IN DEFENSE OF PRIVATE ORDERINGS: COMMENTS ON JULIE COHEN'S "COPYRIGHT AND THE JURISPRUDENCE OF SELF-HELP"

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ABSTRACT

It is becoming possible for owners of intellectual property in digital form to use technological protection instead of, or in addition to, copyright to control the use of their property. Professor Cohen argues against legal changes designed to facilitate this development; I argue in favor of them.

Her argument depends in part on conventional attacks on the legitimacy, hence the enforceability, of mass market contracts, in part on the claim that such technologies threaten individual privacy and autonomy, in part on the claim that copyright preempts alternative forms of protection—and should, since it produces more desirable outcomes.

Economic theory suggests no reason why mass market contracts should be less enforceable than individually negotiated contracts—and computer technology, in the form of "click-wrap" contracts, makes it easier than in the past to create a legally adequate contract in a mass market context. With the exception of technologies that monitor software use and report it, and ought, therefore, to be accompanied by suitable warnings, technological protection of software poses no more threat to privacy or autonomy than traditional forms of producer control over the characteristics of their products. A private ordering of the market for intellectual property, based on contract and technological protection, can be expected to produce both more intellectual property and greater use of existing intellectual property than the current "one size fits all" public ordering of copyright law. Current developments in this direction ought to be encouraged, not discouraged, by the law.

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I. INTRODUCTION

Professor Cohen's subject is the legal implications of technologies for controlling the use of intellectual property in digital form. Most of these technologies are unfamiliar to the majority of us; some do not yet exist. One consequence, here as elsewhere in computer law, is that issues and arguments tend to vanish into a fog of abstractions and (often misleading) metaphors. In the hope of reducing that problem, I start with a brief sketch of the technologies being discussed. I then go on to discuss parts of Professor Cohen's argument that I think are mistaken and conclude with my own views on the proper legal response to these technologies. Since the draft of Article 2B¹ which Cohen attacks is now history, I will ignore the question of whether she has correctly interpreted its terms and concentrate instead on the more important issue of what the law ought to be.

II. THE TECHNOLOGIES

I license software from you and fail, in your view, to meet the terms of our agreement—perhaps I have fallen behind on my monthly payments. Your attempts to persuade me to correct my failure are unsuccessful. You resolve the problem by sending a message over the Internet to your software on my machine, instructing it to cease operation—permanently.

This form of electronic self-help is somewhat misleadingly described, by both Professor Cohen and the authors of the proposed revision to Article 2B, as "repossession." In practice, there is no need to repossess the

U.C.C. Article 2B (July 24-31, 1998 Draft).

^{2.} See Julie Cohen, Copyright and the Jurisprudence of Self-Help, 13 BERKELEY TECH. L.J. 1089 (1998).

software, since you can produce another copy at negligible cost. And, because you have no need to repossess the software, this form of electronic self-help poses much less threat of either violence or breach of privacy than does the repossession of physical goods.

A. Monitoring Use

There is a second form of technological enforcement to which Professor Cohen's privacy concerns are more relevant. Imagine that I am a computer programmer who happens to be an orthodox Jew, with strong views on the subject of working on the Sabbath. Not only am I unwilling to violate the biblical injunction myself, I am unwilling to permit anyone else to use the product of my labors to violate it. I accordingly include in the licensing agreement for my software a term forbidding the licensee from running the software between sunset Friday and sunset Saturday.

In order to enforce the restriction, I design my software—which functions online—to occasionally check date and time; if it discovers that it is being run on the Sabbath, it sends me a message notifying me of that fact and identifying the licensee. I respond—Sunday morning—with a message to the software disabling it and a message to the licensee rebuking him for violating my contract and God's law.

One can imagine many more conventional reasons why a licensor might wish to limit the licensee's use of the licensed software and use technological monitoring of one sort or another to enforce the restriction. Someone licensing a compilation of information, for example, might specify in the contract that the information is to be used only by the licensee and not made available to third parties. Providing the compilation embedded in a program that monitored usage and reported on it to the licensor would be one way of checking that the restriction was being obeyed. It would also be a way of acquiring information about the licensee's activities that he might prefer to keep secret, hence a potential violation of the licensee's privacy.

B. Restricting Use

There is, however, a third form of technological enforcement that provides a simpler solution to the problem faced by the Orthodox programmer—or the database licensor. Instead of monitoring usage, control it. Every time the program boots up, it checks date and time—and shuts down again if it is being used on the Sabbath. Program the database to permit only a fixed number of queries per day. Instead of using technology to monitor and report on usage so that the information may be used to enforce the contract, use the technology to enforce the contract directly.

Technological enforcement is not a new idea; early examples include copy protection of floppy disks and the practice of printing documents in color schemes difficult to photocopy. What is new is the degree of detailed control over use that such technologies, as envisioned by companies such as IBM³ and InterTrust,⁴ promise to make possible. Ideally, such software could make it possible for creators of intellectual property to give away their product in encrypted form, enclosed in a digital container. The container would provide information about its contents, possibly including free samples, and a price list—so many cents per minute to watch a multimedia presentation or per query to access a database. Charges might be conditioned on the form of use as well as the amount—more to print out images than to view them, a higher price for creating a freely accessible user database out of a subset of the information in the encrypted database. Payment would be online using digital cash.

Copy protection was for the most part unsuccessful, in part because it significantly restricted legitimate uses, and in part because of technological difficulties in preventing copying. More sophisticated forms of technological enforcement will face similar problems. If those problems can be overcome, the technology has the potential to provide, for at least some forms of intellectual property, self-protection greatly superior in effectiveness and flexibility to the protection now provided by copyright law—and considerably less costly to enforce.

