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## Intellectual Property, Competition Law and Hidden Choices Between Original and Sequential Innovation

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### [I. Summary](#)

### [II. The Patent Law Doctrine of Equivalents and the Breadth of Copyright Infringement Claims](#)

### [III. The Emerging Antitrust and Economics Debate](#)

#### [A. The Single Firm Conduct Problem](#)

#### [B. The Problem Of Overly Aggressive Enforcement Of Overly Broad Patent Claims](#)

#### [C. The Problem Of Licensing And Aggregation Of Broad Intellectual Property Rights](#)

### [IV. The Search for a Policy: A Personal Perspective on Where We Are](#)

### [V. The Courts' Responses](#)

#### [A. The Equivocal Antitrust Response](#)

#### [B. The Equivocal Fair Use Response](#)

#### [C. The Equivocal Misuse Defense](#)

### [VI. Conclusion](#)

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## [I. Summary](#)

1. A largely unanswered question lies at or near the heart of our current legal and economic system. This question involves the effect of intellectual property rights--and perhaps more importantly the breadth accorded these rights--not only on competition in existing markets but also on sequential or follow-on innovation. Fundamental as this question is, it is only now beginning to be examined in economic circles. In legal circles it is seldom confronted directly by the courts or Congress. Almost invariably acting at the behest of particularly affected industries, Congress has tended to address the question of what is protected but not to examine how it is protected; even the question of what is protected is often approached in piecemeal fashion, in response to lobbying on specific

points. Following perceived congressional mandates and acting at the behest of litigants in what are often narrow, technical disputes, the courts tend to focus on applying well-established, though sometimes obscure, legal principles to new technologies. When the legal system does deal with questions of scope, it may be forced to do so through antitrust or other peripheral doctrines that can only reach what are perceived as egregious abuses.

2. Questions concerning the types of inventions or writings that should qualify for the exclusionary rights granted by our patent and copyright laws have long been debated and can be readily perceived to have competitive consequences, both for existing competition and future, follow-on innovation or applied research.<sup>[1]</sup> What is not well understood, and has been much less studied, are the consequences of other doctrines of intellectual property law. The fact that something is protected is an indispensable first chapter in the story; the real drama, however, often lies in the rest of the story. What does the protection mean? What relief can the owner obtain, against whom, and in what form? Knowing that intellectual property rights protect something does not necessarily tell us whether those rights will be interpreted broadly or narrowly. It does not tell us whether enforcing those rights will preempt fields of endeavor or help create them for others. Ultimately, it does not tell us whether enforcing those rights will stifle or facilitate later innovations and improvements. Knowing the answers to these questions would, however, have profound consequences for competition policy and future innovation.
3. The tendency of the courts and Congress has been to extend the exclusionary rights of established forms of intellectual property protection to new technologies, whether through patent or copyright. Familiar examples achieved through court interpretation of existing statutes include computer patents, biotech patents covering parts of the human genome, and genetic probes used as research tools. Examples of protection created by Congress with the problem of scope of protection largely left to the courts include software copyrights and compilation copyrights for data bases.<sup>[2]</sup> The patent clause of the Constitution does impose some limits on protection, but they are definitely outer limits. The Constitution speaks of reserving exclusive rights for "Inventors" over their "Discoveries" as well as reserving to "Authors" exclusive rights to their "Writings."<sup>[3]</sup> The Supreme Court in the *Feist* case<sup>[4]</sup> established that since the constitution rewards "Authors," some minimum degree of creativity is necessary before a compilation of factual data can qualify for copyright protection. That standard, however, is a low one, as Justice O'Connor noted in *Feist* itself.<sup>[5]</sup>
4. In the patent field Congress and the courts do not require a flash of genius as a prerequisite to patentability.<sup>[6]</sup> Indeed, the stated purpose of the patent clause of the Constitution is to promote progress in the "useful Arts" as well as pure science. Thus, any invention that is new, non-obvious and of some potential usefulness is eligible for a patent provided it is promptly disclosed and does not represent a mere idea or law of nature. The patent and copyright laws have historically allowed room for a considerable universe of intellectual property within the generous outer bounds imposed by the Constitution.
5. One possible way to avoid undue breadth of protection would be to place renewed emphasis on the

notion that ideas or abstract principles in themselves cannot be appropriated by anyone, only their expression in original form (copyright)[\[7\]](#) or their embodiment in tangible, particularized form to solve a specific problem (patent).[\[8\]](#) An issue of this type was at the heart of the *Lotus-Borland* case discussed within and also underlies a minor bureaucratic *contretemps* between the staff of the U.S. Federal Trade Commission and the Patent and Trademark Office ("PTO") on the standards of patentability for computer programs.[\[9\]](#) The PTO has nevertheless issued patents for seemingly common methods of conducting an auction and record keeping for mutual fund accounts. One of these systems was rejected as non-patentable by the Court of Appeals for the Federal Circuit by a two to one panel vote; the patentability of the other was recently sustained by that court after a contrary decision in the district court.[\[10\]](#) A concern naturally arises that broad "idea" patents of uncertain validity and scope may too often be granted by a beleaguered PTO sometimes forced to act on the basis of inadequate disclosures of prior art by applicants. Such patents overhang the market, causing anxiety for competitors and possible disincentives to further research by subsequent innovators in industries where development of technology tends to be cumulative and incremental.[\[11\]](#)

6. Important as these questions are, they are still only the beginning of the story. It is equally, if not more, important to determine the scope of protection. The contours of a patent or copyright are not graven in stone but depend on their interpretation by the courts when applied against potential infringing acts. The acts which may infringe a patent and might be enjoined, rather than the mere fact of ownership of the patent, ultimately determine the market power that the patent affords, its effect on competition and its impact on future innovation. In a sense, every intellectual property right is clothed in a certain indeterminacy and uncertainty that can only finally be resolved in infringement litigation--or by private settlement to avoid it.
7. If we accept the tendency, as it seems to me we must and should, for the intellectual property regimes to embrace new developments and new technologies--as the scope of the subject matter tends to evolve and therefore expand--the importance of developing sound tests for determining infringement or for developing sound limiting doctrines for patent protection such as implied license, fair use and misuse increases geometrically. Judge Pauline Newman, in her scholarly concurring opinion in the *Hilton Davis* case at the Federal Circuit,[\[12\]](#) dealt at length with the need to address infringement standards such as the doctrine of equivalents from a broader perspective than that afforded by uninformed recitation of nineteenth century rhetoric:

Our decision, like every decision of patent principle, affects the national interest in technologic innovation. I have sought to understand how that effect is manifested in the doctrine of equivalents.

\* \* \*

The parties and the *amici curiae* did not discuss this public interest aspect, although the consequences of our decision, as for all law, extend beyond those of the parties involved in the specific dispute. It is a consideration of passing complexity, for the mere availability of

recourse to the doctrine of equivalents can affect technologic progress as well as commercial relationships, the core of the patent system.

\* \* \*

The juridical approach to equivalency began before patents contained "claims" in the detail in which they are now written, and did not change as claim style evolved.

\* \* \*

The public notice aspect of what the patentee "claims," upon interaction with the patent examiner and on consideration of the prior art, is a powerful argument for strict literal reading of claims, even if the result is injustice in particular cases. However, the patent system is of ever-increasing importance, due to the dependence of industry on technology, the reduced opportunity to rely on trade secrecy because of today's enlarged analytical capability, the ease and speed of imitation and modification once the innovator has shown the way, the harshness of modern competition, and the ever-present need for industrial incentives. These factors weigh on the side of the innovator, and thus favor a rule that tempers the rigor of literalness.

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The principle of equivalency thus serves a commercial purpose, as it adjusts the relationship between the originator and the second-comer who bore neither the burden of creation nor the risk of failure. However, there is also the major consideration of the progress of technology. How does the existence of a "doctrine" that transcends the statutory purpose of legal notice of the patent's scope affect that progress? Does the doctrine of equivalents affect the research, development, investment, and commercialization decisions of today's technologic industry, in a way that concerns the national interest?[\[13\]](#)

8. The same points raised by Judge Newman with respect to the doctrine of equivalents apply to other doctrines for determining infringement, such as the tests for determining infringement of literary works adapted to software cases by the courts.

