Essay

A POLITICS OF INTELLECTUAL PROPERTY: ENVIRONMENTALISM FOR THE NET?

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This Essay argues that we need a politics, or perhaps a political economy, of intellectual property. Using the controversy over copyright on the Internet as a case study and the history of the environmental movement as a comparison, it offers a couple of modest proposals about what such a politics might look like—what theoretical ideas it might draw upon, and what constituencies it might unite.

I. "CODE IS CODE"—THE LOGIC OF THE INFORMATION RELATION

Everyone says that we are moving to an information age. Everyone says that the ownership and control of information is one of the most important forms of power in contemporary society. These ideas are so well-accepted, such clichés, that I can get away with saying them in a law review without footnote support. (For those blessedly unfamiliar with law reviews, this is a status given to only the most staggeringly obvious claims; the theory of evolution[1] and the orbit of the earth around the sun[2] probably would not qualify.)

 This Essay draws on ideas first developed in my book, SHAMANS, SOFTWARE, AND SPLEENS: LAW AND THE CONSTRUCTION OF THE INFORMATION SOCIETY (1996). Those who study intellectual property will realize how extensive a debt this Essay owes to David Lange's classic piece, *Recognizing the Public Domain*, LAW & CONTEMP. PROBS., Autumn 1981, at 147. Thanks are also due to Keith Aoki, John Perry Barlow, Robert Gordon, Peter Jaszi, Jessica Litman, and Bruce Sterling, and to the Yale and Columbia Legal Theory Workshop Series.

1. *See generally* CHARLES DARWIN, ON THE ORIGIN OF SPECIES BY MEANS OF NATURAL SELECTION, OR THE PRESERVATION OF FAVOURED RACES IN THE STRUGGLE FOR LIFE (The Heritage Press 1963) (1859). *But cf. Genesis* 1:1-29.

2. *See generally* NICOLAUS COPERNICUS, ON THE REVOLUTIONS (Jerzy Dobrzycki ed. & Edward Rosen trans., The Johns Hopkins Univ. Press 1978) (1543). *But cf.* CLAUDIUS PTOLEMAEUS, ALMAGEST, *reprinted in* GREAT BOOKS OF THE WESTERN WORLD (Robert Hutchins ed. & R. Catesby Taliaferro trans., Encyclopaedia Britannica, Inc. 1952) (c. 170

Beyond the claim that it exists, however, there is surprisingly little theoretical work about the information society. Sadly for academics, the best social theorists of the information age are still science fiction writers, and in particular cyberpunks—the originators of the phrase "cyberspace" and the premier fantasists of the Net.[3] If one wants to understand the information age, this is a good place to start.

Cyberpunk science fiction succeeded as a genre largely because it combined a particular plot aesthetic with a particular conceptual insight. The plot aesthetic was simple: the bad boy/film noir world of the romantic lowlife. When juxtaposed to the two-dimensional priggishness of the normal science fiction hero, the cigarette smoking, drugged-out petty outlaws and mirror-shaded ninja-chicks of cyberpunk seemed rebellious, cynical and just, well, *cool*. The character-type is a familiar one; James Dean could easily have played the hero of *Neuromancer*.[4] The conceptual insight is not so familiar. Cyberpunk is built on the extrapolation of two principal technologies—computers and the Web on the one hand, and genetic engineering on the other. The theme of cyberpunk is that the information age means the homologization of all forms of information—whether genetic, electronic, or demographic. I grew up believing that genes had to do with biology, petri dishes and cells, and that computers had to do with punch cards and magnetic disks. It would have been difficult to imagine two more disparate fields. In contrast, cyberpunk sees only one issue—code—expressed in binary digits, or the C's, G's, A's and T's of a gene map.

The cyberpunk writers also offer us a legal insight. The more one moves to a world in which the message, rather than the medium, is the focus of conceptual and economic interest, the more central intellectual property becomes. Intellectual property is the legal form of the information age.[5] Like most property regimes, our intellectual property regime will be contentious in distributional, ideological and efficiency terms. It will have effects on market power, economic con-

A.D.).

3. The anthology generally cited, at least in obligatory law review footnotes, is MIRRORSHADES: THE CYBERPUNK ANTHOLOGY (Bruce Sterling ed., 1986).

4. *See generally* WILLIAM GIBSON, NEUROMANCER (1984).

5. For background on the concept of legal form, see generally PAUL HIRST, ON LAW AND IDEOLOGY 106-26 (1979); MAX WEBER ON LAW IN ECONOMY AND SOCIETY 11-21 (Max Rheinstein ed. & Edward Shils & Max Rheinstein trans., Harvard Univ. Press 1954) (1925); Isaac D. Balbus, *Commodity Form and Legal Form: An Essay on the "Relative Autonomy" of the Law*, 11 L. & SOC'Y REV. 571, 575-85 (1977); R. Warrington, *Pashukanis and the Commodity Form Theory*, 9 INT'L J. SOC. L. 1, 5-9 (1981).

centration and social structure. Yet, right now, we have no politics of intellectual property in the way that we have a politics of the environment, or of tax reform. We lack a conceptual map of issues, a rough working model of costs and benefits, and a functioning coalition-politics of groups unified by common interest perceived in apparently diverse situations.

Why don't we have such a politics? One reason is that with a few exceptions, the mass media coverage of the information age has been focused firmly on "cyberporn" and its potential censorship. This is rather like thinking that the most important feature of the industrial revolution was that it allowed for the mass-production and then the regulation of pornographic magazines. Given the magnitude of the changes occurring, and the relatively small differences between pornography on-line and pornography everywhere else, a more trivial emblematic concern would be difficult to find.

It is intellectual property, not the regulation of cybersmut, that provides the key to the distribution of wealth, power, and access in the information society. The intellectual property regime could make or break the educational, political, scientific, and cultural promise of the Net. Indeed, even if our *only* concern was censorship, it would be perverse to concentrate exclusively on the actions of governments. The digital world gives new salience to *private* censorship—the control by intellectual property holders of distribution of and access to information. The recent Scientology cases are only one obvious manifestation of this tendency.[6]

The media were not the only ones to miss the boat; lawyers and

6. *See, e.g.*, Religious Tech. Ctr. v. Netcom On-Line Communications Servs., 907 F. Supp. 1361, 1365 (N.D. Cal. 1995); Religious Tech. Ctr. v. Lerma, 908 F. Supp. 1362, 1364-65 (E.D. Va. 1995). The Scientology cases had a number of facts in common. A disgruntled former church member or insider posted large chunks of material copied directly from the "Religious Technology" manuals to the Web or the Usenet. To a skeptical reader, these manuals would appear to describe a jargon-laden process for manipulating people into joining the Church of Scientology. The believer, on the other hand, would consider these manuals to be holy documents that should be available only to the faithful of the Church, and that, in copyrighted language, describe procedures protected by trade secret law for carrying on the church's profitable anti-addiction therapies and other work. The courts have tended to favor the skeptic's interpretation. *See id.* at 1377-78 ("Although the RTC brought the complaint under traditional secular concepts of copyright and trade secret law, it has become clear that a much broader motivation prevailed—the stifling of criticism and dissent of the religious practices of Scientology and the destruction of its opponents."). Nevertheless, courts have still found the primary poster or copier of the material to be liable for copyright infringement, while being more sympathetic to the unwitting Internet Service Provider on whose computers the posting was made, or to the newspaper who quoted from the documents in order to report on the case.

legal academics largely followed suit. With a few exceptions, lawyers have assumed that intellectual property is an esoteric and arcane field, something that is only interesting (and comprehensible) to practitioners in the field.[7] There is some question whether this attitude was ever defensible; it certainly is not now. In terms of ideology and rhetorical structure, no less than practical economic effect, intellectual property is the legal form of the information age. It is the *locus* of the most important decisions in information policy. It profoundly affects the distribution of political and economic power in the digital environment. It impacts issues ranging from education to free speech. The "value" protected (and in a sense created) by intellectual property in the world economy is in the hundreds of billions of dollars and growing all the time.[8]

7. This attitude is in marked contrast to lawyers' assumptions about, say, the jurisprudence of the First Amendment, or the Department of Education's rulings on race-conscious scholarships. Though these are also complicated areas of law and regulation, many lawyers and laypeople feel that a basic understanding of them is a *sine qua non* of political consciousness. In many cases, in fact, the "rights discourse" of liberal constitutional law defines the central issues of public debate, a fact that presents its own problems. *See* CRITICAL LEGAL STUDIES at xli-xlvi (James Boyle ed., 1994).

