THE ANTITRUST/INTELLECTUAL PROPERTY INTERFACE: AN EMERGING SOLUTION TO AN INTRACTABLE PROBLEM

*Daniel J. Gifford**

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* Robins, Kaplan, Miller & Ciresi Professor of Law, University of Minnesota Law School.

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I. INTRODUCTION: THE CURRENT PREDICAMENT

The relationship of the antitrust laws to the patent, copyright and other intellectual property laws has perplexed antitrust scholars and practitioners since the beginning of the twentieth century.[1] The problems

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1. *See, e.g.*, Motion Picture Patents Co. v. Universal Film Mfg. Co., 243 U.S. 502 (1917), *overruling*, Henry v. A.B. Dick Co., 224 U.S. 1 (1912). For thoughtful recent discussions of the relationships between the antitrust laws and the intellectual property laws, see generally, Michael A. Carrier, *Unraveling the Patent-Antitrust Paradox*, 150 U. PA. L. REV. 761 (2002); David McGowan, *Networks and Intention in Antitrust and Intellectual Property*, 24 J. CORP. L. 485 (1999); Mark R. Patterson, *When is Property Intellectual? The Leveraging Problem*, 73 S. CAL. L. REV. 1133 (2000). Professor Carrier has proposed that the application of antitrust and patent law be determined in each case partly upon the relative importance to innovation in the affected market of competition or patents, a determination that would be made through a series of presumptions, rebuttals and surrebuttals. Professor Patterson has proposed reconciling antitrust and intellectual property laws (including both patents and copyrights) by distinguishing between the protected invention or expression and the products in which those inventions or expressions are embodied.

in reconciling the two legal areas arise from two, if related, sources. One problem lies in their purposes: the intellectual property laws are designed to create exclusive rights—exclusive rights that sometimes rise to the level of monopolies—in order to encourage innovation and creativity. The antitrust laws are designed to foster competition and to prevent the formation of monopolies. The other related problem is definitional; just how far does the protection afforded by these laws extend? To a large extent the answer to the second question depends on how we approach reconciling the purposes of these laws.

Recent decisions by the Federal Circuit in *In re Independent Service Organizations Antitrust Litigation*,[2] the Ninth Circuit in *Image Technical Services, Inc. v. Eastman Kodak Co.*,[3] and the D.C. Circuit in the *Microsoft* antitrust litigation[4] are contributing to a new understanding of the relationship between the two sets of laws. In their *Antitrust Guidelines for the Licensing of Intellectual Property*[5]—issued in 1995—the Justice Department and the Federal Trade Commission have shown their keen awareness of the challenges that intellectual property poses for antitrust law. Recent judicial decisions involving misuse doctrines, such as the Fifth Circuit's *Alcatel USA, Inc. v. DGI Technologies, Inc.*,[6] have also dealt with the tensions between intellectual property protection and competition. These several judicial decisions and enforcement agency pronouncements emphasize different aspects of the scope and limitations of intellectual property rights and their role in the marketplace. As a result, the law may appear to some observers as confusing and incoherent. Yet this superficial conflict and inconsistency in the cases may be more apparent than real. In any event, it is symptomatic of the development of a new intellectual property/antitrust paradigm,[7] a paradigm which has been emerging for some time and which is now close to widespread acceptance.

When, if ever, does the exercise of rights under the patent and copyright laws violate the antitrust laws? To what extent can the exploitation of power conferred by the intellectual property laws constitute monopolization or attempted monopolization? When can the

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The proposal made in this Article avoids the difficulties of both of the above proposals, because the proposal made here merely requires the courts to recognize the rational themes already present in its caselaw and to follow them consistently.

2. 203 F.3d 1322 (Fed. Cir. 2000), *cert. denied*, 531 U.S. 1143 (2001).
3. 125 F.3d 1195 (9th Cir. 1997).
4. *See generally* United States v. Microsoft Corp., 253 F.3d 34 (D.C. Cir. 2001).
5. *See* 68 Antitrust & Trade Reg. Rep. (BNA) No. 1708 (Supp. 1995).
6. 166 F.3d 772 (5th Cir. 1999).
7. *See generally* THOMAS S. KUHN, THE STRUCTURE OF SCIENTIFIC REVOLUTIONS (1962).

exploitation of that power violate section one of the Sherman Act? Or section three of the Clayton Act? To what extent can patent or copyright misuse doctrines constrain behavior which does not violate the antitrust laws? To what extent, if at all, can the courts be expected to guide their development of the copyright misuse doctrine by legislatively-imposed limitations on the patent misuse doctrine? The courts have taken different approaches to the relative primacy of the patent and copyright laws over the antitrust laws. Some courts believe that antitrust laws severely constrain rights conferred by the patent and copyright laws. Over the past century the courts have incorporated competition policies into the patent laws themselves and during the past decade the courts have taken a similar approach with the copyright laws. Because the courts have not always outlined the boundaries of the antitrust laws and the intellectual property laws with precision and because their interjection of competition policies into the intellectual property law has not been guided by a coherent economic rationale, a cloudy penumbra of prohibited behavior has hung over the patent and copyright laws.

This Article examines the interplay of antitrust law, patent law, copyright law, and the patent and copyright misuse doctrines, as they have evolved over time and in their present state of flux. It reviews some of the academic commentary directed at the antitrust/intellectual property interface. It then presents a new way of looking at the problems posed by the social need for innovation and it reveals the inadequacy of a significant amount of the existing caselaw. The Article outlines a new paradigm governing the relationship between competition and intellectual property policies.

I start in Part II with a brief outline of the interactions between the courts and the Congress involving tying and the intellectual property laws. In that history, antitrust concepts have entered patent law in different ways: Sometimes they have been absorbed, more or less directly, into patent law. Sometimes they have entered patent law through the patent misuse doctrine. Part III tracks the evolution of patent misuse and antitrust law during the first six decades of the twentieth century. Part IV treats the Chicago-school reaction to the earlier law, as manifested in academic journals, the courts, and the Congress. Part V examines some academic critiques of the current state of the antitrust/intellectual property interface. Parts VI through VIII review the recent rebirth and evolution of the copyright misuse doctrine. Part IX explores recent antitrust developments in the intellectual property arena. Part X then describes a newly emerging judicial synthesis of antitrust

and intellectual property policies. Part XI explores connections between the new synthesis and academic commentary.

II. A BRIEF OVERVIEW OF THE INTERACTION BETWEEN CONGRESS AND THE COURTS ON TYING ARRANGEMENTS

When Congress, in 1890, enacted the Sherman Act[8] and thus embraced competition as a national policy, it may not have directly focused upon the relationship between competition and intellectual property rights. Although the Sherman Act was cast in language that is both sweeping and imprecise, broad outlines of a judicial approach to its construction were becoming increasingly visible in the first decade and one-half of the twentieth century. In 1911, the Supreme Court had embraced the so-called "rule of reason,"[9] an interpretative technique which examined behavior contextually. During this early period the courts were also taking an expansive approach to the powers of patent holders. In 1912, the Court had upheld, as incident to its patent rights, the marketing practice of a seller of mimeograph machines under which users were required to obtain their supplies of ink and paper from that seller.[10] Yet while the courts were tilting towards the rights of patent holders, the Justice Department was simultaneously launching an attack, under the Sherman Act, on the United Shoe Machinery Company's practices of tying together leases of its various types of patented shoe manufacturing machinery.[11] Under that company's practices, lessees of any one or more of its machines became bound to lease all of their machinery from that company.

In 1914, the Congress responded to the judicial developments of both the antitrust and patent law. In part reacting to the Supreme Court's rule-of-reason approach to the Sherman Act, the Congress enacted several antitrust provisions in the Clayton Act which were targeted at specific types of problematic behavior. The Clayton Act contains provisions directed against price discrimination,[12] against tying arrangements,[13] against stock acquisitions,[14] and against interlocking

8. *See* 15 U.S.C. §§ 1-7 (2000).

9. *See* Standard Oil Co. v. United States, 221 U.S. 1, 62-68 (1911); United States v. Am. Tobacco Co., 221 U.S. 106, 179-80 (1911).

10. *See* Henry v. A.B. Dick Co., 224 U.S. 1, 49 (1912).

11. *See* United States v. United Shoe Mach. Co., 222 F. 349, 396 (D. Mass. 1915), *aff'd*, 247 U.S. 32 (1918); United States v. Winslow, 195 F. 578, 586 (D. Mass. 1912), *aff'd*, 227 U.S. 202 (1913).

12. *See* 15 U.S.C. § 13 (2000).

13. *See id.* § 14.

14. *See id.* § 18.

directorates.[15] Congress attempted to express its disapproval of the use of patents as aids for imposing tying arrangements when it enacted section three of the Clayton Act.[16] Section three not only forbade tying one commodity to another when anticompetitive effects are likely to result,[17] but its prohibition was extended to the tying of both patented and unpatented commodities.[18] The legislative history of section three contains numerous disapproving references to the tying practices of the A.B. Dick Company, which the Court had recently approved,[19] and to the tying practices of the United Shoe Machinery Company, which the government was then attacking under the Sherman Act. Apparently Congress wanted its prohibition to be unaffected by the fact that a tying arrangement—like those of United Shoe Machinery—involved patented products.[20]

The Supreme Court responded to the Clayton Act by overruling the decision in *A.B. Dick Company* that had held that a patentee could lawfully condition the use of a patented machine on the use of supplies purchased from the patentee.[21] And, in a series of cases,[22] the Court

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15. *See id.* § 19.

16. *See id.* § 14.

17. Section three provides that:

> It shall be unlawful for any person engaged in commerce, in the course of such commerce, to lease or make a sale or contact for sale of goods, wares, merchandise, machinery, supplies, or other commodities, whether patented or unpatented, for use, consumption, or resale within the United States or any Territory thereof or the District of Columbia or any insular possession or other place under the jurisdiction of the United States, or fix a price charged therefor, or discount from, or rebate upon, such price, on the condition, agreement, or understanding that the lessee or purchaser thereof shall not use or deal in the goods, wares, merchandise, machinery, supplies, or other commodities of a competitor or competitors of the lessor or seller, where the effect of such lease, sale, or contract for sale or such condition, agreement, or understanding may be to substantially lessen competition or tend to create a monopoly in any line of commerce.

Id.

18. *See id*.

19. *See supra* note 10 and accompanying text.

20. This method of statement omits the problems which were created when the courts ruled that a firm would be deemed to violate the Clayton Act when it possessed market power in the market for the tying product and then inferred market power from the existence of a patent or other intellectual property right. *See* United States v. Loew's Inc., 371 U.S. 38, 45 (1962) ("The requisite economic power is presumed when the tying product is patented or copyrighted."). Under the amendment to section 271(d), market power is no longer inferred from the existence of a patent for misuse analysis. Behavior which does not rise to the level of misuse would appear unlikely to be ruled in violation of the antitrust laws. Even before the amendment of section 271(d), the courts had often refused to equate a patent with market power. *See* A.I. Root Co. v. Computer/Dynamics, Inc., 806 F.2d 673, 676 (6th Cir. 1986); USM Corp. v. SPS Techs., Inc., 694 F.2d 505, 511 (7th Cir. 1982); SCM Corp. v. Xerox Corp., 645 F.2d 1195, 1203 (2d Cir. 1981).

21. *See* Motion Picture Patents Co. v. Universal Film Mfg. Co., 243 U.S. 502, 518-19 (1917).

gradually expanded the constraints on tying by patentees. By mid-century, the Court had so expanded those constraints that they had undermined the doctrine of contributory infringement. Congress responded legislatively in the Patent Act of 1952 ("Patent Act") by reinstating the contributory infringement doctrine and limiting the scope of the misuse doctrine. This legislation did not inhibit the judicial assault on tying arrangements, however. The assault merely shifted to another front. Thereafter, the Court expanded its attacks on tying arrangements of all kinds. The Court singled out tying connected with patents and copyrights, however, by attributing a presumption of market power to these intellectual property rights.[23] Since the Court had also adopted a per se rule condemning tying arrangements whenever the seller possessed market power, the effect of this presumption was to make all tying arrangements entered into by holders of patents or copyrights per se illegal.

During the last two decades of the past century, the foundation for any such presumption has been substantially eroded. The Court plurality referred to that presumption in *Jefferson Parish*[24] and a Court majority referred to it again in *Eastman Kodak*.[25] But *Jefferson Parish* also generated a four-Justice concurring opinion in which the presumption was rejected.[26] Legal commentators have shown the presumption to be without basis in fact since the legal monopoly of a patent is not necessarily coextensive with an economic monopoly.[27] Lower courts (albeit not unanimously) have agreed;[28] they have refused to apply any such presumption in monopolization and attempt cases,[29] and have even refused to apply the presumption in the tying context where it had been initially raised.[30] Legislation enacted in 1988 rejected any such

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22. *See generally* Mercoid Corp. v. Minneapolis-Honeywell Regulator Co., 320 U.S. 680 (1944); Mercoid Corp. v. Mid-Continent Inv. Co., 320 U.S. 661 (1944); Morton Salt Co. v. G.S. Suppiger Co., 314 U.S. 488 (1942); Carbice Corp. v. Am. Patents Dev. Corp., 283 U.S. 27 (1931); *Motion Picture Patents Co.*, 243 U.S. 502. These cases are discussed, *infra*, Part III.

23. *See Loew's*, 371 U.S. at 45; *see infra* notes 99-108 and accompanying text.

24. *See* Jefferson Parish Hosp. Dist. No. 2 v. Hyde, 466 U.S. 2, 16 (1984).

25. *See* Eastman Kodak Co. v. Image Technical Servs., Inc., 504 U.S. 451, 480 n.29 (1992).

26. *See* 466 U.S. at 37 n.7.

27. *See* William Montgomery, Note, *The Presumption of Economic Power for Patented and Copyrighted Products in Tying Arrangements*, 85 COLUM. L. REV. 1140, 1150-51 (1985).

28. *See* USM Corp. v. SPS Techs., Inc., 694 F.2d 505, 511 (7th Cir. 1982).

29. *See In re* Indep. Serv. Orgs. Antitrust Litig., 203 F.3d 1322, 1325-26 (Fed. Cir. 2000); Abbott Labs. v. Brennan, 952 F.2d 1346, 1354-55 (Fed. Cir. 1991).

30. *See* A.I. Root Co. v. Computer/Dynamics, Inc., 806 F.2d 673, 676 (6th Cir. 1986); F.B. Leopold Co. v. Roberts Filter Mfg. Co., 882 F. Supp. 433, 454 (W.D. Pa. 1995); Klo-Zik Co. v. Gen. Motors Corp., 677 F. Supp. 499, 505 (E.D. Tex. 1987); *see also* Allen-Myland, Inc. v. Int'l

presumption for purposes of patent misuse.[31] Finally, recent cases have turned the presumption on its head by holding that a patent (or copyright) may justify a tie that would otherwise be invalid.[32] As a result of all of these events, it no longer appears that the conjunction of a patent or copyright with a tie automatically results in an antitrust violation.[33] Moreover, the courts have become significantly less hostile to tying agreements in general. Indeed, in *Jefferson Parish*, four Justices of the Supreme Court argued for the abolition of the per se rule against tying. This strain of *Jefferson Parish* has apparently been picked up by the D.C. Circuit which, in its recent *Microsoft* decision, rejected the per se rule and opted for the rule of reason for the evaluation of tying arrangements involving "platform software."[34] Yet public policy remains murky. The Court majority in *Jefferson Parish* ruled that tying offended the antitrust laws because it facilitated price discrimination,[35] behavior which may well increase output and reduce allocative inefficiencies.[36] And in *Eastman Kodak*, the Court ruled that a manufacturer's refusal to sell parts to an independent servicing organization that wanted to compete in the service aftermarket with the manufacturer could constitute an unlawful tie violating section one of the Sherman Act as well as monopolization in violation of section two.[37] Congress amended the Patent Act in the late 1980s to further constrain judicial attempts to apply the misuse doctrine.[38] Yet, even as it was exerting control over the misuse doctrine, Congress failed to enact proposed accompanying provisions that would have protected patentees from assaults under the antitrust laws. And in the 1990s, the courts have fostered the copyright misuse doctrine, a doctrine ostensibly based on the patent misuse doctrine, to limit the ability of copyright holders to engage in a variety of tying arrangements.

