

FOURTH ANNUAL BAKER BOTTS LECTURE

THE RULE OF INTELLECTUAL PROPERTY LAW IN THE INTERNET ECONOMY

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I. INTRODUCTION

During the nineteenth century, intellectual property rights were critical to the emerging industrial society. By the end of that century, two major international treaties, the *Berne Convention for the Protection of Literary and Artistic Works*¹ and the *Paris Convention for the Protection of Industrial Property*,² each sought to advance the rule of law and improve standards for the protection of intellectual property around the world. One hundred years later, the strengthening of those intellectual property rights became a fundamental issue for the nascent information economy, just as they were an international priority for the Industrial Revolution.

As information and communication technologies dramatically changed the economy, a critical link between the protection of information flows and economic growth developed. In 1985, the United States and Israel signed the first free trade agreement that associated intellectual property rights with improved trade.³ This agreement was the harbinger of the emergence of a networked society and the importance of legal protection for information. The agreement set the stage for a powerful world-wide movement. One year later, the Uruguay Round of multilateral trade negotiations launched the international harmonization of intellectual property rights.⁴ By the next decade, this legal movement was under attack from the network itself.

The adaptation, over the last decade, of intellectual property to the internet context is at the center of a deep struggle between democratic governance and network governance. This struggle is a fundamental battle over the control of rulemaking for the new information society. The merger between the role of intellectual

1. Berne Convention for the Protection of Literary and Artistic Works, Sept. 9, 1886, as last revised July 24, 1971, 25 U.S.T. 1341, 828 U.N.T.S. 221.

2. Paris Convention for the Protection of Industrial Property, Mar. 20, 1883, 13 U.S.T. 2, 828 U.N.T.S. 107, as last revised at the Stockholm Revision Conference, July 14, 1967, 21 U.S.T. 1583, 828 U.N.T.S. 303.

3. See Israel–United States Free Trade Area Agreement art. 14, Apr. 22, 1985, 24 I.L.M. 653, 662 (establishing “favored nation” status between Israel and the United States for the purposes of protecting intellectual property rights and strengthening and developing economic relations between the two countries).

4. See Agreement on Trade-Related Aspects of Intellectual Property Rights, Apr. 15, 1994, Marrakesh Agreement Establishing the World Trade Organization, Annex 2 Legal Instruments—Results of the Uruguay Round, 33 I.L.M. 1125, 1197 (1994); see also Uruguay Round Agreements Act, Pub. L. 103-465, tit. 5, 108 Stat. 4809, 4973–89 (1994) (codified as amended in scattered sections of 19 U.S.C.) (approving and implementing the trade agreements concluded in the Uruguay Round of multilateral trade negotiations).

property law and the rule of law is at the heart of a struggle to define the governance of the Internet economy and the information society. Today, the design and enforcement of intellectual property rights are at the forefront of a profound power struggle between democratically chosen legal rules and technologist-defined network rules. While public choice views the legal rules as a product of special-interest group politics,⁵ these rules remain the formal expression of democratic institutions.⁶ Insurgency movements led by technologists and technically savvy users are, in effect, revolting against democratically adopted laws with a technological assault on the rules of intellectual property law. For example, file-sharing programs like Napster and Grokster threatened copyright law and were fought off by difficult court cases.⁷ More recently, GooglePrint and YouTube are challenging content owners' control of their works.⁸ This defiance forms an underlying challenge to the rule of law. The adaptation of intellectual property law in general, and copyright law in particular, are at the center of this struggle between democratic governance and network governance by an unelected technological elite.

This Article argues that the technological attacks on intellectual property are a movement against democratically chosen intellectual property rules. They form a basic challenge to the rule of law and to the control of the rules wired into the network.⁹ In making this argument, the Article first maintains

5. See JESSICA LITMAN, DIGITAL COPYRIGHT 23 (2001) ("Copyright bills passed only after private stakeholders agreed with one another on their substantive provisions.").

6. A discussion of the legitimacy of democratic institutions and their rulemaking is beyond the scope of this Article.

7. See *A&M Records, Inc. v. Napster, Inc.*, 239 F.3d 1004, 1014–15 (9th Cir. 2001) (finding that defendant Napster infringed upon the copyrights of A&M Records and that Napster members were not engaging in a fair use of copyrighted material); see also *Metro-Goldwyn-Mayer Studios Inc. v. Grokster, Ltd.*, 545 U.S. 913, 918–19 (2005) (finding defendants *Grokster* and *StreamCast* secondarily liable for the copyright infringement of their third party software users).

