

Why We Must Talk about the Information Commons*

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Bollier describes what the information commons is, why it is important to our democratic society, and how it is jeopardized by recent developments in technology, markets, and law. He also offers suggestions on how we might begin to protect the information commons in the future.

We inherited freedom. We seem unaware that freedom has to be remade and re-earned in each generation of man.—*Adlai E. Stevenson*¹

¶1 If Stevenson was correct in his reinterpretation of Goethe—“That which you inherit from your fathers/You must earn in order to possess”²—then the efflorescence of digital technologies during the past twenty years is posing some unprecedented challenges to our democratic polity. The computer, the Internet, and many other digital technologies are dramatically changing the character of organizations, markets, the nation-state, and the global economy. What is less clear is how the traditional rights and liberties of American citizens shall be reinterpreted in the new digital landscape and find new soil in which to flourish. For failing that, they will surely wither.

¶2 Will individual citizens have the same freedoms in the emerging digital society to express themselves as the First Amendment envisioned? Will creators be able to earn a fair reward from their creativity and reach audiences without impediment? Will everyone have access to a robust public *media space* of commercial, amateur, and fringe expression, or will it be a closed, centralized system controlled by a few, chiefly for commercial purposes?

¶3 These are not idle philosophical questions but urgent pragmatic matters of sweeping importance. Unfortunately, not only are such questions not being asked with sufficient vigor and insight, I believe we do not even have an adequate vocabulary for grappling with them. The sheer novelty and power of the new technologies have, for the moment, overwhelmed our ability to comprehend many of their

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1. Adlai E. Stevenson, *Politics and Morality*, SAT. REV., Feb. 7, 1959, at 12.

2. JOHANN WOLFGANG VON GOETHE, *GOETHE’S FAUST, PART I: AN ENGLISH TRANSLATION* 35 (Randall Jarrell trans., Farrar, Straus & Giroux 1976).

long-term political and cultural implications. We have few thoughtful critiques for explaining how the potent new digital communications infrastructure will fortify or subvert our democratic traditions in the decades ahead.

¶4 It is an exceedingly hopeful development, then, that a new language of the *information commons* is starting to gain currency.³ While still a fairly new concept, the information commons is a valuable idea because it provides a coherent framework and language for explaining phenomena that are otherwise ignored or misunderstood. By leapfrogging over a discourse rooted in an earlier media culture, the information commons helps us talk more cogently about constitutional and cultural norms that are increasingly threatened in the new digital environment. Being able to name endangered values is the first step toward understanding what is at stake and mobilizing suitable responses.

¶5 This essay is an attempt to describe what the information commons is; why it is important to our democratic society; how it is jeopardized by recent developments in technology, markets, and law; and how we might begin to protect the information commons in the future. I hope to demonstrate that the information commons is not a trendy buzzword, but a useful socio-political concept for understanding the American *ecosystem* of creativity and information in the digital age.

The Missing Vocabulary of the Digital Age

¶6 Henry David Thoreau wrote: “In the long run, men hit only what they aim at. Therefore, though they should fail immediately, they had better aim at something high.”⁴ This is not merely a bit of inspiration, but astute strategic advice for how civil society should begin to grapple with the digital revolution. Our customary field of vision—so often directed at mercantile, technical, and transient concerns—does not adequately take into account the larger needs of our democratic polity. Bewildered by the relentless crush of new gadgets and systems, overwhelmed by a daily monsoon of press and advertising, the good citizens of our land may be excused if they do not realize that the fate of our open, diverse culture may hinge on how the new technologies are designed, how the law will treat them, and how much we will exert ourselves to shape the character of both.

¶7 At stake are the abilities of libraries to offer universal access to information; consumers to have competitive access to diverse sources of content, including noncommercial content; citizens to have free or cheap access to the government information that their tax dollars have financed; and students to perform research

3. One can imagine other useful terms, of course. Ronnie Dugger has proposed “demosphere,” and others rely on the notion of the “public sphere” described by sociologist’s JÜRGEN HABERMAS, *THE STRUCTURAL TRANSFORMATION OF THE PUBLIC SPHERE: AN INQUIRY INTO A CATEGORY OF BOURGEOIS SOCIETY* (1989). Because the idea of “enclosure” is so germane to any consideration of contemporary cultural spaces, I find the “information commons” to be a more compelling term.

4. HENRY DAVID THOREAU, *WALDEN* 18 (Sherman Paul ed., Houghton Mifflin 1960) (1854).

and collaborate online with each other. At stake are the ability of musicians and other artists to pioneer new forms of online creativity; creators in all media to freely quote and use a robust public domain of prior works; computer users to benefit from the innovations of competitive markets; and individuals to control how intimate personal information will be used.