Bus. Machs. Corp., 693 F. Supp. 262, 281 (E.D. Pa. 1988), *vacated on other grounds*, 33 F.3d 194 (3d Cir. 1994).

31. *See* Pub. L. 100-703, Title II, § 201, 102 Stat. 4676 (1988) (codified as amended at 35 U.S.C. § 271 (2000)).

32. *See In re Indep. Serv. Orgs. Antitrust Litig*., 203 F.3d at 1328-29.

33. *See id.*

34. *See* United States v. Microsoft Corp., 253 F.3d 34, 84 (D.C. Cir. 2001).

35. *See* Jefferson Parish Hosp. Dist. No. 2 v. Hyde, 466 U.S. 2, 14-15 (1984).

36. *See id.* at 36 n.4 (O'Connor, J., concurring).

37. *See* Eastman Kodak Co. v. Image Technical Servs., Inc., 504 U.S. 451, 486 (1992). The Court remanded the case for trial on the issue of whether competition in the equipment market disciplined the aftermarkets so that all three markets (equipment, parts, and servicing) manifested competitive behavior. *See id.*

38. *See* Pub. L.100-703, Title II, § 201, 102 Stat. 4676 (1988) (codified as amended at 35 U.S.C. § 271 (2000)).

III. Patent Licensing Power, Misuse, Infringement, and Antitrust

A. *The Early Twentieth Century: From Unconstrained Patent Leveraging to the Clayton Act to the Misuse Doctrine to the* Mercoid *Cases*

Early patent cases involving issues of contributory infringement provide a useful framework in which to examine the interplay between antitrust and patent law. *Leeds & Catlin Co. v. Victor Talking Machine Co.*,[39] arose during the period in which the Victor company held a patent on the phonograph.[40] The Leeds & Catlin firm was manufacturing and selling records for playing on the Victor phonograph.[41] Ruling that the invention covered by the patent was composed of the combination of "a travelling tablet having a sound recording formed thereon" and "a reproducing stylus," the Court ruled that placing the record on the phonograph was a "reconstruction" of the patented invention, something which only the patent holder had a right to do.[42] Accordingly, phonograph owners committed acts of direct infringement when they placed non-Victor records on their machines. And the suppliers of those records, such as Leeds & Catlin, were contributory infringers. In *Leeds & Catlin*, the Court distinguished an earlier case, *Morgan Envelope Co. v. Albany Perforated Wrapping Paper Co.*,[43] which involved a supplier of paper for use with a patented dispenser.[44] In that case the claim of contributory infringement had been rejected.[45] The distinction, according to the Court, was that the earlier case involved merely the replenishment of inert perishable supplies which the mechanism was designed to deliver whereas in *Leeds & Catlin* the records were perceived by the Court as an active ingredient of the invention "co-act[ing] with the stylus to produce the result."[46]

A decade before *Leeds & Catlin*, the Sixth Circuit had expansively construed the rights of a patent holder in *Heaton-Peninsular Button-Fastener Co. v. Eureka Specialty Co*.[47] There, the holder of a patent on a

39. 213 U.S. 325 (1909).
40. *See id*. at 331.
41. *See id*.
42. Leeds & Catlin Co. v. Victor Talking Mach. Co., 213 U.S. 301, 311 (1909).
43. 152 U.S. 425 (1894).
44. *See id*. at 427.
45. *See id*. at 436.
46. 213 U.S. at 335.
47. 77 F. 288 (6th Cir. 1896).

button-fastener machine used limited licensing to require the first and all subsequent purchasers of the machine to obtain their staples from the patentee. Although normally, purchasers of patented machines acquire a general license to use them as they see fit, the court ruled that the patentee could sell patented machines under a limited license (transferable to subsequent purchasers) restricting the uses to which purchasers could put the machines. In this case, the patentee restricted the license to use of the machines with staples supplied by the patentee itself. Use of the machine with staples from another source exceeded the terms of the limited license and therefore constituted infringement.[48]

The Sixth Circuit was clear that the staples were not part of the invention (as were the phonograph records in *Leeds & Catlin*). The infringement here consisted not of a reconstruction of the machine, but merely of unlicensed use. Since the defendant supplied staples knowing that the owners of the machine intended to use them in acts of direct infringement, the defendant was itself a contributory infringer.[49] The theory underlying *Heaton-Peninsular* appears at odds with the ruling in *Morgan Envelope* where the defendant prevailed because the invention contemplated the periodic replenishment of supplies.[50] In *Morgan Envelope*, the Court took the view that either the paper was not part of the invention or that, if it were, the inventor necessarily consented to the purchaser's use of supplies obtained from an independent source.[51] If there were doubts about the correctness of the Sixth Circuit's decision, these largely vanished in 1912 when the Supreme Court confirmed the *Heaton-Peninsular* approach in *Henry v. A.B. Dick Co*.[52] In the latter case, the seller of a patented mimeograph machine sold it under a license authorizing its use only with stencil paper, ink and other supplies made by the patentee.[53] Relying in significant part upon the language of the Patent Act which confers an exclusive right over "use," the Court held the patentee to be acting within the rights conferred by the patent law.[54]

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48. *See id*. at 290-91, 296-97, 300.

49. *See id*. at 289, 296-97.

50. *See* Morgan Envelope Co. v. Albany Perforated Wrapping Paper Co., 152 U.S. 425, 433 (1894).

51. *See id*. at 431.

52. 224 U.S. 1 (1912).

53. *See id*. at 11.

54. *See id*. at 25-26, 46. The Court distinguished an earlier case involving an attempt by a copyright holder to control the price at which its book could be sold at retail. In *Bobbs-Merrill Co. v. Straus*, 210 U.S. 339 (1908), the Court had ruled that the Copyright Act did not confer power in the copyright holder to control the prices at which subsequent purchasers sold a book. The "first-sale" doctrine which the Court applied in *Bobbs-Merrill* is currently incorporated in section 109 of the Copyright Act. *See* 17 U.S.C. § 109 (1994). Because the patent law conferred a right of

In 1917, five years after its decision in *A.B. Dick*, the Court switched its position 180 degrees. In *Motion Picture Patents Co. v. Universal Film Manufacturing Co.*,[55] the plaintiff owned the patent on a device for feeding film into motion picture projectors. The plaintiff patentee sought to limit the film used with its device by following the strategy of attaching a limited license to the machines. This time the Court rejected the patentee's attempt to control the supplies used with its patented machine, disapproving of *Heaton-Peninsular* and overruling *A.B. Dick*.[56] In its *Motion Picture Patents* decision, the Court took note of the then-recently enacted Clayton Act,[57] observing that its section three was directed against tying arrangements whether the goods involved were patented or unpatented.[58] Although the Court did not apply that provision, it recognized it as expressing a public policy against tying arrangements and followed that policy.[59]

This revised position found expression again in 1931 in *Carbice Corp. of America v. American Patents Development Corp.*[60] where it was expanded to the very edges of the Court's earlier *Leeds & Catlin* ruling. Indeed, *Carbice* is the link between the *Motion Picture Patents* ruling that a patentee of a machine lacks power to control the use of supplies with that machine and the Court's expansive holding in the *Mercoid* cases[61] in the mid-1940s overruling *Leeds & Catlin* and broadly undermining the doctrine of contributory infringement.[62] *Carbice* involved a patent for a "refrigerating transportation package" in which dry-ice was strategically placed near the middle of an outer box or carton in which ice cream or other perishable commodity was shipped.[63] Both the ice cream and the gaseous carbon dioxide trapped in the box helped to protect the dry-ice from exterior heat while the dry-ice prevented the ice cream from melting.[64] The exclusive licensee under the patent did not sell the patented transportation package, however. Rather, it sold dry-ice,

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exclusive "use" on the patentee while no such right was conferred by the copyright law, the Court was able to reconcile *Bobbs-Merrill* with its ruling in *A.B. Dick*.

55. 243 U.S. 502 (1917).

56. *See id*. at 505-06, 519.

57. 38 Stat. 730, 731, ch. 323, § 3 (1914).

58. *See Motion Picture Patents Co*., 243 U.S. at 517.

59. *See id*. at 517-18.

60. 283 U.S. 27 (1931).

61. *See generally* Mercoid Corp. v. Mid-Continent Inv. Co., 320 U.S. 661 (1944); Mercoid Corp. v. Minneapolis-Honeywell Regulator Co., 320 U.S. 680 (1944).

62. *See Mid-Continent Inv. Co*., 320 U.S. at 668; *Minneapolis-Honeywell Regulator Co*., 320 U.S. at 684.

63. *See Carbice*, 283 U.S. at 29.

64. *See id*.

licensing its dry-ice purchasers to use the patented transportation package. In a suit against another supplier of dry-ice, the patentee and its exclusive licensee alleged that the defendant Carbice Corp. was contributorily infringing the patent by selling dry-ice, knowing that its purchasers would use it to construct patented transportation packages.[65]

Because the dry-ice was an integral part of the transportation package, *Carbice* bore a close resemblance to *Leeds & Catlin* where the Court viewed the phonograph disk as "co-act[ing] with the stylus to produce the result."[66] As in *Leeds & Catlin*, the defendant supplied a component of the patented invention employed by its customers to construct the patented device.[67] The issue in *Carbice* and *Leeds & Catlin* thus critically differed from the issue in *Motion Picture Patents* and *A.B. Dick*. In neither *Motion Picture Patents* nor *A.B. Dick* were the supplies deemed by the Court to constitute an integral part of the patent. These latter cases accordingly involved merely the attempt by the patentee to control ordinary supplies employed by users with the patented machine, whereas the former cases involved the unauthorized construction of a patented device.

Indeed, the striking advance in condemning tying arrangements made in *Carbice* was to bar a patentee from establishing infringement in a case in which the defendant was supplying its customers with a product (dry-ice) which it knew would be used by them in acts of direct infringement (constructing the patented transportation package). Under existing law, the defendant would appear to have been a contributory infringer, but it was nonetheless barred from relief against the defendant because such relief would have effectively enforced the tying arrangements. Even so, contemporary observers might nevertheless have been surprised and troubled by the inroads which *Carbice* made upon the doctrine of contributory infringement. Yet *Carbice* was not free from ambiguity. The tied product in *Carbice* was dry-ice, a standard commodity with uses outside of the patented transportation package.[68] Even though the patented device would not work without it, still *Carbice* might be partially reconciled with a narrow view of the old caselaw by observing that *Carbice* had barred a patentee from tying a staple to patented device. That part of *Carbice* was consistent with *Motion Picture Patents* as well as the even older *Morgan Envelope*. Perhaps the

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65. *See id*. at 30.

66. Leeds & Catlin Co. v. Victor Talking Mach. Co., 213 U.S. 325, 335 (1909).

67. *See id*. at 331-32.

68. *See* DryiceInfo.com, *Other Uses*, *at* http://www.dryiceinfo.com/other.htm (last visited Jan. 30, 2003).

new *Carbice* precedent would not bar relief where the supplies provided by the defendant were nonstaple articles, as in *Leeds & Catlin*. Nonetheless, the fact that *Carbice* had barred an action for an acknowledged infringement signaled the broad inroads which the judicial hostility to tying arrangements was making into patent law.

The ruling in *Carbice* ultimately gave rise to an articulation of a formal doctrine of patent misuse in *Morton Salt Co. v. G.S. Suppiger Co*.[69] The latter case, decided in 1942, involved a patent on a salt dispensing machine used in the canning industry and a suit by the patentee against the manufacturer of an infringing machine. The patentee, which leased its machines under licenses requiring the licensees to obtain their salt from the patentee, was denied relief for infringement on the ground that it was misusing its patent in its leases. The Court ruled that a patentee otherwise entitled to relief for patent infringement should be denied that relief when it is using its patent to control the sale of an unpatented product.[70] While the Court cited *Motion Picture Patents* and *Carbice* as authority for its holding, the Court added a further dimension to its evolving set of precedents condemning tying arrangements under patent law. *Carbice* had denied a remedy for infringement when that remedy would reinforce a tie. Now *Suppinger* denied a remedy for infringement even when the infringement sued upon had no relationship to any tie; the remedy would be withheld so long as the patentee was tying sales to its patent in completely independent transactions. The parameters of the new doctrine were now emerging with increasing clarity. Patents could not be employed as devices to compel the sale of staple products under *Motion Picture Patents*; nor could patents be so used even when the staple products were component parts of the patented invention under *Carbice*. Now the prohibition on tying was reinforced by divesting the patentee's power to enforce the patent during the period in which the tying was employed as a marketing tool. In the earlier cases, the Court had merely denied the patentee the power to enforce the tie. In *Suppinger*, the patentee was being denied the power to enforce its patent in unrelated ways, as a newly created judicial tool to fight the practice of tying.

The interrelated threads in the caselaw culminated in the Supreme Court's 1944 decisions in the *Mercoid* cases.[71] In the *Mercoid* cases, the Honeywell Corporation had manufactured two devices (a combination

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69. 314 U.S. 488 (1942).

70. *See id*. at 489-94.

71. *See generally* Mercoid Corp. v. Mid-Continent Inv. Co., 320 U.S. 661 (1944); Mercoid Corp. v. Minneapolis-Honeywell Regulator Co., 320 U.S. 680 (1944).

stoker switch and a combination furnace control) which were especially designed as the respective components of two patented heating systems.[72] It did not sell licenses to the heating systems separately, however. Rather, it issued to purchasers of the unpatented devices a license to incorporate those devices into the construction of one of the patented heating systems.[73] The behavior involved, accordingly, resembled that in *Carbice*: the patentee sold an unpatented component of a patented invention, using a patent license as leverage to make the sales.[74] In the *Mercoid* cases, however, the unpatented devices were not staples; they were devices which were uniquely designed as components of the patented heating systems.[75] In this respect, the *Mercoid* cases were effectively a replay of *Leeds & Catlin*.

The Court condemned the ties, taking the opportunity to weave the earlier strands of its anti-tying caselaw together. First, broadly characterizing the issue as involving the use of a patent to foster tying, the Court asserted that patentees had not been allowed to use their patents as means for selling unpatented products since its 1917 decision in the *Motion Picture Patents* case. Second, recognizing that *Leeds & Catlin* had allowed a patentee to establish an action for contributory infringement against a supplier of unique components, the Court overruled *Leeds & Catlin*.[76] It then went to acknowledge that the result was "to limit substantially the doctrine of contributory infringement."[77] Indeed, practitioners of patent law were not at all reassured by the Court's further comment that "we need not stop to consider" what "residuum [of contributory infringement doctrine] may be left."[78]

The *Mercoid* litigation also involved an antitrust claim asserted by the defendant against Minneapolis-Honeywell, the exclusive licensee under the patent.[79] In sweeping language, the Court appeared to collapse the patent law issues into an antitrust context. "The legality of any attempt to bring unpatented goods within the protection of the patent is measured by the anti-trust laws not by the patent law . . . . [T]he effort here made to control competition in this unpatented device plainly violates the anti-trust laws."[80]

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72. *See Mid-Continent Inv. Co.*, 320 U.S. at 664.
73. *See id*. at 663.
74. *See* Carbice Corp. v. Am. Patents Corp., 283 U.S. 27, 31 (1931).
75. See *Mid-Continent Inv. Co.*, 320 U.S. at 663.
76. *See id*. at 664-68.
77. *Id*. at 669.
78. *Id*.
79. *See* Mercoid Corp. v. Minneapolis-Honeywell Regulator Co., 320 U.S. 680, 681 (1944).
80. *Id*. at 684.