C. Contract Formation

In addition to technologies associated with enforcement of contracts—shutting down software from off site, monitoring usage, and controlling usage—there is one more online technology important to the background of this discussion—the technology of contract formation. Sellers wish to license their intellectual property under terms of their own devising; doing so requires a contract with the buyer. For mass market software, individual negotiation of terms is prohibitively costly. That problem is solved by

^{3.} See Sam Albert, Surprise! IBM May Crash the Internet Party, COM-PUTERWORLD, June 10, 1996, at 41; Judith Evans, Want To Cryptolope?, NEWSDAY, May 21, 1996, at B23; Whit Andrews, IBM Retreats on Cryptolope, WebWeek, (Dec. 15, 1997) (visited Nov. 22, 1998) http://www.internetworld.com/print/1997/12/15/news/19971215-cryptolope.html (discussing recent change to the Cryptolope project); IBM Corp., IBM Cryptolope Technology, (visited Nov. 22, 1998) http://www.software.ibm.com/security/cryptolope/>.

^{4.} See InterTrust Technologies Corporation, InterTrust Products and Services (visited Nov. 11, 1998) http://www.intertrust.com/products/index.html.

^{5.} See Kory D. Christensen, Fighting Software Piracy in Cyberspace: Legal and Technological Solutions, 28 LAW & POL'Y INT'L BUS. 435, 466-67 (1997).

form contracts—but there remains the problem of obtaining legally adequate consent without a lengthy face-to-face transaction.⁶

One possible solution is a shrinkwrap contract—a set of terms to which the buyer is held to have assented by opening the container. The legal validity of such "assent" is uncertain—as reflected in the reluctance of some courts to enforce such contracts. Even if enforceable, shrinkwrap provides an undesirably inflexible set of terms. Both buyer and seller could be better off by customizing the terms to that particular buyer's requirements—if it could be done without unreasonably high transaction costs.

The solution is to move the transaction to the computer, converting shrinkwrap to clickwrap. The seller's software provides terms—if desired, a menu of options with prices. The contracting software—unlike a sticker on a cellophane wrapper—can require explicit consent for the transaction to proceed. It can even require the customer to spend a certain number of seconds with the relevant terms on his computer screen before his assent will be accepted. Hence, clickwrap provides a form of contract formation more flexible and less legally dubious than shrinkwrap.

III. COHEN'S ARGUMENTS

Cohen's argument against permitting a shift in the mechanism for enforcing rights over intellectual property from the public law of copyright to the private alternatives of contract and technological protection depends on three claims:

- 1. The case for freedom of contract is problematic in the context of mass market form contracts.
- 2. In any case, freedom of contract is limited in this context because it is preempted by copyright law, and
- 3. Whether or not it is preempted, it ought to be, because copyright law produces a more attractive result than freedom of contract.

^{6.} See generally LON L. FULLER & MELVIN ARON EISENBERG, BASIC CONTRACT LAW, 628-52 (5th ed. 1990).

^{7.} See ProCD, Inc. v. Zeidenberg, 86 F.3d 1447, 1449 (7th Cir. 1996) ("The 'shrinkwrap license' gets its name from the fact that retail software packages are covered in plastic or cellophane 'shrinkwrap,' and some vendors ... have written licenses that become effective as soon as the customer tears the wrapping from the package.").

^{8.} A recent case supports enforceability. See id. An older case was decided in the opposite direction. See Vault Corp. v. Quaid Software Ltd., 847 F.2d 255, 268-70 (5th Cir. 1988). For an extended discussion, see generally Mark A. Lemley, Intellectual Property And Shrinkwrap Licenses, 68 S. CAL. L. REV. 1239 (1995).

I believe that all three are mistaken.

A. The Efficiency of Form Contracts

Professor Cohen writes, "In the mass market context, however, the argument from consent is far too simple. The market system established by the U.C.C. bears little resemblance to the atomistic market of the neoclassical, libertarian paradigm" Later she writes, "In the mass market, consumers are contract takers; they can refuse to buy, or hold out for a lower price, but they generally cannot demand a particular package of contract terms or product characteristics." ¹⁰

Cohen here resurrects the ancient error associated with the term "contract of adhesion"—the idea that the argument for freedom of contract depends on contracts being bargained and thus does not apply to the form contracts common in mass market transactions.

To see why this is an error, consider the situation from the standpoint of a firm drawing up a form contract under a legal regime recognizing freedom of contract. It can specify any terms it likes—but those terms only apply if the other party chooses to sign the contract. The characteristics of what the consumer is buying include the terms of the contract under which he is buying it; the less favorable those terms are to him—the more easily, for example, they permit the seller to repossess the purchased good—the less he will be willing to pay for the bundle consisting of the good and terms of sale.

Suppose that, with a particular draft of the sales contract, the value of the product to the buyer, and hence the highest price he will be willing to pay for it, is \$100. The seller considers modifying the draft in his favor by adding a term—perhaps an easy right of repossession—that makes him better off by ten dollars and the consumer worse off by fifteen. Since the value of the product is fifteen dollars less under the modified contract, so is the maximum price the consumer will pay. Adding the term gives the seller a ten dollar gain (lower legal costs if the sales terms are violated and the product must be repossessed) and a fifteen dollar loss (reduction in the price he can get from the buyer), for a net loss of five dollars. He is better off with the original draft.