## **II. The Patent Law Doctrine of Equivalents and the Breadth of Copyright Infringement Claims**

9. The Supreme Court subsequently granted certiorari in the *Hilton Davis* case and examined and clarified the doctrine of equivalents. The Court placed definite limits on the doctrine, calling for specific element-by-element analysis in order to avoid a broad brush, "look and feel" analysis that would wholly disregard claim limitations. The decision also prevents a patentee from recapturing,

through reliance on a broad doctrine of equivalents, positions taken to avoid prior art, with the presumption that limiting statements and changes were made for the purpose of eschewing that interpretation.<sup>[14]</sup> Nevertheless, the current formulation retains some fuzziness, especially when applied to means-plus-function claims or to technological advances that exist at the time of the infringement case but did not exist at the time of the application.<sup>[15]</sup> The current formulation is informed more by common sense and good intentions than by systematic study or rigorous empirical analysis. In addition, it is a formulation that, for the foreseeable future, will apparently be applied by juries.<sup>[16]</sup>

10. Copyright software infringement cases at one time adopted an overall structure, sequence and organization test for infringement which sometimes operated in practice as an unbridled doctrine of equivalents and caused great uncertainties. The courts are now applying a more sophisticated abstraction-filtration-comparison test that dissects software into its constituent elements, filters out unprotected elements, and compares what is left. This test operates like the *Hilton Davis* element-by-element approach.<sup>[17]</sup> However, the newer test still produces uncertainties.
11. On the copyright side, an issue of this type happened to come to the attention of the Justice Department's Antitrust Division, which appeared in a district court case to advocate a limited reading of the scope of a copyright because of competitive concerns based on its economic analysis of the affected industry. I say "happened" because DOJ's involvement was somewhat fortuitous. The Antitrust Division was studying a merger between The Thomson Corporation and West Publishing Company which affected the legal publishing market and particularly the on-line market. West, of course, was a major player, and one of the concerns DOJ had was West's potential control over competing publishers through its assertion of copyrights to its "star pagination system"--essentially a claim to copyright protection for the page numbers where material appeared in its books of reporters. These books were sometimes the official reporter of a case and their West page cites often are a citation source required for briefs by court rule or custom.
12. At the same time DOJ was investigating the proposed merger, West was suing a publisher in the Southern District of New York for infringing its star pagination copyright. Justice appeared as *amicus* in that case and argued that West was pushing the theory of a database compilation copyright too far. The District Court, in a case recently affirmed by the Second Circuit, eventually agreed. Judge Martin stated:

[W]here and on what particular pages the text of a court opinion appears does not embody any original creation of the compiler, and, therefore in my view, is not entitled to protection. . . . What West is attempting to do by trying to inhibit star pagination is to create a monopoly over reported court decisions. Again, we look at the nature of the copyrighted work. It is a compilation. The star pagination does not in any way take advantage of that part of West's effort in making the compilation that reflects its intellectual effort. It simply, as I indicated earlier, reflects the accident of where a particular portion of an opinion ended up in a West reporter. Similarly, the star pagination does not take a substantial amount in

relation to the copyrighted work as a whole. West has its copyright because of the compilation, not because of where a particular portion of court-authored text falls on a page. [18]

13. Shortly before this decision was rendered, a judge supervising an antitrust case in another district court went beyond what DOJ requested in a proposed consent decree; the court required that Thomson agree not to charge small publishers royalties based on the star pagination copyright before its rights are definitively established by final decision or December 31, 2000.[19] Equally significant for the point I wish to make, however, is the fact that earlier cases from other circuits--in which antitrust authorities had not become involved--had accepted West's position on this or similar issues.[20] And even on the appeal of Judge Martin's decision, one judge of the three-judge panel dissented.
14. The First Circuit decided in the *Lotus-Borland* case that a menu command hierarchy for a computer spreadsheet program was an uncopyrightable "method of operation." [21] Although agreeing with the result, Judge Boudin wrote a concurring opinion in which he questioned the applicability of copyright law to computer programs and identified a unique problem associated with copyrighting computer programs such as Lotus 1-2-3. He stated:

The computer program is a *means* for causing something to happen; it has a mechanical utility, an instrumental role, in accomplishing the world's work. Granting protection, in other words, can have some of the consequences of *patent* protection in limiting other people's ability to perform a task in the most efficient manner." [22]

15. As Judge Boudin recognized, the implications of permitting a menu to be copyrighted and affording it broad protection are immense. An equally-divided Supreme Court affirmed the First Circuit's opinion,[23] signaling that fundamental choices remain to be made on this issue. The Ninth Circuit and some other courts have extended protection to the selection and arrangement of uncopyrightable functional features or methods of operation in a computer program but have limited the scope of protection to "bodily appropriation" of that arrangement as opposed to the normal substantial similarity standard.[24]

### **III. The Emerging Antitrust and Economics Debate**

16. Some economists and legal scholars have engaged in debate about what the choices left open by the Supreme Court should be. On one side, John Barton, Robert Merges and Richard Nelson, among others, have argued that in many industries, where innovation involves an accumulation of incremental steps, the follow-on innovator deserves more protection than the initial inventor and that incentives and opportunities for the follow-on innovator should be strengthened.[25] On the other hand, Suzanne Scotchmer and others have argued that it is more efficient to reward first inventors while denying later inventors the right to obtain patents, so that the latter must instead negotiate an *ex ante* license with the initial inventor. She argues that incentives for the first

inventor need to be strengthened, not limited.[\[26\]](#) Similarly, Edmund Kitch argued in a path-breaking article that the first inventor should be given broad patent rights which will allow it to shape and coordinate later research.[\[27\]](#) These divergent views underscore the importance of systematically addressing the question of scope of intellectual property protection on later innovators and competitors.

17. A question this yet fairly embryonic literature poses but does not answer is what kinds of behavior broad intellectual property protection elicits. If it encourages fundamental innovations which are then efficiently licensed to those best able to exploit them--if it in fact serves the Kitch prospect theory--there might be little reason to quarrel with breadth of protection. If, however, relatively modest improvements or narrow innovations are accorded a broad scope of protection as if they were fundamental leapfrog technologies, firms may have incentives to use them to create strategic bottlenecks and either deny access to downstream rivals or license rivals or users only on conditions that give the licensor fundamental advantages in markets related only peripherally to the true scope of invention. The uncertainties of outcome in patent litigation and the great rewards potentially at stake may offer incentives to engage in this behavior.

#### [A. The Single Firm Conduct Problem](#)

18. One such problem is the essential facility, monopoly leveraging or bottleneck monopoly problem--the ability to use intellectual property rights over key interfaces in one market to control competitors' access to complementary markets. Overly broad patent or copyright protection might extend exclusionary rights from a narrow invention into indispensable facets of many industries. A monopolist might forego some of its potential monopoly rents in an existing market--for example through tying, insisting on non-compete clauses or simply refusing to license potential downstream rivals--to establish an entrenched position at a critical time in a potentially much larger market. This conduct may be especially likely in a market characterized by network effects which may "tip" in favor of one system relatively early in its development.[\[28\]](#) Indeed, many licensees might be relatively indifferent to these restrictions, at least initially, so that the monopolist might be able to impose them at relatively minimal cost.
19. This problem of permitting a single firm to use a broadly interpreted intellectual property right to become gatekeeper to all sorts of new markets lies at the intersection of two competing schools of antitrust and economic thought. One school, represented by older, traditional antitrust cases, is that any deliberate effort by a monopolist to use even "honestly industrial" methods to extend its monopoly power may violate Section 2 of the Sherman Act, the antimonopoly section of U.S. antitrust law.[\[29\]](#)
20. The other school, heavily influenced by Chicago school economics, starts with the premise that only a finite amount of profit or market power can be squeezed out of any monopoly. Given this premise--and assuming the monopoly has not been wrongfully acquired in the first place--it is a matter of antitrust indifference how or in what form the monopolist takes its monopoly rents. This view is also influenced by two notions: that greater efficiencies may be achieved by permitting

even a monopolist the freedom to act; and that product enhancements and improvements ought to be encouraged unless they are mere pretenses lacking any potential merit.