Thus over the thirty years following the enactment of the Clayton Act, the Supreme Court had first been influenced by the Clayton Act to introduce competition-policy concerns into its administration of the patent law. At first, the Court restricted the power of a patentee to condition a patent license on the sale or lease of an unpatented product. Later it developed the misuse doctrine as a means of denying a patentee the aid of the courts in enforcing its patents during the time that it was attempting to leverage them into other markets. Then, finally, in the *Mercoid* cases, the Court narrowed the scope of contributory infringement in the interest of restricting a patentee's power to leverage its patent. Concomitantly, it expanded the scope of antitrust law to expose the patentee to liability when it was misusing its patents. The Court's aggressive expansion of the misuse doctrine, however, unsettled the patent bar and provoked the Congress to redefine the law.

B. The Congressional Response to the Mercoid *Cases and the Legislative Definition of Misuse*

Although Congress in 1914 was displeased with the Court's early permissiveness towards patentee tying,[81] at mid-century Congress was displeased with the Court's later intolerance of patentee tying, as manifested in the expansive development of the misuse doctrine in the *Mercoid* cases. The expansion of the patent misuse doctrine in those cases to the point where that doctrine undermined settled understandings of contributory infringement gave rise to a legislative redefinition of misuse in the 1952 revision of the Patent Act.[82] In that redefinition, Congress overruled the *Mercoid* cases.

In the *Mercoid* cases, the Court—following its own prior decisions such as *Carbice* and *Suppinger*—had ruled that the ties of unpatented devices (the combination stoker switch and the combination furnace control) to patent licenses (licenses for the heating system) constituted misuse. Although the facts of the *Mercoid* cases differed from these earlier decisions in that the unpatented components in *Mercoid* were specially made for the patented heating system whereas the unpatented materials in the earlier cases were staples, the Court did not see this difference as relevant. Indeed, in overruling *Leeds & Catlin*, the Court recognized that under its *Mercoid* decision, a patentee would no longer

81. *See supra* note 17 and accompanying text.
82. *See* 35 U.S.C. § 271 (2000).

possess the exclusive right to market uniquely designed components of a patented combination.[83]

This was precisely the point at which the new definitions of misuse and contributory infringement were directed. Section 271 of the Patent Act makes the sale of a product which is especially made for, or adapted for use in, a patented product (and not a staple article or commodity) contributory infringement.[84] It then explicitly authorizes the patentee to engage in acts which, if performed by another without the patentee's consent, would constitute contributory infringement.[85] Thus, by authorizing the patentee to derive revenue or to license another to perform acts which otherwise would constitute contributory infringement, section 271 overrules the *Mercoid* cases. It also overrules the *Mercoid* cases when it authorizes the patentee to enforce its rights against contributory infringement by a third party who provides parts specially designed for the patented product.

Section 271 was further elaborated in 1988.[86] For now, it is important to see the state of the law in 1952. The Court's expansion of the patent misuse doctrine to prohibit the tie of unique components of a patented combination was rejected by the Congress at that time. Congress, in the 1952 patent law revision, explicitly gave patentees the right to exploit their patents through the marketing of specially made components of patented inventions.

C. Per Se Illegality and Intellectual Property Rights

Just at the time when the Congress was rolling back the Court's expansive development of the misuse doctrine, the Court was attacking tying arrangements on another front. In the 1950s, the Court treated virtually all tying arrangements as effectively illegal. In *Times-Picayune Publishing Co. v. United States*,[87] the Court set forth the standards to be employed in evaluating the lawfulness of tying arrangements under the Sherman and Clayton Acts. Under the Clayton Act, tying arrangements were unlawful if either the defendant possessed a monopolistic position in the market for the tying product or if a substantial amount of commerce in the tied product was restrained. Under the Sherman Act, tying arrangements were unlawful if both of those conditions were

83. *See Mid-Continent Inv. Co.*, 320 U.S. at 668.
84. *See* 35 U.S.C. § 271(c).
85. *See id.* § 271(d).
86. *See id.; see also supra* note 38 and accompanying text.
87. 345 U.S. 594 (1953).

fulfilled.[88] The courts ultimately ruled that a "substantial" amount of commerce meant merely that more than a de minimis amount of dollars was involved.[89] Thus almost any arrangement which tied two commodities together would apparently violate the Clayton Act.

Because the Clayton Act applied only to "commodities," the Sherman Act governed tying arrangements involving services.[90] Accordingly, in these cases it was important to determine whether the defendant possessed the market power required for a per se tying violation. In a series of opinions, the Court progressively reduced the amount of market power needed to establish a violation. In 1953, *Times-Picayune Publishing Co. v. United States* required a "monopolistic position" in the market for the tying product.[91] By 1958, *Northern Pacific*[92] had reduced that requirement to "sufficient economic power" to "appreciably restrain" competition in the tied product market.[93] If competition in the tied product was appreciably restrained when a substantial amount of the tied product was subjected to the tying arrangement, then this formulation effectively eliminated a separate market power requirement and collapsed the Sherman Act standard to the standard of the Clayton Act. In *Loew's*,[94] decided in 1962, the market power requirement was further reduced to "the tying product's desirability to consumers or . . . uniqueness in its attributes."[95] At the end of the 1960s, the first *Fortner*[96] case had announced that "the presence of any appreciable restraint on competition provides a sufficient reason for invalidating the tie," thus confirming that the Sherman Act test had indeed been collapsed into the Clayton Act test.[97] When the Court adverted to the market power element in *Fortner*, it described it as satisfied whenever buyer preferences enable the seller to charge a higher price to some buyers ("buyers—whether few or many, whether scattered throughout the market or part of some group within the market"[98]), thus

88. *See id*. at 608-09.

89. *See* Fortner Enters., Inc. v. U.S. Steel Corp., 394 U.S. 495, 501-02 (1969) ($190,000 sufficient); Detroit City Dairy, Inc. v. Kowalski Sausage Co., 393 F. Supp. 453, 472 (E.D. Mich. 1975) ($86,376.72 not insubstantial).

90. *See Times-Picayune,* 345 U.S. at 609-10 n.27.

91. *See id*. at 608-09.

92. N. Pac. Ry. Co. v. United States, 356 U.S. 1 (1958).

93. *Id*. at 6.

94. United States v. Loew's Inc. 371 U.S. 38 (1962).

95. *Id*. at 45.

96. *See* Fortner Enters., Inc. v. United States, 394 U.S. 495 (1969).

97. *Id*. at 503.

98. *Id*.

apparently reducing the market power element to the premium commanded by a well-known brand.

At the same time as it was reducing the market power threshold requisite for a tying violation of the Sherman Act, the Court was also raising a presumption that the presence of a patent or copyright would satisfy any such market power requirement. The raising of this presumption may have been obscured for a while because the Court's various statements were not always consistent or straightforward. In the end, however, it equated a patent or copyright with the market power requisite for a Sherman Act violation, thus making tying arrangements by the holder of a patent or copyright effectively per se illegal.

Times-Picayune—decided just one year after the Congressional repudiation of the Court's *Mercoid* decisions—is a convenient place to pick up the evolution of the Court's treatment of intellectual property rights in Sherman Act tying analysis. In *Times-Picayune*, the Court described a prior case, *International Salt Co. v. United States*,[99] as having inferred the requisite market power for a tying violation from patents: "The patents on their face conferred monopolistic, albeit lawful, market control, and the volume of salt affected by the tying practice was not 'insignificant or insubstantial.'"[100] The patentee in the *International Salt* case had leased patented salt dispensing machines to food processors, conditioned on the lessees purchasing their supplies of salt from the patentee.[101] In the *International Salt* case itself, the Court had condemned the tie, but referred ambiguously to the significance of the patented nature of the salt dispensing machines.[102] Observing that the defendant's "patents confer a limited monopoly of the invention they reward," the Court went on to assert that "International['s] . . . patents afford [it] no immunity from the antitrust laws."[103] Thus, in *International Salt*, the Court held—consistent with the language of the Clayton Act—that the patents did not protect it against an antitrust charge, but its reference to the limited monopoly conferred by the patent is ambiguous. Did the Court mean by this reference that the existence of the patents in some way supported the imposition of liability? Although (as we saw above) that was the view expressed in *Times-Picayune*, a mere two years after its decision in *Times-Picayune*, the Court, in *Standard Oil Co. of*

99. 332 U.S. 392 (1947).

100. Times-Picayune Publ'g Co. v. United States, 345 U.S. 594, 608 (1953) (quoting *Int'l Salt Co.*, 332 U.S. at 396).

101. *See Int'l Salt Co.*, 332 U.S. at 394.

102. *See id*. at 395.

103. *Id*. at 395-96.

California v. United States,[104] said of *International Salt* that "[i]t was not established that equivalent machines were unobtainable."[105] In combination, these several judicial statements could be read as saying that a patent will give rise to a presumption of market power, even though the patent in reality does not confer an economic monopoly. Although the Court muddied the waters somewhat in its 1958 decision in *Northern Pacific Railway Co. v. United States* where it asserted that the *International Salt* decision "placed no reliance on the fact that a patent was involved," it subsequently appeared to reconfirm the market power presumption.[106] In its 1962 decision in *United States v. Loew's*, the Court explicitly ruled that the power requirement for a Sherman Act tying violation is presumed when the tying product is patented or copyrighted.[107]

Thus during the three decades following World War II, the Court was strengthening the prohibitions against tying in several ways. Even as Congress repudiated the Court's effort to expand the patent misuse doctrine in the *Mercoid* cases, the Court was expanding the antitrust prohibitions against tying. This expansion was taking place on several levels. First, the Clayton Act was construed so broadly that the tie of one commodity to another was effectively made per se illegal. Second, the standards for violating the Sherman Act—which applied to services—were progressively lowered. What was first a requirement of monopoly power in the market for the tying product became some indefinite degree of market power; and the amount of power that would satisfy the courts became less and less each time the standard was articulated. Finally, the Court raised a presumption that the market power requirement was satisfied whenever the tying product was patented or copyrighted.

The extension of the presumption of market power to copyright revealed this presumption was not about real market power. Indeed, the parallel caselaw development, which had reduced the market power element generally to that commanded by a branded product, showed that this element of the offense had been eviscerated. It was not surprising then that some lower courts raised a presumption of market power from the existence of a trademark.[108]

104. 337 U.S. 293 (1949).
105. *Id*. at 305.
106. N. Pac. Ry. Co. v. United States, 356 U.S. 1, 9 (1958).
107. *See* United States v. Loew's Inc., 371 U.S. 38, 45 (1962).
108. *See, e.g.*, Siegel v. Chicken Delight, Inc., 448 F.2d 43, 50 (9th Cir. 1971).

IV. THE REVISION

A. *The Scholarly Rebellion on the Antitrust Treatment of Tying Arrangements*

The hostility that the Supreme Court had evidenced towards tying arrangements was premised on the view that "[t]ying agreements serve hardly any purpose beyond the suppression of competition."[109] Yet beginning in the late 1950s and early 1960s scholars were beginning to examine the economic effects of tying arrangements and coming to the conclusion that tying arrangements were mostly employed for purposes of price discrimination. Aaron Director and Edward Levi began the challenge to the Court's negative view of tying arrangements,[110] and they were shortly followed by the critiques of Ward Bowman and M.L. Burstein.[111] In the late 1970s, Richard Posner and Robert Bork incorporated the substance of these academic critiques into influential books,[112] whose publication largely coincided with the rise of the so-called Chicago School of antitrust analysis.

The argument put forth by these critics of the Court's tying jurisprudence was that tying could not enlarge market power. A monopolist might choose to exploit its power entirely in the monopolized market, or instead it might choose to impose a tie, by requiring buyers of the monopolized product to purchase a second "tied" product. If it took the latter course, however, it would incur a cost. Purchasers who paid a premium price for the tied product would subtract that premium from their reservation prices for the monopolized product. The monopolist could earn supra normal profits on the tied product only if it accepted a lesser return on its monopolized product. The theoretical maximum return possible is that of a perfectly discriminating monopolist. Such a monopolist captures all of the consumer surplus, turning it into profit (albeit also eliminating the resource misallocation generally associated with monopoly pricing). A monopolist thus could allocate profits among different products, but it could not enlarge its

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109. *Standard Oil Co.*, 337 U.S. at 305-06; Fortner Enters., Inc. v. U.S. Steel Corp., 394 U.S. 495, 498 (1969); *Loew's*, 371 U.S. at 44; *N. Pac. Ry.*, 356 U.S. at 6; Times-Picayune Publ'g Co. v. United States, 345 U.S. 594, 605 (1953).

110. *See generally* Aaron Director & Edward H. Levi, *Law and the Future: Trade Regulation*, 51 NW. U. L. REV. 281 (1956).

111. *See generally* Ward S. Bowman, Jr., *Tying Arrangements and the Leverage Problem*, 67 YALE L.J. 19 (1957); M.L. Burstein, *A Theory of Full-Line Forcing*, 55 NW. U. L. REV. 62 (1960).

112. *See* RICHARD A. POSNER, ANTITRUST LAW 172-74 (1976); ROBERT H. BORK, THE ANTITRUST PARADOX: A POLICY AT WAR WITH ITSELF 375-81 (1978).

aggregate monopoly power. Under this analysis, tying is useful primarily for price discrimination. It can assist in separating different demands and in adjusting pricing strategies to each such demand.

Recent critics of this "Chicago" type analysis have suggested new ways to look at tying arrangements. These critics have tended to direct their attention to strategic uses of tying as means for impeding entry. Michael Whinston and Barry Nalebuff, for example, have developed analytical models in which an incumbent seller, tying two products together, substantially reduces the incentives for an entrant to challenge that incumbent in one or both markets. In both models, entry is deterred because tying changes the incumbent's pricing incentives, generating lower prices than would otherwise be the case. These lower prices reduce the entrant's profit expectations and thus discourage it from entering. In Whinston's model, an incumbent monopolist that is able to make a credible commitment to maintain a tie between two products (at least one of which commands supracompetitive prices) discourages entry because its ability to capture monopoly profits is tied to its ability to sell the bundle.[113] In Barry Nalebuff's model, a monopolist of two products bundles them together, thus enabling the monopolist effectively to engage in price discrimination (since purchasers place different values on each of the two products) and thus to extract more consumer surplus from both markets.[114] Nalebuff shows how this behavior reduces the expected profits of a potential entrant at little or no cost to the incumbent. Indeed, in Nalebuff's model, the incumbent is able to reduce the potential profits available to an entrant's bundling at the same time that it is increasing its own profits. This is possible because bundling enables it to exploit the differing appeals of each of the two products to overlapping market segments. If further deterrence is needed, the incumbent is able (through bundling) to drastically reduce the potential profits of an entrant while incurring only very modest reductions in its own profits.

Although Whinston and Nalebuff show us circumstances in which an incumbent seller's tying (or bundling) can be employed to deter entry, their models make clear that the entry-deterrence effect results from reduced prices and a concomitant increase in output over what would be the case without bundling. With reduced prices and increased output, overall welfare would appear to be enhanced.

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113. *See* Michael D. Whinston, *Tying, Foreclosure, and Exclusion*, 80 AM. ECON. REV. 837, 839 (1990).

114. *See* Barry J. Nalebuff, *Bundling*, YALE ICF WORKING PAPER NO. 99-14, 1 (Nov. 22, 1999), *available at* http://www.uchicago.edu/fac/finance/papers/ (last visited Nov. 13, 2002).