The generalization of the argument is straightforward. Any term in the contract that provides a net benefit to the two parties also makes the seller

^{9.} Cohen, *supra* note 2, at 1119.

^{10.} Id. at 1125.

^{11.} For convenience, I will not bother to distinguish between sales and licensing agreements.

better off, because gains and losses to the buyer are transferred to the seller through their effect on the price the buyer is willing to pay. Any term that provides a net loss makes the seller worse off. Hence, a rational seller will design an efficient contract—a contract that maximizes the net gain to buyer and seller combined. No bargaining is required.

The argument is a special case of a more general argument—that producers have an incentive to design products with an efficient bundle of characteristics. Putting tires on the wheels of cars, or radios in their dashboards, costs the seller something. Yet cars come equipped with tires and radios—not because of any legal requirement that those features be included, but because sellers recognize the effect of such characteristics on the value of the product to the buyer.

As with any argument for economic efficiency, this one becomes less rigorous as one shifts to a more elaborate picture of market transactions. Consumers may make mistakes. Producers with monopoly power may use product characteristics, including contract terms, as a way of charging a higher price to consumers willing to pay it—an indirect form of discriminatory pricing—at some cost in efficiency.

But none of this has anything in particular to do with intellectual property or digital forms thereof—or, for that matter, mass market contracts. These are qualifications to the general argument for free markets that apply to markets for bread and beer just as to markets for books and multimedia software. One reason the qualifications do not destroy the argument is that a more elaborate picture also allows for ways in which consumers solve problems of imperfect information—via producer reputation, third party evaluations, and other mechanisms familiar to us in the context of cars and computers, and equally relevant in the context of elaborate contracts and technologically protected software.

I do not know if Professor Cohen has considered the empirical question of whether she is more likely to be cheated in the mass market context of buying a car or the individually negotiated contract for fixing it, or whether Microsoft Word is or WYLBUR¹² was more likely to perform as expected. The answer, judging by my experience at least, is that mass market products are more likely to provide me the characteristics I want and believe I am getting than more idiosyncratic products. This is in part because the effect of reputational incentives on the producers of mass market products and economies of scale in the generation of consumer in-

^{12.} WYLBUR is the name of a mainframe text editing program whose misappropriation was the subject of an early computer crime case. *See* U.S. v. Seidlitz, 589 F.2d 152 (1978).

formation more than outweigh any advantage of being able to represent my preferences in one-on-one bargaining.

Professor Cohen's argument, if correct, should apply to product characteristics in general, not just to contract terms. Even a complex contract is a good deal simpler than, say, a computer or automobile. If consumers cannot be trusted to make a sufficiently informed decision about contract terms, and we are therefore better off with the fixed set of terms implied by copyright law, how can they be trusted to make a sufficiently informed decision about whether to buy a car with or without a supercharger or a computer whose CPU does or does not have backside cache?

In arguing against the efficiency of mass market contracts, Cohen sometimes writes as though bargaining is somehow a good thing—an end in itself. Thus, we have "[t]he opposite rule, disallowing electronic self-help unless authorized in a separately-negotiated agreement, probably would encourage more 'bargaining' in that information providers most likely would offer lower prices to consumers willing to agree to electronic monitoring." 13

This way of putting the argument gets it exactly backwards. The point of choosing as default terms the terms most parties would bargain to is to avoid of the cost of bargaining. If you want to encourage bargaining, the way to do it is to have the legal system set default terms that nobody wants, making it necessary to negotiate and explicitly agree to every detail of every contract. That may be a desirable policy from the standpoint of lawyers and law professors, since it would greatly increase the demand for the services of both, but it is an undesirable policy from the standpoint of everyone else.

B. Is Freedom of Contract Inconsistent with Copyright Law?

Phrases such as "mass-market contracts that are inconsistent with copyright" and "[l]imits on information ownership set by the public law of copyright" reveal a subtle error in Cohen's argument—the belief that copyright law gives consumers the right to use information in certain ways. To see in what sense that is an error, consider Professor Cohen's "fair use" right to quote the most recent draft of this Article immediately after I finished writing it. Such quotation is clearly permitted under the fair use exception of the Copyright Act. 16 But since the only existing copy of the draft was on the hard disk of the computer in my office, Professor

^{13.} Cohen, supra note 2, at 1126.

^{&#}x27; 14. Id. at 1098.

^{15.} Id. at 1090.

^{16.} See 17 U.S.C. § 107 (1992).

Cohen could not have accessed it, and thus could not have quoted it, without violating the common law rule against trespass.

What fair use and similar rules provide is not a right to copy information, but a limit to the creator's right to use copyright law to prevent such copying. That distinction is unimportant as long as the only way in which the creator controls his property is through copyright law. But it matters in contexts, such as trade secret law or technological protection, where other forms of protection play an important role. Scientific laws are not patentable—but that does not make it illegal for me to put a lock on the door of my research laboratory, or legal for my competitor to break in.

In a related vein, Cohen writes, "[the Court] has also held that [states] may not grant property-like rights in unprotectable inventions On the same reasoning, nor may they confer property-like rights in unprotectable ... works, or in unprotectable aspects or components of otherwise copyrightable works."¹⁷

The legal point is correct—states cannot grant their own equivalent of copyright, whether under the guise of unfair competition¹⁸ or in the form of plug mold statutes.¹⁹ But to describe contract as granting "property-like rights" misrepresents the nature of property. The essential feature of a property right—such as copyright—is that it is good against the world.²⁰ A contract right is good only against the party that signed the contract. A licensor can enforce contractual restrictions only against the licensee.