8. See Class Action Complaint at 2, *Author's Guild v. Google*, 05-CV-8136 (S.D.N.Y. Sept. 20, 2005) [hereinafter *Author's Complaint*] (alleging on behalf of the plaintiff Author's Guild, the largest organization of authors in the United States, that Google has engaged in "massive" copyright infringement by creating digital archives of several libraries' book collections); Complaint for Declaratory & Injunctive Relief and Damages at 2, *Viacom Int'l v. YouTube, Inc.*, No. 07-CV-2103 (S.D.N.Y. Mar. 13, 2007) (alleging that defendant YouTube willfully infringes upon copyrights "on a huge scale" by displaying numerous unauthorized copyrighted videos).

9. For a discussion of rules embedded in technologies, see LAWRENCE LESSIG, CODE AND OTHER LAWS OF CYBERSPACE (1999). See also Joel R. Reidenberg, *Lex Informatica: The Formulation of Information Policy Rules Through Technology*, 76 TEX. L. REV. 553, 553–54 (1998) [hereinafter Reidenberg, *Lex Informatica*] (comparing law to the rulemaking characteristics of technological infrastructure choices and designs); Joel R.

that intellectual property rights have an important public function in democracy in that they mark political, economic, and social boundaries. Next, the Article shows that the public law, as enacted by governments, has reallocated intellectual property rights to adapt to the information economy. While many aspects of this new allocation of rights have been controversial, these decisions nevertheless emanate from public authorities. The Article then analyzes the rejection of those rules by technologists and their fight to take control of rulemaking. In essence, the technical community seeks to replace the state's decision on public intellectual property law with the community's own private preferences in subversion of democratic choices. The Article concludes with several predictions and prescriptions.

II. THE PUBLIC FUNCTION OF INTELLECTUAL PROPERTY RIGHTS

Intellectual property rights serve critical public functions. The design and control of information are profoundly connected with democracy and democratic values.¹⁰ The regulation of information and the protection assigned to information flows are at the heart of democracy.¹¹ By defining the rules of access to and control of information, intellectual property rights create the demarcation lines in a networked society of economic, political, and social interactions.

In defining these rules, intellectual property rights express public values. Patents and copyrights seek to promote scientific progress and social welfare by defining rewards for authors and inventors for the dissemination of their ideas and innovations. Jessica Litman writes “[t]he purpose of copyright is to encourage the creation and mass dissemination of a wide variety of works.”¹² Neil Netanel and Niva Elkin-Koren each teach us that copyright law plays a formative role in democratic society by striking a balance for the creation and dissemination of ideas and expression.¹³

Reidenberg, *Rules of the Road for Global Electronic Highways: Merging the Trade and Technical Paradigms*, 6 HARV. J.L. & TECH. 287, 288 (1993) (describing the embedding of policy choices in technological designs).

10. See Neil Weinstock Netanel, *Copyright and a Democratic Civil Society*, 106 YALE L.J. 283, 347–64 (1996) (illustrating the ways in which copyright “support[s] democratic civil society”).

11. See *id.* at 356 (describing copyright protection as a “pillar of public liberty”).

12. Jessica Litman, *Sharing and Stealing*, 27 HASTINGS COMM. & ENT. L.J. 1, 2 (2004).

13. See Niva Elkin-Koren, *It's All About Control: Rethinking Copyright in the New Information Landscape*, in THE COMMERCIALIZATION OF INFORMATION 79, 104–05 (Niva Elkin-Koren & Neil Weinstock Netanel eds., 2002) (demonstrating that the open

Intellectual property law has a critical normative role. The allocation of rights to assure the balance of public values in the dissemination of knowledge, the incentive to create, and the freedom of expression are political choices.¹⁴ In the context of the Internet, recent copyright reforms such as the Digital Millennium Copyright Act (DMCA)¹⁵ illustrate what Joseph Liu termed “regulatory copyright,” or complex and targeted protections designed to support particular industries’ markets.¹⁶ As an explicit example, the Clinton Administration’s Information Infrastructure Task Force (IITF) recommended the expansion of copyright to digital works in order to promote private investment in infrastructure and to support markets for Hollywood products.¹⁷ In essence, the Internet economy triggered a trend in democratic choice to embody market philosophies. As envisioned by the Clinton Administration, the public function of copyright needed to expand to structure the development of network technologies because the government did not have sufficient funds to continue the development of the Internet for commercial purposes.¹⁸

In a democracy, these balances and choices are defined by public law and made through national legislative processes. For example, the U.S. Constitution delegates power to the Congress

dissemination of information and ideas is key to civic virtue); Netanel, *supra* note 10, at 285 (arguing that copyright law strikes a “precarious balance” by encouraging authors to create and disseminate original expression by according them proprietary rights in their works, while at the same time inviting audiences and subsequent authors to use existing works in every way possible without infringing the copyright holder’s proprietary rights).