It is not clear, therefore, that the insights provided by Whinston and Nalebuff would be likely to undermine the broad skepticism towards the per se rule against tying generated by Director, Levi, Bowman, Burstein, Posner, Bork and others identified with the Chicago School. Indeed, Whinston and Nalebuff have shown us the output-enhancing effects generated by tying practices. In their models the output-enhancing effects are associated with the ability of bundling to effect price-discrimination. And it is precisely that ability, of tying to facilitate price-discrimination, that has been at the core of the division between those who would retain the per se rule and those who would abolish it. Indeed, critics of the per se rule against tying frequently point to the old *IBM* computer-card case,[115] as an illustration of how tying-induced price discrimination can be innocuous or even beneficial. In that case the IBM Corporation required those who wanted its computers to buy their computer cards from it (thus tying the cards to its computers). By allocating a high portion of profits to the cards, IBM was able to charge intensive users a higher price for the computer-card package than less intensive users; this practice of keying the charge to the use of the equipment is commonly employed by equipment lessors and is a form of value-of-service pricing.[116] Thus IBM both discriminated in price and replicated a common pricing technique. If IBM could have charged each customer its reservation price, it would have increased output to a point approaching the competitive output, and would have eliminated the resource misallocation usually associated with monopoly. Indeed, Justice O'Connor who was familiar with the literature on price discrimination, acknowledged (in her *Jefferson Parish* concurrence) that such discrimination could "*decrease* rather than increase the economic costs of a seller's market power."[117] Because the restraints shown by Whinston and Nalebuff are generated by an output-enhancing effect of price discrimination, their models do not appear to weaken the critics who argue that price discrimination does not always reduce output. Finally, the entry deterrence effects identified by Whinston and Nalebuff resemble those produced by limit pricing, a practice that appears to be lawful so long as the monopolist does not price below its marginal or average-variable costs.[118]

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115. *See* Int'l Bus. Machs. Corp. v. United States, 298 U.S. 131 (1936).

116. *See* POSNER, *supra* note 112, at 174; BORK, *supra* note 112, at 377.

117. Jefferson Parish Hosp. Dist. No. 2 v. Hyde, 466 U.S. 2, 36 n.4 (1984) (O'Connor, J., concurring).

118. The courts have struggled with the issue of whether limit pricing should be declared unlawful. *See*, *e.g.*, Phototron Corp. v. Eastman Kodak Co., 842 F.2d 95, 101 (5th Cir. 1988);

B. The Judicial Revision

These academic critiques ultimately had an impact on the caselaw. The second *Fortner* case, decided in 1977, began to move towards making tying violations harder (rather than easier) to establish.[119] In that case the Court began to rehabilitate the market power requirement. The market power requirement appeared largely restored by 1984. In that year the Court ruled in *Jefferson Parish*[120] that a market share of thirty percent was insufficient to infer the power necessary to establish a tying violation. *Jefferson Parish* was a milestone in another way as well. In that case four Justices joined in a concurring opinion urging that the per se rule applicable to tying arrangements be abandoned.

C. Congressional Action on Tying Arrangements in the Late 1980s

In 1988, Congress strengthened section 271 of the Patent Act, providing a wider safe haven for patentees to engage in tying. Amendments to section 271 in 1988 added clauses (4) and (5) to paragraph (d).[121] Clause (4) explicitly authorizes patentees to refuse to license or to use their patents. Clause (5), with one important exception, authorizes patentees to condition patent licenses or sales of patented products on the acquisition of licenses to rights in other patents or

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Arthur S. Langenderfer, Inc. v. S.E. Johnson Co., 729 F.2d 1050, 1057-58 (6th Cir. 1984); MCI Communications Corp. v. AT&T Co., 708 F.2d 1081, 1114 (7th Cir.1983); Transamerica Computer Co. v. Int'l Bus. Machs. Corp., 698 F.2d 1377, 1387 (9th Cir. 1983). The lower courts, however, seem ultimately to have concluded that the administrative difficulties involved in identifying limit pricing would preclude a policy of outlawing that practice. *See* Barry Wright Corp. v. ITT Grinnell Corp., 724 F.2d 227, 234-35 (1st Cir. 1983); *see also* United States v. AMR Corp., 140 F. Supp. 2d 1141 (D. Kan. 2001). Beyond those administrative difficulties, the lower courts have been building a consensus around the Areeda-Turner standard for evaluating predatory pricing. Under that standard, any price that is equal to, or above, marginal cost (or its surrogate, average variable cost) is presumed lawful. *See generally* Rebel Oil Co. v. Atl. Richfield Co., 51 F.3d 1421 (9th Cir. 1995), *cert. denied*, 516 U.S. 987 (1995). Although the Supreme Court has not explicitly adopted the Areeda-Turner standard, it has repeatedly stated that a price cannot be treated as predatory unless it falls beneath an appropriate measure of cost, thus adopting a broad cost-based approach to predatory pricing consistent with that of the Areeda-Turner standard. *See* Brooke Group Ltd. v. Brown & Williamson Tobacco Corp., 509 U.S. 209, 222 (1993); Atl. Richfield Co. v. USA Petroleum Co., 495 U.S. 328, 341 n.10, 354 n.12 (1990); Cargill, Inc. v. Monfort of Colo., Inc., 479 U.S. 104, 117, n.12 (1986); Matsushita Elec. Indus. Co., Ltd. v. Zenith Radio Corp., 475 U.S. 574, 584 n.8 (1986). Because limit pricing involves setting prices at below profit-maximizing levels in order to exclude rivals from the market, it appears to be a form of predatory pricing. Its lawfulness, therefore, even in a Whinston or Nalebuff context may well be subject to the rules governing predatory pricing.

119. *See generally* U.S. Steel Corp. v. Fortner Enters., Inc., 429 U.S. 610 (1977).

120. *See Jefferson Parish*, 466 U.S. at 2.

121. *See* Act of Nov. 19, 1988, Pub. L. No. 100-703, Title II, § 201, 102 Stat. 4674, 4676 (1988) (codified as amended at 35 U.S.C. § 271 (2000)).

purchases of separate products. But clause (5) excepts from that authorization cases in which a patentee possesses market power in the relevant market for the patent or patented product on which the license or sale is conditioned.

In section 271, the law now recognizes that a narrow construction of patent rights is sometimes inconsistent with the patent law's objective of allowing the patentee to fully exploit its invention. Thus, as in *Dawson Chemical Co. v. Rohm & Haas Co.*,[122] when Rohm & Haas discovered that the known chemical propanil was an effective herbicide, it was able to effectively exploit its patent on that use by marketing the unpatented chemical to farmers tied to a license to use it as a herbicide. Although section 271 then permitted Rohm & Haas to derive revenue from the sale of a unpatented component of a patented process, Dawson, the defendant, unsuccessfully contended that Rohm & Haas had a duty to license the patent to rival marketers of propanil. By refusing thus to license, Rohm & Haas—according to Dawson—had misused their patent.[123] The amendments to the statute (in clause (4)) ratify the Court's decision that the patentee was not obliged to offer such a license. The new clause (5) is directed precisely at the license or sale of a patent or patented product which is conditioned upon the license of another patent or the sale of another product. Only in that case is the lawfulness of the patentee's behavior limited to the context in which the patentee lacks market power.

It is interesting that section 271 treats ties involving unrelated products differently from the way that it treats "ties" that involve combining a patent license with specially made components. Any patentee may tie a patent license with a specially made component. But only a patentee without market power is permitted to tie unrelated products together. This may reflect the view of the Congress that ties of specially made products are more obvious ways of marketing the patented invention and do not appear to be extending the patent beyond the scope intended by the patent law. Conversely, the tie of two, unrelated products appears more like a traditional tie. And traditional ties do not fall under the ban of an antitrust per se rule unless the patentee possesses market power.[124] Perhaps Congress sought to reflect that antitrust rule in the patent law as a measure of misuse. Indeed, the approach of section 271 to misuse is largely consistent with section three's approach to antitrust evaluation. In affirming the right of the

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122. 448 U.S. 176 (1980).

123. *See id.* at 183.

124. *See generally Jefferson Parish*, 466 U.S. at 2.

patentee to control the market for specially made components, section 271 can be understood as redefining the exclusive rights conferred by patents but doing so in accordance with much traditional understanding, and thus with an understanding which must have been widely shared at the time of section three's enactment.[125]

V. Academic Attempts at Reconciling the Intellectual Property and Antitrust Laws

Legal scholars have examined the intellectual property/antitrust interface for many years. Originally these academic inquiries focused upon conflicts between patent and antitrust policies, but with the extension of copyright protection to software in 1980, legal commentators have begun to examine the interaction between copyright and antitrust policies as well. In this Article I will discuss only four of these commentators: Louis Kaplow, because his analysis has dominated legal scholarship for two decades; and three very recent commentators: Mark Patterson, Michael Carrier, and David McGowan.

A. *The Approach of Louis Kaplow*

In 1984, Louis Kaplow developed a cost/benefit approach to the patent/antitrust interface,[126] arguing that restrictive agreements or other behavior should be subject (or not subject) to antitrust condemnation depending upon the ratio of patentee reward to the social cost of the restriction. If the ratio is sufficiently high, the practice should be upheld on the rationale that the patent law goals predominate. Conversely, if the ratio is very low, then the practice should be condemned because in those situations antitrust goals predominate over patent goals.[127]

Kaplow keyed his analysis to an examination of the costs and benefits of the patent system as a whole. From that examination, he developed a marginal analysis of that system that he illustrated with hypothetical extensions (or reductions) in the patent term. A one-year extension of the patent term would provide an additional incentive to inventors. The marginal social benefit of that additional incentive would be the additional inventions that it brought forth. The social cost of that extension, however, would be the monopoly restriction for that extra

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125. *See generally* Leeds & Catlin Co. v. Victor Talking Mach. Co., 213 U.S. 325 (1909).

126. *See generally* Louis Kaplow, *The Patent-Antitrust Intersection: A Reappraisal*, 97 HARV. L. REV. 1813 (1984).

127. *See id*. at 1829, 1831-32.

year on all the inventions that would have been produced without it.[128] Kaplow's marginal analysis was a major step in the evaluation of the patent system. Kaplow then used his marginal analysis of the patent system to evaluate practices that were or might be subjected to antitrust analysis. Broadly speaking, Kaplow argued that practices that produced a better ratio between patentee reward and social loss than a marginal extension of the patent term should be upheld.

Kaplow repeatedly acknowledged the serious informational problems that would affect an attempt to apply his analysis to actual behavior. He suggested that a form of his analysis, however, could be employed to improve our approach to the patent/antitrust interface. His ratio test would not produce finely tuned results, but it would nonetheless enable us to distinguish between restraints that produced substantial rewards to the patentee with only minimal social harm and restraints that produced only modest returns to the patentee while imposing substantial harm on society. We will see below that Kaplow's approach continues to be on the cutting edge of legal developments in the new century.

B. The Approach of Professor Mark Patterson

Mark Patterson has developed a different approach to the relationship between the intellectual property laws and the antitrust laws,[129] and has illustrated his approach by explaining how it would apply to the *Xerox* and *Kodak* cases, among others. Patterson distinguishes between the "invention" protected by patent law and the product in which the invention is embodied. Patterson respects the patentee's exclusive rights to make, use and sell the patented invention, but not necessarily its exclusive rights over the product in which the invention is embodied. Thus, Patterson argues, the independent servicing organizations ("ISOs") did not want to "use" the patentee's invention. It was the equipment owners who would "use" the invention embodied in the parts. The ISOs merely wanted to provide repair and maintenance services. They needed access to the parts in which the invention was embodied in order to perform these services, but the ISOs themselves would not be "using" the parts.[130]

On this analysis, Patterson argues that the Xerox's refusal to sell parts to the ISOs was not protected by federal patent law. The district

128. *See id*. at 1816, 1831-32, 1821-45.

129. *See generally* Patterson, *supra* note 1.

130. *See id*. at 1133-35, 1142-48.

court had ruled that because Xerox held the exclusive right to make, use and sell its invention, it was not required to sell parts to the ISOs.[131] On the contrary, the district court asserted, a patentee has the right to retain all of those rights itself. It is obliged to sell to no one. The flaw in the court's analysis, Patterson responds, is its neglect of the distinction between the invention and the product in which the invention is embodied. The patentee was not obligated to make the invention available to the ISOs, but the ISOs did not want the invention. They merely wanted the part, i.e., the physical product in which the invention was embodied. It was the equipment owners that wanted to use the invention, and the patentee was perfectly willing to allow the equipment owners to use the invention, as evidenced by the fact that the patentee sold directly to users who performed their own maintenance and repair. In a sense, the ISOs were mere conduits in the transmission of the invention from the patentee to the equipment owners. Since they would not be "using" the invention, Xerox's refusal to sell the parts to them was not an exercise of its exclusive "use" rights under the patent law. That refusal, accordingly, was not protected under patent law. Indeed, according to Patterson, that refusal to sell could be a "misuse" of the patent.[132]

Patterson's critique of the district court's decision applies to the subsequent decision on appeal by the Federal Circuit, since that court affirmed the district court's earlier ruling on essentially the same rationale.[133] He also believes that his approach would have produced a sounder basis for the *Kodak* decision. In *Kodak*, it will be recalled, the Ninth Circuit ruled that Kodak's refusal to supply patented parts to ISOs was not protected by the patent law because Kodak's reliance upon its intellectual property rights was "pretextual."[134] Patterson agrees with the Federal Circuit's criticism of the Ninth Circuit's reliance upon the defendant's subjective intent. Intellectual property issues are best served by eliminating, so far as practicable, issues involving subjective intent. He believes that the Ninth Circuit could have reached the same result that it did, if it had distinguished between the invention and the product in which the invention is embodied.[135] Employing that distinction, the

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131. *See In re* Indep. Serv. Orgs. Antitrust Litig., 989 F. Supp. 1131, 1139 (D. Kan. 1997).

132. *See* Patterson, *supra* note 1, at 1142-44.

133. *See In re* Indep. Serv. Orgs. Antitrust Litig., 203 F.3d 1322 (Fed. Cir. 2000), *cert. denied*, 531 U.S. 1143 (2001).

134. *See* Image Technical Servs., Inc. v. Eastman Kodak Co., 125 F.3d 1195, 1219-20 (9th Cir. 1997).

135. *See* Patterson, *supra* note 1, at 1139, 1142.

court could have ruled that because the ISOs did not want to "use" the invention but only wanted access to the parts (in which the invention was embodied), the patent law did not protect Kodak's refusal to supply those parts to the ISOs.

C. The Approach of Professor Michael A. Carrier

A quite different approach to reconciling the patent and antitrust laws was recently presented by Professor Michael A. Carrier.[136] Carrier's approach is to deal with the relationships between the two sets of laws procedurally: An antitrust defendant seeking to justify its behavior under the patent law would have the benefit of a presumption of lawfulness "as long as there is a plausible justification for the [challenged] action other than injuring competitors."[137] Once the presumption is raised, the burden of production shifts back to the plaintiff (who continues to bear the overall burden of proof). The plaintiff now has the opportunity to rebut the presumption by proving that competition, rather than patents, is responsible for innovation in the defendant's industry. This rebuttal is established when the plaintiff proves the importance of competition over patents from both an ex ante and an ex post perspective. The plaintiff proves the ex ante case by proving (1) that the market itself provides the incentives to innovate separate from patent law; and either (2) that the product was not costly to invent and commercialize; or (3) that the product is not easily and cheaply imitated. The plaintiff proves the ex post case by proving that innovation in the defendant's industry is cumulative rather than discrete.[138]

To prove the initial ex ante issue, the plaintiff must prove that competition provides the incentives to innovate. It does this when it establishes that in the particular industry involved, the first to enter with a new product is able to maintain a leadership role as a result of lead time, learning curve, or network advantages or through the effects of customer familiarity and/or brand loyalty. The second ex ante issue is designed to show that patent protection is not necessary to recoup research and development costs. The third ex ante issue is designed to show that the costs and other difficulties of copying themselves furnish the needed protection for recoupment of development costs.[139]

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136. *See generally* Carrier, *supra* note 1.
137. *Id*. at 817.
138. *See id*. at 818-31.
139. *See id*.