8. *See* JAMES BOYLE, SHAMANS, SOFTWARE AND SPLEENS: LAW AND THE CONSTRUCTION OF THE INFORMATION SOCIETY 2-3, 121 (1996); Michael L. Doane, *TRIPS and International Intellectual Property Protection in an Age of Advancing Technology*, 9 AM. U. J. INT'L L. & POL'Y 465, 465-66 (1994); Lester C. Thurow, *Needed: A New System of Intellectual Property Rights*, HARV. BUS. REV., Sept.-Oct. 1997, at 95, 96-97. One journalist has noted:

> [M]ost years the proportion of world trade in physical goods shrinks, vis-à-vis the trade in invisibles. Japan exports now not so much by moving the cars around the world, but by moving the money and ideas with which the cars are made: manufacture is increasingly local.
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> Even where goods are shifted, the act of physical transfer may just be an electronic signal. For the moment items like pop videos and CDs are moved in physical form, though of course the value of the product is 99 per cent the information on the disc or cassette, rather than the item itself. But soon the sale will involve just the transfer of some digital signals and will appear as royalties or rights rather than exports.
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> . . . [P]hysical exports will be less important in world trade than they are now. The various types of invisible exports—income flows from investments, payments for services, payments for intellectual property—will soon be larger than the flow of visible exports.

Hamish McRae, *Here Come the Famous Five*, INDEPENDENT (London), Sept. 14, 1997, Economics, at 5. The actual figures bandied around are notoriously slippery, in part because earnings from intellectual property may be "invisible" on conventional trade balance sheets. When figures are cited, it is generally on a case-by-case basis—for example, the intellectual property value of software or of drugs derived from plant forms. *See, e.g.*, Darrell A. Posey, *Protecting Indigenous Peoples' Rights to Biodiversity*, ENVIRONMENT, Oct. 1996, at 6, 9 (citing a 1985 estimate of the market value of plant-based medicines). Moreover, the economics of the estimates themselves are extremely speculative. For example, though it is claimed that the

II. THE STRUCTURE OF THE INFORMATION ECONOMY

There are two crucial aspects of the current information economy. The first is the increasing homologization of *forms* of information. Think of the many ways in which it now does not make sense to distinguish between electronic and genetic information, any more than it makes sense to distinguish between red books and green books. We used to think of genetics as involving the discipline of biology, the technology of the test tube or the reagent, and the regulatory issues of bioethics or possible environmental contamination. Such a conception hardly suggests any link to the world of software, computer science and databases. Yet, precisely because we conceive of genetic information and electronic information as *information* (and have the technical capability to make good on this conception), both the genome and the cybersphere have come to present the same issues of regulation—privacy, access, public goods problems, and so on. Change a few nouns, and a debate over the compilation and economic exploitation of databases of private financial information available on the Internet can be morphed into a debate over the compilation and economic exploitation of genetic information through the Human Genome Project. Whose privacy is at risk? What adverse decisions about individuals may be made on the basis of patterns revealed by the data? Who has invested money and labor in compilation? What intellectual property rights are necessary in order to ensure future research and information gathering? Who has a right of access to the information, and under what circumstances?

In some cases, the overlap between forms of information is a literal one. Genetic information is stored on computer disks and modeled and probed through "gene chips."[9] But "information-overlap"

United States alone loses $60 billion a year through failure to enforce intellectual property rights, *see* Doane, *supra*, at 466, the assumptions behind such assessments are often debatable. Losses quoted for "piracy," for example, often assume that each pirated copy of software would have otherwise been purchased at full price. Even with all of these limitations, and taking the lowest possible figures for software, pharmaceuticals, data-trading, etc., it is clear that the "knowledge-value" component of the world economy is both enormous and expanding. *See generally* TAICHI SAKAIYA, THE KNOWLEDGE-VALUE REVOLUTION 234-37 (George Fields & William Marsh trans., Kodansha Int'l 1991) (1985).

9.

> In a "clean room" similar to many others in Silicon Valley, a group of technicians is assembling batches of chips with the usual machines of a semiconductor factory. But these chips are not fabricated from layers of silicon. They are being made from DNA, the stuff of genes. And they are designed not to do computations but to read out the turbulent streams of information that evolution has packed into the genomes of living organisms.

also reveals itself in the functional similarities of the business models used to exploit information advantage. Those who control information make money from it using strategies that are remarkably similar whether the information in question is the record of filings in front of the SEC or the gene maps revealed by the human genome project.[10] Sometimes the impact of the homology is on the boundaries of our intellectual frameworks themselves. An example is the development of bio-informatics, a discipline that combines mathematics, biology, and computer science, and that is premised on the belief that information is information, whether the medium is a double helix or an optical disk.[11]

What effect does homology have on our culture and our political debate? We are now used to the idea that Microsoft retains rights over the lines of code sitting on computer hard drives around the world. We can even produce a utilitarian justification to explain why a corporation should be entitled to such rights. It is a lot stranger to think that Myriad Genetics has patented a string of genetic material that women all over the country may carry in their bodies—BRCA1, the so-called breast cancer gene—or that the Commerce Department tried to patent the genes of a Guyami Indian woman who possessed an abnormal resistance to leukemia.[12] From the point of view of the

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> The basic idea of the chips is to convert the chemistry of life into a static form programmed to monitor particular genes. The chips are not in any sense living things, though they are made of DNA and programmed from the sequence of whatever gene they target. (The need to know the code in advance is in many cases not a serious limitation because many genes have now been sequenced, which means that the order of their chemical units has been determined.)

Nicholas Wade, *Meeting of Computers and Biology: The DNA Chip*, N.Y. TIMES, Apr. 8, 1997, at C1.

10. Biotech firms add value to information developed through publicly funded research, and then demand patent options as the prerequisite for access by outsiders. *See, e.g.*, Karen Riley, *Rockville Biotech Firm Takes Next Step in Genetics Journey*, WASH. TIMES, June 9, 1995, at B7 (discussing a firm's plans to patent human genes for which it received exclusive access in return for an $85 million grant). More modestly, financial database providers add value to public filings, providing real-time access to SEC filings for a fee, while also supporting themselves with advertising revenue. *See EDGAR Online Targets Stock Traders with Low Prices*, INTERACTIVE MARKETING NEWS, Oct. 25, 1996, *available in* LEXIS, Nexis Library, Curnws File.

11. For an introduction to the biological applications of information theory, see Biological Info. Theory & Chowder Soc'y, *Frequently Asked Questions (FAQ) for bionet.info-theory* (last modified Sept. 15, 1997) <http://www-lmmb.ncifcrf.gov/~toms/bionet.info-theory.faq.html>.

12.

> In the forests of Panama lives a Guyami Indian woman who is unusually resistant to a virus that causes leukaemia. She was discovered by scientific "gene hunters,"

information economy, though, the two cases are very similar; in each case, strings of code are subject to intellectual property rights granted in the belief that they will inspire further innovation and discovery. The fact that this can be done in the face of the profound shock most people feel at the ownership of human genes is a testament to the universalizing logic of the information relation. (Whether it is a good idea for us to treat our genetic heritage as just another line of code is a different question.)

So far as I can tell, the "homologizing" process I have described here is accelerating; indeed, it seems to be the metaphor guiding some of the most interesting scientific developments of recent years. The science pages have speculated about the possibility of using DNA sequences as incredibly powerful parallel processing "computers."[13] Conversely, software designers have created electronic ecologies in which strings of computer code compete much the way genes do in nature. The lines of computer code struggle to succeed, evolving and changing in the process. The software engineer keeps only those strings of computer code that survive—harnessing a form of "natural" selection that Darwin would have recognized but could never have imagined.[14]

Put all of these examples together and then compare the resultant socially and technologically constructed "reality" to the way that we thought about computers on the one hand, and biology on the other, just twenty years ago. In the international information economy, the medium is not the message. The medium is *irrelevant*.

The second crucial aspect of the information economy is a corollary of the homologization of forms of information—the decreasing proportion of product cost and intellectual attention devoted to medium rather than message. A moment's thought will show that *both* of these aspects will give increased importance to intellectual prop-

> engaged in seeking out native peoples whose lives and cultures are threatened with extinction. Though they provided basic medical care, the hunters did not set out to preserve the people, only their genes—which can be kept in cultures of "immortalised" cells grown in the laboratory. In 1993, the US Department of Commerce tried to patent the Guyami woman's genes—and only abandoned the attempt in the face of furious protest from representatives of indigenous peoples.

Tom Wilkie, *Whose Gene Is It Anyway?*, INDEPENDENT (London), Nov. 19, 1995, Science, at 75.

13. *See, e.g.*, Frank Guarnieri et al., *Making DNA Add*, SCIENCE, July 12, 1996, at 220, 220-23 (discussing the "development of a DNA-based algorithm for addition").

