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CYBERSPACE VERSUS PROPERTY LAW?

FRANK H. EASTERBROOK*

The prospect of applying the ordinary law of intellectual property—which many associate with the technology of Johannes Gutenberg—to twenty-first century innovations bothers many people. Why be tied to the past? Why not achieve a new and better future through new and better law?

Frightened by the idea of a patent on the human genome and drugs developed from it? Just declare that all such knowledge and products are in the public domain,¹ or require scientists and drug developers to license their discoveries and products at “reasonable” (= low) prices. Unsettled by the prospect that books and articles distributed over the Internet will be tagged or encrypted so that the authors or publishers can collect payment each time they are read or redistributed? Just forbid the newfangled devices (or contracts that consent to them), declaring that authors cannot be allowed to violate the rules for “fair use” or to profit from information that “ought” to be available to everyone for free.² Frustrated by a software license that forbids the disassembly of object code in search of the source code, which could help other programmers write competing or complementary products? Just tell the author that in the public interest the law will not enforce onerous terms, which conflict with the public’s presumptive right to engage in

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1. See *Moore v. Regents of Univ. of Cal.*, 793 P.2d 479 (Cal. 1990).

2. E.g., Yochai Benkler, *Free as the Air to Common Use: First Amendment Constraints on Enclosure of the Public Domain*, 74 N.Y.U. L. REV. 354 (1999); Niva Elkin-Koren, *Copyright Policy and the Limits of Freedom of Contract*, 12 BERKELEY TECH. L.J. 93 (1997); Wendy J. Gordon, *Price Discrimination Redux: Of Copyright, Computers, and Plain Vanilla Copyright*, 74 CHI.-KENT L. REV. (forthcoming 1999).

reverse engineering—and leave it to the judiciary to determine which terms are too onerous.³

I am a skeptic about the proposition that new developments in technology imply the need for new laws or rules.⁴ I am skeptical for two fundamental reasons. First, we know so little about the effects of our current intellectual property regime on the production and use of traditional intellectual property that it is silly to suppose that we have the information essential to prescribe new regimes for new kinds of intellectual property. Second, when flailing around in the dark, it is much easier to come up with “solutions” that harm the development of intellectual property than it is to devise rules that help. Ignorance thus should lead us to leave well enough alone. (As Edmund Burke remarked: Don’t talk to me of reform; things are bad enough already.) I shall develop both of these propositions briefly.

Consider for a moment the world of perfect competition in classical economics. Price everywhere equals marginal cost, so all decisions about producing, purchasing, and using goods are both privately and socially optimal. Now consider the problem for intellectual property: an idea, a book, a poem, or a piece of software can be used without being used up. The marginal cost of producing a new example, after the work has been created, is not zero, but it is low—substantially below average total cost. To recover its investment, a producer of intellectual property must be able to sell at average total cost or more; but if marginal cost is under average total cost, the price is “too high” to be socially optimal, for the high price discourages at least some purchases even though the consumer values the work at more than the cost of producing an extra copy. That is the problem with which the law of intellectual property grapples,⁵ and no solution can be praised unconditionally.

Patent law, copyright law, trademark law, and the law of contracts (of which trade secrets are a branch) create or employ

3. *But see* Sony Computer Entertainment, Inc. v. Connectix Corp., 48 F. Supp.2d 1212 (N.D. Cal. 1999).

4. *See* Frank H. Easterbrook, *Cyberspace and the Law of the Horse*, 1996 U. CHI. LEGAL F. 207; Frank H. Easterbrook, *Intellectual Property is Still Property*, 13 HARV. J.L. & PUB. POL’Y 108 (1990). *See also* Hill v. Gateway 2000, Inc., 105 F.3d 1147 (7th Cir. 1997), ProCD, Inc. v. Zeidenberg, 86 F.3d 1447 (7th Cir. 1996);

5. *See* William M. Landes & Richard A. Posner, *An Economic Analysis of Copyright Law*, 18 J. LEGAL STUD. 325 (1989).