The ex post case seeks to build upon the insight that in some industries innovation proceeds, to a large extent, by drawing upon earlier innovations. In such contexts, it is at least theoretically possible that intellectual property rights might impede invention by erecting barriers to the use of essential elements in the inventive process. Carrier thus implicitly suggests that patents are less important in industries where they may sometimes impede invention than in industries characterized by discrete non-cumulative inventions. So this is part of the plaintiff's rebuttal case: the plaintiff must prove that invention in the defendant's industry is cumulative rather than discrete.

If the plaintiff rebuts the presumption of lawfulness, the defendant is then permitted a surrebuttal. In its surrebuttal, the defendant is given the opportunity to establish "with actual evidence that the relevant market in the industry is in fact marked by innovation."[140] Thus even if the plaintiff, in its rebuttal, shows that competition, rather than patents, is responsible for innovation in the industry, the defendant can still come back to establish that the market is in fact generating sufficient innovation incentives. Accordingly, this market does not need the help of the antitrust laws to foster innovation.

D. The Approach of David McGowan

In contrast to the other commentators who have focused their attention on patent law, David McGowan has directed his attention to the copyright/antitrust interface, especially in the context of a market exhibiting network effects.[141] McGowan divides cases into those involving pure exclusion by an intellectual property rights holder and those involving conditional exclusion. Observing that intellectual property rights are rights to exclude, McGowan believes that no antitrust issues are triggered by unconditional exclusion. When an intellectual property rights holder excludes conditionally, however, then it is possible that some competitive harm may occur as a result. This is the area where antitrust policy enters. McGowan uses the *Kodak* case as an example. On initial examination, the *Kodak* case appears as a case of pure exclusion. Kodak refused to make its patented parts available to the ISOs. The resulting Kodak monopoly in service would appear to be a lawful consequence of its exercise of its core right to exclude. Yet McGowan asserts, this is too simple. If Kodak charged supracompetitive prices in the service market, then anticompetitive effects could result,

140. *Id*. at 833.
141. *See generally* McGowan, *supra* note 1.

when and if users inefficiently substituted repair for the replacement of parts.[142] Even if this effect could be shown, however, the issue would still be in doubt because Kodak, as a patentee, was entitled to charge monopoly prices for its parts. If Kodak charged monopoly prices for parts, then perhaps the restraint in the service market would be no worse than the restraint caused by Kodak's monopoly service-market prices. I might add that if Kodak discriminated in the prices of its parts, selling to each customer at its reservation price, then there would be no misallocation of resources at all.

In addressing the problem of a networks-effects monopoly (like Microsoft's operating-systems), McGowan recognizes that the monopoly results from the monopolist's intellectual property rights. One reason that he is willing to accept that monopoly is that he believes that it is vulnerable to displacement when a sufficiently superior technology arises to challenge it. Microsoft Windows is now the de facto industry standard: it is the platform to which most software is written. But a sufficiently superior technology could displace Windows. The challenge is that the newer technology would have to be enough of an improvement over Windows to overcome the switching costs that users would incur in adopting it. Despite this potential inter-standard competition, McGowan sees a place for antitrust intervention in network markets. He would be willing to tolerate antitrust intervention to foster intra-standard competition when that intervention does not pose a serious threat to incentives for leapfrogging technology and thus to inter-standard competition. Here McGowan shows his concern with the long-term. He accepts the lawfulness of a monopoly conferred by copyright, relying upon long-term competition among copyright holders to produce superior technology. And, second, he limits antitrust intervention in the short-term in order to preserve the long-term competition that copyright, in the network setting, makes possible.[143]

E. Assessments of the Academic Contributions

1. The Patterson Approach

There is much to recommend Patterson's creative approach to intellectual property analysis. Indeed, a distinction analogous to Patterson's distinction between the invention and the product in which the invention is embodied is made in copyright law. Copyright law

142. *See id*. at 491, 509, 517-18.

143. *See id*. at 519-23.

explicitly distinguishes between the copyrighted expression and the physical product in which the expression is embodied.[144] Patent law itself implicitly recognizes that distinction in its first-sale doctrine.[145] Yet that distinction, even in copyright law, raises its own set of problems. Copyright law, for example, protects designs of useful articles only to the extent that the design incorporates pictorial, graphic or sculptural features that can be identified separately from the utilitarian aspects of the article.[146] Sometimes this separate identification is impossible, thus negating a distinction between the artistic content of an article and the utilitarian aspects of that article. By analogy, the patented "invention" also may often be impossible to identify separately from the physical product in which it is embodied. Patterson would probably respond that his distinction does not require the identification of separate constituent elements in a physical article but rather helps to distinguish the exploitation of the creative element from the exploitation of the uncreative elements.

Yet Patterson's distinction is ultimately problematic. Would it require a patentee to sell to any wholesaler on the theory that the wholesaler was not "using" the patented invention, but merely transmitting it to ultimate users? Under Patterson's theory, how should we understand the exclusive right to sell? Patterson would have Xerox sell the "physical product" to the ISOs without impairing the patentee's exclusive rights over "use." Would the sale of the physical product also be consistent with the patentee's exclusive sale rights? How would such a sale affect the application of the first-sale doctrine? Could the patentee assert that although it sold the product, it did not sell the invention, thus controlling the invention embodied in the product even after that sale?

A final objection to Patterson's recommendations takes us back to Louis Kaplow. Kaplow argued in favor of upholding restrictions in which the return to the patentee is high and the social cost is low.[147] Patterson appears to be focusing upon the kind of cases illustrated by the refusal of Xerox and Kodak to sell replacement parts to ISOs. The Supreme Court's *Kodak* decision[148] surprised many observers by holding that a manufacturer's physically unique parts constituted an antitrust market. Justice Scalia dissented in that case, partially on the ground that

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144. *See* 17 U.S.C. § 202 (2000).

145. *See* Intel Corp. v. ULSI Sys. Tech., Inc., 995 F.2d 1566, 1568 (Fed. Cir. 1993); DONALD S. CHISUM, 5 CHISUM ON PATENTS § 16.03[2][a] (Rev. 1997 and Supp. 2001).

146. *See* 17 U.S.C. § 101 (defining "pictorial, graphic, and sculptural works");

147. *See* Kaplow, *supra* note 126, at 1827.

148. *See generally* Eastman Kodak Co. v. Image Technical Servs., Inc., 504 U.S. 451 (1992).

the harm caused by a manufacturer's exploitation of the aftermarket for its parts did not rise to the level of antitrust concern.[149] At the same time, the sole beneficiary of the sale of patented parts in the replacement aftermarket is the patentee. The practice thus appears to meet the requirements of Kaplow's ratio test. It provides substantial benefits to the patentee and minimal harm to society.

2. The Carrier Approach

Carrier's approach is both thoughtful and imaginative. Yet there would be immense difficulties in carrying it out. The very first issue is the condition for the application of the presumption. The presumption applies "as long as there is a plausible justification for the [challenged] action other than injuring competitors."[150] The very fact of competing in a market means that each firm is seeking to injure its competitors by taking sales away from them.[151] Probably Carrier means that the presumption applies so long as there is an efficiency-based justification for the firm's behavior. The next troublesome issues lie in the rebuttal. The plaintiff carries the burden of proving that competition, rather than patents, is responsible for innovation in the defendant's industry.[152] This form of statement is awkward because both competition and patents are often important to innovation and Carrier himself recognizes this.[153] What Carrier is after is proof that the factual predicates underlying intellectual property protection are absent in the defendant's market and that invention, when it does take place in that market, tends to be cumulative, i.e., built upon prior inventions. Carrier fails to acknowledge, however, that patents are often necessary for innovation precisely because of competition. Patents protect the innovator from the appropriation of its invention by rivals and customers. In many situations, it is only the rivals who constitute the potential appropriators. In the absence of potential appropriation by rivals, patents often would not be needed.

Issues (1), (2) and (3) in the ex ante part of the rebuttal case are designed to describe the kind of market failure for which intellectual property is a remedy. Thus (subject to the qualifications set forth in the

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149. *See id*. at 493-95.

150. Carrier, *supra* note 1, at 817.

151. *See, e.g.*, Austin v. Am. Ass'n of Neurological Surgeons, 253 F.3d 967, 974 (7th Cir. 2001) (Posner, J.) (referring to "lawful competition [as] an 'injury' (to competitors hurt by competition)").

152. *See* Carrier, *supra* note 1, at 819.

153. *See id*. at 852.

following paragraph) the plaintiff seems to be required to prove that the preconditions for intellectual property protection do not exist in the defendant's industry. The design of the rebuttal case thus follows Carrier's apparent belief that patents are important in some industries and unimportant in other industries. This proposition, however, appears to conflict with the presuppositions of the patent law. If we knew that patents were in fact unimportant to innovation in particular industries, then we would redesign the patent law so that it applied only where it in fact encouraged invention. Indeed, the patent law is intended to foster invention everywhere. And inventions are often both unexpected and unanticipated.

We should also observe that the test is multi-focused: It focuses on the "industry" and the "market" when it examines economic incentives broadly but then it also examines how those incentives have affected the creation of the defendant's product. Thus, although ex ante rebuttal issue (1) asks whether the "market" provides incentives to innovate, issues (2) and (3) focus, respectively, upon whether the "product" was easily and cheaply created and whether it can be easily and cheaply copied. Thus there appears to be a shift in perspective from general market conditions in the first issue to an examination of the particular product involved in the litigation involving issues (2) and (3). There is nothing wrong in such a shift. But there are traps for the unwary here. In Carrier's test the connection between the broad "market" perspective and the narrower "product" characteristics may be less than it seems.

The market may well provide incentives to innovate as reflected in small product improvements that would be treated as "obvious" under the patent law.[154] Yet the same market may not provide incentives to innovate in more costly, nonobvious ways without intellectual property protection. Thus it appears that a plaintiff might well be able to satisfy issue (1) by proving that there has been substantial innovation in the market (and that the innovators have maintained their leadership), even if much of that innovation does not measure up to the patent law threshold of nonobviousness. Then a plaintiff can prevail on the rebuttal by proving either issue (2) or (3). Suppose that the invention in question was both nonobvious and the result of a "flash of creative genius."[155] That is, the invention was beyond the abilities of an ordinary professional in the field, but had not been costly to invent. Under the Carrier proposal, the plaintiff would have rebutted the presumption of

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154. *See* 35 U.S.C. § 103 (2000).
155. Cuno Eng'g Corp. v. Automatic Devices Corp., 314 U.S. 84, 91 (1941).

lawfulness. Or the plaintiff could rebut the presumption by proving that the product could not be easily and cheaply copied. The proposal thus substitutes the difficulty of copying for patent protection.

On the ex-post issue, Carrier distinguishes between industries characterized by discrete inventions and those characterized by cumulative inventions.[156] Here the test shifts the general perspective subtly from a "market" to an "industry."[157] This may not be particularly problematic in many cases, but it does raise the question of whether we look to an industry or to the particular relevant market in which the defendant operates. The distinction between cumulative and discrete patterns of invention, however, is related to the distinction between so-called pioneer inventions and follow-on inventions. The invention of the radio, for example, was a pioneer invention and it produced in its wake a host of follow-on inventions, many of which drew from earlier follow-on inventions. What is missing here is the recognition that pioneer inventions are always possible, even in industries otherwise characterized by cumulative innovation.

Of course, Carrier is not denying patent protection in situations in which the plaintiff proves the rebuttal issues. Patent protection continues to exist; it is just subordinated to antitrust law in those situations. But that means that behavior that would ordinarily be protected by patent law becomes unprotected. The issue comes down to whether the public good is better furthered by the application of antitrust or patent law in the situations identified by the rebuttal. This is the stumbling block. Antitrust law has primarily a short-term focus; patent and other intellectual property laws focus upon the longer term. We do not know, as Carrier reminds us, the ideal patent term or scope of protection.[158] Because we are unable to quantify the benefits that patent law bestows upon society, we are unable to determine when, if at all, it is socially beneficial to subordinate patent law to antitrust law. We do know, however, that the benefits to society from technological innovation dwarf the harms caused by monopolistic restraints.[159] That knowledge should give us pause, when we are asked to subordinate antitrust law to patent law.

Doubts about the workability of Carrier's scheme are also generated by one of his own examples. He suggests that competition

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156. *See* Carrier, *supra* note 1, at 829-31.

157. *See id*.

158. *See id*. at 850.

159. *See generally* Joseph F. Brodley, *The Economic Goals of Antitrust: Efficiency, Consumer Welfare, and Technological Progress*, 62 N.Y.U. L. REV. 1020 (1987).

itself generates adequate incentives for innovation in the semiconductor industry and by implication that patent protection is unnecessary.[160] Indeed, twice he explicitly states that the plaintiff would satisfy the rebuttal requirements in the semiconductor industry.[161] Whether or not patent protection is critical in the semiconductor industry,[162] that industry apparently did need intellectual property protection. Indeed, the criteria identified in the ex ante rebuttal case show that that industry required protection. Semiconductors are costly to develop, and are easily and cheaply imitated, and as a result the market would not generate incentives to innovation without intellectual property protection.[163] Congress gave it the protection it required in the Semiconductor Chip Protection Act.[164] Perhaps Carrier means that patents are not essential to innovation in the semiconductor industry because that industry has other forms of intellectual property protection. Indeed, it is unclear how a plaintiff attempting to prove the ex ante issues could succeed in that industry.

3. The McGowan Approach

McGowan's contribution is to focus our attention on, first, a respect for the right of exclusion conferred by intellectual property law and then, second, upon the efficiency norm underlying antitrust law. His analysis properly gives precedence to intellectual property law's right of exclusion. Anything else would be to eviscerate intellectual property law. Here his analysis is a corrective to those of Patterson and Carrier. Each of these scholars seeks ways of shrinking intellectual property protection from that literally provided by the statute. Patterson's distinction between the invention and the product in which the invention is embodied would reduce intellectual property protection, even in circumstances which Congress twice revisited in its enactment and amendment of section 271. Carrier would reduce intellectual property protection by identifying industries in which his proposed procedural test would show that this protection was not needed or only minimally needed. In their different ways Patterson and Carrier thus would support

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160. *See* Carrier, *supra* note 1, at 826, 828, 831 n.305, 838 n.330, 844, 851, 853.

161. *See id*. at 831 n.305, 838 n.330.

162. Patents may have acquired increased importance in the semiconductor industry. *See* Pamela Samuelson & Suzanne Scotchmer, *The Law and Economics of Reverse Engineering*, 111 YALE L.J. 1575, 1597, 1606 & n.150 (2002).

163. *See id.* at 1595, 1603-07 (discussing the need for intellectual property protection in the semiconductor industry); H.R. Rep. No. 98-781 (1984), *reprinted in* 1984 U.S.C.C.A.N. 5750, 5751-52.