14. *See* Julian Dibbell, *The Race to Build Intelligent Machines*, TIME, Mar. 25, 1996, at 56, 58.

erty. Reconceiving new areas of science, commerce and research as "information issues" simply gives us more fields in which we are likely to spy the public goods problems that intellectual property is supposed to solve. And the diminishing portion of product cost devoted to medium rather than message means that, within any given area, the public goods problems grow more salient.

It is easy to understand the decreasing marginal cost of medium by considering the component costs of creating software. These costs include both development and physical production costs. As programs become more complex, the cost of developing them increases relative to the price of the diskettes onto which they can be copied. Software corporations therefore focus more attention on ways of protecting content, rather than controlling physical distribution. It is this focus on content that makes intellectual property increasingly important in the information age.

III. THE CONCEPTUAL STRUCTURE OF AN INTELLECTUAL LAND-GRAB

When I say that we lack a politics of intellectual property, I don't mean to imply that this is the only type of "information politics"—more like the most neglected. Consider recent events. From the net roots campaign against the Communications Decency Act (CDA)[15] to the titanic industry lobbying over the Telecommunications Act[16] in which the CDA was embedded, there have been many moments of political struggle and agitation over digital commerce and communications regulation.[17] There have been conferences, both Pollyannaish and despairing, over the use of the Net by non-profit groups, and thoughtful warnings of the dangers posed by disparate access to information technologies.

These are serious points; the issue of access in particular. But in most cases, the issues I have just mentioned are isolated applications to a new technology of a familiar political worldview or calculation of self-interest. Libertarians don't want newspapers censored; their attitude to the Net is the same (though the interactive quality of the

15. Pub. L. No. 104-104, 110 Stat. 133 (1996) (codified in scattered sections of 18 U.S.C. and 47 U.S.C.).

16. Telecommunications Act of 1996, Pub. L. No. 104-104, 110 Stat. 56 (codified in scattered sections of 18 U.SC. and 47 U.S.C.).

17. *See, e.g.*, *ALA-led Coalition Challenges Communications Decency Act*, AM. LIBR., Apr. 1996, at 13, 13-14.

technology, and the proprietary feeling that novelty gives first adopters have certainly given more people a stake in the protection of the system.) Non-profit groups have to adjust to changes in communications technology, just like changes in tax law, or in the regulation of lobbying. Communications conglomerates have an attitude towards bandwidth that seems indistinguishable from most commercial entities' attitude towards public land—rationally enough, they want more, they want it free (ideally, they want it subsidized) and they want to be able to exploit it without strings. The left sees a resource with new importance—access to information technology—and makes about it the points that it makes about access to health care or education.[18] I don't mean to minimize these concerns, and certainly don't want to make the claim that they are somehow less fundamental than the ones I describe here. But I do think that, precisely because of their comfortable familiarity, they miss some of the *differences* in the politics of the information age, the ideas we have not thought about so often or so well.

Elsewhere, I have argued at unseemly length that there are structural tendencies in our patterns of thinking and discourse about intellectual property that lead us generally to "over" rather than "under" protect,[19] and that partly as a result we are currently in the midst of an intellectual land-grab, an unprecedented privatization of the public domain.[20] I will summarize, rather than attempt to justify, those claims here. (A table that might be helpful is on page 99.)

One of the roots of the problem is a conceptual one. The economic analysis of information is beset by internal contradiction and uncertainty; information is both a component of the perfect market and a good that must be produced within that market. Under the

18. Given the fate of these arguments in the contemporary political arena, I should reiterate them. The distribution of a particular resource (be it education, health care, or wired-ness) through a market system is going to have a lot of serious negative effects on those who cannot pay, effects that will track and actually intensify existing inequalities of class, race and gender. Given the importance of the resource in question, its relevance to the citizens' status *qua* citizens, and the corrosive effects of such inequalities on the well-being of the polity, something should be done to mitigate or eliminate the problem of access. All of these arguments seem profoundly true, but they are hardly new. In fact, subject matter aside, they would have been completely familiar to the authors of *The Federalist Papers*.

19. For the arguments behind this claim, see BOYLE, *supra* note 8, at 58 *passim*.

20. To assess the precise nature of the analogy to "land-grabs" in the American West, readers might care to look at Bernard DeVoto, *Sacred Cows and Public Lands*, HARPER'S MAGAZINE, July 1948, at 44, *reprinted in* BERNARD DEVOTO, THE EASY CHAIR 257 (1955) (discussing the livestock industry's long-term aspiration to convert federally-owned land to state or private ownership).

former characterization, the market achieves perfection—a state in which information is costless, instantly available and so on. Under the latter characterization, information must be commodified so as to give its producers an incentive to produce. But each property right handed out to ensure the production of information is a transaction cost when seen from the perspective of market efficiency.[21]

The most succinct encapsulation of the problem comes from an article co-written by Joseph Stiglitz and Sanford Grossman, two of the most distinguished scholars of information economics: "There is a fundamental conflict between the efficiency with which markets spread information and the incentives to acquire information."[22] Theoreticians often, though not always, "solve" this problem by ignoring

21. In my book, I explore the reasons why this problem is not solved when one moves to the reality of imperfect markets. *See* BOYLE, *supra* note 8, at 35-40. The abstract idea of trade-offs also proves insufficient to generate the determinacy of result that most analysts claim for their work. *See id.*

22. Sanford J. Grossman & Joseph E. Stiglitz, *On the Impossibility of Informationally Efficient Markets*, 70 AM. ECON. REV. 393, 405 (1980). I cannot here go into a full analysis of this debate, but those who talk confidently about the economic efficiency of the fine details of intellectual property doctrine would do well to look at the fundamental disputes between information economists. For example, Kenneth Arrow argues that, without intellectual property rights, too *little* information will be produced because producers of information will not be able to capture its true value. (Even with intellectual property rights, he believes that certain kinds of information generation may need direct government subsidy on a cost-plus basis.) *See* Kenneth J. Arrow, *Economic Welfare and the Allocation of Resources for Invention*, *in* THE RATE AND DIRECTION OF INVENTIVE ACTIVITY: ECONOMIC AND SOCIAL FACTORS 609, 618 (National Bureau of Economic Research ed., 1962). On the other hand, Fama and Laffer argue that, without property rights or some other way of protecting against public goods problems, too *much* information will be generated because some information will be produced solely to gain a temporary advantage in trading, thus redistributing wealth but not achieving greater allocative efficiency. *See* Eugene F. Fama & Arthur B. Laffer, *Information and Capital Markets*, 44 J. BUS. 289, 295-97 (1971). In other words, in the absence of information property rights, there may be an inefficiently *high* investment of social resources in information-gathering activities, activities that merely slice up the pie differently, rather than making it bigger. Hirshleifer gives a similar analysis of patent law, concluding that patent law may be either a necessary incentive for the production of inventions or an unnecessary legal monopoly in information that overcompensates an inventor who has already had the opportunity to trade on the information implied by her discovery. *See* Jack Hirshleifer, *The Private and Social Value of Information and the Reward to Inventive Activity*, 61 AM. ECON. REV. 561, 570-72 (1971). The difficulty of yielding definite results is compounded by the fact that some professional economists seem to have a naive, pre-realist understanding of law. They often talk as though there was a natural suite of property rights which automatically accompanied a free market. They make strong and unexplained assumptions that certain types of activities (for example, trading on a superior information-position) would naturally be allowed and involve no harm to others but that certain other activities (for example, trading on coercion through superior physical strength) would not be. There is a fascinating study to be done on these remnants of classical economics still present in supposedly neo-classical analysis. The same kind of error also creeps into the work of some lawyer-economists. *See* BOYLE, *supra* note 8, at 84-88.

it. They make a pre-theoretical classification, conventionally ascribing a certain problem to the realm of "efficiency problems" or "incentive problems," and then continue the discussion on that basis. Thus, for example, we tend to look at the field of intellectual property with a finely honed sensitivity to "public goods" problems that might lead to underproduction, while underestimating or failing to mention the efficiency costs and other losses generated by the very rights we are granting.[23]

An alternative method for smoothing over the tensions in the policy analysis is to acknowledge the tension between efficiency and incentives, point out that there are some limitations imposed on intellectual property rights, to conclude that there are both efficiency-promoting and incentive-promoting aspects to intellectual property law, and then to imply that an optimal balance has been struck.[24] (This is rather like saying that because fishermen throw some fish back, we can assume over-fishing does not occur.) In general, I would claim that there is a tendency to think that intellectual property is a place to apply our "public goods/incentives" theory rather than our "anti-monopoly/free-flow of information" theory.[25] All by

23. *See* BOYLE, *supra* note 8, at 35-36.