21. Under the current administration, antitrust has entered a post-Chicago-school mode. It seems to be at the cusp of a return to at least some facets of traditional theory.[\[30\]](#) Concern about network effects might trump Chicago school economic assumptions because they permit the possibility that the potential gain to a monopolist--as well as the deadweight loss to society--from a monopoly over control of access to a new technology or market could far exceed any revenue temporarily foregone by the monopolist in either the new or existing market to achieve that position.
22. The FTC staff expressed this point--albeit without conspicuous success--in the comments to the PTO concerning the standards for examining software patents which I mentioned a few paragraphs ago:

Overly broad intellectual property protection also may reduce innovation by other inventors who fear infringing on the broadly patented interests. This risk is especially acute when the innovative process at issue is characterized by the accumulation of relatively small steps, rather than discrete leaps, and thus runs a greater risk of infringing possibly overbroad prior patents. This type of innovative process is characteristic of software technology. The impediments to future innovation created by inappropriate patents can be heightened by strong "network effects" which are also characteristic of software. That is, new software will have a greater value to the extent it is compatible with older systems and with the existing hardware and software base. If a patent is inappropriately granted to software products, interfaces, and approaches, both the producers of current products and would-be innovators may find it very difficult to devise alternate technical solutions acceptable to the marketplace.[\[31\]](#)

23. A related concern is the effect of broad patent rights on research and development. John Barton has concisely summarized the point:

In some cases the claims of the initial patent may be broad enough that the original inventor may be able to restrict not just marketing of the products based on follow-on research, but the research itself. Such use of a patent to prevent future research turns the research encouragement goal of the patent system on its head, and seems inherently anticompetitive as well, by building barriers to the entry of other firms into a field. It is particularly troublesome if the other products would not themselves infringe the first inventor's patent, but they were never developed because their development process would have infringed such a patent. For example, a patent on a biological receptor may prevent other researchers from using the receptor to find compounds that have therapeutic effects against the receptor, even though these compounds would not themselves infringe the patent.[\[32\]](#)

## **B. The Problem Of Overly Aggressive Enforcement Of Overly Broad Patent Claims**



24. The creation of the Court of Appeals of the Federal Circuit in 1982 as well as growing recognition of the importance of innovation and intellectual property rights to a dynamic, global economy has led the courts to be more supportive of intellectual property rights. Fewer patents are invalidated on obviousness or other grounds than was the case a few decades ago, and more substantial injunctive and damage remedies are awarded to patentees.[\[33\]](#) Accordingly, patent enforcement and patent litigation have become a growth industry for the legal community.
25. At the same time that enforcement has become more zealous, the first amendment right to petition embodied in the *Noerr-Pennington*[\[34\]](#) doctrine has assumed a new importance for antitrust or tort-based claims based on alleged misuse of the judicial system to enforce intellectual property rights. To be sure, some limitations remain. Lack of candor before the PTO may invalidate a patent and lead to penalties such as payment of the adversary's legal fees,[\[35\]](#) and the Federal Circuit has now thankfully confirmed that deliberate efforts to obtain and enforce a bogus patent may still be actionable in antitrust or tort, though probably only in quite limited circumstances.[\[36\]](#) Vigorous prosecution and enforcement of weak patents through the courts, however, is regarded as constitutionally protected activity creating an immunity to antitrust liability. Consequently, it can be said to be actively encouraged.
26. The Supreme Court in its *PRE* opinion of a few years ago[\[37\]](#) held that efforts to enforce even a weak or only doubtfully infringed patent cannot lead to antitrust liability unless the suit is a sham in the sense that it is both objectively without any conceivable basis and brought with a subjective bad faith intent to interfere with the business of a competitor rather than to win the underlying case. Under this formulation any winning case is automatically immune from liability. This includes a pyrrhic victory waged out of all proportion to its benefit or a win on a narrow, relatively unimportant point or theory.[\[38\]](#) And even a losing case is not to be judged by hindsight.[\[39\]](#) In short, at a time when some contend that overly broad intellectual property rights are being granted, the law is in some ways encouraging not only enforcement of those rights but advocacy of sweeping interpretations.

### **C. The Problem Of Licensing And Aggregation Of Broad Intellectual Property Rights**

27. Recently antitrust lawyers have begun to focus attention on yet another aspect of the problem that may be abetted by granting broad protection to narrow inventions: the combination of patents to create the so-called "killer patent portfolio"--a combination of patent rights which, when combined or cross-licensed, can serve as a barrier to entry in a way that the uncombined portfolios would not.[\[40\]](#) As alleged in the FTC's seminal *Sandoz/Ciba-Geigy* case,[\[41\]](#) the "killer" part of the combination derives from two factors: first, the former antagonists who would have limited or invalidated one another's patent claims now unite to shore them up and have them construed as broadly as possible; and second, having found one another, the former antagonists are no longer driven to license and form limited strategic alliances with other entrants. Instead, they may work together to preempt and exclude them. The current head of the Antitrust Division has focused on the dangers of infringement and interference settlements among competitors and even proposed

some system of pre-notification for settlements of significant infringement litigations (assuming one could identify and define "significant").<sup>[42]</sup> The Federal Trade Commission recently challenged a cross-license agreement allegedly involving this conduct (including bolstering the validity of fraudulently obtained patents).<sup>[43]</sup> Similar conduct has also begun to be alleged in private lawsuits, albeit with mixed success.<sup>[44]</sup>

#### **IV. The Search for a Policy: A Personal Perspective on Where We Are**

28. While the debate is still in its preliminary stages, to my mind at least a few propositions or working hypotheses have emerged which ought to inform further discussion and the treatment of some of the issues by the courts:

1. Broad intellectual property protection almost certainly stimulates some innovation that would not otherwise occur, but how much more and of what type is indeterminate.

2. Broad intellectual property protection may lead to refusals to license and deferrals of introduction of some innovations by those who already have an entrenched market portion. These are sometimes the entities best equipped through experience and financial resources to develop new innovations.<sup>[45]</sup>

- (a) This "suppression" effect is not necessarily bad if it permits orderly introduction of technologies and avoids a costly "arms race" of research and development which will yield only a single winner.<sup>[46]</sup> It also may be a short term price a society must be prepared to pay if it wishes to stimulate private enterprise to innovate aggressively.

- (b) The "suppression" effect, however, may be undesirable if it leads to incentives to amass competing technologies from third parties as well as internal research and then to suppress some of them. Here, of course, antitrust may and should intervene though the factual burdens of proof and practical problems of doing so on a timely basis are formidable.<sup>[47]</sup>

3. Broad and widespread intellectual property protection--more or less the current situation--leads to uncertainty and risk for infringers; since an innovator is likely to be both a holder of its own rights and a potential infringer of someone else's, uncertainty is likely to create incentives for widespread licensing.

- (a) To the extent that complementary resources or complementary or blocking intellectual property rights are licensed, this result is probably as close to unequivocally benign as any result can be.<sup>[48]</sup>

(b) To the extent that the rights combined involve competitive technological positions, however, the effects may, as the United States antitrust authorities have increasingly recognized, be dangerous[49]--as, for example, when weak or invalid patents are combined to form a bottleneck or practical barrier to entry.

4. Broad intellectual property protection may also lead to bottleneck monopoly situations; for example, the owner of intellectual property rights covering an interface between a monopolized market and potential new markets may strategically and at relatively low cost eliminate rivals in the new markets through selective licensing or exclusionary restrictions on users and licensees.

(a) If an invention truly embraces two markets, and if the behavior is unilateral, this effect seems an unavoidable consequence of any intellectual property system.

(b) If, however, the invention covers only a small though important facet of the second market, or is stretched unnaturally to cover it, this effect seems harder to justify.[50] Moreover, the potential reward of obtaining bottleneck monopoly of this kind may provide incentives to engage in abusive or anticompetitive behavior to acquire it. (See point 6 below.)