Technological protection is in a third category, neither property nor contract. The producer of a good may, under ordinary circumstances, design it with whatever characteristics he likes. If I build a car that will only last for five years, and tell you it will only last for five years, I am (from your standpoint) achieving the same result as if I sold you only a five year lease or required, as a condition of selling you the car, that you agree to junk it after five years. But although the result is the same, the mechanism is entirely different—I am controlling my product, not your rights.

^{17.} Cohen, supra note 2, at 1130.

^{18.} See Compco Corp. v. Day-Brite Lighting, Inc., 376 U.S. 234 (1964); Sears, Roebuck & Co v. Steiffel Co., 376 U.S. 225 (1964).

^{19.} See Bonito Boats, Inc. v. Thunder Craft Boats, Inc., 489 U.S. 141 (1989).

^{20.} See ProCD, Inc. v. Zeidenberg, 86 F.3d 1447, 1454 (7th Cir. 1996) ("But are rights created by contract 'equivalent to any of the exclusive rights within the general scope of copyright?' Three courts of appeals have answered 'no.' ... Rights 'equivalent to any of the exclusive rights within the general scope of copyright' are rights established by law—rights that restrict the options of persons who are strangers to the author.") (internal citations omitted).

Similarly, if I give you my intellectual property inside a digital container and inform you that in order to access it you must make online payments according to the attached price list, I am achieving the same result I might have achieved through a contract or (perhaps) a property rule. But I am doing so through a non-legal mechanism. To argue that legal rules designed to make self-enforcement easier are equivalent to the grant of a property right is like claiming that legal rules permitting farmers to use barbed wire are equivalent to land grants.

IV. WHAT COHEN LEAVES OUT

Central to Professor Cohen's paper is the special nature of intellectual property, especially intellectual property in digital form. While she points out special features of such property when their implications strengthen her argument, she sometimes fails to do so when they weaken it. Consider three examples:

A. Public Access Rights

Cohen writes:

Even the common law of property historically has recognized certain public rights of access to or across the property of another. Most closely analogous is the public trust doctrine, which preserves a right of access across privately-owned land when necessary to reach beaches and other areas that the law considers to be commonly-owned. Similarly, the exceptions and exclusions in copyright law preserve public access to the linguistic, cultural, and scientific commons.²¹

I clear the trees from a piece of land, dig out boulders, pile them into stone walls, and thus make it suitable for farming. The land becomes, in proper Lockean fashion, mine. The obvious justification for my ownership is that it is my work that has given the land value, so it would be unjust—as well as inefficient—to permit someone else to seize it for his use.

There is an important qualification to that argument, from both the ethical and the economic perspective. Although the land was less useful before, it was not entirely useless; other people could walk across it, gather acorns, and—perhaps most importantly—other people could do what I have just done. Now that it is my property, those options have vanished. If I acquire unrestricted control over the land, I am getting more than I have produced—which may be unjust and may also lead to ineffi-

^{21.} Cohen, supra note 2, at 1117.

cient rent-seeking as individuals clear land in part to appropriate its preexisting value.²²

One possible response to this problem is the Lockean proviso that my acquisition of ownership depends on there being more land— "as much and as good"—left for others to mix their labor with. The implications of that restriction for modern society have been discussed by a number of writers.²³ A second implication is that if my land happens to block the only access to a valuable piece of the common land, other people may have an easement—a right to cross it.

This is a persuasive argument for restricting absolute property rights in real estate. It has at least some application to other forms of property, such as cars, to the extent that they consist in part—perhaps a very small part—of unproduced resources taken from the commons. The one sort of property for which the argument makes no sense at all is intellectual property.

I read Shakespeare and Twain and Dante, and write my own novel—thus mixing my labor with the metaphorical cultural commons. Having written my novel, I tie it up good and tight with contract and technological protection.

Have I taken something out of the commons? No. Shakespeare and Twain and Dante are still there, just as available to the next author or reader as before I wrote my novel. In the case of intellectual property, the Lockean proviso is automatically satisfied—there is always as much and as good, because my use of intellectual property does not leave any less for the next user. The only thing I have locked up tight is my own creation.

^{22.} See generally Terry Anderson & P.J. Hill, Privatizing the Commons: An Improvement?, 50 S. ECON. J. 438 (1983) (discussing application to homesteading); David Friedman, Standards As Intellectual Property: An Economic Approach, 19 U. DAYTON L. REV. 1109 (1994) (explaining the application to intellectual property), also available at http://www.best.com/~ddfr/Academic/Standards/Standards.html (visited Nov. 11, 1998); Gordon Tullock, The Welfare Costs of Tariffs, Monopolies, and Theft, 5 W. ECON. J. 224 (1967) (discussing the original rent seeking problem).

^{23.} See generally ROBERT NOZICK, ANARCHY, STATE AND UTOPIA (1974); Baruch Brody, Redistribution Without Egalitarianism, 1 SOC. PHIL. & POL'Y 71 (1983); David Friedman, Comment on Brody "Redistribution Without Egalitarianism," 1 SOC. PHIL. & POL'Y 88 (1983), also available at http://www.best.com/~ddfr/Academic/Comment on Brody/Comment on Brody/Lomment on Brody

B. Temptations to Repossess

Cohen quotes Robert Scott when she writes, "The challenge, then, is to 'design a pattern of reciprocal commitments that effectively constrains the debtor without unduly tempting the creditor." She adds:

There are good reasons to think that electronic self-help would create such risks. As Part I discussed, section 2B-310 would authorize intrusion at the licensor's sole discretion; in this, it resembles the "confession of judgment" clauses that Scott condemns as offering too great a temptation "to evade contractual risks."