164. 17 U.S.C. §§ 901-14 (2000).

an antitrust encroachment into patent (and presumably all intellectual property) law. McGowan, however, would tolerate antitrust inroads only at the margins of intellectual property protection, thus showing that he takes both intellectual property and antitrust policies seriously. Yet his balancing at the margins does raise some issues that he leaves open. Under the McGowan approach, the effects of a sale or license beyond pure exclusion are to be evaluated under an efficiency norm. Since much antitrust analysis incorporates a short-term efficiency analysis, it is unclear whether McGowan is subjecting the long-term goals of intellectual property to a short-term analysis. Moreover, it is unclear how his approach here fits with his clear preference for the long term embodied in his evaluation of serial monopoly in network markets.

Despite questions or doubts about some aspects of each of these approaches to the antitrust/intellectual property interface, it is remarkable in how much they agree. All of the commentators seek to reconcile antitrust and intellectual property law by identifying and immunizing transactions in which core intellectual property concerns are triggered. Patterson does this with his focus on invention. Carrier does this with his focus upon where the market failure, that is the *raison d'être* of intellectual property protection, does and does not occur. McGowan does this when he insists that pure exclusion can never be subject to antitrust challenge. This concern of the commentators with identifying the core of intellectual property rights and giving them precedence over antitrust policies is an approach that the courts are themselves discovering and gradually adopting as the discussion below shows.

VI. DEVELOPMENTS IN COPYRIGHT

In 1990, the Fourth Circuit endorsed the doctrine of copyright misuse, a doctrine about whose existence earlier cases had speculated from time to time. In *Lasercomb America, Inc. v. Reynolds*,[165] Holliday Steel, the corporate defendant, licensed four copies of the plaintiff Lasercomb's copyrighted CAD/CAM die-making software. Holliday Steel then proceeded, not only to make unauthorized copies of the software but to incorporate the plaintiff's software into its own software program which it then marketed to others. The court ruled that Holliday Steel had not only engaged in unauthorized copying but had surrounded its copying with a number of deceptive practices designed to obscure that unlawful behavior. Nonetheless, the court ruled that the plaintiff

165. 911 F.2d 970 (4th Cir. 1990).

Lasercomb was barred from enforcing its copyrights because it was misusing them. Lasercomb was contractually requiring the licensees of its die-making software to abstain from developing their own die-making software during the term of the license and for an additional year. The district court had viewed this provision as a reasonable protection against copying, but the court of appeals took a different view. The appellate court viewed this provision as an attempt to use its copyright to control competition in an area outside the area of copyright protection.[166]

A number of facets of the *Lasercomb* opinion are of interest. First, the court followed the patent cases in determining that misuse consisted of using intellectual property rights to exert control outside of the area which those rights encompassed, i.e., in leveraging the power conferred by the intellectual property right to control market behavior beyond the scope of those rights. Second, the court criticized the lower court for viewing the offending contractual provisions as a reasonable way of protecting against copying. In the appellate court's view, there is no analogue to the rule of reason in dealing with a misuse issue. Reasoning that a party could misuse its intellectual property rights without necessarily violating the antitrust law, the court concluded that the misuse doctrine imposes stricter constraints on behavior than does antitrust. Accordingly, the rule of reason, which is an antitrust defense, does not excuse misuse. Stated another way, there is no rule of reason in misuse analysis. One misuses by leveraging, however reasonable that leveraging may be. As I note below, this rejection of the rule of reason exacerbates the differences between copyright misuse and patent misuse. Third, the court's rationale for adopting a copyright misuse doctrine was ostensibly based upon the similarities between patent law (which contains a misuse doctrine) and copyright law. The court found these similarities in their development in seventeenth and eighteenth century England, the similar treatment of patents and copyrights in the U.S. Constitution, and the equation of the public policies behind patents and copyrights by the Supreme Court.[167] Despite this multi-pronged rationale, the court embraced a copyright misuse doctrine whose parameters appear to be quite different from those of the patent misuse doctrine.

The court barely mentioned the statutory limits which Congress has placed on the patent misuse doctrine.[168] Under the Fourth Circuit's rationale, one might expect that the judicially created doctrine of

166. *See id*. at 971-79.
167. *See id*. at 976-78.
168. *See id*. at 975-76.

copyright misuse—based, as it is, upon its patent analogue—would incorporate the carefully constructed legislative provisions governing patent misuse. Moreover, the Federal Circuit, which decides all patent appeals, requires that an anticompetitive effect, i.e., a restraint that cannot be justified under the rule of reason, be established as a predicate to a determination of misuse.[169]

The cases which have followed *Lasercomb* have elaborated the misuse doctrine, finding it applicable whenever a copyright holder imposes a restraint beyond a mere license to use. Perhaps the most stringent application of the misuse doctrine occurred in *Practice Management Information Co. v. American Medical Ass'n*[170] ("AMA"), where an exclusive-supply provision in a license agreement was held to constitute misuse. In that case the AMA developed a coding system for identifying medical procedures which was published in a document entitled the Physician's Current Procedural Terminology ("CPT") and on which the AMA held a copyright. When the federal Health Care Financing Administration ("HCFA") needed a code for identifying physicians' services for use in Medicare and Medicaid administration, the HCFA sought and obtained a license from the AMA to use its copyrighted CPT. Because the AMA's license required the HCFA "'not to use any other system of procedur[al] nomenclature,'" the court concluded that the AMA misused its copyright.[171] This holding gives literal effect to the *Lasercomb* approach which equates misuse with an exertion of control beyond the literal scope of the copyright. The First Circuit, in *Data General Corp. v. Grumman System Support Corp.*,[172] appears to have grasped the revolutionary aspects of this approach to copyright misuse. Yet it is an approach whose ramifications may not, even now, be fully appreciated in the other circuits and in the bar generally.

Agreements under which a copyright licensee confines itself to the licensor's product would not only be unenforceable, but the licensor

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169. *See* Mallinckrodt, Inc. v. Medipart, Inc., 976 F.2d 700, 708 (Fed. Cir. 1992); Windsurfing Int'l, Inc. v. AMF, Inc., 782 F.2d 995, 1001 (Fed. Cir. 1986).

170. 121 F.3d 516 (9th Cir. 1997).

171. *Id.* at 517-21.

172. 36 F.3d 1147 (1st Cir. 1994). In that case the court observed that section 271(d) bars a patent misuse determination when the patentee has unilaterally refused a license. The court then suggested that the effect of section 271(d) may be to bar all antitrust claims and counterclaims premised on a refusal to license a patent. The court then noted that there was no copyright analogue to section 271(d). In order to preserve the economic incentives engendered by the Copyright Act, however, the court ruled that the desire of a copyright holder to exclude others from the use of its copyrighted work is a presumptively valid business justification for refusing to license. *See id.* at 1187.

would be barred from enforcing its copyright against anyone.[173] The *Lasercomb* rationale would apparently undermine exclusive-supply contracts between motion-picture distributors and theaters, as well as all exclusive-supply contracts involving software. Indeed, many or most of the contracts that were the subject of the Justice Department's antitrust suits against the Microsoft Corporation may have been vulnerable to assertions of copyright misuse. Microsoft's exclusive contracts with original equipment manufacturers that were the subject of litigation in the mid-1990s would have been vulnerable.[174] So would have been the exclusive and near-exclusive licenses that the Microsoft Corporation had entered into with Internet Access Providers and which were the subject of a second costly antitrust suit brought by the Department.[175] Not only were those licenses unenforceable, but the Microsoft copyrights employed in those licenses were apparently unenforceable against anyone!

The Ninth Circuit has suggested in dicta that it might be willing to extend the copyright misuse doctrine a step further than the other circuits. In *Image Technical Services, Inc. v. Eastman Kodak Co.*,[176] the court laid the groundwork for this expansion. In this case, the court indicated that, although a unilateral refusal to license was a presumptively lawful act, it might nevertheless give rise to antitrust liability if that presumption were overcome.[177] In *A&M Records, Inc. v. Napster*, *Inc*.[178] that court expanded that antitrust approach into the area of copyright misuse, suggesting that a unilateral refusal to license a copyright could constitute misuse.[179]

The Ninth Circuit's suggestion that a unilateral refusal to license might constitute misuse, of course, is the most recent extension of the copyright misuse doctrine beyond its asserted rationale. In *Lasercomb* the court had justified incorporating a misuse doctrine into copyright law on the ground that such a doctrine existed in patent law and that patent and copyright laws shared many commonalities.[180] Yet on that justification, the copyright misuse doctrine would be expected to be similar to the patent misuse doctrine. And the patent misuse doctrine is

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173. *See id*.
174. *See* United States v. Microsoft Corp., No. 94-1564LO, 1995-2 Trade Cas. (CCH) ¶ 71,096, 75, 244-46 (D.D.C. Aug. 21, 1995).
175. *See* United States v. Microsoft Corp., 253 F.3d 34, 71 (D.C. Cir. 2001).
176. 125 F.3d 1195 (9th Cir. 1997).
177. *See id*. at 1218-19.
178. 239 F.3d 1004, 1027 n.8 (9th Cir. 2001).
179. *See id*. at 1027 n.8.
180. *See* Lasercomb Am. Inc. v. Reynolds, 911 F.2d 970, 973-74 (4th Cir. 1990).

largely legislatively defined in section 271. In fact, however, the *Lasercomb* decision has taken copyright down a route that is quite different from its supposed patent analogue. Section 271 protects a patentee's refusal to license. And, as observed above, a patentee cannot be found to have misused its patent unless its behavior has transgressed the rule of reason.

Yet the Ninth Circuit is not without support in thinking about a unilateral refusal to license as copyright misuse. The First Circuit opinion in *Data General* notes that "while Section 271(d) is indicative of congressional 'policy' on the need for antitrust law to accommodate intellectual property law, Congress did not similarly amend the Copyright Act."[181] Although the court in that passage is concerned with an antitrust issue, it is also considering the effect of section 271. The court's language suggests that the enactment of legislation restricting the scope of patent misuse and the absence of legislation restricting the scope of copyright misuse implies that the copyright misuse doctrine is, or may be, more expansive than patent misuse. Perhaps. But if the very existence of a copyright misuse doctrine is justified on analogues to the patent law, then the limitations on patent misuse should be important factors to consider in determining the scope of copyright misuse. Indeed, this conclusion is supported by the history of the patent misuse doctrine. Section 271, it will be recalled, was enacted to curb judicial zeal in expanding the patent misuse doctrine. It would be unfortunate if the judiciary expanded the copyright misuse doctrine without reflecting on that history.

The most interesting developments under the copyright misuse doctrine, however, have involved the use of copyrighted software programs to control various aftermarkets. The *Eastman Kodak* and *Data General* cases referred to above involved such behavior. The development of the copyright misuse doctrine in this context is described in the next section. Here, we should observe merely that the Fifth Circuit, in *Alcatel USA, Inc. v. DGI Technologies, Inc.*,[182] has applied the misuse doctrine to prevent the holder of a manufacturer of telephone switching systems to control the market for expansion cards through its copyright over the operating system used in the switching systems. In that case DSC Communications Corp., the manufacturer of the switching systems, licensed the use of a copyrighted operating system to customers. By limiting the license to use only on DSC-

181. Data Gen. Corp. v. Grumman Sys. Support Corp., 36 F.3d 1147, 1187 (1st Cir. 1994).
182. 166 F.3d 772 (5th Cir. 1999).

manufactured equipment, a customer who installed expansion cards manufactured by others would infringe DSC's copyright when the system began to operate and the copyrighted operating system was reproduced in the memories of the expansion cards. The court held, however, that by licensing in this way, DSC was engaged in copyright misuse, because it was attempting to control the market for expansion cards, a market which lay beyond the scope of its copyright. As a result, the court refused enforcement to DSC's copyrighted program.[183]

VII. COPYRIGHT AND AFTERMARKETS

The use of copyright to control aftermarkets began shortly after the Supreme Court's 1992 decision in *Eastman Kodak Co. v. Image Technical Services, Inc.*[184] Kodak, a manufacturer of high speed copiers and micrographic equipment, had refused to sell replacement parts to ISOs. As a result, only Kodak servicing organizations were able to provide maintenance and repair. ISOs charged that Kodak had effectively tied maintenance and repair service to replacement parts, thus engaging in unlawful tying and monopolization.[185] After the ISOs prevailed in the Supreme Court, it appeared that equipment manufacturers would be unable to control the servicing and other aftermarkets for their products. As the caselaw has revealed, however, the Court's decision is not nearly as broad as some observers initially feared. So long as a manufacturer makes clear to all of its customers that replacement parts will be available only from it and maintains that policy unchanged from the beginning, then it will avoid the prohibition against monopolization as well as the application of the per se rule against tying.[186] It will avoid conflict with these antitrust rules, because by making its policy clear at the beginning, the manufacturer will have succeeded in bringing the aftermarket into the equipment market, constraining its power in the former by competition in the latter. Customers decide, when they purchase the equipment, whether they are willing to accept the manufacturer's exclusive maintenance and repair services.

In the immediate aftermath of the *Eastman Kodak* decision, however, some manufacturers looked to copyright as a promising means of providing exclusive access to service aftermarkets. In *MAI Systems*

183. *See id*. at 782, 793, 799.
184. 504 U.S. 451 (1992).
185. *See id*. at 455, 459.
186. *See* PSI Repair Servs., Inc. v. Honeywell, Inc., 104 F.3d 811, 820 (6th Cir. 1997).

Corp. v. Peak Computer, Inc.,[187] the Ninth Circuit ruled that when a computer reproduces a copyrighted software program in its random access memory (RAM), that reproduction constitutes a "copy" for purposes of the copyright law. In that case, MAI Systems sold computers and licensed the use of its operating system to its computer customers "solely to fulfill [the] Customer's own internal information processing needs."[188] When a technician from Peak, an ISO, turned on a customer's computer, the technician activated the operating system which was reproduced in the computer's RAM. In addition, the technician viewed the system's error log, which was part of the operating system, to diagnose the problem requiring attention. By thus loading the operating system into the computer's memory, the technician produced an unauthorized copy of the operating system, thus infringing MAI's copyright.[189]

Section 117 of the Copyright Act was designed to deal with the fact that computers reproduce software programs in their RAMs when they use them. That section authorizes the owner of a copy of a computer program to make a new copy "as an essential step in the utilization of the computer program."[190] Section 117, accordingly, ensures that an owner of a copy of a computer program does not infringe when she uses the program.[191] But the protection is accorded only to the "owner" and not to a lessee.[192] In *MAI*, the court, relying upon licensing agreements from MAI to its customers, ruled that the customers did not own copies of the copyrighted operating systems.[193] Therefore, they could not claim the protection of Section 117. No argument was thus available that the action of the Peak technician fell within the owner's safety net provided by Section 117. The Ninth Circuit later reaffirmed its *MAI* decision in *Triad Systems Corp. v. Southeastern Express Co.*[194] that replication of a software program in a computer's RAM was a copy for purposes of the copyright act.[195] In 1997, the Second Circuit also suggested that it was likely to follow that approach in *Fonar Corp. v. Domenick*.[196]

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187. 991 F.2d 511 (9th Cir. 1993), *cert. dismissed*, 520 U.S. 1033 (1994).
188. *See MAI*, 991 F.2d at 517 n.3.
189. *See id*. at 518.
190. 17 U.S.C. § 117 (2000).
191. *See id*.
192. *See id*.
193. *See MAI*, 991 F.2d at 517 n.3, 518 n.5.
194. 64 F.3d 1330 (9th Cir. 1995).
195. *See id*. at 1335.
196. 105 F.3d 99, 103 (2d Cir. 1997).

Congress responded to *MAI*, *Triad* and *Fonar* in the Digital Millennium Copyright Act.[197] That Act added paragraphs (c) and (d) to section 117, expressly allowing the owner or lessee of a machine to make, or authorize the making of, a copy of a computer program when the copy is made solely by activation of a machine that is being repaired or maintained.[198] While Congress thus rejected the holding of *MAI* and its progeny as applied to ISOs, it did not repudiate *MAI*'s general holding that the reproduction of a computer program in RAM created a copy for purposes of copyright law. Even when the narrowly tailored language of the new paragraphs (c) and (d) of section 117 became effective, therefore, it could not protect rivals in markets other than service or maintenance.