5. While broad protection may encourage licensing, it may also facilitate licensing with onerous, exclusionary restrictions. One may stipulate with the Chicago school of economics that intellectual property owners probably must make some sort of trade off between these restrictions and more direct rewards of exploitation. But it is not at all clear that this trade off is necessarily a dollar-for-dollar trade off or that the consequences will necessarily be socially and competitively neutral. The potential gains to a patent owner from a provision such as a tie or an exclusive dealing clause that excludes rivals from a new market at a critical time--a market that may be much larger than the owner's existing market--may be much greater than any cost perceived by licensees. This effect may be especially pronounced in industries with strong network characteristics. Antitrust and doctrines such as misuse play their most important roles here, but the current rules are constantly shifting and notoriously difficult to apply.[51]

6. Broad protection leads to increased incentive to use bad methods to obtain broad protection and advocate broad interpretations. It is difficult for any patent office fully to foil the "ant-like persistence" of a well-financed patent department.[52] The Supreme Court in the *PRE* decision may have taken an overly dogmatic approach to the first amendment that has made the courts reticent to penalize even abnormally aggressive assertion of claims.[53] And although it is a subject for another day, industry groups can, as they are even now doing, seek legislative enhancement of their rights on critical, if subtle, points, which no one may be well-financed or disciplined enough to question on a broader, public interest basis.

## V. The Courts' Responses

### A. The Equivocal Antitrust Response

29. To a limited extent, the courts may now be beginning to apply antitrust monopolization principles or similar considerations as a limiting principle on infringement claims. In the *Data General* case the First Circuit adopted a strong presumption that refusing to license a copyright was justified by legitimate business reasons even when failure to license and suits against unlicensed users contributed substantially to monopolization. The court, however, announced the possibility that that presumption could be rebutted.<sup>[54]</sup> The European Court of Justice has gone even further in allowing competition principles to trump reliance on a copyright it regarded as weak and which covered information indispensable to the ability to compete.<sup>[55]</sup>
30. The Ninth Circuit recently extended the *Data General* approach to patents in the *Kodak* case on remand from the Supreme Court.<sup>[56]</sup> *Data General* had limited its rule to copyrights, assuming that no duty to license a patent owned by a monopoly would ever exist. The Ninth Circuit in *Kodak* observed that a monopolist's unilateral refusal to license a patent is not generally viewed as exclusionary conduct (except where the patent is unlawfully acquired or where there is an attempt to extend a lawful monopoly beyond the bounds of the patent grant). However, the court added that "at the border of intellectual property monopolies and antitrust markets lies a field of dissonance yet to be harmonized by statute or the Supreme Court" and that the effect of claims based upon unilateral conduct "is a cause for serious concern."<sup>[57]</sup> The court tried to end this dissonance by extending the *Data General* approach to patents, creating a strong but rebuttable presumption that a refusal to license by a single patent owner is presumptively legitimate behavior.
31. Noting that "[n]either the aims of intellectual property law, nor the antitrust laws justify allowing a monopolist to rely upon a pretextual business justification to mask anticompetitive conduct," the Ninth Circuit observed that Kodak photocopy and micrographics equipment required thousands of parts which it had refused to sell to competitors, only 65 of which were actually patented.<sup>[58]</sup> Unlike other cases involving refusals to license patents, the Ninth Circuit reasoned that the *Kodak* case concerned a blanket refusal to license that included protected and unprotected products. Thus, the Court held it is more probable than not that the jury could have found Kodak's presumptively valid business justification rebutted on the grounds of pretext.<sup>[59]</sup>
32. At the same time that Kodak has been litigating with independent photocopier service organizations in California federal court, its chief competitor in the photocopier business, Xerox, has been litigating with the independent photocopier service organizations in a Kansas federal court. The independent service organizations asked the Kansas district court to reconsider, in light of the Ninth Circuit *Kodak* decision, a previous holding that an intellectual property holder's unilateral refusal to license its property cannot constitute an antitrust violation or misuse.
33. The Kansas district court refused to follow the Ninth Circuit and criticized two aspects of the

Ninth Circuit's opinion.<sup>[60]</sup> First, the court stated that the Ninth Circuit's holding that an intellectual property owner could violate the antitrust laws if it achieved market power in a separate economic market from the market its patent covered was flawed. According to the court, the Ninth Circuit failed to recognize that a patent's scope is not defined by economic markets but by the patent claims. A patent, according to the *Xerox* court, may give its owner market power in many economic markets.

34. The court also criticized the Ninth Circuit's test for apparently relying on intent, imposing antitrust liability when an intellectual property holder's refusal to license its property is motivated by a desire to fend off competition rather than to protect its intellectual property. The Kansas district court stated that such a rule would depend upon the extent a company was antitrust-savvy enough to engage in the "formalistic ritual of documenting that 'our patent rights is what truly is motivating our refusal to deal.'"<sup>[61]</sup>
35. The question these cases pose is when other refusals to license may be deemed "pretextual" or what other circumstances would serve to overcome the presumption of legitimate business purpose to benefit from intellectual property rights. Historically, the view of the Kansas district court has prevailed, and the exceptions noted by *Data General* and *Kodak* (and perhaps, in Europe, even *Magill*) may be extremely narrow, limited to pretextual, almost sham, reliance on intellectual property rights.
36. Supreme Court review of *Kodak* might have clarified the relationship between the right to exclude inherent in a patent and the conduct element of a monopolization case, but the Supreme Court recently denied *certiorari*. An even more basic question, however, is not whether antitrust can or should act to cure manifest abuses. Rather, the root question is an intellectual property question: whether many patent or copyright claims *should* legitimately be worded or interpreted to give their owners market power in many economic markets. As the *Xerox* case held, antitrust may be powerless to act, absent conspiracy, if a patent can be interpreted and enforced in a way that may exclude others from more than one market.

## **B. The Equivocal Fair Use Response**

37. In some copyright cases, the U.S. courts have turned to fair use principles as a possible further limit on infringement claims. These cases, involving somewhat exceptional circumstances, do not allow functional features of copyrighted software to be used as devices to frustrate significant improvements or transformative uses. The seminal case is another case from the Ninth Circuit, *Sega Enterprises, Ltd. v. Accolade, Inc.*,<sup>[62]</sup> an action for copyright infringement by a game and console manufacturer with a lock out code. The copyright owner sued the maker of a new game which downloaded one piece of disassembled code to complete a method for defeating the lock out so that its new game could run on the console. The court sustained the fair use defense since the copying was minor and did not lead to infringement of original features of the game, stating, "[W]here disassembly is the only way to gain access to the ideas and functional elements embodied in a copyrighted computer program and where there is a legitimate reason for seeking

such access, disassembly is a fair use of the copyrighted work." [63] The European Union has accomplished something of the same result more extensively and more directly in its software directive. [64]

38. Fair use in the United States, however, is at heart a first amendment principle, not a principle of industrial organization like the software directive. Moreover, fair use does not apply at all to patents. The closest analogy to fair use in the patent laws is the experimental use exception. But this exception has always been construed to cover only non-commercial experimentation. [65] In often expressed quaint nineteenth century language from a 1861 case, the law remains clear that experimental use cannot have any business purpose but must be "for the sole purpose of gratifying a philosophical taste, or curiosity, or for mere amusement." [66]

### C. The Equivocal Misuse Defense

39. A far more important patent defense has been the misuse defense, [67] a defense increasingly being asserted in copyright software cases as well. [68] Misuse was originally developed to prevent broadening patent rights through license restrictions in order to ensure the integrity of the patent examination process as well as to prevent anticompetitive overreaching by patentees. [69] Misuse, however, has been limited in recent years both by Congress [70] and the federal courts, notably the Court of Appeals for the Federal Circuit, now the ultimate authority for most misuse issues. [71] A series of Federal Circuit cases has essentially limited misuse to situations where a patent owner with substantial market power imposes on an unwilling licensee restrictions that would be unreasonable under the antitrust laws. Properly understood, moreover, misuse applies only to licensing restrictions. It does not extend to behavior such as refusals to license [72] or aggressive enforcement of infringement claims. [73]
40. Interestingly, however, as the scope of copyright protection has expanded, so too has the misuse defense as a partial antidote, with few of the limitations that now apply to patent misuse. This tendency can be seen in yet another recent Ninth Circuit opinion, *Practice Management Information Corp. v. American Medical Association*. [74] There the plaintiff, a publisher of medical works, wished to reproduce the American Medical Association ("AMA") coding system for medical procedures, but was dissatisfied with the AMA's proposed license terms. It brought a declaratory judgment action in which it alleged that AMA had misused its copyright through its license of the coding system to the Health Care Financing Administration ("HCFA"). The license provided that HCFA was not to use any medical procedure coding system other than the AMA's (although HCFA could cancel the agreement without penalty and use a competing coding system on ninety days notice). The Ninth Circuit held that this restriction was a misuse of copyright which rendered the copyright unenforceable. Significantly, the Ninth Circuit ruled that there was no requirement that the defendant establish the elements of an antitrust violation or establish any anticompetitive effect. This holding is in keeping with the origins of the patent misuse doctrine, [75] but ignores the subsequent requirements imposed by Congress and the Federal Circuit.