In the case of physical goods, there is an obvious reason why creditors may be tempted to abuse their right to repossess—they want the goods. If I have sold you a car and you have paid for it, I may still wish to repossess it (assuming that, by some form of legal trickery, I can get away with doing so) in order to sell it again to someone else. But if I sell you a computer program and you pay me for it, I have no similar temptation—if I want to sell someone else a copy, I can make another one at virtually no cost. Hence the temptation to abuse the right of repossession is less for intellectual property than for other forms, not more, making the argument for restricting that right weaker, not stronger.

Cohen comments on this feature of intellectual property elsewhere in her Article, when she argues that the right to electronic repossession may not permit the producer to charge lower prices, 26 because "the supply of copies is infinite and virtually costless." The premise is correct; the conclusion is not. While repossession gets the producer nothing, the threat of

^{24.} Cohen, *supra* note 2, at 1122.

^{25.} Id. at 1122.

^{26.} See id. at 1120 ("First, the 'lost value' attributable to a product whose value lies chiefly in its public good aspect is inherently speculative. Failure to recover a car after the buyer defaults precludes the secured creditor from recovering a portion of its investment; failure to recover a copy of a creative or informational work does not preclude the information provider from realizing a profit on the work. Particularly in the case of digital works, the supply of copies is infinite and virtually costless, and there is no necessary or inevitable relationship between the price charged to consumers and the value invested in each copy.").

Failure to recover a car after the buyer defaults does not preclude the producer from realizing a profit on total sales of that model of car. It does not even guarantee that the producer will not realize a profit on that particular car — the default might have occurred on the last month's payment. But being unable to enforce the terms of the sales agreement does raise the producer's cost or reduce his revenue — whether for cars or for software.

^{27.} Id.

repossession may result in his getting paid. The more likely it is that producers will be paid, the lower the price they can and, in a competitive market, will charge for their goods. One of the virtues of electronic self-help is that it lowers the cost of enforcement and thus makes the threat more credible.

C. Enterprise Repo, Inc.

Professor Cohen writes, "Imagine, for example, that a team of hightech repo men had just used a transporter device to 'beam' your sofa out of your living room and back to the furniture store. It would be difficult for the creditor to convince you that no intrusion had occurred."²⁸

How difficult it would be to convince me would depend on how the team managed the repossession—whether by first beaming itself into my living room before beaming the sofa out, by merely inspecting my living room and occupants at long distance in the process of targeting the sofa for removal, or simply by pressing a button that automatically sent the sofa back to the warehouse. The final case is the one corresponding most closely to electronic repossession. While it might be inconvenient, especially if I happened to be sitting on the sofa at the time, the appropriate analogy is not to physical repossession but to a disk crash or software failure "beaming out" my desktop computer by converting it into an oversized paperweight. I have had the experience, more than once, of discovering that a timed demo copy of a computer program had timed out—and while sometimes inconvenient, it did not feel in the least like an intrusion or a violation of my privacy.

Thus, when Cohen writes that "Article 2B sanctions a degree of intrusion into private homes and offices that is unprecedented," she ignores the fact that what is being sanctioned is a form of virtual "repossession" very much less intrusive than the physical repossession covered by the precedents.

V. IS THE SHIFT TO PRIVATE ORDERING A GOOD THING?

On at least one point, I agree with Professor Cohen.³¹ Article 2B reflects an important shift currently occurring in the ways in which creators

^{28.} Id. at 1106.

^{29.} Repossession based on monitoring of activity is more like the intermediate case and raises more serious privacy issues.

^{30.} Cohen, supra note 2, at 1101.

^{31.} A second agreement is on the undesirability of law that treats software capable of defeating technological protection as the digital equivalent of burglar's tools. If such laws exist, producers who wish to sell such software openly will embed it in more general

of intellectual property control their works and get paid for their efforts. The shift is from dependence on the public law of copyright to dependence on contract and self-enforcement—from a public to a private ordering. Professor Cohen believes the change is for the worse; I believe it is for the better.

A. Does Private Ordering Threaten Individual Privacy?

One of the arguments Cohen offers is the claim that the shift threatens important values associated with individual privacy. That claim is false with regard to two of the three technologies under discussion. The ability to disable software in response to a perceived breach of the licensing terms poses no more threat to privacy than a building contractor's ability to call up an employee working on a job and tell him that, since the customer is refusing to pay, he should stop working. Software that controls its own usage poses less of a threat to privacy than any alternative mechanism for enforcing contract terms, because it does not require any human being to monitor usage.

The claim is true with regard to a third technology—the use of software to monitor usage and report it to the software's creator. Hence, a producer who embeds such features in his software ought to be obligated to disclose them to the purchaser. Subject to such a disclosure requirement, such software poses precisely the same sort of threat to privacy as any other mechanism by which A acquires information about B with B's consent and knowledge—a frequent and probably inevitable occurrence in modern society.³²

Cohen appears to recognize the weakness of her privacy argument in the context of software that enforces restrictions on its use, and falls back on the alternative claim that even if such software does not violate privacy in any literal sense, at least it violates autonomy. Thus, she writes, "Privacy protects certain spaces not only to shield personal behaviors from observation by others, but also to preserve a zone of autonomy from interference by others." She adds, "In a sense, the intrusion (or at least its but-for cause) occurred much earlier, when the licensor determined that

purpose software, making it difficult to enforce the law without hindering legitimate activities. In any case, the nature of the online world makes the enforcement of such laws against covert distribution of the banned software virtually impossible.