property rights in information so that the producer of intellectual property can charge more than marginal cost, and thus cover the total cost of producing and disseminating the works. Would-be consumers who value the work at more than marginal cost but less than average total cost lose out; but if the law were otherwise different consumers would lose (and lose even more) because producers would not develop and distribute as many innovations, plays, drugs, and programs. Just *how much* above marginal cost should the price be? No one knows. A patent gives the inventor the right to exclude competition for twenty years, and thus to collect an enhanced price for that period. Is twenty years too long, too short, or just right? No one knows. A copyright lasts the life of the author plus an additional period that Congress keeps increasing in response to producers' lobbying. What is the right length of a copyright? No one knows. A trademark lasts forever (or at least for as long as the product is made and the name does not become generic in the public's mind). A trade secret (such as the formula for Coca Cola, or the source code of a computer program) lasts as long as the developer can keep the secret. Are these durations optimal? No one knows. How much use, and by whom, should be permitted without compensation under the fair use doctrine? No one knows.

By "no one" I mean more than just legislators and judges. The best academic students of the subject disclaim knowledge. If we do not know the answers to these traditional questions, how can we hope that a new set of rules for a new century to cover a new generation of intellectual property will be an improvement?

Who can be trusted to come up with better rules is a separate question. Should we rely on the academy? You cannot pick up a law review these days without encountering a proposal for revamping the law of intellectual property. But there is very little overlap between the authors of these proposals and serious students of markets in intellectual property. Most good scholars recognize that we do not know the answers to the current generation of questions and therefore are poorly situated to prescribe alterations. Bad scholars are less aware of their limitations and make bold proposals—but these are the people we should be most wary of.

Should we rely on inventors (or industry in general) to tell us what protections are "needed"? Most authors and inventors

think, like John L. Lewis, that the answer is “more” (just as many consumers think that the answer is “less”); self interest taints the response. Anyway, it turns out that inventors and authors are lousy prophets. Most inventions receive no royalties; about ten percent earn significant returns, and a very few have huge payoffs.⁶ Most books have few sales. Most songs are never sung in public. Similarly, most academic proposals for change in the law (like most genetic mutations) have negative value. A very few patents, novels, plays, songs, symphonies, and law-reform proposals have high value, but *ex ante* it is hard to tell the good innovations from the retrogressions.

What we do know about the market calls academic proposals into serious question, however. If only ten percent of patents earn substantial royalties, and if the bulk of returns come from a few great successes, this means that most inventors are slaving away in the hope of hitting a jackpot. It is the prospect of a big payoff that spurs development. Most of the current crop of academic proposals, however, recommend compulsory licenses, reasonable-rate returns, expanded “fair use” doctrines, or antitrust remedies that would cut down the return from the big winners in the innovation game, without compensating the other inventors. (Nor would we *want* to compensate the inventors of products that flop in the market! Why subsidize losers?) Curtail the top returns, and the whole structure of rewards changes for the worse.

Most of the proposals in law reviews commit the Nirvana Fallacy. They take the form: “The existing legal regimen has the following costs and flaws; therefore my proposal is better.” Patents raise price and discourage use; this is a flaw because some consumers who value the product at more than marginal cost cannot afford it; therefore *my* proposal to [fill in the blank] should be adopted. That’s a nonsequitur. Every way of handling intellectual property is costly and imperfect. All of these costs must be toted up and compared; and, as I have stressed, no one knows how to do that.

Even careful study of a question about innovations does not ensure success. Other speakers have mentioned Chester Carlson and his corona-charging patent, protecting the great innovation

6. See F.M. Scherer, *The Innovation Lottery* (Harvard University working paper, April 1998).

that enabled plain-paper photocopying. Before Xerox Corporation made a fortune selling Carlson's photocopiers, his original licensee, the Battelle Institute, tried to raise development funds by selling a fifty percent interest in the invention to leading makers of office equipment. One potential buyer was International Business Machines Corporation. IBM commissioned a study by the best consulting firm money could buy; the consultants determined that there was no market for plain-paper photocopying, and after receiving this assessment IBM declined to invest. This was a spectacular blunder, but only in retrospect. Other, less noticed, errors occur when firms invest heavily in technologies that turn out to be busts. Anyone remember Federal Express's "ZapMail," a two-hour delivery service brought to market at great expense just as businesses were installing fax machines, or Polaroid's "Polavision," a technologically splendid instant-development motion-picture system that came out about the same time as the first handheld videotape cameras? As Yogi Berra put it: Predictions are hard, especially about the future. If firms that put millions of dollars on the line cannot make reliable decisions about technology, what would make us think that scholars with *no* money on the line do well at devising legal rules to govern technology?