24. Some arguments are more sophisticated. "In principle, there is a level of copyright protection that balances these two competing interests optimally . . . . We shall see . . . that various doctrines of copyright law, such as the distinction between idea and expression and the fair use doctrine, can be understood as *attempts* to promote economic efficiency . . . ." William M. Landes & Richard A. Posner, *An Economic Analysis of Copyright Law*, 18 J. LEGAL STUD. 325, 333 (1989) (emphasis added). Despite the qualifying phrases, one leaves the Landes and Posner article with the sense that copyright law has hit the appropriate balance between efficiency and incentives. This level of comfort with the current regime is to be compared with the open skepticism displayed by economists such as Hirshleifer. *See* Hirshleifer, *supra* note 22, at 572 (noting that patent protection may or may not be necessary in order to produce an appropriate incentive for invention). It will be interesting to watch the Supreme Court's attitude toward these issues over the next few years, given the identity of one of the original skeptics. *See* Stephen Breyer, *The Uneasy Case for Copyright: A Study of Copyright in Books, Photocopies, and Computer Programs*, 84 HARV. L. REV. 281 (1970).

25. In one sense, the current configuration of federal bureaucracies mirrors the tensions I have been describing in this Essay. The Federal Trade Commission and the Justice Department tend to view information issues from an efficiency perspective, accepting the need for economic incentives but remaining more skeptical about the monopoly effects of extensive intellectual property rights. *See* Christine A. Varney, Antitrust in the Information Age: Remarks Before the Charles River Associates Conference on Economics in Legal and Regulatory Proceedings 7-13 (May 4, 1995) (pre-distribution draft, on file with author) (perspective of a Federal Trade Commissioner). On the other hand, the Commerce Department—as well as the Clinton administration—takes a strong incentive-focused approach to most issues. *See* Pamela Samuelson, *The Copyright Grab*, WIRED, Jan. 1996, at 134, 135-36. As a result, the battle to regulate the information economy is a fascinating fusion of organizational persona, economic theory and political turf war.

itself, this tendency might push rhetoric and analysis towards more expansive property rights. That push is compounded, however, by two other factors.

First, courts are traditionally much less sensitive to First Amendment, free speech and other "free flow of information arguments" when the context is viewed as private rather than public, or property rather than censorship. Thus, for example, the Supreme Court will refuse to allow the state to ban flag burning,[26] but it is quite happy to create a property right in a general word such as "Olympic," and allow the word to be appropriated by a private party which then selectively refuses public use of the word. Backed by this state-sponsored "homestead law for the English language,"[27] the United States Olympic Committee (USOC) has decreed that the handicapped may have their "Special Olympics," but that gay activists may not hold a "Gay Olympics."[28] The Court saw the USOC's decision not as state censorship, but as a mere exercise of its private property rights. (Emboldened, Chief Justice Rehnquist applied the same argument to the American flag.)[29]

Second, intellectual property rights are given only for "original" creation. But the idea of the original author or inventor implicitly devalues the importance of the raw materials with which any creator works—the rhetorical focus on originality tends to undervalue the public domain. After all, the novelist who, as Paul Goldstein puts it, "craft[s] out of thin air"[30] does not need a rich and fertile public domain on which to draw. The ironic result is that a regime which lauds and proposes to encourage the great creator, may in that process actually take away the raw materials which future creators need to pro-

26. *See* Texas v. Johnson, 491 U.S. 397, 414-15, 420 (1989).

27. Felix S. Cohen, *Transcendental Nonsense and the Functional Approach*, 35 COLUM. L. REV. 809, 817 (1935), *reprinted in* THE LEGAL CONSCIENCE: SELECTED PAPERS OF FELIX S. COHEN 33, 42 (Lucy K. Cohen ed., 1970).

28. *See* San Francisco Arts & Athletics, Inc. v. United States Olympic Comm., 483 U.S. 522, 525-27 (1987).

29.

> Only two terms ago, in *San Francisco Arts and Athletics, Inc. v. United States Olympic Committee*, the Court held that Congress could grant exclusive use of the word "Olympic" to the United States Olympic Committee. . . . As the Court stated, "when a word [or symbol] acquires value 'as the result of organization and the expenditure of labor, skill, and money' by an entity, that entity constitutionally may obtain a limited property right in the word [or symbol]." Surely Congress or the States may recognize a similar interest in the flag.

Johnson, 491 U.S. at 429-30 (Rehnquist, C.J., dissenting) (citations omitted).

30. Paul Goldstein, *Copyright*, 38 J. COPYRIGHT SOC'Y OF THE U.S.A. 109, 110 (1991).

duce *their* little piece of innovation. My book provides a lengthy discussion of this tendency,[31] so I will not dwell on it here.

TABLE 1

TENSIONS IN AN INTELLECTUAL PROPERTY SYSTEM

Subject Matter	Information.	Invention.
Economic Perspective	Efficiency.	Incentives.
Paradigmatic *Conception* of Problems	Transaction Costs. Barriers to the free flow of information lead to the inhibition of innovation and inadequate circulation of information.	Public Goods Problems. Inadequate incentives for future production lead to the inhibition of innovation and inadequate circulation of information.
Reward (if any) for . . .	Effort/Investment/Risk.	Originality/Transformation.
View of the Public Domain	Finite resources for future creators.	Infinite resources for future creators.
Vision of the Productive Process	Development based on existing material. "Poetry can only be made out of other poems; novels out of other novels. . . . All of this was much clearer before the assimilation of literature to private enterprise. . . ." [32]	Creation *ex nihilo*. "Copyright is about sustaining the conditions of creativity that enable an individual to craft *out of thin air* an *Appalachian Spring*, a *Sun Also Rises*, a *Citizen Kane*."[33]
Normative Starting Point	Free speech/Free circulation of ideas and information.	Property rights: the creator's "natural" right, the reward for past creation, the incentive to produce again.

The tensions are arranged in two vertical sets. Each set is not intended to be a list of corollaries; indeed they are sometimes internally contradictory. Any particular portion of an information regime is likely to mix and match the columns, like a restaurant patron picking four from column B and one from column A. *Nevertheless*, the members of each column are most likely to be found in popular and scholarly discourse when linked to their vertical neighbors. The effect of focusing on invention is to make the items in the middle column either disappear or recede in importance.

31. *See* BOYLE, *supra* note 8, at 51-60.

32. NORTHROP FRYE, ANATOMY OF CRITICISM: FOUR ESSAYS 97 (1957).

33. Goldstein, *supra* note 30, at 110 (emphasis added).

IV. A BRIEF CASE STUDY: COPYRIGHT ON THE NET

So much for the background. Now a brief case study.[34] The difficulty in choosing a case is not in finding an example of intellectual property expansion, but in knowing which one to pick. The last few years have seen the expansion of first copyright and then patent to cover software, the patenting of life-forms and human genes, the extension of copyright term limits, and so on. Speaking not to the level of protection, but to the current conception of intellectual property law, it is interesting to note the recent legislative proposal that the Patent Office (and perhaps even the Copyright Office) should cease to be part of the government and should instead be converted to government corporations or "performance based organizations" which would be forced to pay greater attention to their "users" and might even be funded through user fees.[35] The idea that the rights-holders are the true "users" or "clients" of the office is a striking one. One might have thought that the Patent Office was supposed to represent the *public's* interest in the development of the useful and mechanical arts and physical sciences. On the international level, we have seen the General Agreement on Tariffs and Trade (GATT)[36] used to turn intellectual property violations into trade violations, thus codifying a particular vision of intellectual property and sanctifying it with the label of "The Market."[37] The example that I will pick, however, is the

34. This section of the Essay is a revised version of the analysis provided in some of my earlier work. *See* James Boyle, *Sold Out*, N.Y. TIMES, Mar. 31, 1996, at E15 (opining that "robber barons are buying up the information age"); James Boyle, *Is Congress turning the Internet into an information toll road?*, INSIGHT, Jan. 15, 1996, at 24 (criticizing legislative proposals to expand intellectual property rights); BOYLE, *supra* note 8, at 135-39 (criticizing the Clinton administration's "White Paper" on its explication of the state of existing intellectual property law).

35. *See* Omnibus Patent Act of 1996, S. 1961, 104th Cong.; Morehead-Schroeder Patent Reform Act, H.R. 3460, 104th Cong. (1996).