¶8 These are some of the basic issues that are now being shaped by a variety of new technology designs, market practices, court rulings, and intellectual property laws. Lawrence Lessig's landmark 1999 book, *Code and Other Laws of Cyberspace*,⁵ is one of the most rigorous explorations of these themes. In particular, he explained how software code in our time has acquired many of the same powers and functions of law. It can structure markets and shape political rights. It can influence social behaviors and set boundaries for free expression. There is one significant difference, of course: code is generally privately controlled, inaccessible, and less accountable than law.

¶9 Much of Lessig's work points to a larger cultural task, the need to develop a new public vernacular for talking about the politics of cyberspace.⁶ What is needed is an "environmentalism for the Net,"⁷ urges James Boyle, comparing the current state of our digital culture to the state of the environmental movement in the 1950s.⁸ In the 1950s, American society had no shared, overarching narrative for understanding that synthetic chemicals, dwindling bird populations, and polluted waterways might be conceptually related. Few people had yet made *intellectual connections* among these isolated phenomena. No analysis had yet been formulated or published that could explain how disparate and even adversarial constituencies such as birdwatchers and hunters might actually have common political interests.

¶10 The signal achievement of Rachel Carson, Aldo Leopold, and other early environmentalists, argues Boyle, was to popularize a compelling critique that forged a new public understanding of the brewing ecological disaster.⁹ In a very real sense, the rise of environmentalism as a political and cultural movement was made possible by a new language. This new language allowed us to see diverse abuses of nature in a more unified way. It canonized them in the public mind as *the environment*, in turn giving rise to a diversified social movement that ranged from Greenpeace's civil disobedience to the Environmental Defense Fund's centrist, market-oriented advocacy to the Audubon Society's focus on conservation.¹⁰

5. LAWRENCE LESSIG, *CODE AND OTHER LAWS OF CYBERSPACE* (1999).

6. See generally *id.* Much of LESSIG'S BLOG, at www.lessig.org/blog/ (last visited Mar. 5, 2004), is a daily exercise in trying to develop a new politics of intellectual property and the Internet.

7. James Boyle, *A Politics of Intellectual Property: Environmentalism for the Net?* 44 *DUKE L.J.* 87 (1997).

8. *Id.* at 108–09.

9. *Id.* at 108 n.52 (citations omitted).

10. *Id.* at 110.

¶11 In essence, the information commons has the potential to play a similar role in the digital era. It can help name and mentally organize a set of novel, seemingly disconnected phenomena that are not yet understood as related to each other or to the health of our democratic polity. Unlike toxic chemicals in the environment, however, abuses of the information commons are not as palpable and directly dangerous. This places a greater burden on language, popular awareness, and non-governmental organizations to expose how creative expression, information flows, and the experimental *white spaces* in our culture are now at risk.

The New Topography of Our Economy and Culture

¶12 Adopting a new mental map—the information commons—is not a matter of buying into a fashionable abstraction. It is a necessary tool. The functioning of our economy and culture has changed dramatically as a result of digital technologies, but our mental maps still tend to depict the landscape of another time, one that is fast-disappearing.

¶13 The challenge of developing a better mental map of the emerging digital culture is complicated by its ambiguities and hybrid nature. There is no sharp break between the old and the new. Rather, familiar patterns of daily life intertwine in unpredictable ways with novel digital modes. Electronic books do not simply replace printed books, for example; they evolve alongside them and create a new media ecosystem. Web sites and Web logs do not merely recapitulate traditional print publishing; they enable very different modes of communication—economically, socially, and artistically.

¶14 However one characterizes the transitions now occurring in our economy and culture, the salient point is that there is a serious mismatch between many of the civic values we prize and the directions that new market forces, technologies, and laws are taking us. Here is how Alan Murray of the *Wall Street Journal* described this growing policy mismatch:

It's increasingly clear that products whose primary value lies in intellectual property—products such as software, pharmaceuticals, movies, records and many of the other things that drive today's economy—are fundamentally different from staples of the industrial economy such as autos and steel, or service-economy products such as banking and insurance. And those fundamental differences are wreaking havoc with traditional notions of economics that underlie antitrust laws, patent laws, copyright laws and indeed, the whole public policy underpinnings of today's economy.¹¹

¶15 Because the received discourse about antitrust, intellectual property, the First Amendment, and other policy fields is so tenacious, we are often inattentive to the clumsy fit between the old interpretations of these societal values and the

11. Alan Murray, *Intellectual Property: Old Rules Don't Apply*, WALL ST. J., Aug. 23, 2001, at A1.

new realities. We too readily assume the perdurability of the public domain, creative freedom, and privacy, for example, when in fact new laws and technologies are shrinking the public domain and limiting creative freedom. Privacy is increasingly besieged as more aspects of daily life “go digital.”