^{32.} However, this is an occurrence that can, and perhaps will, be made less frequent in future online transactions by the use of encryption, digital cash, and related technologies. See David Friedman, A World of Strong Privacy: Promises and Perils of Encryption, 13 SOCIAL PHILOSOPHY AND POLICY 212 (1996).

^{33.} Cohen, supra note 2, at 1108.

consumers in their private homes and offices would be allowed to take certain actions but not others."³⁴

The problem with these statements is that a producer necessarily determines what his product will or will not do in the process of designing it; it is an odd use of language to describe the failure of a product to do things that I would like it to do as an intrusion or as interference by others in my zone of autonomy.

Professor Cohen responds to this line of argument when she writes:

The freedom of contract argument for unfettered electronic regulation of performance ... conflates choice with submission and product capabilities with control of behavior. Your vacuum cleaner cannot fly, or clean your oven, and you have no particular right to one that can. However, except in special cases governed by the patent laws, within private spaces you may use a lawfully-acquired vacuum cleaner in any way you see fit. 35

But applying this to self-enforcing restrictions—my third category of electronic protection³⁶—confuses "may use" in the sense of "is not illegal for you to use" with "may use" in the sense of "others must make it possible for you to use." If my software turns itself off on the Sabbath, you still may use it on the Sabbath—but you can't.

In Cohen's sense, product capabilities do control behavior—your vacuum cleaner's inability to clean your oven restricts your oven cleaning behavior, just as copy protection built into a computer program restricts your copying behavior. Perhaps the distinction she intends is between restrictions that exist because it would be costly to avoid them—by building a vacuum cleaner with an oven cleaning attachment—and restrictions that exist because the producer of the product does not want you to use his product in certain ways. That might for some purposes be an interesting distinction, but lots of existing products already fit into the second category—and that fact has not in the past been considered legally problematic.

Consider the original Macintosh computer. It was intended as an easy-to-use tool for a mass market, including many people who could not be trusted to work on the machine's internals without injuring either it or

^{34.} Id. at 1109.

^{35.} Id. at 1115.

^{36.} Professor Cohen makes it clear that this is the sort of protection that she is concerned with when she writes, "My concern here is with the new kind of self-help that digital technologies allow—self-help that consists solely of 'dumb,' hard-wired prevention of unauthorized conduct." *Id.* at 1107.

themselves. Hence, instead of designing the case to fasten with ordinary screws, Apple designed it so that it could only be opened with a set of special tools.³⁷ This was precisely the real-world equivalent of electronic regulation of performance. I am left wondering whether Professor Cohen believes that Steve Jobs, in designing the computer that way and selling it to me, intruded into my privacy and violated my zone of autonomy.

Again, Professor Cohen writes, "In sum, Article 2B proposes to arrogate to private information providers the power to reach into customers' homes and offices and literally shape their behavior—in many cases without even the courtesy of express contractual notice." 38

Information providers are not the only ones with that power—Professor Cohen has it too. When she revised the article to which I am replying, she reached out into my office and shaped my behavior—forcing me to remove one of my favorite passages from my response because it no longer applied to her revised version. And she did it, as best I can recall, without any contract at all. Human beings are continually shaping each other's behavior—consider the enormous effect that the inventors of modern computer technology had on both my behavior and Professor Cohen's. The appropriate limit to such shaping is not an elaborate set of rules defining what characteristics products (or journal articles) may have, but the simple rule of mutual consent—if I do not like what she does with her article, I do not have to write a comment on it. If I do not want to use computers, I can forgo a new Mac in favor of an abacus and a box of clay bricks.

Cohen writes: "Yet if reasonable expectations are defined solely by the limits of technological possibility, privacy has a bleak future." 39

I agree⁴⁰—and that is a good reason to oppose FBI proposals to make mass wiretaps cheap and easy. But the limitations of privacy that Professor Cohen is currently discussing require the consent of the victim, whether explicitly by contract or implicitly in the purchase of a product with known characteristics. Such intrusions will be restricted not merely by the

^{37.} See Richard Spaulding, Improving the Apple's Core, SAN DIEGO UNION & TRIB., Mar. 18, 1986, at AA1.

^{38.} Cohen, *supra* note 2, at 1117.

^{39.} Id. at 1107.

^{40.} I interpret Cohen as referring to the technology of invading privacy. We would get a more attractive result in a world where it was the protection, not the invasion, of privacy that was limited only by its technology—a world where, for example, strong public key encryption and related technologies were legally unrestricted and widely used. See Friedman, *supra* note 32, at 213-17.

limits of technological possibility but by what consumers are willing to put up with—and at what price.

Nothing in present law prevents me from proposing to a key employee or business partner that he have a small transmitter attached to his leg, even surgically embedded, in order that I can monitor his movements to make sure he is not visiting my competitor or absconding to South America. Such a device is well within the limits of technological possibility. Yet we do not observe such precautions—except in the involuntary relation between convicts and the criminal justice system. We do not observe them because the price I would be willing to pay to buy consent to such an intrusion is, in almost all cases, lower than the price the other party would be willing to accept.

B. Does private ordering provide adequate notice?

Throughout this discussion, I have taken it for granted that the transactions we are considering—in particular, the purchase of software with usage restrictions embedded in it—are voluntary. Cohen might disagree. She writes, "Effectively, section 2B-310 would allow information providers to contract around copyright law without disclosing that fact to users." She adds, "Given the severity of the consequences and the inability of most consumers to evade them, lack of notice of the possibility of electronic self-help is simply unfair."