## VI. Conclusion

41. The Ninth Circuit cases illustrate how doctrines on the fringes of intellectual property law may sometimes temper over-reaching by patent or copyright owners. Such doctrines do so, however, unevenly and unsystematically and at the cost of sometimes disregarding the legitimate rights of intellectual property owners. None of the doctrines from fair use to misuse to the tests for infringement themselves squarely addresses the question of what an ideal balance might be between protecting inventors and first movers on the one hand and encouraging competition and follow on innovation on the other. None seeks consistent answers to the kind of questions raised by Judge Newman in her *Hilton-Davis* concurrence. Instead, such answers as we have are the result of a patchwork of equitable maxims applied by juries--lay people using little more than rules of thumb to decide key elements of our industrial policy.
42. The purpose of this paper has been to flag issues for further debate and discussion rather than to provide definite answers. A few policy prescriptions do present themselves, however:
  1. Economists, business theorists, and legal scholars should continue, and to the extent possible, accelerate study of the real world incentives and economic consequences of intellectual property protection as it exists today so that our understanding can be refined and legal systems and policy makers in the United States and other parts of the world will have more useful, practical and up-to-date models to apply.
  2. Hearings and further work on this topic might be conducted by the Federal Trade Commission which under its current Chairman, Robert Pitofsky, has revived its mission as an expert body and sounding board. Similar efforts might be undertaken by WIPO, the OECD, the European Commission and others.
  3. Congress, with the help of this academic research and agency study, should periodically review the actual operation of the intellectual property laws, particularly as they apply to new technologies.[\[76\]](#) I do not recommend *sui generis* protection or special rules for every faddish new technology, especially given the potential for special interests to capture the legislative and regulatory process. Periodic examination and fine tuning from a more general, objective perspective seem very much in order, however. Special attention should be given to the scope of protection afforded statutory intellectual property rights in practice, an issue which, as Judge Newman noted in *Hilton Davis* [\[77\]](#) is now largely left to the courts and largely ignored by everyone but the parties to a dispute and their competitors.
  4. Two aspects of fine tuning that might be considered in the near term would be a carefully crafted broadening of the patent law experimental use exception and, in the software area, a limited interoperability or study right in both the patent and copyright law similar to the European Commission's software directive.

5. Doctrines such as misuse and fair use should continue to play a role in the intellectual property regimes (though they too could be fine tuned). While misuse should be informed by the same general competition principles that underlie the antitrust laws, it serves a deterrent function related to the policies and functioning of the patent laws themselves and need not be limited to conduct that violates those laws.

6. The PTO should exercise continued--some would say new--vigilance in examining and narrowing the scope of patent claims and put more teeth into applicant disclosure requirements.

7. The courts should be loathe to grant broad, indeterminate protection to all but the most breathtaking original software. As the Supreme Court has noted in another context, "it is peculiarly important that the boundaries of copyright law be demarcated as clearly as possible."[\[78\]](#) The courts should also be scrupulous in denying copyright protection to non-original features and methods of operation. Methods of operation and processes belong in the Patent Office where their scope and novelty can be closely examined.

8. Antitrust authorities in the United States and elsewhere should endeavor to inform themselves about intellectual property issues and play a polite, diplomatic but persistent role as watchdogs over their respective Patent Offices. They should prepare themselves to participate as appropriate in a well-informed way in proceedings involving issues likely to have significant competitive impact.[\[79\]](#)

9. Antitrust law has a significant role to play in preventing abuse of the intellectual property system, though it must function as at best a secondary line of defense. It can prevent flagrant abuse of intellectual property rights when economic knowledge and experience allow us to be confident of what those abuses are. But it is too blunt an instrument to be the entire answer, an instrument that if wielded uncritically might threaten too much of the structure of intellectual property law--as many in fact believe nearly happened a few decades ago.[\[80\]](#)

43. Antitrust rightly applies to license restrictions and to aggregations and combinations of intellectual property from independent sources. Its application to single firm conduct by an intellectual property owner is more problematic. While the law since *PRE* may now encourage too much aggression in enforcing dubious patent rights, it would not seem a wise policy to use antitrust essential facility and monopoly leveraging theories to limit legitimate claims or force compulsory licensing in situations where reasonably interpreted claims of a legitimately obtained patent or copyright inevitably produce market power in more than one market. How often such patents or copyrights should exist is, however, an issue that should be confronted head on in the intellectual property regimes and Congress, and in the granting and examination of patents by the PTO. And when that confrontation takes place it should be informed by dialogue among innovators at all ends of the spectrum, patent lawyers, antitrust lawyers, and industrial economists.



44. Antitrust cannot cure, except indirectly and at the margins, the problem of the improvidently granted, too generously interpreted patent or copyright. Only informed, sensible patent and copyright laws, policies and examiners can do that. In an increasingly technological society it is a matter of some urgency that they do so.

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## Footnotes

[\*] A.B., Harvard College; LL.B., University of Virginia. A few portions of this article were presented in more preliminary format at an American Bar Association program in August, 1997 and an International Trade and Finance Association meeting in May, 1998. The author thanks his colleagues Ron Abramson, Rob Funkhouser as well as Charlie Cohen and Professor Mark Patterson for their useful and valuable comments.

[1] For a seminal discussion, see William F. Baxter, *Legal Restrictions on Exploitation of the Patent Monopoly: An Economic Analysis*, 76 YALE L.J. 267 (1966). See also MICHAEL E. PORTER, *THE COMPETITIVE ADVANTAGE OF NATIONS* (1990); John H. Barton, *Patents and Antitrust: A Rethinking in Light of Patent Breadth and Sequential Innovation*, 65 ANTITRUST L.J. 449 (1997).

[2] See *Bateman v. Mnemonics, Inc.*, 79 F.3d 1532, 1543-46 (11th Cir. 1996) (case involving copyrighted single board computer operating system software); *In re Alappat*, 33 F.3d 1526, 1545 (Fed. Cir. 1994) (computer graphics device implemented in part through computer software represents patentable subject matter; in dictum court stated, "such programming creates a new machine, because a general purpose computer in effect becomes a special purpose computer once it is programmed to perform particular functions pursuant to instructions from program software"); *Hybritech Inc. v. Monoclonal Antibodies, Inc.*, 802 F.2d 1367, 1383, 1385 (Fed. Cir. 1986) (patent for immunometric assays using monoclonal antibodies was not invalid for obviousness nor was it invalid for patentholder's alleged failure to disclose best mode of carrying out his invention). See Barton, *supra* note 1, at 449-50.

[3] U.S. CONST. art. I, § 8 ("The Congress shall have Power . . . To promote the Progress of Science and useful Arts, by securing for limited Times to Authors and Inventors the exclusive right to their respective Writings and Discoveries").

[4] *Feist Publications, Inc. v. Rural Tel. Serv. Co.*, 499 U.S. 340 (1991).

[5] *Id.* at 358-59.

[6] See *Graham v. John Deere Co.*, 383 U.S. 1, 15 n.7 (1966).

[7] 17 U.S.C. § 102(b) (1994).

[8] *See, e.g., O'Reilly v. Morse*, 56 U.S. (15 How.) 62 (1853).

[9] Comment of the Staff of the Federal Trade Commission, Docket No. 9505 31 44-5144-01, FTC Matter No. V950013 (Sept. 22, 1995).