36. General Agreement on Tariffs and Trade, Oct. 30, 1947, 61 Stat. A-11, T.I.A.S. 1700, 55 U.N.T.S. 194.

37. Employing child labor or violating environmental regulations will give a nation's industry what might seem to be an unfair competitive advantage, but will apparently not trigger trade sanctions under existing treaties. *See generally* North American Agreement on Labor Cooperation, Sept. 14, 1993, Can.-Mex.-U.S., pt. 5, 32 I.L.M. 1499, 1509-13 (1993) (setting out provisions for the resolution of international labor disputes); Robert Howse & Michael J. Trebilcock, *The Fair Trade-Free Trade Debate: Trade, Labor, and the Environment*, 16 INT'L REV. L. & ECON. 61, 62 (1996) (noting that the GATT/World Trade Organization framework does not allow the imposition of trade sanctions on nations that violate environmental or labor standards). However, refusing to accept and enforce a nation's vision of intellectual property law can be cause for international action. *See* J.H. Reichman, *Compliance with the TRIPS Agreement: Introduction to a Scholarly Debate*, 29 VAND. J. TRANSNAT'L L. 363, 367 (1996).

Clinton administration's proposal for copyright on the Net, a document that provided the blueprint for the last two years of domestic and international regulatory efforts to expand intellectual property rights.

If the information society has an iconic form (one could hardly say an embodiment) it is the Internet. The Net is the anarchic, decentralized network of computers that provides the main locus of digital interchange. While Vice President Gore, the Commerce Department and the National Telecommunications and Information Administration were *planning* the "information superhighway" the Net was *becoming* it. Accordingly, if the government produced a proposal that laid down the ground rules for the information economy, that profoundly altered the distribution of property rights over this extremely important resource and that threatened to "lock in" the power of current market leaders, one would expect lawyers, scholars and the media to pay a great deal of attention.

Nothing could be further from the truth. The appearance of the Clinton administration's "White Paper"[38] on intellectual property on the National Information Infrastructure produced almost no press reaction. The same was true of the introduction and eventual stalling of the White Paper's legislative proposals in both the House and the Senate.[39] Slightly more attention was paid when the administration transferred its efforts to the international arena, reintroducing key elements of the failed legislation as treaty proposals at the World Intellectual Property Organization (WIPO) conference in Geneva. The administration even added a new "database" proposal[40] that would have created an entirely novel (and probably unconstitutional) right to own *facts*. That right would have been effectively permanent and would not have been restrained by the traditional limitations of copyright law, such as fair use. This proposal, with its potentially devastating effects on research and free speech, and its offer of a potent new tool of private censorship, drew fire from the research estab-

38. INFORMATION INFRASTRUCTURE TASK FORCE, INTELLECTUAL PROPERTY AND THE NATIONAL INFORMATION INFRASTRUCTURE: THE REPORT OF THE WORKING GROUP ON INTELLECTUAL PROPERTY RIGHTS (1995) [hereinafter WHITE PAPER].

39. H.R. 2441, 104th Cong. (1995), and S. 1284, 104th Cong. (1995), eventually stalled because of intense resistance from a variety of groups, including internet service providers, computer companies which embrace "open systems," teachers, scientists, and civil libertarians.

40. *See* World Intell. Prop. Org., Basic Proposal for the Substantive Provisions of the Treaty on Intellectual Property in Respect of Databases to Be Considered by the Diplomatic Conference (visited Nov. 20, 1997) <http://www.wipo.int:80/eng/diplconf/6dc_all.htm>.

lishment, civil liberties groups and even—embarrassingly for its proponents—from the database industry it was designed to protect.[41] For a moment, public attention was focused on the extraordinary privatization of the public domain being carried out in the name of incentives. (Notably, the database proposal's potential restrictions on access to sports statistics generated the most heated opposition against it.)[42]

Eventually, the United States abandoned the proposed database treaty and, baseball scores being safe, public attention subsided once more. The legislative debate has now shifted to the legislation implementing the WIPO Copyright treaty, which reiterates all the key elements of the expansive intellectual property agenda that were first laid out in the White Paper.[43] If one wishes to understand the lacunae and blind-spots in our current discourse of intellectual property, it is to this document that one should turn.

Elsewhere, I and many others have written about the problems with the White Paper's account of current law, its distressing tendency to misstate, minimize or simply ignore contrary cases, policy and legislative history, and its habit of presenting as settled that which is in fact a matter of profound dispute.[44] There have also been

41. *See* Letter from Jean Cantrell, Director, Government and Industry Affairs, Dun & Bradstreet, to Carmen Guzman Lowry, Associate Commissioner for Governmental and International Affairs, United States Patent and Trademark Office (Nov. 22, 1996) (on file with the *Duke Law Journal*), *available at* <http://www.public-domain.org/database/db.html>.

42.

> James Love of the Consumer Project on Technology, a Ralph Nader organization that has been tracking the proposed treaty, said public opinion against the plan was galvanized when it became apparent that the treaty would affect the dissemination of sports statistics. If the treaty became law, Love said, newspapers could be required to obtain a license from the professional sports organizations to print box scores, and baseball card companies would have to obtain permission from Major League Baseball to list batting averages, earned run averages and other statistics on players' cards. The PTO received 700-800 comments on the sports statistics issue alone, Love said.

Database Protection Plan Defeated in Geneva, But it May Return in 1997, SOFTWARE L. BULL., Jan. 1997, at 8; *see also* Jonathan Gaw, *Locked up? Databases Are Focus in Debate over Intellectual Property*, STAR TRIB. (Minneapolis), Dec. 1, 1996, at 1D (noting that the treaty would allow Major League Baseball to collect fees from persons who post box scores on the Web); David Post, *Trying to Stake a Claim on Information*, RECORDER, Feb. 27, 1997, at 4 (noting that restricted access to professional sports statistics is but "the tip of a very large iceberg").

43. Unlike the administration's proposed implementing legislation for the 1996 WIPO Copyright and Performances and Phonograms Treaties, the implementing scheme proposed by Senator John Ashcroft does not attempt to read the White Paper's version of the law into the language of the treaty. *Compare* H.R. 2281, 105th Cong. (1997), *and* S. 1121, 105th Cong. (1997), *with* S. 1146, 105th Cong. (1997) (Ashcroft bill).

44. *See generally* James Boyle, *Intellectual Property Policy Online: A Young Person's*

thoughtful analyses of some of the potential negative *effects* of the White Paper and its implementing legislation, focusing particularly on the consequences for libraries, for software innovation, and for privacy.[45] Defenders of the White Paper have argued that its proposals are necessary to protect content on, and encourage fuller use and faster growth of, the Net.[46]

From my point of view, however, the really depressing thing

Guide, 10 HARV. J.L. & TECH. 47, 58-111 (1996) and sources cited therein. This tendency contrasts unfavorably with the most thoughtful defense of the White Paper, which argued that its protections would be necessary to put "Cars on the 'Information Superhighway'" but which was careful to acknowledge that some of the White Paper's legal theories were controversial, and then defended them on their own terms rather than offering them as propositions so obvious they needed no defense. *See* Jane C. Ginsburg, *Putting Cars on the "Information Superhighway:" Authors, Exploiters, and Copyright in Cyberspace*, 95 COLUM. L. REV. 1466, 1476 nn.39 & 41 (1995) (defending the White Paper's embrace of the RAM copy theory but pointing out that this approach has been "questioned or even strongly criticized"); *see also* Jessica Litman, *The Exclusive Right to Read*, 13 CARDOZO ARTS & ENT. L.J. 29, 30, 41-49 (1994) (noting that an early draft characterized its recommendations as "minor clarifications of well-settled principles," but arguing that these recommendations would, in fact, "amount to a radical recalibration of the intellectual property balance").

45. *See, e.g.*, Niva Elkin-Koren, *Copyright Law and Social Dialogue on the Information Superhighway: The Case Against Copyright Liability of Bulletin Board Operators*, 13 CARDOZO ARTS & ENT. L.J. 345, 349 (1995) (analyzing the problems created by applying copyright law in a digitized environment); Andrea Lunsford & Susan West Schantz, *Copyright Bill Pending in Congress Threatens Free Exchange on Internet*, COLUMBUS DISPATCH, Mar. 26, 1996, at 7A (discussing potential winners and losers of proposed Copyright Act of 1995); David Post, *New Wine, Old Bottles: The Evanescent Copy*, AM. LAW., May 1995, at 103, 103 (discussing the effects of technology on copyright laws); Pamela Samuelson, *The NII Intellectual Property Report*, COMM. ACM, Dec. 1994, at 21, 21 (exploring how the White Paper misrepresents the current state of copyright law and upsets the longstanding balance between public interest and publisher interests); Evan St. Lifer & Michael Rogers, *NII White Paper Has Libraries Concerned About Copyright*, LIBR. J. NEWS, Oct. 1, 1995, at 12, 12, 13 (noting the concerns of libraries in regard to copyright regulations proposed in NII White Paper); Vic Sussman, *Copyright Wrong? A Fight Brews over Who Gets to Own the Future*, U.S. NEWS & WORLD REP., Sept. 18, 1995, at 99 (summarizing concerns created by NII White Paper). Many of these points were also made in testimony. *See Intellectual Property and the National Information Infrastructure: Public Hearing Before the White House Information Infrastructure Task Force* (visited Nov. 20, 1997) <gopher://sunbird.usd.edu:70/11/Academic% 20Divisions/School% 20of% 20Law /NII% 20Working% 20Group% 20on% 20Intellectual% 20Property/Testimony/Testimony% 20of % 20Prof.% 20Jessica% 20Litman> (testimony of Jessica Litman, Professor of Law, Wayne State Univ.); *Comments of Professor Mary Brandt Jensen, University of South Dakota School of Law* (visited Nov. 20, 1997) <gopher://sunbird.usd.edu:70/00/Academic% 20Divisions/School% 20of% 20Law/NII% 20Working% 20Group% 20on% 20Intellectual% 20Property/Comments/Co mments% 20of% 20% 20Professor% 20Mary% 20Brandt% 20Jensen>; *Comments of Professor Neil Netanel and Professor Mark Lemley*, *University of Texas School of Law* (visited Nov. 20, 1997) <gopher://sunbird.usd.edu:70/11/Academic% 20Divisions/School% 20of% 20Law/NII% 20 Working% 20Group% 20on% 20Intellectual% 20Property/Comments/Comments% 20of% 20Pro fs.% 20Neil% 20Netanel% 20% 26% 20Mark% 20Lemley>.