¶16 It’s worth looking at some of the engines of the new digital economy and culture so that we can more clearly see how they disrupt many old policy categories and democratic traditions.

¶17 One of the fundamental differences introduced by digital technologies involves the cost of producing and selling information. The cost of making the first copy of a new software program (or book or movie) may be \$*x* million, but the cost of making the second copy—or a million copies—is virtually free. When the marginal costs of production are zero—a huge departure from the Old Economy—then it is easier for a successful company to dominate a market utterly and for moderately successful companies to fail.

¶18 This dynamic has been called the winner-take-all syndrome, an outcome that is buttressed by the much larger scale of markets in a networked environment.¹² Once a company’s product becomes widely accepted on a vast scale, it becomes harder for a competitor to displace it, even with a superior product. A technological *lock in* tends to occur, as exemplified in another era by the QWERTY typewriter layout and in our times by the Windows operating system.

¶19 The new production economics made possible by digitization are vastly amplified by the Internet. Now that valuable digital artifacts—documents, music, video, data—can be instantly transmitted on a mass scale to anywhere in the world, it has created a vexing paradox. “On the one hand, information wants to be expensive, because it’s so valuable,” said futurist Stewart Brand in 1984. “The right information in the right place just changes your life. On the other hand, information wants to be free, because the cost of getting it out is getting lower and lower all the time. So you have these two fighting against each other.”¹³

¶20 As these two forces vie for supremacy, it has sharpened a polarity between the proprietary and the free that was previously finessed. When information was embedded only in analog media, the *friction* of geography and the physical containers of creativity (paper, celluloid, audio tape) helped maintain a stable equilibrium. Copyright owners could earn a fair, enforceable reward for creativity and the public enjoyed stipulated rights of access, use, and reproduction of works. Marketplace arrangements and copyright law kept the interests of creators, media companies, and the public more or less in alignment, or at least stable.

12. See generally ROBERT H. FRANK & PHILIP J. COOK, *THE WINNER-TAKE-ALL SOCIETY* (1995).

13. “Keep Designing”: *How the Information Economy is Being Created and Shaped by the Hacker Ethic*, *WHOLE EARTH REV.*, May 1985, at 44, 49 (transcript of program at Hackers Conference, Nov. 1984) (comment of Stewart Brand).

¶21 But the social practices that have evolved around new technologies are calling into question the historic role of copyright law. The public can now legally gain access to vast quantities of useful, interesting information and expression for free over the Internet. Many creators are thrilled that they can reach audiences directly, bypassing book publishers, film studios, record labels, and other market gatekeepers that in the past rejected creativity they considered unmarketable.

¶22 Content gatekeepers, for their part, are seeing their traditional business models and market dominance challenged by new ways of doing business (and gift-economy alternatives). Most are eager to eliminate or limit alternative channels for creating, distributing, and using content. They want to re-enthroned a strict market regime for content and domesticate the free-for-all unleashed by the Internet and other digital technologies.

¶23 The proprietary world of centrally distributed content has a well-developed language and ideology to express its commercial interests in this new world: copyright, patent, and trademark law. And for the most part, these legal regimes generate important benefits for the public: investment in innovation, productivity, and economic growth. But it is also true that user, creator, and noncommercial constituencies have interests that intellectual property law increasingly does not foster or protect. Intellectual property legal regimes often constrict the flow of information by making markets less open and competitive. They often limit the legal rights and economic power of creators while bolstering those of giant content distributors. They can hinder individuals from freely creating and sharing their works outside of the marketplace.

¶24 Copyright law is a system with distinct philosophical premises about how creative works originate and diffuse throughout our society. Call it the ecosystem of creativity and information flows. In face of the fantastically productive *gift economy* of the Internet—the thousands of vibrant Web sites and electronic discussion lists run by self-organized, voluntary, affinity groups, and the free sharing of knowledge that is the hallmark of science—copyright law is speechless. The logic of contracts, property, and markets cannot explain why these sorts of free content exchanges work—often better than markets! Predictably, the gift economies of creative exchange that occur on the Internet and in scientific communities are not well-understood or well-represented in policymaking.

¶25 The irony is that these socially-based genres of free information exchange are vital to our democratic society yet they are largely invisible to policymakers because they defy the premises of neoclassical economics and copyright law.