14. See Elkin-Koren, *supra* note 13, at 81–82 (noting that copyright laws are tremendously affected by political influences); Netanel, *supra* note 10, at 347 (explaining that, in creating a legal framework to govern copyright, “the state deliberately and selectively employs market institutions to support a democratic civil society”).

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

16. See Joseph P. Liu, *Regulatory Copyright*, 83 N.C. L. REV. 87, 88–92 (2004) (arguing that, in recent years, Congress has enacted increasingly complex, industry specific, intellectual property rights legislation).

17. See INFORMATION INFRASTRUCTURE TASK FORCE, INTELLECTUAL PROPERTY AND THE NATIONAL INFORMATION INFRASTRUCTURE: THE REPORT OF THE WORKING GROUP ON INTELLECTUAL PROPERTY RIGHTS 12, 211–36 (1995) (recommending the expansion of copyright protection to digital media); see also Daniel C. Higgs, Lexmark International, Inc. v. Static Control Components, Inc. & Chamberlain Group, Inc. v. Skylink Technologies, Inc.: *The DMCA and Durable Goods Aftermarkets*, 19 BERKELEY TECH. L.J. 59, 60–61 (2004) (arguing that the IITF was tremendously influenced by the motion picture and publishing industries in making its recommendations to Congress).

18. See THE WHITE HOUSE, A FRAMEWORK FOR GLOBAL ELECTRONIC COMMERCE 3 (1997), available at <http://www.technology.gov/digeconomy/framework.htm> (taking the position that the private sector should lead the way in the maximization of electronic commerce); Litman, *supra* note 12, at 3 (explaining that creating the national information infrastructure was beyond the federal government’s funding abilities).

to enact legislation protecting intellectual property.¹⁹ In other countries, such as France, the constitutional structure similarly delegates intellectual property law decisions to the legislature.²⁰ Recently, the French Constitutional Court even linked the scope of intellectual property rights to the famous *French Declaration of the Rights of Man and of the Citizen of 1789*.²¹ In essence, national statutory rights such as the DMCA²² or the French Copyright Reform Act²³ support particular policy positions.

Even at the international level, the framework for intellectual property rights adopts the political choice to promote market philosophies through national legislation. The Agreement on Trade Related Aspects of Intellectual Property Rights (“TRIPS Agreement”), for example, links intellectual property rights to trade and requires that signatory governments enact rights in their domestic public laws.²⁴ The World Intellectual Property Organization (WIPO) Copyright Treaty similarly asks states to expand the scope of copyright protection to the digital economy through enactments in domestic public law.²⁵ This push to incorporate intellectual property rights within the multilateral trade regime was a re-enforcement of the public function. Trade agreements embody commercial values and political goals. The inclusion of intellectual property in the World Trade

19. U.S. CONST. art. I, § 8, cl. 8 (granting Congress the power “[t]o 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”).

20. 1958 CONST. art. 34 (Fr.) (granting Parliament the authority to establish rules concerning property rights).

21. See CC decision no. 06-540DC, July 27, 2006, Rec. 88 (referring to human rights in finding that the EU copyright directive did not violate French constitutional principles); see also Laurence R. Helfer, *The New Innovation Frontier? Intellectual Property and the European Court of Human Rights* 4, 55 (Vanderbilt U. Law Sch. Pub. Law & Legal Theory, Vanderbilt U. Law Sch. Law & Econ., Working Paper No. 07-05, 2007), available at <http://ssrn.com/abstract=976485> (arguing that French courts have increasingly linked intellectual property laws with fundamental rights).

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

23. Law No. 2006-961 of Aug. 1, 2006, Journal Officiel de la Republique Française [J.O.] [Official Gazette of France], Aug. 3, 2006, p. 11529 (implementing European Directive 2001/29 and substantially modifying the French Intellectual Property code).

24. See Agreement on Trade-Related Aspects of Intellectual Property Rights, Apr. 15, 1994, Agreement Establishing the World Trade Organization, Annex 1C, 33 I.L.M. 1197 (1994) (establishing minimum international standards of intellectual property protection within the international trade legal framework); see also Uruguay Round Agreements Act, Pub. L. 103-465, 108 Stat. 4809, 4973–89 (1994) (codified as amended in scattered sections of 19 U.S.C.) (implementing TRIPS in U.S. law).