46. *See* Ginsburg, *supra* note 44, at 1482-83, 1492-99.

about the report is that it fails to accomplish its stated goal: it never examines what level of intellectual property rights would be necessary in cyberspace. It fails in a way that is both revealing and disturbing. The problem isn't simply its tendency to give a pro-author account of the existing law. Even if the White Paper's summary of intellectual property law were accurate, there might well be reasons why a different level of protection might be appropriate in the digital environment. The real problem is that the White Paper does not try to weigh both the benefits and the costs of the Net to content providers, or the changes that network economics brings to the analysis of public goods. For example, the global reach and ease of access that the Net offers clearly facilitate illegitimate copying. But these factors also cut down enormously on advertising and on the costs of distribution, potentially yielding a higher percentage return for a lower level of investment. Thus, while some producers might require a high level of intellectual property rights, others could produce an adequate return with a lower level of protection and thus have incentive to continue production in the future.

Some "digital products" require enormous investments of time and energy, are of lasting value, require no "tied" subsidiary services to make them work, and can be copied for pennies. Others require little investment precisely because of their digital nature. These products do not require extensive research and development or can be protected by a variety of means. For example, producers can deny access to certain users (databases and search engines); they can preemptively release "demo" or partially disabled shareware versions (DOOM); they can reap the benefits of being first to market; they can rely on "tying arrangements" such as help lines, technical assistance or paid advertising (Netscape) and so on. The point is that the digital environment is *complicated*; the same technical factors that make copying easier also yield other ways for producers to recover their investments, or to encourage further innovation. Rather than take these complexities seriously, the White Paper simply assumes that on the Net, a right-holder needs all the rights available outside the Net, plus some new ones as well. To the point that there are multiple ways for producers to secure an adequate return on their investment of time and ingenuity, the White Paper opines weakly that not everyone will choose to exercise the rights the report proposes to give them.[47] This is rather like responding to the argument that a

47. *See* WHITE PAPER, *supra* note 38, at 15-17.

capital gains tax cut is not necessary to stimulate investment with the rejoinder that some investors may decide to give the extra money to charity. Yes, it may happen, but that doesn't go to the question of whether the change was necessary in the first place.

More important than the individual positions taken, however, are the logical fallacies and baseline errors with which the White Paper is riddled. Intellectual property rights are limited monopolies conferred in order to produce present and future public benefit. For the purposes of achieving those goals, the "limitations" on the right are just as important as the grant of the right itself. To put it more accurately, since there is no "natural" absolute intellectual property right, the doctrines which favor consumers and other users, such as fair use, are just as much a part of the basic right as the entitlement of the author to prevent certain kinds of copying. Even the source of the Congress's authority in intellectual property matters—Article 1, Section 8, clause 8 of the Constitution—mentions two limitations on intellectual property rights. The first is functional: "To promote the Progress of Science and useful Arts . . . ." The other is temporal: "[B]y securing for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries[.]"[48] Thus, intellectual property is a particularly inappropriate area to talk about property rights as if they were both natural and absolute.

Yet this the White Paper does with a dogged consistency and an unlikely passion. Observe in the following quotation how the White Paper first sets up its own inflated idea of intellectual property as the baseline, then implies that right-holders actually have an absolute property right *in the continuation of that level of protection*. Amazingly, the "limitations" that define intellectual property rights instead become a "tax" on right-holders.

> Some participants have suggested that the United States is being divided into a nation of information "haves" and "have nots" and that this could be ameliorated by ensuring that the fair use defense is broadly generous in the NII context. The Working Group rejects the notion that copyright owners should be taxed—apart from all others—to facilitate the legitimate goal of "universal access."[49]

Of course, given the goals of copyright law, it would have made just as much sense if the argument had been reversed, taking the fair

48. U.S. CONST. art I, § 8, cl. 8.

49. WHITE PAPER, *supra* note 38, at 84.

use rights of users and consumers as the baseline. The White Paper wants to give expansive intellectual property rights because it believes, wrongly in my view, that this is the best way to encourage private companies to fund the construction of the information superhighway. In response, a more skeptical Working Group might have said:

> Some reports have suggested that the difficulties of encouraging companies to develop the National Information Infrastructure could be ameliorated by ensuring that intellectual property rights are broadly generous and fair use rights are curtailed in the NII context. The Working Group rejects the notion that consumers, future creators and other holders of fair use rights should be taxed—apart from all others—to facilitate the legitimate goal of encouraging investment in the information superhighway.

The White Paper not only illustrates the pervasive power of baseline fallacies in information economics, it also shows how the "original author" vision downplays the importance of fair use and thus encourages an absolutist rather than a functional idea of intellectual property. In a footnote to the passage quoted above, the Working Group explains further:

> The laws of economics and physics protect producers of equipment and tangible supplies to a greater extent than copyright owners. A university, for example, has little choice but to pay to acquire photocopy equipment, computers, paper and diskettes. It may, however, seek subsidization from copyright owners by arguing that its copying and distribution of their works should, as a fair use, not be compensated.[50]

This explanation completes the picture presented above. Fair use rights are a subsidy sought by universities. But wait a minute. Even if the *only* goal of intellectual property law was to encourage future innovation and information production, this argument would be fallacious. Future creators need some raw material to work *with*, after all. Fair use is one important method of providing that raw material. It can also be seen as part of the implicit quid pro quo of intellectual property: We will give you this extremely valuable legal monopoly, backed with state power and enforced through the courts (and by the FBI); in return, we will design the contours of your right so as to encourage a variety of socially valuable uses. The White Paper wants to

50. *Id*. at 84 n.266.

give copyright holders the *quid* while claiming that the *quo* is a tax, or a forced subsidy. Only the unfamiliarity of intellectual property conceals the ludicrousness of the argument. It's as if a developer had negotiated a fat package of cash grants and tax breaks as the price of building a new stadium in Washington, D.C. and then wanted to claim the benefits of the deal while insisting that to make him fulfill his side of the bargain would be to confer a "subsidy" on the city.[51]

The press reaction to the White Paper was respectful, but not terribly insightful. Obviously at a loss as to whom to contact, the reporters got reactions from the Business Software Alliance, the recording industry and the publishers' lobbyists. Surprisingly enough, all these groups felt that this was a fine document, the result of meticulous analysis, and a good basis for the future. Only later did the press begin to contact those who would be negatively affected by the proposed changes: libraries, on-line service providers, teachers and so on.

The coverage in the media demonstrated two vital things about the future of intellectual property. First, in the field of intellectual property, it is still possible to get away with arguments which, if made about any other area of regulation, would arouse howls of derision—or at least well-informed skepticism; compare press reactions to proposals for a flat-tax or arguments that property owners should be compensated for the costs of complying with environmental regulations. Second, the press and the public simply have no idea of the likely "sides" or "interests" involved in such a decision. If a labor law is passed, the *Washington Post* doesn't only call the Chamber of Commerce; on environmental issues they don't only call the Sierra Club. Yet on intellectual property issues, they only call the largest property holders. The idea that startup software developers, academics, librarians, civil libertarians and so on might have a distinct perspective on these issues simply hasn't emerged into popular consciousness.