¶26 The public domain is the closest approximation we have for the concept that creativity is nourished—has *always* been nourished—by sharing, openness, and community. In truth, the public domain has always resembled a broom closet in the grand palace of copyright law. Our copyright laws celebrate individual authorship and largely discount the importance of nonmarket information exchange and a common pool of public knowledge. The very idea that *sharing* material over the Internet can generate greater economic value than strict

proPERTIZATION—or that it fulfills a high democratic purpose—is regarded by many industries as subversive and even communistic.¹⁴

¶27 Unfortunately, the public domain suffers from historical baggage. For centuries, the public domain has been a narrow legal term of art that refers to a hodgepodge of works that have no owners—*nonproperty* as it were. It consists of works on which copyright has expired, government documents, and such uncopyrightable intangibles as ideas and plotlines. This negative definition might lead some to believe that the public domain is little more than an intellectual junkyard, a place where out-of-print books and antiquarian drawings languish like so many rusty cars. As a legal category that has been shaped by an irregular accretion of laws and court rulings and that lacks a clear, affirmative definition, the public domain has always been regarded as “a dark star in the constellation of intellectual property,” according to David Lange.¹⁵

¶28 The problem is that we have no recognized language for discussing the importance of the commons in our culture. There is no well-developed discourse that explains the value of an open information environment. We do not have a distinct public vocabulary that regards citizens, not commercial enterprises, as the primary constituency to be served by federal communications law, copyright law, and First Amendment law.¹⁶

¶29 This, then, is our challenge: to reorient these bodies of law and develop a new way of conceptualizing the needs of citizens in the laws, technological design, and social practices that comprise the new digital landscape.

¶30 Yochai Benkler makes a strong case for public policies that help sustain a “core common infrastructure”—a media system that is hospitable to the most diverse range of speech possible.¹⁷ If we take the First Amendment seriously, our media infrastructure, copyright law, and First Amendment jurisprudence should foster not just the narrow diversity of *speech* from large commercial entities. It should affirmatively protect and nurture decentralized, unmediated citizen

14. Patricia Schroeder, the erstwhile liberal and current president of the American Association of Publishers, has castigated public libraries for the perfidy of actually sharing copyrighted works with other libraries and patrons, which of course is the very point of public libraries. At a conference I attended in March 2001, the chief attorney for intellectual property rights at a major film studio criticized those who defended information sharing on the Internet: “I haven’t heard such wonderful speeches since I left City College of New York, where we had a corner over there called ‘Little Kremlin.’”

15. David Lange, *Recognizing the Public Domain*, LAW & CONTEMP. PROBS, Autumn 1981, at 147, 151 n.20.

16. “Individuals, alone or in association, are the constituents of our democracy, and real human beings, not corporate entities, are the bearers of the moral claims of autonomy to freedom of expression.” Yochai Benkler, Property, Commons and the First Amendment: Toward a Core Common Infrastructure 8 (March 2001) (White Paper for First Amendment Program of Brennan Center for Justice, New York City School of Law), available at www.law.nyu.edu/benkler/WhitePaper.pdf. Yet in a growing number of instances, the law is enhancing the speech capacity of commercial mass media outlets at the expense of individual citizens.

17. See generally *id.*

expression that may be amateur, non-commodified, and culturally marginal, as well as commercially innovative. Big content industries are not the only ones with a significant stake in the future meaning of intellectual property law and the First Amendment.

The Metaphor of the Commons

¶31 The commons is a metaphor that can help us understand the importance of the new kinds of *open social spaces* made possible by the Internet (and to a lesser extent, other digital media). To be sure, *the commons* is an unfamiliar term for many Americans, for whom it conjures up images of village pastures and university dining halls. But the very novelty of the term in American political culture has its own advantages. Instead of joining the specious and sterile ideological argument of *free markets* (good) versus *government regulation* (bad), or conjuring up the regulatory history of the New Deal and the Great Society, talking about the information commons repositions the terms of debate in a new framework. It opens up a new vector of discussion.

¶32 The history of the commons as it was privatized and commercialized by the landed classes of England illuminates a similar enclosure today: the privatization and commercialization of information, creative expression, and media infrastructure.

¶33 In the commons of premodern English villages, large portions of meadow, forests, and moorland were unfenced and managed in common. These lands were an important collective resource for meeting people's daily needs. They also had an emotional significance for villagers because they were community resources over which they had some measure of direct control. The lands were not considered property that could be owned by individuals and sold; they were the inalienable resource of the community.

¶34 But as the landed classes of England began to realize that new riches could be had by developing common lands, they began to press Parliament to allow the seizure of the lands, justified by the need for "improving" them. Enclosure was attractive to these proto-capitalists because new breeding methods were making wool production more profitable; the export market for wool was booming; and crop rotation and other agricultural methods could boost the productivity of arable land. What ensued in the 1700s and early 1800s was a series of four thousand acts of Parliament authorizing the seizure of some seven million acres of common lands. Village-held lands were fenced off and given to private interests.