These and similar passages make it sound as though all she wants is full disclosure by sellers of any restrictions on use built into their products. That seems a reasonable requirement—one whose only cost is a little extra paper and ink reproducing a properly designed paragraph of boiler-plate prose or the still less expensive electronic equivalent.

But Professor Cohen also writes, "It is worth noting, too, that none of the cases concerning electronic self-help has involved a non-negotiated, mass-market contract; thus, no court was required to consider whether the 'notice' afforded consumers by standard-form provisions is enough to validate electronic self-help." She then goes on to devote much of Part IV of her Article to arguing that, in the context of mass market contracts, agreement is not really consent.

So the implication of her argument is not that producers should be free to build electronic self-enforcement into their products, provided they are

^{41.} See Clem Richardson, Jailers Experiment With Electronic Tags, NEWSDAY, Apr. 10, 1991, at 20.

^{42.} Cohen, supra note 2, at 1098.

^{43.} Id. at 1112.

^{44.} Id. at 1112.

honest with their customers about what they are getting—a position with which I would agree—but rather that no mass market contract the producer can write will provide sufficient notice to justify such products. What is presented as an argument in favor of disclosure is in fact an argument against freedom of contract. As Cohen writes, "The problem here is not lack of 'bargaining' per se, or even lack of knowledge, but rather lack of consent and inability to affect the options on the table."

That might be said with as much, and as little, truth about almost any mass market consumer product. 46 The implication—whether Professor Cohen would accept it I do not know—is that the characteristics of cars, computers, and television sets, as well as those of computer programs, ought to be set by the courts or Congress, not by the market.

C. Is copyright more efficient than private ordering?

So far I have dealt with a line of argument based on issues of privacy, autonomy, and the like. Cohen's other argument is a broad claim that the inflexible mechanism of copyright is superior in its results to the more flexible private alternatives. She writes:

As I have demonstrated elsewhere, the copyright system promotes the social goals of creative progress and public access to creative works in important ways that the market cannot measure. Because it is difficult to assess creative potential ex ante, ... and because current information providers may perceive some works (for example, parodies) as detrimental to their interests, there is no reason to think that giving information providers control over all uses of their information products would result in more or better creative progress. ... In this respect, the enhanced accessibility of creative and informational works under copyright law produces important external benefits that most likely would be underproduced by a private-law market-based regime. In short, the copyright regime of limited rights and user privileges not only serves nonmonetizable and distributional concerns, but those concerns also are central to a particular understanding of creative and social "progress."47

The argument has two parts. The first is the claim, surely true, that the market will not produce a perfectly efficient outcome, in part because some of the benefits from intellectual property cannot be captured by the producer and so will be ignored in his calculations of what to produce. The

^{45.} Id. at 1126.

^{46.} See Friedman, supra note 32, at 212.

^{47.} Cohen, supra note 2, at 1128.

second is the claim, surely false, that the particular set of legal rules imposed by copyright can be expected to produce a more nearly efficient outcome than the freedom of contract alternative.⁴⁸

The claim is false for two reasons. First, and most obviously, the more flexible regime allows the producer to capture more of the benefit from what he produces—that, after all, is why sellers of intellectual property would choose to use contract and self-enforcement instead of relying entirely on copyright. The higher the return to producing intellectual property the more intellectual property will be produced. Hence, to the extent that the creation of intellectual property is a purpose of copyright law, it is a purpose better served by permitting other options as well. 49

Second, and less obviously, the private alternatives to copyright result in more, not less, use of such intellectual property as is produced. The standard economic argument against legal protection of intellectual property is that it results in owners of intellectual property charging a positive price for its use even though the marginal cost of one more use is zero. Thus, copyright results in an inefficiently low number of copies.⁵⁰

Private enforcement does not eliminate that problem but it does reduce it. The more flexible the pricing options, the easier it is for the seller to charge a high price to the high-volume, high-value user, and a low price to the low-volume, low-value user, capturing revenue from the former without losing sales to the latter.⁵¹ The seller of a database designed to charge by the query can and will make it available both to the casual user, who uses a few dollars worth of queries a month, and to the commercial user, who uses a few thousand dollars worth a month. The same seller, restricted to the terms of copyright, including the doctrine of first sale, finds

^{48.} Cohen would probably say that the outcome is better, but not necessarily more efficient. She writes, "Allocative efficiency is a poor measure of social welfare, however. Social welfare is in part a function of nonmonetizable values, external effects, and distributional concerns, all of which the allocative criterion ignores." *Id.* at 1127. But this is to misunderstand the concept of economic efficiency. External effects are sometimes ignored by the market, but if so, the result is to reduce the efficiency of its outcome—that is why economists have traditionally proposed Pigouvian taxes as a way of making market outcomes more efficient. It is true that efficiency ignores distributive issues—but, as I point out below in discussing her reference to "distributional concerns," it is hard to see how that limitation can be used to derive an argument for her conclusion.

^{49.} For an analogous argument, see Friedman et al., Some Economics of Trade Secret Law, 5 J. ECON. PERSP. 61 (1991), also available at http://www.best.com/~ddfr/ Academic/Trade_Secrets/Trade_Secrets.html> (visited Nov. 11, 1998) (defending the efficiency of permitting trade secret as an alternative to patent).

^{50.} While the absence of copyright results in an inefficiently low number of originals available to be copied.

^{51.} See ProCD, Inc. v. Zeidenberg, 86 F.3d 1447, 1449-50 (7th Cir. 1996).

that he must charge a single price to all users for unlimited use—and sets that price at a level that eliminates the casual user.

