined by looking at the nature of consumer demand. Thus, a relevant antitrust market is one in which a price increase above the competitive level will be profitable because consumers do not have available to them satisfactory substitute products.

The test I propose in this essay adopts a similar consumer-oriented, or user-oriented, perspective. Specifically, to determine whether an intellectual property owner is truly exploiting its intellectual property, I propose that the focus be on the use of that property. The owner should be permitted to show either of two things. First, if the owner is denying the property to one who would use the intellectual aspect of the property, the denial should be permissible, absent some other abuse of the intellectual property right. Second, if the owner is discriminating among users in providing access to the property in a manner that is based on the uses to which the intellectual aspect of the property is put, the discrimination should be permissible.

This approach avoids two problems. On the one hand, it avoids the *Xerox* district court's equation of patent rights over an invention with economic control of the product in which the invention is embodied. It thus avoids, as described above, a focus on legal rights when the real issue is the economic one of leveraging. On the other hand, it avoids the Ninth Circuit's focus in *Kodak* on the subjective intent of the intellectual property owner. It is not fruitful to ask if the owner's "intent" is to exploit its intellectual property; in a subjective sense, it always is. The important question is whether the exploitation is one that will promote the goals of intellectual property law, and it will do so only when the property that is being exploited is truly intellectual.

A user-oriented focus is also useful in contexts beyond leveraging. An example is the recent controversy regarding reach-through licenses of biotechnological research tools.¹⁰⁵ Such licenses give the owner of a research tool rights in the discoveries made using that tool.¹⁰⁶ Thus, the effective price paid under the license is not based on the nature of the use made of the intellectual property, but on the results achieved by that use. One could argue that the licenses are a means of price discrimination, in that they allow the property owner to charge a low base price, while charging higher prices only to licensees whose research is successful. The

105. See Michael A. Heller & Rebecca S. Eisenberg, *Can Patents Deter Innovation? The Anticommons in Biomedical Research*, 280 *SCIENCE* 698, 699 (1998).

106. See *id.* "Such rights may take the form of a royalty on sales that result from use of the upstream research tool, an exclusive or nonexclusive license on future discoveries, or an option to acquire such a license." *Id.* at 699.

question, though, should not be whether the licenses allow price discrimination, but whether they effect price discrimination based on the use of the owner's intellectual property. In fact, they do not, instead basing the discrimination on the success of the *licensee's* research. In that way, they lessen the incentive for such downstream research, and may discourage the very innovation that intellectual property is intended to promote.¹⁰⁷

C. THE INTEL CASES

A focus on users also illuminates the recent cases alleging that Intel Corporation used its intellectual property to discourage others from challenging its alleged infringement of their intellectual property.¹⁰⁸ Intel's general policy was to release early versions of its microprocessors and information about those microprocessors to buyers who incorporated its processors in their computers. However, when several of those buyers independently sued Intel, claiming that it had infringed their intellectual property, Intel conditioned their continued access to its processors and information on their terminations of the infringement suits. Thus, Intel's discriminatory practices were unrelated to its potential licensees' uses of its intellectual property, and were based instead on whether those licensees had asserted their own intellectual property rights against Intel.

The approach proposed in this essay would make Intel's actions impermissible. The argument it made in defending its actions was much the same as the district court's in *Xerox*: an intellectual property owner is entitled to any returns it can get on its intellectual property. As in *Xerox*, though, it was true only in the broadest sense that Intel's returns were returns on intellectual property. To be sure, they were made possible by its possession of intellectual property, but they were not a product of the intellectual element of that property.¹⁰⁹ The returns would also have been possible had Intel only had monopoly control of some other, unprotected

107. *See id.* at 698. Heller and Eisenberg discuss the general inhibitory effect that these licenses may have on research, but they do not focus on the user-oriented perspective adopted here.

108. *See Intergraph Corp. v. Intel Corp.*, 195 F.3d 1346 (Fed. Cir. 1999); Complaint, *In re Intel Corp.* (FTC No. 9288) (available at <<http://www.ftc.gov/os/1998/9806/intelfin.cmp.htm>>).