¶35 This infamous enclosure movement had the effect of stimulating the invention of new technologies, leading to greater productivity and the creation of a market-based society. But it also destroyed the livelihoods of hundreds of stable communities and unleashed a brutal wave of social exploitation and inequality. As public assets were privatized and placed into commerce, the short-term economic

priorities of the few (speculation, export production) took precedence over the long-term social needs of local communities. Enclosure also inflicted many ecological abuses on nature as economic priorities superseded all else.

¶36 As a concept, the commons has much to commend to any democratic assessment of our nation's media and information infrastructure because it emphasizes values that market discourse largely ignores. Just as economic analyses tend to focus on efficiency, productivity, and profitability (among other economic and market indices), students of the commons tend to focus on a range of social, civic, and humanistic concerns. These include:

¶37 *Openness and feedback.* As scholars of common-pool resources have shown, people living under a successful commons regime tend to know what is going on. When there is open feedback and a sharing of ideas, the community is more likely to discover flaws, debate different options, and choose the best policies. Such transparency lies at the root of science, the democratic process (hence the First Amendment), and free software and open source software development.

¶38 *Shared decisionmaking.* A commons is flexible yet hardy precisely because it draws intelligence from everyone in a bottom-up flow. This means that rules are *smarter* because they reflect knowledge about highly specific, local realities. By contrast, centralized power tends to have less democratic accountability and to be less responsive to conditions that are local and particular.

¶39 *Diversity within the commons.* Diversity combined with openness can yield phenomenal creativity and innovation. This is the story of the United States (*E pluribus unum*), the Internet, the free software movement, and the evolution of species. The greater the diversity in a democratic polity, cyberspace, a programming community, or a gene pool, the more likely it is that better, more adaptive innovations will materialize and prevail.

¶40 *Society equity within the commons.* While a commons need not be a system of strict egalitarianism, it is predisposed to honor a rough social equity and legal equality among its members. A key goal of commons management is to democratize social benefits that can otherwise be obtained only through private purchase. The free market, of course, has little interest in social equity.

¶41 *Sociability in the commons.* In gift economies, such as an online community or a professional discipline, transactions take on a more personal, social dimension. This can be tremendously powerful in creating certain kinds of wealth (e.g., the Linux operating system, genealogical databases) while fostering social connections among people.

¶42 Having sketched the contrasting field of vision that a commons analysis provides, it bears emphasizing that the commons is not necessarily *hostile* to the market. We need both. The point is that there must be an appropriate *equilibrium* between the two. They must be separated by a semi-permeable barrier that allows both to retain their essential integrity while invigorating each other.

The Enclosure of the Information Commons

¶43 The enclosure of the information commons is an apt metaphor for describing how private commercial interests are increasingly gaining control over the structure and functioning of our nation's communications apparatus. Benkler's white paper, "Property, Commons and the First Amendment,"¹⁸ outlines a helpful theoretical structure for understanding how market enclosures of the information commons are occurring on three distinct layers: the *physical layer* consisting of electromagnetic spectrum, cables, wires, and fibers; the *logical layer* of software and technical protocols that allow expression to be carried over the physical layer; and the *content layer* of information, expression, and culture. The primary goal of the various enclosures now underway is to convert shared bodies of information and culture into privately controlled commodities—in essence, to convert the commons into markets.

Enclosing the Physical Layer

¶44 The most powerful form of enclosure is probably monopoly control of the physical layer itself. This can be seen in the broadcasters' exclusive control of their spectrum space, the cable industry's near-monopoly for multichannel television service, and the cable industry's attempts to control high-speed broadband access to the Internet. These enclosures and near-enclosures of the physical layer effectively prevent or limit new competition, product innovation, and lower prices.

¶45 The essential point when talking about the physical layer is that the greater the number of commercial competitors, the more diverse the sources of information. Hence openness and competition in the physical layer promotes a primary First Amendment value. Historically, the broadcasters and wireless companies have won exclusive control of certain parts of the spectrum through assigned licenses or auctions. But this sort of monopoly control is less justifiable today with the rise of new *spread spectrum* technologies¹⁹ and *intelligent* receivers and transmitters that could allow the spectrum to be used more efficiently and by many more users.

Enclosing the Logical Layer

¶46 Perhaps the most serious threat to the logical layer comes from new encryption and digital watermark technologies that prevent people from using and sharing copyrighted works as they wish. This capability is backed up, in turn, by the Digital Millennium Copyright Act (DMCA),²⁰ a 1998 law that prohibits the cir-

18. *Id.*

19. For a description of spread spectrum technology, see *id.* at 50–51; LAWRENCE LESSIG, *THE FUTURE OF IDEAS: THE FATE OF THE COMMONS IN A CONNECTED WORLD* 76, 80 (2001); KEVIN WERBACH, *RADIO REVOLUTION: THE COMING AGE OF UNLICENSED WIRELESS* 14–24 (2003).