25. World Intellectual Property Organization Copyright Treaty arts. 4–5, Dec. 20, 1996, 2186 U.N.T.S. 152 (1997) [hereinafter WIPO Copyright Treaty] (extending copyright protection to computer programs and compilations of data in any form which by reason of the selection or arrangements of their contents constitute intellectual creations).

Organization (WTO) enshrines the demarcation of the boundaries around the world between access and distribution rights to information.

III. THE REALLOCATION OF INTELLECTUAL PROPERTY RIGHTS FOR THE INTERNET ECONOMY

As democracies reacted to the digital economy, they began to redefine the allocation of intellectual property rights. In the past, where public law once set the balance among the public values of knowledge dissemination, freedom of expression, and creator's rewards, states have now enacted a shift to private decisionmaking. This redistribution of intellectual property is, in effect, a shift from an essentially public allocation defined by law to a private allocation defined by technology and contract that is supported by law.

The redistributive shift occurred through several steps. First, for digital works, technology began to directly regulate access to information.²⁶ This is the "code" or "Lex Informatica" regime.²⁷ Digital rights management tools shifted protection from the content itself to control over the conditions of access to content. Second, a movement of public law reforms, through both international obligations²⁸ and national law,²⁹ added protections against the circumvention of technical measures controlling access to content. This movement sanctioned the transfer of control from publicly defined access rights to technologically and privately defined access. By protecting technological access control mechanisms, public law now delegates decisions on balancing to private authority. As Jessica Litman writes:

26. See Reidenberg, *Lex Informatica*, *supra* note 9, at 564 (discussing technical controls for the management of intellectual property).

27. See LESSIG, *supra* note 9, at 6 ("Code is law."); Reidenberg, *Lex Informatica*, *supra* note 9, at 555 ("[T]he set of rules for information flows imposed by technology and communication networks form a 'Lex Informatica' that policymakers must understand, consciously recognize, and encourage.").

28. See, e.g., WIPO Copyright Treaty, *supra* note 25, art. 11 ("Contracting Parties shall provide adequate legal protection and effective legal remedies against the circumvention of effective technological measures that are used by authors in connection with the exercise of their rights under this Treaty or the Berne Convention and that restrict acts, in respect of their works, which are not authorized by the authors concerned or permitted by law.").

Id.; Council Directive 2001/29, art. 6.3, 2001 O.J. (L 167) 10 (EC) [hereinafter Council Directive] (defining effective "technological measures" as means designed to restrict acts not authorized by the copyright holder).

29. See, e.g., Digital Millennium Copyright Act, Pub. L. No. 105-304, § 1201, 112 Stat. 2860, 2863 (1998) (codified at 17 U.S.C. § 1201 (2000)) (protecting against circumvention by criminalizing the use of technology that circumvents copyright protection measures).

Augmenting copyright law with legally enforceable access control could completely annul the first sale doctrine. More fundamentally, enforceable access control has the potential to redesign the copyright landscape completely. . . .

Copyrighted works contain protected and unprotected elements, and access to those works may advance restricted or unrestricted uses. Access controls are not so discriminating. Once we permit copyright owners to exert continuing control over consumers' access to the contents of their works, there is no way to ensure that access controls will not prevent consumers from seeing the unprotected facts and ideas in a work.³⁰

In the context of trademark rights, a similar shift toward privatization of the allocation of rights occurred for the Internet. As domain names evolved for internet websites, they were managed under the auspices of the U.S. government. The Internet Assigned Number Authority (IANA), an association of system experts led by Jon Postel, allocated domain names to "Internet protocol" addresses.³¹ As domain names took on economic value, like trademarks, the responsibility for the attribution of names to numeric IP addresses was transferred by the U.S. government to a new, nonprofit company, the Internet Corporation for Assigned Names and Numbers (ICANN).³² This legal shift, in effect and by design, privatized the allocation of domain names.³³

At the same time that the public law moved the allocation of rights to private decisionmaking, there was a shift to strengthen this privatization through public enforcement. For example, when Adobe faced the distribution of software that would defeat its copy protection mechanisms for eBook, Adobe succeeded in persuading a government prosecutor to bring criminal proceedings against Dmitry Sklyarov, a programmer, and Elcomsoft, his employer, rather than pursue civil litigation under the copyright law.³⁴

30. LITMAN, *supra* note 5, at 83.

31. See Management of Internet Names and Addresses, 63 Fed. Reg. 31741, 31741-42 (June 10, 1998) ("[M]ajor components of the domain name system are still performed by, or subject to, agreements with agencies of the U.S. Government.").