Litigation involving DSC Communications Corporation has highlighted the limited scope of the legislative overruling of *MAI*. As described in the prior section, DSC produces telephone switching systems for sale to long-distance telephone companies and leases copies of the copyrighted operating system employed by the switching systems to its customers. The switching systems are expandable with the addition of expansion cards. DSC, however, prevents rivals from supplying expansion cards for use with its system through the ownership of the copyright in the operating system. Since DSC's customers own the equipment but not the copies of the operating system supplied with that equipment, their reproduction of the operating system is governed by the lease contract rather than section 117. Since the lease confines the use of the operating system to DSC-supplied equipment, the reproduction of DSC's operating system in the RAM of expansion cards made by DSC's rivals constitutes unauthorized copying and thus infringement. A DSC customer who used an expansion card supplied by a rival would thus commit an act of direct infringement. And the rival which supplied the card would be a contributory infringer.

The Fifth Circuit, however, while concluding that DSC's customers were direct infringers and that the rival supplier was a contributory infringer, nonetheless refused to enforce DSC's copyright on the ground that it was misusing its copyrights.[199] According to the Fifth Circuit, DSC's attempt to use its copyright on the operating system to control the market for its uncopyrighted expansion cards constituted misuse.[200] In so

197. *See* Pub. L. 105-304, Title III, § 302, Oct. 28, 1998, 112 Stat. 2886 (1998) (codified as amended at 17 U.S.C. § 302 (2000)).

198. *See id*. § 117 (2001).

199. *See* Alcatel USA, Inc. v. DGI Techs., Inc., 166 F.3d 722, 793 (5th Cir. 1999).

200. *See id*.

doing, it was leveraging its copyright into a market beyond the scope of its copyright. Under *Lasercomb*, that behavior constitutes misuse.

VIII. THE CURRENT STATUS OF THE MISUSE ISSUE

We have already reviewed the rationale employed by the Fourth Circuit in *Lasercomb* to create the modern copyright misuse doctrine. That rationale suggests that the copyright misuse doctrine should be limited analogously to the way the patent misuse doctrine is limited under section 271 of the Patent Act. We have observed the statement in *Data General* attributing significance to the failure of the Congress to amend the copyright act to create analogues to section 271. But in the Digital Millennium Copyright Act, the Congress did legislate specifically with respect to the use of copyright as a tie to control an aftermarket.[201] In its amendments to section 117, Congress formulated a more precise policy about the use of copyrighted software as a tying product. Congress, in effect, told us that a copyrighted software program which is activated whenever equipment is turned on may not be leveraged to control the market for maintenance and repair services of that machine. But explicit congressional restriction on software leveraging was limited to this narrow (maintenance and repair) context.

One interpretation of these events is that the copyright on software may legitimately be leveraged to secure control over all aftermarkets other than maintenance and repair. The narrow language which Congress chose to overrule the *MAI* line of cases suggests that Congress has implicitly approved the copyright leveraging in other contexts. Moreover, its failure to disapprove the holding in *MAI* and other cases that the replication of a program in RAM constitutes a copy for copyright law purposes lends additional support to this interpretation. This aspect of the *MAI* decision was both widely criticized and widely followed. Had Congress wished to contain the *MAI* ruling more broadly, it could have amended the definition of "copy" to exclude temporary RAM copies. An alternative interpretation of these events, of course, is that the narrow language contained in the amendments to section 117 is tailored to the problem perceived by the Congress (and as probably identified to it by independent servicing organizations and their lobbyists). Under this interpretation, the failure of Congress to enact more sweeping legislation carries no implications at all. Congress just did not focus on any problem other than the complaints of the ISOs.

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201. *See* 17 U.S.C. § 117 (2000).

IX. ANTITRUST DEVELOPMENTS

A. The Antitrust/Intellectual Property Interfaces

While both the Clayton Act and section 271 are relevant inputs in determining the parameters of the antitrust/patent law interface, recent cases have addressed not only the interface between the antitrust and patent law but also the interface between antitrust and copyright law. The leading case is probably *In re Independent Service Organizations Antitrust Litigation*[202] in which the Federal Circuit ruled that, absent unusual circumstances, a patent grant contemplates the right to exclude competition in more than one market.[203] Following *B. Braun Medical, Inc. v. Abbott Laboratories*, which had held that a patentee had a right to exclude competition in both the market for patented valves and the market for extension sets incorporating the patented valves,[204] the court ruled that Xerox, a manufacturer of copying equipment, lawfully refused to sell parts to independent servicing organizations.[205] Indeed, its refusal fell squarely within the permission of section 271(d)(4).[206] The plaintiffs' contention that Xerox was leveraging its power in the parts market into the service market was rejected on the ground that Xerox was not extending its power beyond the scope of its patent;[207] rather, the patent conferred a right to exclude in any market in which the parts were sold or used, including the service market.[208]

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202. 203 F.3d 1322 (Fed. Cir. 2000), *cert. denied*, 531 U.S. 1143 (2001).

203. *See id*. at 1327.

204. *See* 124 F.3d 1419, 1427 n.4 (Fed. Cir. 1997).

205. *See In re Ind. Serv. Orgs. Antitrust Litig.*, 203 F.3d at 1328.

206. *See id*. at 1326.

207. *See id*. at 1322, 1326-27.

208. *See id*. at 1327. The decision involving Xerox appears to resolve the antitrust issue which arose in *C.R. Bard*. *See* C.R. Bard, Inc. v. M3 Sys., Inc., 157 F.3d 1340, 1382 (Fed. Cir. 1998), *petitions for rehearing and rehearing en banc denied*, 161 F.3d 1380 (Fed. Cir. 1998). Bard held a patent on a device for injecting needles into body tissue in order to sample tissue for biopsy purposes. Bard modified the design of that device (or biopsy gun) in order to prevent competitors from providing replacement needles for Bard biopsy guns. By a 2-1 vote, the court upheld a jury determination that by modifying the biopsy guns to prevent competitors from supplying needles for them, Bard unlawfully maintained its needle monopoly. *See C.R. Bard*, 157 F.3d at 1346, 1382. In a concurring opinion accompanying the court's denial of rehearing and rehearing en banc, Judges Gajarsa and Clevenger pointed out that the defendant had not argued that "modification of a patented product within the scope of the claims by a patentee can not, as a matter of law, constitute an antitrust violation," and thus, that issue had not been before the court. *C.R. Bard*, 161 F.3d at 1380. In their view, the decision left that question open for future resolution. *See id*. at 1381. A somewhat analogous issue arose in the Microsoft antitrust litigation, where the circuit ruled that Microsoft's decisions about how to design a copyrighted product could constitute antitrust violations if they helped to preserve its monopoly and could not be justified on efficiency grounds.

The Federal Circuit applied a similar approach to uphold Xerox's refusal to sell copyrighted manuals for its machines to ISOs and its refusal to license those organizations to use its diagnostic software. Following an earlier decision of the First Circuit,[209] the court ruled that an author's desire to exclude others from use of its copyrighted work is a presumptively valid business justification for a refusal to license or sell its copyrighted manuals and diagnostic software.[210]

The presumptive validity of exclusion under both patent and copyright laws could be rebutted, the Federal Circuit said, by proof that the intellectual property rights holder had obtained the protection of the intellectual property laws unlawfully or was enforcing them unlawfully.[211] To rebut the presumptive validity of exclusion under the patent laws, the plaintiff would have to show that the patent was obtained by fraud on the patent office[212] or that the enforcement of the patents constituted shams under the *Noerr* doctrine.[213] To rebut the presumptive validity of exclusion under the copyright laws, the plaintiff would have to show that the copyright was obtained unlawfully or that the copyrights were used to gain monopoly power beyond the statutory copyright grant.[214] The Ninth Circuit, however, in a 1997 decision[215] ruled that both the patent and copyright presumptions could be overcome by a showing that the rights holder's decision to exploit its intellectual property rights was a pretext to mask anticompetitive conduct.[216] In its recent decision, the Federal Circuit rejected that position as undermining the purposes of those laws.[217]

This split between the Federal and Ninth Circuits reflects the tension between antitrust and intellectual property law. The Ninth

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Thus Microsoft's decision to commingle code of its browser and operating system and to remove the browser from its add/remove program were ruled unlawful. *See* United States v. Microsoft Corp., 253 F.3d 34, 67 (D.C. Cir. 2001).

209. *See* Data Gen. Corp. v. Grumman Sys. Support Corp., 36 F.3d 1147, 1187 (1st Cir. 1994).

210. *See CSU*, 203 F.3d at 1326, 1329 (quoting *Data Gen. Corp*. 36 F.3d at 1187).

211. *See CSU*, 203 F.3d at 1326.

212. *See id*.; Walker Process Equip., Inc. v. Food Mach. & Chem. Corp., 382 U.S. 172, 177 (1965).

213. *See CSU*, 203 F.3d at 1326; E. R.R. Presidents Conference v. Noerr Motor Freight, Inc., 365 U.S. 127 (1961). The application of the *Noerr* doctrine to the enforcement of intellectual property rights is tested by standards set out in *Professional Real Estate Investors, Inc. v. Columbia Pictures Industries, Inc.*, 508 U.S. 49, 60-61 (1993). Under the latter case, a plaintiff's motivation in asserting a copyright claim is irrelevant unless the copyright claim is objectively baseless. *See id*. at 60.

214. *See CSU*, 203 F.3d at 1329.

215. *See* Image Technical Servs., Inc. v. Eastman Kodak Co., 125 F.3d 1195 (9th Cir. 1997).

216. *See id*. at 1219.

217. *See CSU*, 203 F.3d at 1327, 1329.

Circuit appears to be following in the tradition of *Mercoid* and other cases which subordinated intellectual property rights to undefined, open-ended and therefore unpredictable antitrust policies. The Federal Circuit's approach appears administratively superior to that of the Ninth Circuit because it carries a greater potential for consistent application. In permitting the finder of fact to inquire into the subjective motivations of the intellectual property right holder in order to determine whether the assertion of intellectual property rights was or was not a "pretext" for imposing a market restraint, the Ninth Circuit has abandoned predictability as a goal. Since the purpose of intellectual property rights is to exclude, it is unclear why the motivation of the rights holder is a relevant concern. Moreover, since attributing a motivation to a corporation or other business institution is an uncertain task at best, the Ninth Circuit's approach appears to be unduly error-prone.

When it made the defendant's subjective motivation the critical issue, the Ninth Circuit departed from the trend towards more objective standards in antitrust generally and in the antitrust/intellectual property interface particularly. Thus, the importance of objective evidence in antitrust contexts was emphasized in comparatively recent cases such as *Spectrum Sports* and *Brooke Group*.[218] And, in the antitrust/intellectual property context, *Professional Real Estate Investors*, *Inc.*[219] has similarly emphasized the importance of objective standards. Indeed, in the latter case, the Court ruled that so long as its intellectual property claim is objectively plausible, the holder is entitled to assert it.[220] And, in those circumstances, its subjective motivation is irrelevant.

The *Microsoft* antitrust litigation has added a further gloss upon what may prove to be an emerging synthesis of antitrust law with patent and copyright laws. The district court's resolution of the copyright issues in *Microsoft* followed the Ninth Circuit's approach in *Kodak*.[221] But the district court decision was reversed by the D.C. Circuit, which formulated its own approach to copyright issues. In that case, Microsoft had contended that copyright law conferred upon it the unrestricted

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218. *See generally* Spectrum Sports, Inc. v. McQuillan, 506 U.S. 447 (1993); Brooke Group Ltd. v. Brown & Williamson Tobacco Corp., 509 U.S. 209 (1993).

219. *See* Prof'l Real Estate Investors, Inc. v. Columbia Pictures Indus., Inc., 508 U.S. 49, 60-61 (1993). In areas of intellectual property law outside of the antitrust context, the Court has also been emphasizing an objective approach. *See* Warner-Jenkinson Co. v. Hilton Davis Chem. Co., 520 U.S. 17, 36 (1997) (holding that intent plays no role in applying the doctrine of equivalents in patent law).

220. *See Prof'l Real Estate*, 508 U.S. at 65.

221. United States v. Microsoft Corp., 87 F. Supp. 2d 30, 41 (D.D.C. 2000).

power to use its rights any way that it wished.[222] The court rejected that position summarily, referring to it as one that "borders upon the frivolous."[223] Rather, in a context in which copyright and antitrust policies appear to conflict, the court's approach gives effect to copyright policies only when the rights holder is able to convince the court that a substantial policy concern underlying the copyright law is involved.

In the case, the lawfulness of several restrictions imposed upon original equipment manufacturers ("OEMs") was before the court. The district court had condemned provisions prohibiting the OEMs from "(1) removing any desktop icons, folders, or 'Start' menu entries; (2) altering the initial boot sequence; and (3) otherwise altering the appearance of the Windows desktop."[224] The appellate court agreed that these restrictions were prima facie anticompetitive because they impeded OEMs from distributing browsers other than Microsoft's Internet Explorer and thus impeded Netscape from maintaining the critical mass of installed browsers essential to providing middleware competition to Microsoft's Windows operating system.[225] The appellate court then evaluated Microsoft's asserted justifications for these prima facie anticompetitive restrictions. In evaluating Microsoft's proffered copyright justifications, the court took a sophisticated approach, examining those justifications that raised substantial copyright concerns. Thus, although the court regarded Microsoft's contention that copyright law conferred upon it the right to impose any restriction it wanted in a licensing agreement as essentially frivolous,[226] the court approached other proffered justifications differently. The court agreed with Microsoft that a replacement of the Windows desktop with a user interface designed by the OEM or with a Netscape user interface was "a drastic alteration" of Microsoft's copyrighted work and "outweighs the marginal anticompetitive effect of prohibiting the OEMs from substituting a different interface automatically upon completion of the initial boot process."[227] The court also agreed in principle that it would be lawful for Microsoft to bar alterations of Windows that would undermine its "value . . . as a stable and consistent platform."[228] It rejected that rationale for Microsoft's license restrictions, however,

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222. United States v. Microsoft Corp., 253 F.3d 34, 46, 62-63 (D.C. Cir. 2001).
223. *Id.* at 63.
224. *Id.* at 61.
225. *See id.*
226. *See id.* at 62.
227. *Id.* at 63.
228. *Id.*

because Microsoft had not shown that the "stability" and "consistency" of the Windows platform were threatened.[229]

B. Technological Tying

The D.C. Circuit ruled that it was prima facie lawful for Microsoft to integrate its Internet Explorer into its Windows operating system so long as OEMs and others were able to disintegrate the products. It would be lawful even to integrate the two products so tightly that disintegration was impossible, if the preclusion of disintegration was grounded in efficiency.[230] Thus, the court ruled that Microsoft's exclusion of the browser from the add/remove program was unlawful, because there was no efficiency reason underlying that exclusion. It was also unlawful for Microsoft to prevent disintegration by unnecessarily commingling browser and operating system code in the same files, because there was no efficiency reason for the commingling.[231] By contrast, the court upheld Microsoft's action in causing Windows to override the user's choice of a default browser in a number of circumstances in which the default browser would be incompatible with Windows devices with which it was being employed.[232] Microsoft proffered no efficiency justification for the first two technological constraints on user choice, but did proffer one for the latter. When, as on this issue, Microsoft provided an efficiency justification for a constraint, the court required the plaintiff to disprove that justification. The failure of the plaintiff to come forward to disprove the justification allowed Microsoft to prevail on that issue.[233]

Let me restate these matters in the language of copyright. When Microsoft integrated its browser into its operating system, it created a derivative work.[234] Perhaps if that work were understood as a union of an operating system and a browser, it would also constitute a compilation.[235]

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229. *See id*. at 64.