20. Pub. L. No. 105-304, 112 Stat. 2860 (1998) (codified as amended in scattered sections of 17 U.S.C.).

cumvention of any technical measure that controls access to a work.²¹ The law not only prohibits the making or distributing of software that can bypass technical protection measures, it prohibits the mere *sharing* of information about the protection.²²

¶47 By allowing content owners to *lock up* digital text, the DMCA effectively eliminates the public's fair-use rights, which have historically allowed people to quote and reuse works in other venues. It also overrides the first-sale doctrine, the legal rule that allows people to share the books or videotapes they buy with whomever they want. By strictly controlling the flow of works in society to serve private commercial ends, the DMCA is a direct affront to the First Amendment. The law prevents citizens from freely sharing and quoting works except in the manner prescribed by the copyright owner. It also allows large copyright industries to stifle competition and innovation and prevent the widest possible distribution of creative works, which is, of course, the very purpose of the Constitution's copyright law—to advance and diffuse knowledge.²³

¶48 Already the law has been invoked to criminally prosecute a Russian programmer who had disclosed to others encryption flaws in electronic-book software made by Adobe.²⁴ The film industry used the DMCA to wage a civil lawsuit against a Norwegian teenager who posted information on a Web site about decrypting a DVD movie (even though no copyright violation or sale of pirated material was alleged).²⁵ The recording industry invoked the DMCA to prevent a Princeton professor from presenting a paper at a conference about the flaws in the music industry's encryption software. (It later retreated from its legal threat, perhaps fearing it might establish a politically controversial legal precedent.)²⁶

¶49 Microsoft has brilliantly exploited its dominance of the logical layer of the communications infrastructure to control how information may flow to and from computer users. The company's notorious *embrace, extend, and extinguish* strategy has been particularly effective. This involves embracing a target software by integrating it into its Windows operating system; extending its functions with proprietary modifications; and then extinguishing the competition as consumers turn away from applications that are suddenly incompatible with Windows. Microsoft

21. 17 U.S.C. § 1201(a)(1)(A) (2000).

22. *Id.* § 1201(a)(2).

23. U.S. CONST. art. I, § 8, cl. 8 ("To promote the Progress of Science and useful Arts, by securing for limited times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries.").

24. See Carrie Kirby, *Accused in Copyright Case Out On Bail*, S.F. CHRON., Aug. 7, 2001, at E2. An excellent review of the effects of the DMCA can be found in Electronic Frontier Found., *Unintended Consequences: Five Years Under the DMCA*, available at www.eff.org/IP/DMCA/unintended_consequences.pdf (last visited Sept. 24, 2003).

25. See Jeff Chu, *Enemy at the Gates? Jon Johansen's Trial for Hacking May Be a Key Battle in the Struggle between Industry and Innovation*, TIME, July 8, 2002, at 46.

26. See John E. Ottaviani, *DMCA Faces Free Speech Challenges*, NAT'L L.J., Oct. 22, 2001, at C1; Pamela Samuelson, *Anticircumvention Rules: Threat to Science*, 293 SCI. 2028 (2001).

has used this method to undermine open standard protocols for HTML (for Web pages), Java (the cross-platform software), RealAudio (the Internet audio software), and QuickTime (multimedia software). In so doing, the company has elevated its own proprietary modifications as the *de facto* standard and thwarted competition and innovation.

¶50 The free software movement led by Richard Stallman, and the more diversified open-source movement, have flourished in recent years precisely because they have sought to establish a commons in the logical layer of our communications infrastructure. There are huge positive externalities created by a networked community. The genius of the general public license for free software, which has enabled Linux to gain about one-third of the server market without any of the resources of a conventional corporation, is that it prevents the proprietarization of the surplus wealth created within a commons.

Enclosing the Content Layer

¶51 A preferred industry strategy seeks to lock up content through *click-through* licenses (for Web pages) and *shrink-wrap* licenses (for software). Even though contract law requires a meeting of the minds on the terms for any contract, these *click-wrap* contracts are typically inequitable, one-sided deals that are deemed to be “accepted” if a consumer opens the shrink-wrap cellophane of a software box or *clicks through* an opening home page. The contracts may coerce users into fairly extreme agreements, such as prohibiting users from sharing the software, requiring legal complaints to be filed in the company’s court district rather than the consumer’s, and preventing the user from criticizing the software in print. For years, the software industry has been pushing a model law, the Uniform Computer Information Transactions Act (UCITA),²⁷ that would make anti-consumer click-wrap licenses the default law for software and Web transactions in all fifty states.