32. See Memorandum of Understanding Between the U.S. Department of Commerce and Internet Corporation for Assigned Names and Numbers (Nov. 25, 1998), available at <http://www.icann.org/general/icann-mou-25nov98.htm>.

33. See A. Michael Froomkin, *Wrong Turn in Cyberspace: Using ICANN to Route Around the APA and the Constitution*, 50 DUKE L. J. 17, 18 (2000) (arguing that using ICANN, rather than the U.S. Department of Commerce, to regulate domain names "violates fundamental values and policies designed to ensure democratic control over the use of government power, and sets a precedent that risks being expanded into other regulatory activities").

34. See Lisa M. Bowman, *ElcomSoft Verdict: Not Guilty*, CNET NEWS.COM, Dec. 17,

Many strong and legitimate criticisms may be leveled at the privatization, through technology, of the public law function. Prominent intellectual property scholars like Pamela Samuelson decry this “rights grab,”³⁵ and others argue that legal deference to technological rulemaking is not a desirable instrument to achieve the goals of copyright.³⁶ This legal shift, however, is a democratic decision in the way states chose to adapt intellectual property to the Internet economy. The reallocation of the intellectual property rights is the result of a democratic process. Sixty-four sovereign states have chosen to sign the WIPO Copyright Treaty³⁷ and 151 nations agreed to adhere to the WTO TRIPS agreement.³⁸ The choice by nations to adhere to these agreements requires the internal adoption of specific rules by national parliaments. The WIPO Copyright Treaty requires protection against the circumvention of technical measures.³⁹ As such, the digital rights decisions are also internal choices made by nations for the governance of their information societies. The implementation of international standards is thus a democratic choice by representative governments. For example, the DMCA reflects the U.S. interpretation of its international obligations and sets out the internal rules in the United States.⁴⁰ In a similar fashion, the

2002, <http://news.com.com/2100-1023-978176.html> (describing how prosecutors, working with Adobe, brought suit against Skylarov and Elcomsoft).

35. See Pamela Samuelson, *The Copyright Grab*, 4.01 WIRED 134, 135–36 (1996); see also Dan L. Burk, *Anticircumvention Misuse*, 50 UCLA L. REV. 1095, 1097 (2003) (opposing the “new sweeping rights of access to technologically protected works” because it may mean “content owners will no longer honor the balance of public interest embedded within the law of copyright”); Pamela Samuelson, *Intellectual Property and the Digital Economy: Why the Anticircumvention Regulations Need to be Revised*, 14 BERKELEY TECH. L.J. 519, 562–63 (1999) (arguing that the DMCA’s anticircumvention provisions are overbroad and dangerous to fair use, competition, and innovation).

36. See Margaret Jane Radin, *Regulation by Contract, Regulation by Machine*, 160 J. INSTITUTIONAL & THEORETICAL ECON. 142, 148, 152 (2004) (questioning the societal fairness of the outcomes of private contract and technology ordering of copyright).

37. See World Intellectual Property Org., WIPO Copyright Treaty: Contracting Parties, http://www.wipo.int/treaties/en/ShowResults.jsp?lang=en&treaty_id=16 (last visited Oct. 19, 2007) (listing the sixty-four states that have adopted the WIPO Copyright Treaty as of April 26, 2007).

38. See World Trade Org., Understanding the WTO: Members and Observers, http://www.wto.org/english/thewto_e/whatis_e/tif_e/org6_e.htm (last visited Aug. 26, 2007) (listing the WTO’s 151 member states as of July 27, 2007).

39. See WIPO Copyright Treaty, *supra* note 25, art. 11 (stating that the contracting parties will provide legal protection and remedies against the circumvention of technological measures “used by authors in connection with the exercise of their rights”).

40. See David Nimmer, *Appreciating Legislative History: The Sweet and Sour Spots of the DMCA’s Commentary*, 23 CARDOZO L. REV. 909, 915–16 (2002) (stating that the United States passed the DMCA to update U.S. copyright law and to comply with the WIPO Copyright Treaty and the WIPO Performances and Phonograms Treaty).