230. *See id*. at 85-86 (discussing the court's "separate-products" test that prohibits tying arrangements if efficiency and demand tests are met).

231. *See id.* at 66-67.

232. *See id.* at 67. The court thought that when a user invoked certain means of accessing the Internet where the Windows 98 Help system and the Windows Update feature were in play, it was appropriate to override a choice of Navigator since the latter did not support ActiveX controls on which those features depended. Accessing the Internet through the My Computer or Windows Explorer routes would also be inconsistent with the use of such a default browser since the purposes of those features was to enable users to move seamlessly from local storage devices to the Web within the same browsing window. *See id.*

233. *See id*.

234. *See* 17 U.S.C. § 101 (2000).

235. *See id*.

Under the court's antitrust ruling, the copyright owner was required to permit licensees to disassemble that compilation and to undo the modifications which changed the preexisting works into a derivative work.

C. The Court's Overall Technique

In its *Microsoft* decision, the D.C. Circuit applied a shifting-burden approach to the resolution of antitrust issues, including those in which the defendant relied upon copyright as all or part of its justification. When the court identified a restraint that it believed to be prima facie anticompetitive, it required the defendant to justify it. When the defendant proffered a plausible justification, the court required the plaintiff to disprove the justification.[236] A major attraction of this approach is that it provides a detailed framework for exploring the effects and rationales for the restrictions in issue, compelling the parties to prepare highly structured cases and to meet the precise contentions of their opponents on a host of sub-issues.

This approach, however, appears at base to be a balancing one, where the court assesses the strength of the justification against the competitive restraint. Thus when the court upheld Microsoft's prohibition on replacing the Windows user interface, it said that the protection of the copyrighted work "outweighs the marginal anticompetitive effect" of prohibiting the OEMs from substituting a different interface.[237] On its face, this is the language of balancing. Yet the Federal Circuit, in *Xerox*, appeared to avoid balancing by accepting a copyright justification as trumping antitrust concerns unless the copyright was shown to have been obtained fraudulently or was being abused under the objective standards of the *Noerr* doctrine. Are the approaches of the D.C. Circuit and the Federal Circuit then in fact inconsistent?

One way of reading the D.C. Circuit opinion is to read the language referring to balancing as (1) not endorsing balancing in the conventional sense at all but (2) merely the court's way of describing its approach to reconciling copyright and antitrust concerns, an approach which in fact preserves the advantages of objectivity in much the same way as the *Noerr* doctrine preserves them. Under this reading, the balance to which the court refers is not to a subjective (to the judge) finely-tuned weighing of the case-specific claims of copyright against the case-specific claims

236. *See Microsoft*, 253 F.3d at 58-59.
237. *Id.* at 63.

of antitrust, but rather it is a determination whether copyright policy is implicated at all because of the presence of a substantial copyright concern. Once the court determines that a substantial copyright concern is present—as the court did, for example, in its ruling protecting the Windows user interface from a "substantial alteration"[238]—then it no longer is engaged in any balance whatsoever. It then enforces the copyright.

This way of reading the D.C. Circuit opinion follows *Noerr* and its manifestation in the intellectual property/antitrust context in *Professional Real Estate Investors*, *Inc. v. Columbia Pictures Industries*, *Inc.*[239] *In Professional Real Estate*, the Court looked only to see whether there was an objective basis for a lawsuit alleging copyright infringement.[240] Once the court determined that an objective basis existed, the right to enforce copyright prevailed over any antitrust concerns. On this analogy, once the D.C. Circuit determined that there was a substantial copyright concern (as in the Windows user interface issue described above), copyright law policies prevailed over antitrust concerns. For reasons set forth immediately below plus reasons that I will articulate subsequently, I believe that this is the proper way to understand the D.C. Circuit's *Microsoft* opinion.

The D.C. Circuit was conscious of the dangers that subjectivity poses to decisional consistency. First, it deprecated the value of intent evidence. Its focus was on conduct not intent, the court said.[241] Intent was relevant only to the extent that it is helpful in understanding the likely effect of conduct. Second, the D.C. Circuit's decision reversed a decision below in which the district court judge had explicitly endorsed the Ninth Circuit's position subordinating copyright concerns to antitrust policies when the court finds that copyright is being employed as a pretext to restrain trade.[242] The Ninth Circuit had opted to let the antitrust/copyright interface depend upon the defendant's subjective intent. The D.C. Circuit's different approach brings it closer to that of the Federal Circuit's explicit rejection of subjective intent as a means for determining whether antitrust or copyright policy trumps the other.[243] Finally, as noted above, the trend in antitrust cases over at least the last decade has been towards objective standards. Reading the D.C. Circuit's

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238. *See id*.
239. 508 U.S. 49, 60-61 (1993).
240. *See id*.
241. *See* 253 F.3d at 59.
242. *See* United States v. Microsoft Corp., 87 F. Supp. 2d 30, 41 (D.D.C. 2000).
243. *See In re* Indep. Serv. Orgs. Antitrust Litig., 203 F.3d 1322, 1329 (Fed. Cir. 2000).

Microsoft opinion in the way I have suggested would best harmonize it with this approach.

X. AN EMERGING SYNTHESIS

The Federal Circuit's view is that the exercise of intellectual property rights cannot violate the antitrust laws. Its rationale is that intellectual property rights are rights to exclude. Congress created those rights as exceptions to antitrust law. The Federal Circuit thus is opposed to balancing intellectual property policies against antitrust policies, because Congress has already performed that balance and opted for intellectual property rights. For the same reasons, the Federal Circuit also rejects the use of the subjective intent of the actor as helpful in determining whether the antitrust laws should prevail over intellectual property rights.[244] Behavior which falls within the scope of intellectual property rights is protected. To weigh conflicting antitrust and intellectual property policies on a case-by-case basis or to permit intellectual property protection to depend upon an actor's subjective intent would undermine public confidence in the intellectual property laws and thus erode the innovation incentives that they are designed to engender. In the view of the Federal Circuit, Xerox was within its rights to refuse to sell patented parts to ISOs and to refuse to license them to use its copyrighted manuals and copyrighted diagnostic software programs because patent and copyright laws gave it exclusive control over its intellectual property. Xerox was not "extending" its patents or copyrights beyond their terms, because the powers that it was exercising were squarely within the scope of the rights conferred under those laws. It was not unlawfully extending patents or copyrights into additional markets, because the rights conferred under those laws included the right to control the protected intellectual property in all of the markets in which the property had commercial value.

In my view the approach of the Federal Circuit, broadly understood, has much to recommend. Its rejection of subjective intent and implicitly of case-by-case weighing of antitrust policies against intellectual property policies, brings greater predictability to the law, heightens the sense of order, and minimizes the role of judicial or jury discretion. The decision nonetheless requires some modest correction. The Federal Circuit's basic insight—that what is protected by the intellectual property laws cannot be vitiated by the subjective intent of the actor or by the case-specific policy preferences of the judge—will ultimately be

244. *See id.* at 1327, 1329.

accepted by all circuits, for both pragmatic and idealistic reasons: it is both more workable than the alternatives and it moves us closer to governance by a rule-of-law in the intellectual property/antitrust interface.

Yet the Federal Circuit's approach does require correction, because it fails to recognize the limitations on intellectual property rights inherent in the intellectual property laws themselves. When the Federal Circuit opinion recognized Xerox's right to employ its copyrighted diagnostic software to exclude ISOs from the aftermarket, it made no mention of the Digital Millennium Copyright Act's overruling of the *MAI* line of cases.[245] Although the events in *Xerox* preceded that 1998 legislation,[246] and the Xerox manuals were outside the reach of that legislation, it would have been well for the court to have acknowledged its existence. Moreover, the recent adoption of the copyright misuse doctrine by several circuits[247] has also cast doubt upon whether copyrighted software can legitimately be used to capture an aftermarket for servicing. The Fifth Circuit in *Alcatel USA*[248] *r*efused to allow the use of a copyrighted software program to exclude competition in an aftermarket in expansion cards, a decision not easily reconciled with the Federal Circuit's tolerance of Xerox's use of copyright to exclude the ISOs.

I suggest that the decisional lines represented by *Xerox*, *Alcatel*, and *Microsoft* can be reconciled in a new synthesis as follows: Patent and copyright laws trump antitrust law when the behavior at issue falls within the scope of the rights granted under those laws. Patent and copyright laws confer exclusive rights and the exercise of those rights cannot violate antitrust law. This approach is fully consistent with the widely accepted position that the patent law does not give anyone the right to violate the antitrust laws. The patent law merely (but essentially) confers exclusive rights. Sometimes those exclusive rights may constitute an economic monopoly. In that case, the patent law confers a monopoly, but because the monopoly is granted by law, it is a lawful monopoly and does not violate the antitrust laws. But patent holders run the risk of violating the antitrust laws, if they combine together to create

245. *See supra* note 197 and accompanying text.

246. *See generally In re* Indep. Servs. Org. Antitrust Litig., 23 F. Supp. 2d 1242 (D. Kan. 1998) (providing relevant dates).

247. *See* Alcatel USA, Inc. v. DGI Techs., Inc., 166 F.3d 772 (5th Cir. 1999); Practice Mgmt. Info. Co. v. AMA, 121 F.3d 516 (9th Cir. 1997); Lasercomb Am., Inc. v. Reynolds, 911 F.2d 970 (4th Cir. 1990); *see also* Data Gen. Corp. v. Grumman Sys. Support Corp., 36 F.3d 1147 (1st Cir. 1994).

248. *See Alcatel USA*, 166 F.3d at 777, 784.

market power.[249] There is nothing in patent law sanctioning agreements among several patent holders to combine their patents. When they do so, they may therefore unlawfully monopolize.

We actually know quite a bit about the scope of the various exclusive rights under patent law, because Congress has elaborated them in section 271 of the Patent Act. In those provisions, Congress has told us what a patentee may lawfully do without making itself vulnerable to a charge of misuse. The misuse doctrine developed out of a judicial concern that patents not be employed anticompetitively. The legislatively-set limits on the misuse doctrine surely ought to guide us when we inquire whether a patentee's use of its patent is consistent with the antitrust laws. Thus, for example, the tying of a nonstaple product to a patent is not misuse under section 271, and it should not constitute an antitrust violation either. This is the Federal Circuit's position: the exercise of rights conferred by section 271 cannot violate the antitrust laws.

Copyright law differs from patent law in that there is no analogue to section 271 governing copyright misuse. The cases from several circuits tell us that the use of copyright to effect a tie constitutes misuse.[250] Thus, if tying is effectively precluded under copyright law itself, then the Federal Circuit in *Xerox* should not have permitted the tie under the guise of giving effect to copyright law.

Microsoft contributes the additional consideration that before copyright law is brought into play, the court should determine that a serious copyright policy is actually involved. Microsoft's copyright defense was rejected when it failed to identify the presence of a substantial copyright concern; it was accepted when it identified the presence of a substantial copyright concern (as in the case of preserving the integrity of the Windows user interface).

Bringing these three lines of cases together will give us a set of objective standards for the antitrust/intellectual property interface. We will recognize and give effect to the substantial concerns of intellectual property laws, allowing those laws to trump antitrust law. But in applying the intellectual property laws, we incorporate all of their limitations, including the limits which we find in the misuse doctrines.

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249. *See* Standard Oil Co. (Indiana) v. United States, 283 U.S. 163, 174 (1931) ("Where domination exists, a pooling of competing process patents, or an exchange of licenses for the purpose of curtailing the manufacture and supply of an unpatented product, is beyond the privileges conferred by the patents and constitutes a violation of the Sherman Act. The lawful individual monopolies granted by the patent statutes cannot be unitedly exercised to restrain competition.").

250. *See supra* notes 165-83 and accompanying text.

Because of the differences in patent and copyright misuse doctrines, this will cause us to protect a wider range of behavior under the patent law than under the copyright law.

XI. JUDICIAL DEVELOPMENT, ACADEMIC CONTRIBUTIONS, AND THE EMERGING SYNTHESIS

Intellectual property concerns and competition policy concerns have come into contact in several lines of decisional and statutory law. Over the years, these several strands have generated complexity and apparent conflict. We, as a society, need an overall synthesis of antitrust, patent, and copyright laws, including the differing misuse doctrines attached to each of the latter. Yet most observers would be likely to say that this task is too large to be achieved by the courts alone. When we needed a reconciliation of patent misuse and patent infringement at mid-century, Congress provided that reconciliation.[251] Congress has subsequently stepped in to overrule or endorse particular judicial decisions involving the intersection of intellectual property and competition concerns. A priori, it would have seemed unlikely that the needed synthesis of antitrust, patent, patent misuse, copyright, and copyright misuse doctrines could be achieved at the present time by the courts on their own. Indeed, the bringing of these several legal strands into a coherent whole involves the acceptance of a new and broad articulation of how the long-term objectives of our intellectual property laws mesh with the short-and-long term objectives of our competition policies. Especially in areas as complex as antitrust and intellectual property, assistance from academic sources has sometimes been necessary to enable the courts to take the large step necessary to achieve the new perspective. That was the case in the 1970s when the judicial approach to the antitrust laws moved to what has become known as the "Chicago-School" approach.[252] That was also the case when the courts adopted the prevailing approach to predatory pricing analysis.[253]

Yet today the courts appear to be in the process of working out the needed synthesis on their own. As shown above, the Federal Circuit has

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251. *See supra* note 82 and accompanying text.

252. On the role of academic input into the development of antitrust law, see Daniel J. Gifford, *The Jurisprudence of Antitrust*, 48 SMU L. REV. 1677, 1708 (1995). On the Chicago School approach, see, e.g., Richard A. Posner, *The Chicago School of Antitrust Analysis*, 127 U. PA. L. REV. 925 (1979).

253. The prevailing judicial approach to predatory pricing is that set forth by Harvard Law School Professors Donald F. Turner and Philip Areeda in their seminal article *Predatory Pricing and Related Practices Under Section 2 of the Sherman Act*, 88 HARV. L. REV. 697 (1975).

come out strongly for an objective approach to reconciling antitrust and intellectual property policies, an approach which accords controlling effect to intellectual property within its own sphere. The Fourth, Fifth and Ninth Circuits have imposed stringent limits on the use of copyrights as mechanisms for effecting tying arrangements.[254] And the D.C. Circuit has required that substantial copyright concerns exist in the particular fact settings in which a rights holder relies upon copyright to effect market restraints that would otherwise implicate antitrust scrutiny.[255] The several emphases of these different courts provide the material for the new antitrust/intellectual property synthesis that is emerging.

Although the courts have not followed the recommendations of the academic commentators whose work we explored above, the work of these commentators possesses an importance beyond its mere contribution to the dialogue on the intellectual property/antitrust interface. Our review of this work shows that all of these commentators agreed that in its core area of application intellectual property rights should trump antitrust concerns. This coincidence of academic policy recommendations helps to confirm the soundness of the policy position that the courts themselves are working out.

XII. CONCLUSION

The courts, through lines of superficially conflicting cases, are in fact evolving a new synthesis of antitrust law with patent and copyright law. This new synthesis gives priority to the incentive structure of the two intellectual property laws, but recognizes the lawfulness of a range of behavior protected by patents that has no protected analogue under copyright law. This aspect of the synthesis is grounded upon the different roles that Congress has assigned to these two laws, as well as upon judicial efforts over the decades to work out the implications of these different roles in the respective caselaws of patent and copyright misuse.

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254. *See supra* note 247 and accompanying text.

255. *See supra* notes 221-29 and accompanying text.