¶52 Public access and use of content are being privatized and commercialized in other ways. In 1998, Congress passed the Sonny Bono Copyright Term Extension Act²⁸ and added twenty years to the copyright protection of works produced after 1923. Tens of thousands of works such as *The Great Gatsby*, the film *The Jazz Singer*, and works by Robert Frost and Sherwood Anderson will remain in private hands and not enter the public domain until 2019. The Act is a clear case of corporate welfare for major corporations and amounts to a tax on the public and authors who want to use the public domain to create new works.

¶53 Other enclosures are occurring. Trademark law is being called upon to shut down unauthorized uses of certain *words*. Under the Federal Trademark Dilution Act,²⁹ a person can be held liable for using someone else’s trademark even if consumers

27. UNIF. COMPUTER INFO. TRANSACTIONS ACT, 7 pt. 2 U.L.A. 195 (2002).

28. Pub. L. No. 105-298, 112 Stat. 2827 (1998) (codified as amended at 17 U.S.C. §§ 108, 203, 301–04 (2000)).

29. Pub. L. No. 104-98, 109 Stat. 985 (1995) (codified as amended at 15 U.S.C. §§ 1125(c), 1127 (2000)).

are not deceived or confused as to the source of the goods or services. All that matters it that the distinctive quality of the mark is “blurred.”

¶54 Congress has given the U.S. Olympic Commission exclusive proprietary control over the word “Olympic,” enabling it to prohibit the use of the term “Gay Olympics”³⁰ while allowing “Special Olympics.”³¹ Web sites that use a company’s name in conjunction with the word “sucks” have been shut down. McDonalds claims ownership in 131 different words and phrases such as “America’s Favorite Fries” and “Black History Makers of Tomorrow.”³²

¶55 Taken together, the enclosures of the three communications layers are transforming many open, noncommercial forums and content that comprise our culture into privately controlled commodities. There is an important role for a robust commercial sector in information and creativity, to be sure, but there are dangers if the market becomes the predominant or exclusive mode of information exchange in our society.

¶56 How *free* is a society if a citizen must ask permission or pay a licensing fee before being able to quote or criticize copyrighted works? How creative and innovative can a society be if most knowledge is tightly locked up through strong copyright law, technological locks, and one-sided contracts? As Lawrence Lessig argues in *The Future of Ideas*, there are also troubling *economic* implications when the information commons is enclosed. Excessive copyright and trademark protection can inhibit innovation and growth, and unfairly protect incumbent businesses.³³

¶57 The heedless expansion of copyright protection for digital information has another worrisome outcome. It logically culminates in a copyright police state that intrusively monitors people’s reading and viewing habits. After all, in a pay-per-use environment, a single unauthorized use constitutes *piracy*. And now that technology can feasibly detect such violations, copyright industries have even more incentive to step up their monitoring of people’s private habits. The right to be an anonymous reader is being superseded by corporate interests in “digital rights management.”³⁴

¶58 The tradition of sharing a common culture is jeopardized by the new forms of discriminatory pricing and access that these systems facilitate. When we are regarded merely as consumers and not as citizens, access to cultural artifacts and information will be based on ability-to-pay by different market segments (individuals, companies, libraries). Access will not be a basic civic right. When this occurs, when knowledge and culture are over-proprietyzed, *Americans will no longer be*

30. S.F. Arts & Athletics, Inc. v. United States Olympic Comm., 483 U.S. 522 (1987).

31. 36 U.S.C. § 220506 (2000).

32. Kate Silver, *Serving Up the McDictionary: McDonald’s Is Buying the World, One Word at a Time*, LAS VEGAS WKLY., Apr. 26, 2001, available at www.lasvegasweekly.com/departments/2001_04_26/upfront_6.html.

33. LESSIG, *supra* note 19, at 180–217.

34. See generally Julie E. Cohen, *Copyright and the Perfect Curve*, 53 VAND. L. REV. 1799 (2000).

able to participate in a cultural commons. People will merely consume—and their preferences will be duly captured by marketers that will try to eke even further productivity from their information products.

¶59 If unchecked, current trends will produce a brave new cultural regime in which most information and expression are commercialized and tightly managed through centralized systems of metered access and surveillance. Needless to say, such a system is not really compatible with a free and open democratic society or the Internet as we know it.

¶60 Public libraries and universities are likely to be the first to experience the harmful effects of this controlled, pay-per-use universe of information generation and distribution. These institutions are rightly celebrated for providing the raw knowledge resources for authors to browse and experiment, excerpt and modify, and create anew.³⁵ But if more of these resources are strictly commodified and made available according to ability-to-pay principles, then the traditional practices of authorship will be seriously compromised and the very character of American life would change radically.

Why Talk about the Information Commons?