European Union's (EU) copyright directive requires the EU member states to enact conforming national laws.⁴¹

IV. THE FIGHT TO CONTROL RULEMAKING

The reallocation of intellectual property rights brought strong opposition and a new fight to control rulemaking for the internet economy. Network elites objected to the legislative choices because they opposed the perceived outcomes that would result from the private sector decisions on the public values inherent in intellectual property rules. Substantive objections centered particularly on the anticircumvention rules and their effects on platform changes, use controls, and harms to public interests.⁴² Two forms of protest ensued. An academic branch of the opposition engaged in democratic debate and sought public discussion of the harmful shift in rights.⁴³ But a second form of opposition captured the community of the technology-savvy and became the information society's techno-revolutionary movement. Underlying this insurgency is a profound and troubling rejection of collective self-governance and democracy.

In terms of the democratic protests, there are both academic and political efforts to promote change in the public law. Significant academic literature decries what James Boyle terms the "second enclosure movement"⁴⁴ or what others see as the over-strengthening of property rights in information.⁴⁵ These

41. See Council Directive, *supra* note 28, art. 6.1 (requiring member states to provide "legal protection against the circumvention of effective technological measures").

42. See Sara K. Stadler, *Copyright as Trade Regulation*, 155 U. PA. L. REV. 899, 949–50 & n.261 (2007) (listing objections to anticircumvention law and its effect on the public interest in copyright).

43. Dan L. Burk & Julie Cohen, *Fair Use Infrastructure for Rights Management*, 15 HARV. J. L. & TECH. 41, 54–55 (2001) (introducing proposed DMCA modifications that would balance copyright protection with "legitimate fair use privileges of the public").

44. James Boyle, *The Second Enclosure Movement and the Construction of the Public Domain*, 66 LAW & CONTEMP. PROBS. 33, 37 (2003) (explaining that the "second enclosure movement" is essentially "the enclosure of the intangible commons of the mind").

45. See, e.g., LAWRENCE LESSIG, *FREE CULTURE: HOW BIG MEDIA USES TECHNOLOGY AND THE LAW TO LOCK DOWN CULTURE AND CONTROL CREATIVITY* 269 (2004) (concluding that there is danger in media concentration because it can call upon property rights to justify its actions); LITMAN, *supra* note 5, at 14 (expressing concern over the current expansion of copyright law and the possibility of a "collision between our expectations of freedom of expression and the enhanced copyright law"); Yochai Benkler, *An Unhurried View of Private Ordering in Information Transactions*, 53 VAND. L. REV. 2063, 2064 (2000) (expressing the opinion that the result of a "perfectly enclosed information environment" is "socially irresponsible" and "probably unconstitutional"); Yochai Benkler, *Intellectual Property and the Organization of Information Production*, 22 INT'L REV. L. & ECON. 81, 81–82 (2002) (explaining that "strong intellectual property rights" are not beneficial in "increasing aggregate information production," and are actually "likely to lead to

scholars seek to achieve change through reasoned argument and the victory of ideas in the political arena.⁴⁶ At the same time, there are social and political action movements pushing for a different allocation of intellectual property rights. For example, street protest marches challenged the application of the DMCA.⁴⁷ These efforts illustrate a commitment to the rule of law and the democratic political process. They accept collective democratic decisions, yet try to change them by promoting alternative political choices.

In a similar vein, the Creative Commons project, launched by the Harvard Berkman Center for Internet and Society and the Stanford Law School Center for Internet and Society, sought to expand the public domain of creative works of authorship.⁴⁸ Creative Commons tries to “use private rights to create public goods: creative works set free for certain uses.”⁴⁹ In other words, Creative Commons uses existing copyright law and licensing arrangements to expand the amount of content in the public domain. Niva Elkin-Koren calls this approach “subversive” because these proponents of a broader public domain do not lobby for new legislation, but rather seek “to redefine social norms and promote values of sharing and reusing.”⁵⁰ While the approach may be subversive in one sense, the proponents are engaged in classic political action in that they seek to change social norms through legal means—copyright and contract law practices. The proponents are not trying to undermine the existence of proprietary content. Thus, this approach, the distribution of content through the licensing of substantive rights without

commercialization, concentration, and homogenization of information production”); Julie E. Cohen, *The Place of the User in Copyright*, 74 *FORDHAM L. REV.* 347, 347–48 (2005) (disapproving of the “absence of the user” in copyright law because it “makes for bad theory, bad policy, and bad law”); Dan L. Burk & Tarleton Gillespie, *Autonomy and Morality in DRM and AntiCircumvention*, 4 *TRIPLE C* 239, 244 (2006), [http://triplec.uti.at/files/tripleC4\(2\)_Burk-Gillespie.pdf](http://triplec.uti.at/files/tripleC4(2)_Burk-Gillespie.pdf) (explaining that digital rights management “lock-out” technology” is troubling because of “the preemptive constraints it imposes upon information users”).