[10] *State Street Bank & Trust Co. v. Signature Fin. Group, Inc.*, 47 U.S.P.Q.2d (BNA) 1596 (Fed. Cir. 1998). *Compare In re Schrader*, 30 U.S.P.Q.2d (BNA) 1455 (Fed. Cir. 1994) (majority), *with id.* at 1460 (Newman, J., dissenting).

[11] *See* Robert B. Merges & Richard R. Nelson, *On the Complex Economics of Patent Scope*, 90 COLUM. L. REV. 839 (1990).

[12] *Hilton Davis Chem. Co. v. Warner-Jenkinson Co.*, 62 F.3d 1512, 1529 (Fed. Cir. 1995) (Newman, J., concurring), *rev'd*, 117 S. Ct. 1040 (1997).

[13] *Id.* at 1529-31 (citations and footnotes omitted).

[14] *Warner-Jenkinson Co. v. Hilton Davis Chem. Co.*, 117 S.Ct. 1040, 1050-51 (1997).

[15] *See Hughes Aircraft Co., v. United States*, 46 U.S.P.Q.2d (BNA) 1285 (Fed. Cir. 1998); *Vehicular Tech. Corp. v. Titan Wheel Int'l, Inc.*, 46 U.S.P.Q.2d (BNA) 1257 (Fed. Cir. 1998).

[16] *Warner-Jenkinson Co. v. Hilton Davis Chem. Co.*, 117 S. Ct. at 1053 (Court reaffirmed the doctrine of equivalents, holding that the determination of equivalents should be applied as an objective inquiry on an element-by-element basis, but failed to resolve the judge-versus-jury issue, deferring to the Federal Circuit's decision that the question of infringement under the doctrine of equivalents is one for the jury). *See* Daniel W. McDonald et al., *Hilton Davis: The Doctrine of Equivalents Survives--Now What?*, 79 J. PAT. & TRADEMARK OFF. SOC'Y 309 (1997).

[17] *See Bateman v. Mnemonics, Inc.*, 79 F.3d 1532, 1543-46 (11th Cir. 1996) (in action involving copyright infringements in single board computer operating system software and in programmable array logic software, district court erred in instructing the jury to filter out only nonliteral similarities in applying the abstraction-filtration-comparison test because instructions misled and confused the jury); *Gates Rubber Co. v. Bando Chem. Indus., Ltd.*, 9 F.3d 823, 834, 842 (10th Cir. 1993) (in action involving copyright infringement in computer software designed to aid in determining appropriate rubber belts for use with industrial machinery, court adopted the abstraction-filtration-comparison test and concluded that "district court failed to undertake a proper filtration analysis with respect to several elements and that it erroneously found other elements to be protectable"); *Computer Assocs. Int'l, Inc. v. Atlai, Inc.*, 982 F.2d 693, 706 (2d Cir. 1992) (abstraction-filtration-comparison test is a three-step procedure used to determine whether the non-literal elements of two or more computer programs are substantially similar).

- [18] *Matthew Bender & Co. v. West Publ'g Co.*, 41 U.S.P.Q.2d 1321 (1996), *aff'd*, 158 F.3d 693 (2d Cir. Nov. 3, 1998).
- [19] *United States v. Thomson Corp.*, 949 F. Supp. 907 (D.D.C. 1996).
- [20] *See, e.g., West Publ'g Co. v. Mead Data Cent., Inc.*, 799 F.2d 1219, 1228 (8th Cir. 1986) (holding that Lexis' use of star pagination infringed West's copyright); *Oasis Publ'g Co. v. West Publ'g Co.*, 924 F. Supp. 918 (D. Minn. 1996).
- [21] *Lotus Dev. Corp. v. Borland Int'l, Inc.*, 49 F.3d 807 (1st Cir. 1995), *aff'd by an equally divided court*, 116 S. Ct. 804 (1996).
- [22] 49 F.3d at 819 (emphasis in original). *See also* Joseph Farrell, *Standardization and Intellectual Property*, 30 JURIMETRICS J. 35, 49-50 (1989).
- [23] 116 S. Ct. 804 (1996).
- [24] *See MiTek Holdings, Inc. v. ArcE Eng'g Co.*, 89 F.3d 1548, 1558-59 (11th Cir. 1996) ("bodily appropriation"); *Apple Computer, Inc. v. Microsoft Corp.*, 35 F.3d 1435, 1446 (9th Cir. 1994) ("virtually identical").
- [25] Barton, *supra* note 1, at 453-55; Robert P. Merges & Richard R. Nelson, *Market Structure and Technical Advance: The Role of Patent Scope Decisions*, in ANTITRUST, INNOVATION, AND COMPETITIVENESS 185 (Thomas M. Jorde & David J. Teece eds., 1992); Merges & Nelson, *supra* note 11; Richard R. Nelson, *Intellectual Property Protection for Cumulative Systems Technology*, 94 COLUM. L. REV. 2674 (1994).
- [26] Suzanne Scotchmer, *Protecting Early Innovators: Should Second-Generation Products Be Patentable?*, 27 RAND J. ECON. 322 (1996); Suzanne Scotchmer, *Standing on the Shoulders of Giants: Cumulative Research and the Patent Law*, 5 J. ECON. PERSP. 29 (1991). This was also Judge Newman's working hypothesis for deciding *Hilton-Davis*. *See supra* notes 12-13 and accompanying text. Howard F. Chang, *Patent Scope, Antitrust Policy and Cumulative Innovation*, 26 RAND J. ECON. 34, 48 (1995) (advocating broad scope for "stepping stone" inventions of little immediate commercial value in themselves).
- [27] Edmund W. Kitch, *The Nature and Function of the Patent System*, 20 J.L. & ECON. 265 (1977).
- [28] *See* Farrell, *supra* note 22, at 42-47; Daniel L. Rubinfeld, *Competition, Innovation and Antitrust Enforcement in Dynamic Network Industries*, Address before the Software Publishers Association (Mar. 24, 1998).

[29] *E.g.*, *United States v. Aluminum Co. of Am.*, 148 F.2d 416 (2d Cir. 1945); *United States v. United Shoe Mach. Corp.*, 110 F. Supp. 295 (D. Mass. 1953), *aff'd per curiam*, 347 U.S. 521 (1954).

[30] *See* Rubinfeld, *supra* note 28; Willard K. Tom & Joshua A. Newburg, *Antitrust and Intellectual Property: From Separate Spheres to Unified Field*, 66 ANTITRUST L.J. 167, 197-203 (1997). Daniel Rubinfeld is the chief economist at the Antitrust Division, and Willard Tom is the Director for Policy and Evaluation at the FTC's Bureau of Competition. *See also* Anne K. Bingaman, then Assistant Attorney General, Antitrust Division, Department of Justice, *Antitrust and Innovation in a High Technology Society* (Jan. 10, 1994) *reprinted in* 7 TRADE REG. REP. (CCH) ¶ 50, 128.

[31] Comment, *supra* note 9. *See also* FTC Staff Report, *Anticipating the 21st Century: Competition Policy in the New High-Tech, Global Marketplace* (May 1996) Ch. 6 at 16,17 and Ch. 8 at 22.

[32] Barton, *supra* note 1, at 454.

[33] *See* Barton, *supra* note 1, at 449-50 and James B. Kobak, Jr., *Running the Gauntlet: Antitrust and Intellectual Property Pitfalls on the Two Sides of the Atlantic*, 64 ANTITRUST L.J. 341 (1996).

[34] *Eastern R.R. Presidents Conference v. Noerr Motor Freight, Inc.*, 365 U.S. 127 (1961); *United Mine Workers v. Pennington*, 381 U.S. 657 (1965).

[35] 35 U.S.C. § 285; *S. Bravo Systems, Inc. v. Containment Tech. Corp.*, 96 F.3d 1372 (Fed. Cir. 1996); *J.P. Stevens & Co. v. LexTex, Ltd.*, 747 F.2d 1553 (Fed. Cir. 1984).

[36] *Nobelpharma AB v. Implant Innovations, Inc.*, 141 F.3d 1059 (Fed. Cir. 1998), *cert. denied*, 119 S.Ct. 178 (Oct. 5, 1998); *Dow Chem. Co. v. Exxon Corp.*, 139 F.3d 1470 (Fed. Cir. 1998), *reh'g denied*, 144 F.3d 1478 (1998), *petition for cert. filed*, 67 U.S.L.W. 3156, (U.S. Aug. 24, 1998) (No. 98-322); *Hunter Douglas, Inc. v. Harmonic Design, Inc.*, 153 F.3d 1318 (Fed. Cir. 1998).