¶61 New realities require some new concepts. Talking about the information commons is useful for at least two primary reasons. It underscores the fact that the American people collectively *own* certain public resources (e.g., the broadcast airwaves, the Internet, physical public spaces), and that they therefore ought to have the legal authority and social norms for *controlling* those resources. There is a vital political analysis implicit in commons-speak, and this analysis presumes that citizens, not investors, are the primary stakeholders. It also presumes that citizens are not just the owners of these assets, but often the *users*, and so they ought to be direct participants in how their assets are managed.

¶62 Talking about the information commons helps bring into focus diverse phenomena that are otherwise fuzzy or thought to be inconsequential, such as the role of the public domain in enabling creativity. It helps us revisit the premises of copyright law and reveal how some of its assumptions may be empirically questionable in the digital age. For example, it turns out that copyright and contracts are not the only ways to elicit or distribute valuable knowledge in the digital age. Why can't public policy reflect this fact?

¶63 The information commons is a useful term, also, because it helps focus attention on the fundamental political implications of new technologies, markets, and intellectual property laws—implications that are frequently ignored or discounted. We too easily forget that the American people have distinct interests in

35. For an exploration of authorship as an act of translation and recombination, see Jessica Litman, *The Public Domain*, 39 EMORY L.J. 965, 966–67 (1990).

the *cultural bargain* of copyright law. Are these interests being adequately represented by our government? Obviously not. As public grants of monopoly powers with diminishing benefits for the public, today's expansive grants of copyright and patent protection represent a massive giveaway to content industries. They are also an insidious form of protectionism for established media companies.

¶64 Talking about the commons helps differentiate the interests of industry from those of the public and creators. Many content industries talk about copyright as if it were a permanent, self-evident entitlement, not a negotiated policy bargain in which the public has its own distinct interests. To be sure, the public has an interest in a robust commercial sector of commodified information and expression, but it also has keen interests in noncommodified forms of expression—amateur, civic, cultural, local, artistic. These kinds of expression often cannot be met by markets, especially highly concentrated national markets of the sort that now exist in most media industries.

¶65 In an age of market triumphalism, market categories have become pervasive. Government policymakers often conflate citizen interests with consumer interests, and media companies presume that their centralized mode of content generation and distribution can provide anything that anyone might possibly want. The information commons resurrects our ability to talk clearly about the public's significant interests in noncommercial, civic, and cultural content—content in which markets can play only indirect roles.

¶66 The information commons, in short, provides an invaluable new way to discuss the architecture of democratic culture as it coexists with the new digital marketplace. It is a much-needed tool for achieving intellectual clarity about the digital revolution. It can help forge a new shared public identity among civic, creative, and noncommercial constituencies. It can help assert the supremacy of civil society in the face of an imperial market order.

¶67 Skeptics may worry that the information commons is too vague and elastic a term. How can we trust a term that seems to have so many meanings and applications? This would be a legitimate fear if the realities to which the term refer were vague. But that is clearly not the case. The enclosures of the information commons are specific and ubiquitous. We simply have not had a fresh term and analysis that could begin to corral so many disparate, novel phenomena into one conceptual field of analysis.

¶68 University of California, Berkeley professor Pamela Samuelson has produced a sophisticated mapping of the public domain as an aid to understanding its scope and functions in the digital environment.³⁶ While too detailed to elaborate upon here, the mapping suggests a varied landscape of materials—federal information, scientific principles, works with expired copyrights, ideas, facts, data, and

36. See Pamela Samuelson, *Mapping the Digital Public Domain: Threats and Opportunities*, LAW & CONTEMP. PROBS., Winter–Spring 2003, at 147.

words—that is under siege by proprietary forces using new technologies and federal law.

¶69 The gap between our conventional copyright discourse and the actual realities of our digital culture will not be bridged until we develop a new vocabulary. We need a new narrative to more accurately describe the *hydraulics* of information flow, creativity, and commerce in a networked economy. This is an absolute prerequisite for finding new footings for democratic values, creator sovereignty, and consumer rights in the emerging digital society.

¶70 As guardians of the oldest, most revered information commons in the nation, libraries have a special role to play in the battles to preserve and extend the public domain in the digital age. But many other groups also require open access to information and creativity and the ability to share, quote, and build upon the achievements of the past. Journalists, scholars, musicians, software developers, academics, scientific researchers, consumers, and citizens all must become more engaged in the struggle to fortify the information commons.

¶71 Many of the facts about what is happening are clear enough. The real question may be whether we have the courage, resourcefulness, and tenacity to reinvent a robust democratic culture in light of the new threats. Thomas Jefferson and James Madison would surely echo Goethe's admonition: "That which you inherit from your fathers/You must earn in order to possess."