Perhaps, then, development of rules should be left to the legislature. Elected representatives have political legitimacy, but do they have the knowledge? Legislatures have no private information that is unavailable to scholars. And recent legislative efforts in the law of intellectual property have been adversely affected by the tugging and hauling of interest groups.

For a long time, the statutory law of intellectual property has been general. There was one term for all patents and one term for all copyrights—all against the background of a common law of contracts that is indifferent to the industry involved. When the law of intellectual property is general, most people are apt to support the best possible set of legal rules. Universities do not lobby to eliminate copyright protection—even though that would make it much cheaper to buy journals for their libraries—because they are also producers of intellectual property. General Motors pays substantial royalties to inventors, but it also receives royalties as a patent holder. When people are, or are likely to be, on both sides of a class of transactions, they tend to support legislators who favor efficient rules.

Not so when the rules can be made industry-specific. Recent amendments to the copyright statutes provide special rules (and benefits) for semiconductor chip producers, management systems, and digital audio devices. Special patent regimens have been created for drugs and plant varieties. Drug producers and drug buyers reflect very different interests. Industry-specific rules are the playgrounds of interest groups, and once factions get to work it is predictable that at least some of the laws will favor concentrated groups at the expense of a broader public.

These narrow regimens also tend to detract from the force of competition among producers of intellectual property, and thus magnify any shortcomings of the current laws. The traditional, general statutes are contract-enabling: they create property rights that set the stage for competition and contract. General laws about intellectual property tend to promote competition. Most patents, books, songs, and so on receive low rewards because of competition—not because they are bad ideas on an absolute scale, but because other people have come up with many equally good ideas, and competition among them has the beneficial effects of all economic competition. Newer laws tend to be contract-defeating (substituting, say, a Copyright Royalty Tribunal for bilateral agreements), which means that if the statutes do not get things exactly right (and they do not), people cannot transact around the errors.

How about courts as the source of newer and better rules? Information about rules' effects is as much a problem for judges as for other actors—worse, actually, and for four reasons. First, courts are run by judges. Second, judges are lawyers. Third, lawyers are ignorant. Fourth, courts are incoherent. Before you exclaim that, having said this, I am obliged to resign, give me a moment to elaborate.⁷

Courts are run by judges. Judges are smart people, who unsurprisingly tend to think well of their ideas. This is, alas, a drawback, because, as I have emphasized, most new ideas are bad. An academic who has a new idea subjects it to the test of scholarly interchange, and it often takes decades to confirm or refute new theses. A lawmaker who has a new idea submits it to the political marketplace, where those injured by the proposal

7. See Frank H. Easterbrook, *What's So Special About Judges?*, 61 U. COLO. L. REV. 773 (1990).

can set up a defense (and an information campaign). A capitalist who has a new idea submits it to the test of the market—and as I have mentioned the market rejects (or at least does not reward) most new ideas and products. But a judge who has a brainstorm can write it directly into law.

Entrepreneurs and politicians who churn out more bad ideas than good ones can be evicted from office. A business manager who does not get tossed out may suffer a great decline in income, as bonuses or the value of stock options fall. People recognize that because it is so hard to separate good from poor ideas *ex ante*, the rewards for success and penalties for failure are vital in business. Firms are at pains to devise methods to align the interests of managers with those of investors.⁸ But what is vitally important in business (and political life) is forbidden in the judiciary. Judges do not reap rewards for devising better rules, and they do not pay a penalty for failure. Even the simplest reward structure—a bonus when your decision is affirmed, a penalty when the Supreme Court reverses—is missing. Viewed as legal entrepreneurs, therefore, judges are unlikely to excel.