51. Generally such arguments turn on disagreements over the current law baseline from which "subsidies" or "taxes" are calculated. The remarkable thing about passages in the White Paper such as the one quoted above is that they suggest that any fair use rights would constitute a subsidy to users. Not all of the White Paper's discussion is this extreme, however. Some of the debate still turns on differences of opinion about the meaning of fair use jurisprudence. I have discussed the deficiencies in the White Paper's account of current law elsewhere. *See* James Boyle, *The Debate on the White Paper* (visited Aug. 19, 1997) <http://www.harvnet.harvard.edu/online/moreinfo/boyledeb.html>.

V. THE ANALOGY TO ENVIRONMENTALISM

Assume for a moment that we need a politics of intellectual property. Go further for a moment, and accept the idea that there might be a special need for a politics to protect the public domain. What might such a politics look like?

Right now, it seems to me that, in a number of respects, we are at the stage that the American environmental movement was at in the 1950s or 1960s. At that time, there were people—supporters of the park system, hunters, birdwatchers and so on—who cared about what we would now identify as "environmental" issues. In the world of intellectual property we now have start-up software engineers, libraries, appropriationist artists, parodists, biographers, biotech researchers, and others. In the 1950s, there were flurries of outrage over particular environmental crises, such as proposals to build dams in national parks. In later years, the public was shocked by burning rivers and oil spills. In the world of intellectual property, we currently worry about Microsoft's allegedly anti-competitive practices, the uncertain ethics of patenting human genes, and the propriety of using copyright to silence critics of the Church of Scientology. We are notably lacking two things, however. The first is a theoretical framework, a set of analytical tools with which issues should be analyzed. The second is a perception of common interest among apparently disparate groups, a common interest which cuts across traditional oppositions. (Hunter vs. Birdwatcher, for example.)

What kinds of tools am I talking about? Crudely speaking, the environmental movement was deeply influenced by two basic analytical frameworks.[52] The first was ecology, the study of the fragile,

52. Although this may be an oversimplification, it does not seem to be a controversial oversimplification:

> First, the basic analytical approach and policy values underlying environmental law came from a fundamental paradigm shift born of Rachel Carson in 1961, perhaps assisted unwittingly by Ronald Coase, redefining the scope of how societal governance decisions should be made. What we might call the Rachel Carson Paradigm declared that, although humans naturally try to maximize their own accumulation of benefits and ignore negative effects of their actions, a society that wishes to survive and prosper must identify and take comprehensive account of the real interacting consequences of individual decisions, negative as well as positive, whether the marketplace accounts for them or not. Attempts to achieve such expanded accountings, as much as anything, have been the common thread linking the remarkable range of issues that we call environmental law.

Zygmunt J.B. Plater, *From the Beginning, a Fundamental Shift of Paradigms: A Theory and Short History Of Environmental Law*, 27 LOY. L.A. L. REV. 981, 981-82 (1994). I would replace Coase with A.C. Pigou, and mention Aldo Leopold as well as Carson, but otherwise agree with the above account. Focusing on Leopold emphasizes the extent to which environ-

complex and unpredictable interconnections between living systems. The second was welfare economics, which revealed the ways in which markets can fail to make economic actors internalize the full costs of their actions. The combination of the two ideas yielded a powerful and disturbing conclusion. Markets would *routinely* fail to make economic actors internalize their own costs, particularly their own environmental costs. This failure would *routinely* disrupt or destroy fragile ecological systems, with unpredictable, ugly, dangerous, and possibly irreparable consequences. These two types of analysis pointed to a *general* interest in environmental protection, and thus helped to build a large constituency that supported governmental efforts to that end. The duck hunter's efforts to preserve wetlands as a species habitat turn out to have wider functions in the prevention of erosion and the maintenance of water quality. The decision to burn coal rather than gas for power generation may impact everything from forests to fisheries.

Of course, it would be silly to think that environmental policy was fueled only by ideas rather than by more immediate desires. As former EPA director William Ruckelshaus put it, "[w]ith air pollution there was, for example, a desire of the people living in Denver to see the mountains again. Similarly, the people living in Los Angeles had a desire to see one another."[53] Funnily enough, as with intellectual property, changes in communications technology also played a role:

> In our living rooms in the middle sixties, black and white television went out and color television came in. We have only begun to understand some of the impacts of television on our lives, but certainly for the environmental movement it was a bonanza. A yellow outfall flowing into a blue river does not have anywhere near the impact on black and white television that it has on color television; neither does brown smog against a blue sky.[54]

Nevertheless, the disciplines of ecology and welfare economics were extremely important for the environmental movement. They helped to provide substance to its agenda, to reconstruct its rhetoric.

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mentalism was driven by a belief that the economic valuation and "commodification" of environmental resources was not only incomplete but actually *unethical*. *See* ALDO LEOPOLD, A SAND COUNTY ALMANAC 210-14 (1949).

53. William D. Ruckelshaus, *Environmental Protection: A Brief History of the Environmental Movement in America and the Implications Abroad*, 15 ENVTL. L. 455, 457 (1985).

54. *Id*. at 456.

They also helped environmental advocates to perceive a common interest and build effective political coalitions. Ideas which began as inaccessible, scientific or economic concepts, far from popular discourse, were brought into the mainstream of American politics. This process was not easy or automatic. Popularizing complicated ideas is hard work. There were brilliant books like *Silent Spring*[55] and *A Sand County Almanac*, television discussions, documentaries on Love Canal or the California kelp beds, op-ed pieces in newspapers and pontificating experts on TV. Environmental groups both shocking and staid played their respective parts, through the dramatic theater of a Greenpeace protest, or the staid respectability of the Audubon society. Where once the idea of "The Environment" (as opposed to, say, "my lake") was a mere abstraction, something that couldn't stand against the concrete benefits of a particular piece of development, it came to be an abstraction with both the force of law and of popular interest behind it.

To me, this brief history suggests a strategy for the future of the politics of intellectual property. In both environmental protection and intellectual property, the very structure of the decisionmaking process tends to produce a socially undesirable outcome. Decisions in a democracy are made badly when they are primarily made by and for the benefit of a few stakeholders, be they landowners or content providers. It is a matter of rudimentary political science analysis or public choice theory to say that democracy fails when the gains of a particular action can be captured by a relatively small and well-identified group while the losses—even if larger in the aggregate—are low-level effects spread over a larger, more inchoate group. This effect is only intensified when the transaction costs of identifying and resisting the change are high.

An example may be helpful. Think of the costs and benefits of power generation that produces acid rain as a by-product or, less serious, but surely similar in form, the costs and benefits of retrospectively increasing copyright term limits on works for which the copyright had already expired, pulling them back out of the public domain. In both cases, a narrow "private property analysis" fails to show the true costs involved. In both cases, the costs of the action are spread out over many people, while the benefits redound mainly to a few easily identified and well-organized groups. The heirs and assigns of authors whose copyright has expired would obviously

55. RACHEL CARSON, SILENT SPRING (1962).

benefit if Congress were to put the fence back up around this portion of the intellectual commons.[56] There are obviously *some* costs—for example, to education and public debate—in not having multiple, competing low-cost editions of these works. But these costs are individually small and are not imposed on a well-defined group of stakeholders.

There are other, more context-specific problems. Both environmental disputes and intellectual property issues are seen as "technical;" this tends to inhibit popular participation. In both areas, opposition to expansionist versions of stakeholders' rights can be offputtingly portrayed as a stand against private property. This is a frequent claim in intellectual property disputes, where defenders of the public domain are portrayed as "info-commies" or enemies of "the free market." (The latter is a nicely ironic argument to make in favor of a state-licensed monopoly). Indeed, the resurgence of a nonpositivist, property-owners takings jurisprudence in the Supreme Court seems to indicate that this idea still has great force, even in the environmental area.

Beyond the failures in the decisionmaking process lie failures in the way that we think about the issues. The environmental movement gained much of its persuasive power by pointing out that there were structural reasons that we were likely to make bad environmental decisions—a legal system based on a particular notion of what "private property" entailed, and an engineering or scientific system that treated the world as a simple, linearly related set of causes and effects. In both of these conceptual systems, the environment actually *disappeared*; there was no place for it in the analysis. Small surprise, then, that we did not preserve it very well.

I have argued here that exactly the same thing is true about the current intellectual property system and its lack of concern for the public domain. The structure of our property rights discourse tends to undervalue the public domain, by failing to make actors and society as a whole internalize the losses caused by the extension and exercise of intellectual property rights. The fundamental aporia in economic analysis of information issues, the source-blindness of an "original author" centered model of property rights, and the political

56. Although it is beyond me how retrospective, and even post-mortem, copyright term extension is to be squared with the idea that intellectual property rights should be given only when they will stimulate the production of new work. Barring the idea of soothsaying or otherworldly communication, the incentive effects would seem to be small.

blindness to the importance of the public domain as a whole (not "my lake," but "The Environment") all come together to make the public domain disappear, first in concept and then, increasingly, in reality.