109. Another commentator recently made a similar point:

[T]he policy rationale underlying those cases [allowing denials of intellectual property] is to encourage innovation by ensuring that one's competitors will not be able to free ride on one's investment. Intel could not, of course, and did not, argue that the reason why it withheld the confidential information about next generation microprocessors, and samples of such products, from some of its customers was to prevent them from competing with Intel using that information.

Davis, *supra* note 1, at 51.

property. Under an understanding of intellectual property that permits only uses of that property that provide returns related to the actual intellectual contribution that the property rights are designed to encourage, Intel's argument is incorrect. To justify its actions, Intel should have been required to point to some way in which its denial of access to its property related to its protected intellectual elements.

The nature of Intel's settlement with the Federal Trade Commission (FTC) is consistent with this conclusion:

[Intel] shall cease and desist from . . . (1) impeding, altering, suspending, withdrawing, withholding or refusing to provide access by any microprocessor customer to [Advance Technical] Information for reasons related to an Intellectual Property Dispute with such customer if at the time of such [Intellectual Property] Dispute such customer is receiving [Advance Technical] Information from Respondent or (2) basing any supply decisions for general purpose microprocessors upon the existence of an [Intellectual Property] Dispute.¹¹⁰

Thus, the settlement prohibits Intel from discriminating among customers on the basis of some other intellectual property dispute which is unrelated to Intel's own intellectual property rights.¹¹¹

The settlement has an important exception, though:

[The provisions set forth above] shall be inapplicable with regard to any [Advance Technical] Information or product supply decision specific to any Intel microprocessor that the customer has asserted is infringing its patent, copyright or trade secret rights unless that customer agrees in writing not to seek an injunction against the manufacture, use, sale, offer to sell, or importation of all Intel microprocessors that are based upon the same core microarchitecture . . . as the Intel microprocessor that is the subject of the assertion of infringement . . .¹¹²

110. Agreement Containing Consent Order ¶ II.A, *In re Intel Corp.* (FTC No. 9288) (available at <<http://www.ftc.gov/os/1999/9903/d09288intelagreement.htm>>).

111. It is worth noting that the Commission's complaint relied in part on the fact that the market in which Intel sought to exercise its leverage was itself a market of intellectual property:

Because patent rights are an important means of promoting innovation, Intel's coercive tactics to force customers to license away such rights diminishes the incentives of any firm dependent on Intel to develop microprocessor-related technologies. Because most firms who own or are developing such technologies are vulnerable to retaliation from Intel, the natural and probable effect of Intel's conduct is to diminish the incentives of the industry to develop new and improved microprocessor and related technologies.

Intel Complaint ¶ 39, *In re Intel Corp.* (FTC No. 9288). Under the test proposed in this essay, that is of no importance.

112. Intel Settlement Agreement ¶ II.A, *In re Intel Corp.* (FTC No. 9288).

This exception, too, is consistent with the proposal of this essay. It permits Intel to discriminate among its customers (by denying them information or processors) to the extent that those customers are seeking an injunction that would forbid Intel from selling its own products, and thus from using Intel's own intellectual property. That basis for discrimination is thus related directly to the intellectual property that Intel sought to deny, and the FTC was correct to permit such discrimination.

VI. CONCLUSION

Not all apparent conflicts between antitrust law and intellectual property law are real conflicts. When an intellectual property owner selectively sells or licenses its property in a way that bears no relation to potential purchasers' or licensees' uses of the protected aspects of that property, no interest in *intellectual* property is being vindicated. Hence, in such circumstances the intellectual property should provide no special exemption from the antitrust laws. Indeed, licensing practices of this kind should be characterized as misuse of the intellectual property.

This proposal would likely change little with respect to copyright law, which already achieves similar results through the distinction it draws between protected expression and unprotected ideas. Patent law, however, has generally drawn no such distinction between protected inventions and the unprotected aspects of the products in which those inventions are embodied. Adoption of the approach proposed here would therefore reconcile copyright and patent law in this important respect, and thereby clarify the nature of intellectual property.