Cohen is concerned that some uses currently permitted by the doctrine of fair use will be prohibited, or at least charged for, under the private alternative. That may well happen. But the doctrine of fair use is constructed in a way that for the most part limits it to uses whose economic value is low—uses which it is in the interest of the producer to permit at a low price. Indeed, one economic justification for the doctrine is that it permits use of intellectual property in contexts where the transaction cost of licensing is higher than the value of what is licensed. If the transaction cost is radically reduced, the size of that category will shrink.

Cohen offers the counterexample of parodies and the like—uses of intellectual property which the owner might want to prevent rather than charge for. It is hard to believe that the effect of technological protection on this class of uses will be significant. Technological protection may prevent me from copying your work, but it cannot prevent me from viewing it and then writing a critique or parody. Conceivably, a product's licensing terms could include an agreement not to publish anything critical about it—but it would then be an adequate critique to simply publish the existence of such a requirement, a fact that any reader could easily verify for himself by trying to license the software. ⁵²

If the social goal of the copyright system is to promote progress and the useful arts by increasing the quantity and accessibility of intellectual property, that goal is an argument in favor of the shift towards private ordering, not against.

We are left with Cohen's somewhat cryptic references to distributional concerns. Most intellectual property transactions occur between firms; it is hard to see how rules that favor firms that consume intellectual property over firms that produce it (as Cohen apparently believes the current copyright system does, at least relative to the private alternatives) are likely, on average, to make rich people poorer and poor people richer, which I presume is what "serves ... distributional concerns" is supposed to mean.

^{52.} A political theorist named Andrew Galambos argued that ideas were the primary form of property, claimed a property right in his own ideas, and required his students to agree not to repeat them. That may be one of the reasons you have never heard of him. The tactic does not recommend itself in a commercial context either. See generally Synergy Server, About Andrew J. Galambos (visited Nov. 11, 1998) http://www2.banned-books.com/ft/ftpeople/ajg/about.html; Synergy Server, What Is Property? (visited Nov. 11, 1998) http://www2.banned-books.com/ft/ftpeople/ajg/define/property.html.

^{53.} Cohen, supra note 2, at 1128.

Some transactions involve consumption of intellectual property by private consumers—buying and reading a book, for example. But insofar as the shift to a private system has any distributional effect on ultimate consumers, it ought to be in the opposite of the direction Cohen implies. Private enforcement permits a greater degree of price discrimination. Rich people are, on average, willing to pay more for things than poor people, and a well designed set of discriminatory prices requires them to do so.

Cohen's general argument exhibits a feature unfortunately common in arguments opposing changes that substitute private markets for centralized control. When considering the attractiveness of the market alternative, she imposes high standards of proof—any failure of the real world situation to meet theoretical conditions for perfect economic efficiency is adequate reason to ignore the economic arguments for the tendency of private markets to produce efficient outcomes. When considering the alternative ordering—in this case, the one size fits all terms of copyright—no theoretical argument is offered nor, apparently, needed. It is enough to point out that in a world where protection is limited to copyright someone, somewhere, will be able to use some piece of intellectual property for free that he might have to pay for under a system of self-enforcement.

VI. CONCLUSION

We are faced with two alternative approaches to organizing the production and distribution of intellectual property: the public ordering defined by copyright law and the private ordering implied by freedom of contract and the technologies of digital monitoring and self-enforcement.

In a fully efficient world, as that concept is understood by economists, every good, including every possible item of intellectual property, would be produced if and only if the net costs of producing it were less than the net benefits. In the real world, under either approach, that objective is unattainable. Real world markets necessarily omit from their calculations some benefits and some costs, whether because consumers are imperfectly informed about what they are consuming or because producers are unable to internalize all benefits, and are not required to internalize all costs, associated with their production. That will be as true in the market implied by a private ordering of intellectual property as it is true in other markets.

Here, as elsewhere, the argument for the market is not that it is perfect, but that it is less imperfect than the alternatives. Under the public law of copyright, producers are less able than under private contract to internalize the value of what they produce, hence less likely to produce those goods, with those characteristics, that maximize the net benefit from their activi-

ties. Hence the result can be expected to be less, not more, efficient than under the private alternative.

Seen from the economic standpoint, the fundamental justification for the public law of intellectual property is a market failure. That failure is not, as Cohen seems to believe, the failure of producers of intellectual property to take account of external or nonmonetizable or distributional consequences of their activity—if that were the problem, the solution would be not copyright, which suffers from the same problems, but some form of public subsidy.

The market failure that justifies the law of intellectual property is the difficulty of enforcing a producer's rights in what he produces. It is only because, in a world where it is difficult for producers to prevent or observe unauthorized copying, contracts to control the use of intellectual property are to a large degree unenforceable, that modern law provides a form of property protection as an alternative. Insofar as digital technology is eliminating that market failure, we should adapt our legal rules to encourage the change, not to block it. Cohen would prefer to persuade the cripple who has finally been cured that he should retain crutches rather than risk the harebrained adventure of walking.

This final metaphor suggests an important question that neither Cohen nor (for different reasons) those on the other side of the issue have discussed: is copyright law becoming obsolete, and, if so, ought it to be abolished? If the crutch is no longer needed, should we discard it?

My own view is that, in the limited area of online transactions involving intellectual property in digital form, copyright law will, over the next few decades, become increasingly irrelevant, in part because better alternatives will become available, and in part because it will become increasingly unenforceable. ⁵⁴ I leave to some future conference the further implications of that change.

^{54.} See generally Friedman, supra note 32.