46. See, e.g., Cohen, *supra* note 45, at 373–74 (calling for lawmakers to adjust default copyright rules in order to promote creativity and progress).

47. See, e.g., Support Rally for Dimitry Sklyarov in Denver, CO USA on 19th/Stout, <http://www.mountainbitwarrior.com/RANTS/DMCA/010723/> (last visited Aug. 28, 2007) (chronicling a rally in support of Dimitry Sklyarov, who was charged with circumventing copyright protection measures in violation of the DMCA).

48. See Creative Commons, History, <http://wiki.creativecommons.org/History> (last visited Aug. 27, 2007) (explaining the organization’s goal of developing a new, reasonable set of copyright rules to counter the current overprotective default rules, thereby increasing overall public access to creative works).

49. *Id.*

50. Niva Elkin-Koren, *What Contracts Cannot Do: The Limits of Private Ordering in Facilitating a Creative Commons*, 74 *FORDHAM L. REV.* 375, 394 (2005).

threatening the existence of proprietary content, reflects a significant commitment to the rule of law.

By contrast, an important network elite appears to reject democratic choices made by the political institutions and seeks to enforce its own rule preferences on the Internet. Tim Wu writes insightfully of the choices between avoidance and change mechanisms for those who disagree with the statutory allocations of rights to digital works. Wu argues that designers of code strive to minimize, through technological functions, the cost of compliance with the law rather than seek to change the law itself.⁵¹ He labels this strategy an avoidance mechanism, as opposed to a change mechanism in which interest groups lobby for statutory changes.⁵²

The network community's avoidance mechanisms, however, have a much deeper significance. They are in reality intellectual property *evasion* mechanisms. The distinction is important. *Avoidance* implies that the mechanism is structured for underlying activity the law does not prohibit.⁵³ *Evasion*, however, connotes that the underlying activity is illicit and the purpose of the mechanism is to facilitate law-breaking.⁵⁴ This is also the distinction between *civil disobedience*—violating the law for the purpose of achieving law reform that benefits society at large—and *civil selfishness*—violating the law for personal gain and rejecting the rule of law.⁵⁵

The rejection of the democratically chosen rule of law is well illustrated by the development of peer-to-peer (“P2P”) technology. P2P software allows the sharing of files among users' computers.⁵⁶ Its existence and popularity are largely the result of

51. See Tim Wu, *When Code Isn't Law*, 89 VA. L. REV. 679, 708–09 (2003) (providing examples of how code designers “define behavior to avoid legal sanction”).

52. *Id.* at 708 (“Code design . . . is a mechanism of *avoidance* rather than a mechanism of *change*.”).

53. *Id.* at 692 (coining the term “*avoision*” as a category of avoidance and defining it as “efforts to exploit the differences between a law's goals and its self defined limits”).

54. See *id.* at 691–92 (defining evasion as “an investment in decreasing the odds of being punished for violating a law,” and providing examples such as “[w]earing a mask to rob a bank, buying a radar detector, hiring expensive defense lawyers, and bribing police officers”).

55. See Matthew R. Hall, *Guilty But Civilly Disobedient: Reconciling Civil Disobedience and the Rule of Law*, 28 CARDOZO L. REV. 2083, 2083–84 (2007) (limiting civil disobedience to categories that compel one to break the law so that a “democratic society will correct its mistakes, or at least reexamine intensely divisive decisions”); see also Eduardo Moisés Peñalver & Sonia K. Katyal, *Property Outlaws*, 155 U. PA. L. REV. 1095, 1128–29 (2007) (discussing Ronald Dworkin's distinction between civil disobedience and ordinary selfishness).

56. See CNET News.com, Glossary: Peer-to-Peer Network, <http://www.cnet.com/Resources/Info/Glossary/Terms/peer.html> (last visited Sept. 16, 2007) (defining a peer-to-

interest in sharing music files. The early technology designs encouraged a social norm for file sharing in flagrant disregard of the copyright law.⁵⁷ First generation programs, notably Napster, were in effect designed to help users violate music owners' copyrights.⁵⁸ Napster even "advertised the ease with which users could find their favorite popular music without 'wading through page after page of unknown artists.'"⁵⁹

Second generation file-sharing programs sought to code around the key court rulings holding software producers liable for their users' infringement.⁶⁰ More precisely, developers explicitly tried to evade legal authority. Second generation programs were constructed to allow users to continue to trade illicitly in copyrighted digital music while evading the pitfalls that sidelined Napster.⁶¹ For example, the developers of Gnutella cynically claimed that it was "a *technology*, not a music-piracy tool," but expressly designed the technology to "withstand . . . lawyers" and be "absolutely unstoppable."⁶² FastTrack/Morpheus and Gnutella, in effect, tried to side-step the rulings in *UMG Recordings, Inc. v. MP3.com, Inc.*⁶³ and *A&M Records, Inc. v. Napster, Inc.*⁶⁴ In both cases, the courts imposed

peer network as the ability of a computer to share files with other computers on the network without the need of a dedicated server).