[37] *Professional Real Estate Investors, Inc. v. Columbia Pictures Indus., Inc.*, 508 U.S. 49 (1993); *see* Stephen Calkins, *The October 1992 Supreme Court Term and Antitrust: More Objectivity Than Ever*, 62 ANTITRUST L.J. 327, 328-42 (1993); James B. Kobak, Jr., *Professional Real Estate Investors and the Future of Patent-Antitrust Litigation: Walker Process and Handgards meet Noerr-Pennington*, 63 ANTITRUST L.J. 185 (1994).

[38] Justice Thomas' majority opinion in *Professional Real Estate Investors, Inc.*, over the contrary views of two concurring Justices, repudiated a decision by Judge Posner, a leading conservative economics and legal scholar, that argued that such conduct was predatory and should be actionable. *See* 508 U.S. at 65-66, *citing* *Grip-Pak, Inc. v. Illinois Tool Works, Inc.*, 694 F.2d 466, 422 (7th Cir. 1982). *Compare* 508 U.S. 67, 73-75 (concurring opinion of Justices Stevens and O'Connor).

[39] 508 U.S. at 60 n.5.

[40] John H. Barton, *Patents and Antitrust: A Rethinking in Light of Patent Breadth and Sequential Innovation*, 65 ANTITRUST L. J. 449, 464 (1996); ("[U]nder traditional antitrust law, when the patents are fundamental, when cross-license participation includes the leading firms in an industry, and when access to the package is not relatively easy, one can be concerned about the effect of broad cross-licenses on competition."); former Federal Trade Commissioner Christine A. Varney, *Antitrust and Technology: What's on the Horizon?*, Remarks before the American Society of Association Executives Legal Symposium (Oct. 6, 1995); Willard K. Tom & Joshua A. Newberg, *supra* note 30, at 218-19.

[41] *In re Matter of Ciba-Geigy*, FTC 961-0055 (Dec. 17, 1996).

[42] Joel I. Klein, *Cross-Licensing and Antitrust Law*, Address Before the American Intellectual Property Law Association (May 2, 1997) <<http://www.usdoj.gov/atr/public/speeches/1123.htm>> ("[S]ettlements are often based on considerations that lead parties to give up rights that they might well vindicate if they went to mat. And when intellectual property rights are at stake, the consequences of those compromises can align the settlers' interests against the interests of consumers. . . . [[I]nterference settlements could] stifle competition from outsiders and protect potentially invalid patents.")

[43] *In re Summit Tech., Inc. and VISX, Inc.*, No. 9510029 (FTC Aug. 1998) (consent decree).

[44] *CCPI, Inc. v. American Premier, Inc.*, 967 F. Supp. 813 (D. Del. 1997) (agreement to avoid interference and cross-license patents could violate Sherman Act section one); *Boston Scientific Corp. v. Advanced Cardiovascular Sys., Inc.*, 983 F. Supp. 245 (D. Mass. 1997) (dismissing claims based on cross-licensing of allegedly weak or invalid and mutually exclusive, potentially interfering patents; court purported to distinguish this situation from situations found illegal in earlier cases in which one party but not both had an allegedly weak or invalid patent); *cf. Key Pharmaceuticals, Inc. v. ESI-Lederle, Inc.*, 1997 WL 560131 (E.D. Pa. 1997) (court ruled in discovery dispute that patent settlement agreement could violate Sherman Act); *AG Fur Industrielle Elektronik Agie v. Sodick Co., Ltd.*, 1991-1 Trade Cas. (CCH) ¶ 69, 311 (N.D. Ill. 1990). Two cases which amply reward close examination on the antitrust problems of settlements and cross-licenses are *United States v. Singer Mfg. Co.*, 374 U.S. 174 (1963) and *Duplan Corp. v. Deering Milliken, Inc.*, 444 F. Supp. 648, 687, *aff'd in part, reversed in part on other grounds*, 594 F.2d 979 (4th Cir. 1979).

[45] *See* Joseph A. Schumpeter, *Capitalism, Socialism and Democracy* (1943) and *The Theory of Economic Development* (1912); Herbert Hovenkamp, *Economics and Federal Antitrust Law* 156-57 (1985). *But see* Kenneth Arrow, *Economic Welfare and the Allocation of Resources for Invention*, in Bureau of Nat'l Econ. Res., *The Rate and Direction of Inventive Activity: Economic and Social Factors* 609, 622 (1962) (arguing that greater incentives to invest in R&D would exist under pure competition than entrenched monopoly. Arrow would not, however, necessarily consider a first innovator with strong intellectual property rights an entrenched monopolist). *See generally* Eugene Crew, *Antitrust and the*

*Suppression of Technology in the United States and Europe: Is There A Remedy?*, 66 ANTITRUST L.J. 415, 416-17 (1998).

[46] See Yoram Barzel, *Optimal Timing of Innovations*, 50 REV. ECON. & STATS. 398 (1968); Edward Kitch, *The Nature and Function of the Patent System*, 20 J.L. & ECON. 265 (1977).

[47] See Joel M. Cohen and Arthur J. Burke, *An Overview of the Antitrust Analysis of Suppression of Technology*, 66 ABA ANTITRUST L.J. 421, 436-38; Yee Wah Chin, *Unilateral Technology Suppression: Appropriate Antitrust and Patent Law Remedies*, 66 ANTITRUST L.J. 441, 446-49.

[48] See U.S. Department of Justice and Federal Trade Commission *Antitrust Guidelines for the Licensing of Intellectual Property* § 2.3 (April 1995).

[49] See *supra* text and notes 40-44.

[50] FTC Staff Report, *supra* note 31, Ch. 9, at 29 ("We are concerned with the market power that may flow from control of key interfaces and find cause to address situations where competition in complementary markets may be damaged.")

[51] *Id.*; Farrell, *supra* note 24, at 43. See also John J. Flynn, *Antitrust Policy, Innovation Efficiencies, and Suppression of Technology*, 66 ANTITRUST L.J. 487, 513-15. The predatory design change cases well illustrate how difficult it is, institutionally, for courts to draw clear lines regarding what innovations are real and whether the rewards they generate are justified. Compare *C.R. Bard, Inc. v. M3 Systems, Inc.*, 157 F.3d 1340 (Fed. Cir. 1998) (panel upheld jury verdict of predatory design change by 2:1 vote), with *United States v. Microsoft Corp.*, 147 F.3d 935, 948 (D.C. Cir. 1998) (panel majority expressed distaste for design change theories in 2:1 decision).

[52] The phrase is Judge Learned Hand's, from *Lyon v. Boh*, 1 F.2d 48, 49-50 (S.D.N.Y. 1924).

[53] See *supra* notes 34-39 and accompanying text.

[54] *Data Gen. Corp. v. Grumman Sys. Support Corp.*, 36 F.3d 1147, 1187 (1st Cir. 1994) ("[W]e hold that while exclusionary conduct *can include a monopolist's unilateral refusal to license a copyright*, an author's desire to exclude others from use of its copyrighted work is a presumptively valid business justification for any immediate harm to consumers.") (emphasis added); see *Eastman Kodak Co. v. Image Technical Servs., Inc.*, 504 U.S. 451, 483 n.32 (1992) (suggesting that an intellectual property owner that has achieved monopoly status might be subject to a duty to license its competitors in downstream or complementary markets), citing *Aspen Skiing Co. v. Aspen Highlands Skiing Corp.*, 472 U.S. 585, 602-605 (1985).

[55] Cases C-241/91 & C-242/91, *Radio Telefis Eireann v. Commission*, [1995] 1 CEC 400 (CCH)

(finding a duty to license information (TV listings controlled by TV stations) in an adjacent market (sale of TV guides) when the information was given to newspapers, even though the information had been held to be covered by a valid Irish copyright by the highest court in Ireland).