I have said all of this in an attempt to show that there is something larger going on under the *realpolitik* of land-grabs by Disney and campaign contributions by the Recording Industry of America. But it would be an equal and opposite mistake to think that the problems I describe here could be corrected merely by fine-tuning a dysfunctional discourse of intellectual property. Ideas alone cannot do the job. In this part of the analysis, too, the environmental movement offers some useful practical reminders. The ideas of ecology and environmental welfare economics were important, but one cannot merely write a *Silent Spring* or a *Sand County Almanac* and hope that the world will change. Environmentalists piggybacked on existing sources of conservationist sentiment, including the aesthetic and recreational values held by hikers, campers, and birdwatchers. They built coalitions between those who might be affected by environmental changes. They even discovered, though very slowly, the reality of environmental racism.

Some of these aspects, at least, could be replicated in the politics of intellectual property. The coalitions developed to combat the White Paper and its implementing legislation offer some nice examples of the possibilities and pitfalls.[57] Other strategies also come to mind. For environmental problems, some of the transaction costs of investigation and political action are overcome through expert agents, both public and private. I pay my taxes to support the EPA or my charity dollars to Greenpeace, and hope they do a good job of tracking environmental problems. Until very recently, there was not a single public or private organization with the main task of protecting and preserving the public domain.[58] If the environmental analogy suggests anything, it is the need for a reciprocal connection between analysis and activism.

57. These coalitions consisted of a wide range of groups including libraries, teachers, writers, civil liberties groups, and online service providers. *See* Boyle, *supra* note 42, at 51 n.11; *The Digital Future Coalition Home Page* (visited Nov. 20, 1997) <http://www.dfc.org>.

58. While I was writing this Essay, the first public interest organization devoted to the preservation of the public domain was founded and began lobbying on some of the issues mentioned here. *See Union for the Public Domain Home Page* (visited Nov. 20, 1997) <http://www.public-domain.org>.

CONCLUSION

The idea of an information age is a useful and productive concept. I have argued that there is a homologizing tendency for all "information issues" to collapse into each other as information technology and the very idea of "information" move forward in a reciprocal relationship. As the value of the "content" or "message" increases, in comparison to the diminishing marginal cost of the medium, intellectual property becomes increasingly important. Yet despite its astounding economic importance and its impact on everything from public education to the ownership of one's own genetic information, intellectual property has no corresponding place in popular debate or political understanding. The belief seems to be that information age politics means fighting censorship on the Web *too*.

To prevent the formation and rigidification of a set of rules crafted by and for the largest intellectual property holders, we need a politics of intellectual property. Using the environmental movement as an analogy, I have argued that a successful political movement needs a set of (popularizable) analytical tools which reveal common interests around which political coalitions can be built. Just as "the environment" literally disappeared as a concept in the analytical structure of private property claims, simplistic "cause and effect" science, and markets characterized by negative externalities, so too the "public domain" is disappearing, both conceptually and literally, in an intellectual property system built around the interests of the current stakeholders and the notion of the original author. In one very real sense, the environmental movement *invented* the environment so that farmers, consumers, hunters and birdwatchers could all discover themselves as environmentalists. Perhaps we need to *invent* the public domain in order to call into being the coalition that might protect it.[59]

59. For a path-breaking formulation, see David Lange, *Recognizing the Public Domain*, LAW & CONTEMP. PROBS., Autumn 1981, at 147, 171-78 (illustrating how expanding intellectual property claims displace individual and collective rights in the public domain). I have also been influenced by Jessica Litman's work on the subject. *See generally* Litman, *supra* note 44; Jessica Litman, *Mickey Mouse Emeritus: Character Protection and the Public Domain*, 11 U. MIAMI ENT. & SPORTS L. REV. 429 (1994) (arguing that the protections afforded by copyright law should not allow copyright holders to lock up the raw materials needed to develop new works); Jessica Litman, *Copyright as Myth*, 53 U. PITT. L. REV. 235 (1991) (discussing the discrepancies between the popular perception and the reality of copyright law); Jessica Litman, *The Public Domain*, 39 EMORY L.J. 965 (1990) (suggesting that the copyright system would be unworkable if it did not allow access to the raw material of authorship).

Is the analogy between negative externalities in the environmental and intellectual property fields of only rhetorical or strategic value, then? As with the environment, an economic approach is both powerful and partial. Powerful, because economic arguments will sometimes convince when more frankly moral appeals do not. Even under a purely instrumental economic analysis, maximalist intellectual property protection has profound negative effects. Just as the idea of market externalities galvanized and then began to dominate environmental discourse, scholars have emphasized the economic inadequacy of current intellectual property law.[60] But the attraction of the economic analysis conceals a danger. The problems of efficiency, of market oligopoly and of future innovation are certainly important ones, but they are not the only problems we face. Aldo Leopold expressed the point powerfully and presciently nearly fifty years ago in a passage entitled "Substitutes for a Land Ethic."

> One basic weakness in a conservation system based wholly on economic motives is that most members of the land community have no economic value. . . .
>
> When one of these non-economic categories is threatened, and if we happen to love it, we invent subterfuges to give it economic importance . . . .
>
> It is painful to read these circumlocutions today.[61]

Leopold's point is blunted, but not lost, in the context of intellectual property. The very real negative economic effects of overprotection are hardly "circumlocutions." Locking up facts under a *sui generis* database right would introduce colossal economic inefficiencies into the flow of information to markets, and inhibit research and innovation. There are obvious economic problems with our current treatment of "sources" of genetic information. Many of the proposals for "reforming" copyright on the Net amount to little more than short-sighted state protectionism of old methods of delivering content. Not mere circumlocution then. But under Leopold's gentle chiding, I am reminded of the dangers of embracing too closely a language that can express only some of the things that you care about.

60. This economic skepticism links works that are otherwise radically different in tone. *Compare* Breyer, *supra* note 24, at 291-313 (an early, and elegant, expression of doubt about the economic rationale for copyright), *with* Samuelson, *supra* note 25, at 191 (criticizing the proposals made in the White Paper), *and* BOYLE, *supra* note 8, at 35-46 (discussing information economics and its role in the public policy of an information society).

61. LEOPOLD, *supra* note 52, at 210.

True, our intellectual property system would be better if we paid more attention to the negative externalities produced by the grant and exercise of each new property right, instead of focusing monomaniacally on the problems posed by public goods. But our concerns with education and the distribution of wealth, with free speech and universal access to information, can never be fully expressed in the language of neo-classical price theory.

Let me conclude by dealing with two particular objections to my thesis. First, that my whole premise is simply wrong—that intellectual property is not out of balance, the public domain is not systematically threatened, economic analysis is both determinate and clear in supporting the current regime, the general tendency both internationally and domestically has not been towards the kind of intellectual land-grab I describe, or if it has, the tendency exists for some very good reasons. Elsewhere I have tried to refute those claims, but to some extent the point is moot. Even if I am wrong, the basic idea of democratic accountability over public disposal of *extremely* valuable rights would seem to demand a vastly more informed politics of intellectual property in the information age. If such accountability is to exist, the public domain should be more systematically discussed and defended than has heretofore been the case.

The second objection is more fundamental. How can I compare the politics of intellectual property to the politics of the environment? For some, the difference in seriousness of the two problems robs the analogy of its force. After all, environmental problems threaten the biosphere and this is just, well, intellectual property. My response is partly that this is *an analogy*. I am comparing the form of the problems rather than their seriousness. Still, I have to say I believe that part of this reaction has to do with a failure to adjust to the importance that intellectual property has and is going to have in an information society. Again and again, one meets a belief that this is a technical issue with no serious human, political or distributional consequences. This belief is just silly. As I have tried to show here, our intellectual property regime has enormous importance in terms of distributional justice, free speech and public debate, market concentration, scientific research, education, bio-ethics . . . the list goes on and on. Intellectual property is important. Yet our decisionmaking processes do not reflect that fact. Quite the contrary. Right now, there is an easily described tendency in the world of intellectual property; rights are expanding by the moment, unchecked by public scrutiny or sophisticated analysis.

The picture is not entirely bleak. There are court and regulatory decisions that cut against the protectionist tendency I have described. Recent organizing efforts around the Net, and around issues of cultural property, access to drugs, and copyright fair use have improved the discourse markedly. The sheer stupidity of the database treaty had a powerfully bracing effect, baseball or no baseball. Nevertheless, I think that the current situation warrants a precautionary alarm. It would be a shame for the fundamental property regime of the information economy to be constructed behind our backs. We need a politics—an analytically and rhetorically sophisticated political economy—of intellectual property, and we need it now.