Judges are lawyers. Lawyers are generalists. They are intermediaries and professional agents, dealing with a sweep of problems, from drug control to antitrust regulation, that no other profession covers. This means that even the most intelligent and dedicated members of the bar are not experts—and I began, recall, by contending that even experts in intellectual property do not know what rules would be optimal. Trained to cope with so many different kinds of problems, lawyers (and thus judges) are not steeped in the methods of science. My point is not that judges lack degrees in biochemistry or economics. It is that they are not comfortable with the scientific approach of testing hypotheses by collecting data and subjecting it to statistical analysis. Lawyers tend to think that disputes can be solved by evaluating the credibility of witnesses, an approach no scientist would adopt. Law schools teach future lawyers to make and evaluate arguments verbally, not empirically. But talk is cheap, hypotheses many, and confirmation hard. Simply put, if IBM and leading scientists

8. See Canice Prendergast, *Compensation Policies Within Firms*, 37 J. ECON. LIT. 7 (1999).

cannot provide answers to major problems in the domain of intellectual property, then neither can lawyers.

Lawyers are ignorant. This is just a different slant on the second point, but at retail rather than wholesale. Because lawyers are generalists (at least, judicial lawyers are generalists) who spend most of their time on cocaine prosecutions and Social Security disability cases, they lack the time necessary to fine-tune complex bodies of rules. The broader the portfolio of subjects, the more shallow the practitioner is doomed to be with respect to each.

Courts are incoherent. Today there are more than 650 federal district judges and more than 150 federal appellate judges. They were appointed by different presidents and have exceptionally diverse backgrounds. It is unrealistic to suppose that the federal judiciary will coalesce around any one approach to a topic that has been highly contentious among specialists. Although the Supreme Court, with nine justices, is much smaller, it still makes decisions by majority vote, and for reasons that I lack time to develop here, any institution that decides by voting is bound to sacrifice either consistency or some other important aspect of the judicial process.⁹

Do not despair! Ignorance is normal; the inability to specify optimal rules is normal. What is the right price of wheat? How many computers should be installed in a high school classroom? What is the right substitution between automobiles and housing for a family with an income of \$50,000 per year? These enormously complex questions lack right answers. When there is no one right answer—and when people bear the costs of their actions—we rely on those affected to make their own decisions. Markets make it possible for different people, at different times, with different information and different objectives, to make different decisions. Legal rules often deny them that luxury. Markets and the price system are at their best when knowledge is diffuse and hard to organize.¹⁰ Let me give you a theorem: the more complex the problem, the more the “right” answer varies over time and the affected population; and the easier it is to address the problem by private contract, the less we should attempt to resolve it by law.

9. See Frank H. Easterbrook, *Ways of Criticizing the Court*, 95 HARV. L. REV. 802 (1982).

10. See generally THOMAS SOWELL, KNOWLEDGE AND DECISIONS (1980).

Actually, that theorem has a name: The Coase Theorem.¹¹ If bargaining is costless, then the outcome of private bargaining will be a Pareto-optimal solution and the rule of law will be irrelevant. Now bargaining is never costless. But technology is moving in that direction. Today people communicate cheaply and easily, and they can strike deals electronically at low cost. Publishers could offer a menu of terms in the Internet for rights you acquire to use and copy, say, music encoded in MP3 format, and you could set a preference in your web browser or MP3 player about what kind of deal to accept. Patent pools, global standards, blanket licenses after the fashion of ASCAP, and other contractual devices have reduced the cost of bargaining about intellectual property.

It is ironic that just as a global network and automation are reducing the costs of contracting, and moving us closer to the world in which the Coase Theorem prevails, people promote more and more contract-defeating schemes. One is tempted to think that they are concerned not about market failures but about market successes—about the prospect that the sort of world people prefer when they vote their own pocketbooks will depart from the proposers' ideas of what people *ought* to prefer. Next thing you know, why, economic transactions between consenting adults will break out *right in public view!*

My principal suggestions follow from this understanding about the relative competence of public and private actors. Three propositions sum up what I know, or think I know, about wise public policy.