[56] *Image Tech. Serv., Inc. v. Eastman Kodak Co.*, 125 F.3d 1195 (9th Cir. 1997), *on remand from* 504 U.S. 451 (1992), *cert. denied*, 118 S.Ct. 1560 (1998).

[57] *Kodak*, 125 F.3d 1195, 1217.

[58] *Id.* at 1219. The *Kodak* decision was echoed even more strongly by a federal district court in Alabama, which recently granted a preliminary injunction requiring Intel to continue supplying patented chips, together with related technology rights and advance information, to a competitor in the graphics subsystem market with which it had previously had a long supply and product development relationship. *Intergraph Corp. v. Intel Corp.*, CV n-30-3023-NE (N.D. Ala. April 10, 1998) at ¶ 4E, *appeal pending* No. 98-1308 (Fed. Cir.).

[59] *Kodak*, at 1219-20.

[60] *In re Indep. Serv. Org. Antitrust Litigation*; No. 94-2102-EEO, 1997 WL 805237 (D. Kan. Dec. 22, 1997). The district court had certified its earlier opinion for interlocutory appeal to the Court of Appeals for the Federal Circuit (CAFC), but the CAFC denied the appeal. *In re Independent Service Organization Antitrust Litigation Holding, Inc. v. Xerox Corp.*, 129 F.3d 132 (Fed. Cir. 1997) (table).

[61] *Id.* at \*11. This decision is in keeping with the Supreme Court's tendency in recent § 2 decisions to require satisfaction of objective criteria and not allow juries to consider solely subjective intent evidence in monopolization cases. *See PRE, supra* note 37 (bad faith litigation claims must be objectively as well as subjectively baseless); *Brooke Group v. Brown & Williamson Tobacco*, 509 U.S. 209 (1993) (predatory pricing must be below objective measure of cost and reasonably likely to permit recoupment); *Spectrum Sports Inc. v. McQuillan*, 506 U.S. 447 (1993) (no attempt to monopolize claim actionable without showing of likelihood of achieving monopoly power in defined market).

[62] 977 F.2d 1510 (9th Cir. 1992).

[63] *Id.* at 1527-28. For a good compilation of the cases permitting reverse engineering through invocation of fair use principles, *see* Mark A. Lemley, *Antitrust and the Internet Standardization Problem*, 28 CONN. L. REV. 1041, 1061 n.68 (1996).

[64] Council Directive 91/250 of 14 May 1991 *The Legal Protection of Computer Programs*, art. 1, 5, 1991 O.J. (L 122) ("Protection in accordance with this Directive shall apply to the expression in any form of a computer program. Ideas and principles which underlie any element of a computer program, including those that underlie its interfaces, are not protected by copyright under this Directive. . . . The

person having a right to use a copy of a computer program shall be entitled, without the authorization of the rightholder, to observe, study or test the functioning of the program in order to determine the ideas and principles which underlie any element of the program if he does so while performing any of the acts of loading, displaying, running, transmitting or storing the program which he is entitled to do.").

[65] *Roche Prods., Inc. v. Bolar Pharm. Co.*, 733 F.2d 858, 863 (Fed. Cir. 1984) (infringement found where defendant conducted unlicensed experiments with the purpose of adapting the patented invention to the experimenter's business; such use was "solely for business reasons and not for amusement, to satisfy idle curiosity, or for strictly philosophical inquiry"); *Pitcairn v. United States*, 547 F.2d 1106, 1125-26 (Ct. Cl. 1976) ("[t]ests, demonstrations, and experiments . . . [which] are in keeping with the legitimate business of the . . . [alleged infringer]" are infringements for which "[e]xperimental use is not a defense").

[66] *Peppenhause v. Falke*, 19 F. Cas. 1048, 1049 (C.C.S.D.N.Y. 1861) (No. 11,270).

[67] The misuse defense, which renders a patent unenforceable until the misuse is deemed purged, was first announced in *Morton Salt Co. v. G. S. Suppiger Co.*, 314 U.S. 488 (1942).

[68] See, e.g., *Lasercomb America, Inc. v. Reynolds*, 911 F.2d 970, 973 (4th Cir. 1990) (in action for copyright infringement in software program, court held that a misuse of copyright is an available defense and is inherent in the law of copyright); *Tamburo v. Calvin*, 1995 U.S. Dist. LEXIS 3399 (N.D. Ill. Mar. 17, 1995) (in action for copyright infringement in computer software product designed to assist dog breeders in keeping required records and in operating kennels, court dismissed infringement claims on the ground that plaintiff had committed copyright misuse).

[69] See *Motion Picture Patents Co. v. Universal Film Mfg. Co.*, 243 U.S. 502 (1917); James B. Kobak, Jr., *A Sensible Doctrine of Misuse for Intellectual Property Cases*, 2 ALB. L.J. SCI. & TECH. 1 (1992).

[70] See 35 U.S.C. § 271 (d).

[71] *Virginia Panel Corp. v. MAC Panel Co.*, 45 U.S.P.Q.2d 1225 (Fed. Cir. 1997) (reversing judgment of misuse on ground that alleged tying and related activities were not covered); *Engel Indus. Inc. v. Lockformer Co.*, 96 F.3d 1398, 1409 (Fed. Cir. 1996) (license agreement where royalty payments based on sales of unpatented components which the licensee had the option of purchasing from the patent owner held not to constitute misuse); *Mallinckrodt, Inc. v. Medipart, Inc.*, 976 F.2d 700 (Fed. Cir. 1992) (as long as manufacturer's restriction was reasonably within the scope of the patent grant, restricting patented medical device to single patent use was valid and enforceable under patent law and did not per se violate the doctrine of patent misuse or the antitrust law); *Windsurfing Int'l, Inc. v. AMF, Inc.*, 782 F.2d 995 (Fed. Cir. 1986) (inclusion in patent license agreement of requirement that licensee acknowledge validity of patentholder's validly registered trademarks and avoid their use did not amount to patent misuse); *USM Corp. v. SPS Techs., Inc.*, 694 F.2d 505 (1982) (Judge Posner held that a differential royalty schedule in a licensing agreement did not amount to patent misuse and advocated no further expansion of misuse doctrine apart from antitrust principles). See James B. Kobak, Jr., *Contracting Around Exhaustion: Some*



*Thoughts About the CAFC's Mallinckrodt Decision*, 75 J. PAT. & TRADEMARK OFF. SOC'Y 550 (1993); Steven Calkins, *Patent Law: The Impact of the 1988 Patent Misuse Reform Act and Noerr-Pennington Doctrine on Misuse Defenses and Antitrust Counterclaims*, 38 DRAKE L. REV. 175 (1989-90).

[72] 35 U.S.C. § 271(d)(4).

[73] 35 U.S.C. § 271(d)(3). Several cases have recently so held. See *Virginia Panel Corp.*, *supra*, note 70; *Eastman Kodak Co. v. Goodyear Tire & Rubber Co.*, 114 F. 3d 1547, 1558 (Fed. Cir. 1997); *In re Independent Serv. Orgs. Antitrust Lit.*, 1997 WL 805237 (D. Kan. Dec. 22, 1997); *DSC Comms. Corp. v. Pulse Comms. Inc.*, 1997 U.S. Dist. LEXIS 10104 (E.D. Va. Mar. 21, 1997); *Raines v. Switch Mfg Co.*, 44 U.S.P.Q. 2d 1195 (N.D. Cal. 1997).

[74] 121 F.3d 516, 45 U.S.P.Q.2d 1780 (9th Cir. Aug. 6, 1997, amended Jan. 9, 1998).

[75] See *Morton Salt*, *supra* note 66.

[76] See FTC Staff Report, *supra* note 31, Ch. 8 at 22.

[77] See *supra* note 13.

[78] *Fogerty v. Fantasy, Inc.*, 510 U.S. 517, 527 (1994).

[79] See FTC Staff Report, *supra* note 31, Ch. 8 at 22.

[80] Section of Antitrust Law of the American Bar Association, *U.S. Department of Justice and Federal Trade Commission Antitrust Guidelines for the Licensing of Intellectual Property Commentary and Text* 4-6 (1996) (former nine "no-nos" of the Antitrust Division); Barton, *supra* note 1, at 449; Kobak, *supra* note 33, at 342-45.