1. *Make rules clearer, to promote bargains. "We" do not know what is best, but in a Coasean world the affected parties will by their actions establish what is best.*

It is awfully hard to know what the optimal compensation package for authors is. When there is ignorance, it is best to give more rights to authors. Why? Because if the best arrangement turns out to be free distribution, then private transactions may produce this result when the statute assigns the rights to authors; but if the best arrangement turns out to be some fee for distribution and a lower price for copying, it is extremely hard to get to this state of affairs if the statute cancels the distribution right. Private transactions could move the right back to authors

11. See R.H. Coase, *The Problem of Social Cost*, 3 J.L. & ECON. 1 (1960).

only if the parties have contractual relations (for example, patrons of the opera may agree not to tape the performances). We must bear in mind the high possibility of error in the original specification of entitlements—a risk especially high in a legislative world dominated by interest-group politics. The risk of error should lead to initial assignments that are easy to reverse, so that people may find their own way with the least interference.

2. *Create property rights, where now there are none—again to make bargains possible.*

One common response to a proposition of this sort is that holders of rights in intellectual property are bound to use them to cut out low-valuing users, or to squeeze profits from information already in the public domain. I find it odd that this response appears so often in the law reviews, where it is self-refuting. Every law review article is copyrighted. This means that the author *could* insist that the law review pay, say, \$5,000 for publication rights and that Lexis pay another \$5,000 (plus \$100 per “hit”) for the right to make the text available electronically. But of course authors do not do this. They submit articles without payment, from either law reviews or the electronic services. Perhaps one could infer that the authors know something about the value of their intellectual property. But another possible inference is that when free distribution is socially optimal, people will not enforce their property right to withhold publication or demand fees. If you start from property rights, you can negotiate for free distribution; if you start from an absence of property rights, it is very hard to get to the best solution when a charge is optimal.

3. *Create bargaining institutions.*

Computers offer many opportunities to do, at next to no cost, the sort of thing the Copyright Clearance Center has tried and failed to do for photocopies. Consider, for example, the question of whether a publisher of content on the Internet wants to authorize the making of copies—and, if so, the making of copies that can be recopied, or a single copy for use on a local computer, or only wants to authorize viewing on screen. All are logical possibilities, each rational for some authors, or for any given author at different times. How is it possible to specify which is which and to collect payment?

The answer lies in a convention—a protocol under which each line contains its own instructions on this question, and programs know how to interpret them. You are familiar with such conventions. When your modem calls a remote modem, the two devices engage in elaborate interrogation to discover what speed to use and what compression and error-correction algorithms are in place. An international standards-setting organization agreed on the language; private firms all over the world have decided whether, and to what extent, to use this agreed language for communications. Some firms have come up with their own extensions, outside the organization's framework. Just so with the Internet's core communications protocol (TCP/IP) and page-description language (HTML). Encryption technology is similar. You may notice that when Netscape Navigator enters a particular corner of the web, a solid key appears in the lower left of the screen; this shows that the client and the server have agreed on an encryption protocol, securing the session. There are several available protocols. So can it be with copying. A standards-setting organization could prescribe, say, twenty different copying rules—sets of permission and payment terms. There may be competing organizations with their own standards. Each Internet server and client would understand these terms and carry out the negotiation automatically, remitting any payment to an agreed depository by secure methods. Your future electronic copy of *Moore's Federal Practice* may come tagged with instructions that tell your computer how many times it can be copied, and to whom it may be redistributed. And you will be better off for it.

These, then, are my propositions. We live in a world of ignorance. We can expect ignorance about the full consequences and optimality of legal rules to be as prevalent in the twenty-first century as it has been in the past. We can expect academics, legislators, and judges to have in the future the same comparative disadvantages, *vis-à-vis* the market, that they have had in the past. In a world of imperfect knowledge—that is, in our world—you can benefit from clear rules, property rights, and institutions that promote negotiation. Sounds like good old property law. It is all that simple.