57. See Lior Jacob Strahilevitz, *Charismatic Code, Social Norms, and the Emergence of Cooperation on the File-Swapping Networks*, 89 VA. L. REV. 505, 548–49 (showing that "charismatic code" was designed to magnify a sense of reciprocity by deceiving users into believing cooperative behavior is prevalent on the network, thus encouraging large numbers of people to disregard the law).

58. See *A&M Records, Inc. v. Napster, Inc.*, 114 F. Supp. 2d 896, 918–19 (N.D. Cal. 2000) (noting that Napster was not simply a conduit to transfer files, but was designed specifically to locate music, the majority of which is copyrighted), *aff'd in part, rev'd in part*, 239 F.3d 1004, 1022 (9th Cir., 2001) (agreeing with the district court that Napster provided "the site and facilities" for secondary infringement).

59. *Id.* at 904.

60. See Wu, *supra* note 51, at 726–37 (describing the evolution of P2P file-sharing software as a mechanism of avoidance of intellectual property rights).

61. *Id.* at 730–37 (illustrating how the successors of Napster were "designed to avoid the copyright lawsuit that had befallen Napster").

62. See Gnutellanews.com, What is Gnutella?, http://web.archive.org/web/20020204135859/http://www.gnutellanews.com/information/what_is_gnutella.shtml (last visited Sept. 16, 2007), *cited in* Strahilevitz, *supra* note 57, at 516–18 (commenting on the lengths Gnutella went to distinguish themselves from Napster's legal limitations). Interestingly, Gnutella removed these incriminating quotes from its website, so the passage can only be found in Internet archives.

63. *UMG Recordings, Inc. v. MP3.com, Inc.*, 92 F. Supp. 2d 349, 350–53 (S.D.N.Y. 2000) (finding copyright infringement in MP3.com's coding and transmission of MP3's to its users and denying MP3.com's assertion of "fair use" because the reproduction was not "transformative").

64. *Napster*, 114 F. Supp. 2d at 927 (N.D. Cal. 2000) (enjoining Napster from "engaging in, or facilitating others in copying, downloading, uploading, transmitting, or

copyright liability on the technologists who aided users in sharing copyrighted music. These holdings were based in part on the centralized index features of those programs that were akin to card catalogs and enabled users to find copyrighted music files.⁶⁵ The second generation software left out the centralized card-catalog function.⁶⁶ Indeed, as Tim Wu notes, “[p]rogrammers wrote FastTrack and Gnutella to exploit loopholes left by the Napster decision.”⁶⁷ The developers of Gnutella were explicitly revolting against legal authority. Not surprisingly, in the wake of Napster’s shut down, Gnutella became a technology of choice for those looking to download music files illicitly without the permission of the copyright owners.⁶⁸

Lior Strahilevitz also observed that “[t]he file-swapping networks therefore represent a particularly brazen and successful attack on intellectual property rights.”⁶⁹ Strahilevitz demonstrated that file-sharing’s “charismatic code” actually creates a deception to encourage law-breaking behavior among users by distorting individual users’ perceptions of group behavior.⁷⁰ Strahilevitz further showed that file-sharing could not honestly be shrouded in the noble mantle of *civil disobedience* because typical file-swappers only share a small portion of their music collections and thus cannot truly be motivated by a sense of civil disobedience.⁷¹

In essence, a technological elite has empowered the disregard of the rule of law by users. If this empowerment resulted in a mass, majority rejection of the chosen rule, then the

distributing” A&M Records’s copyrighted materials), *aff’d in part, rev’d in part*, 239 F.3d 1004, 1027–29 (9th Cir. 2001) (affirming the district court’s grant of a preliminary injunction against Napster, but placing “the burden on the plaintiffs to provide notice to Napster of copyrighted works and files containing such works available on the Napster system before Napster has the duty to disable access to the offending content”).

65. See *id.* at 901–02, 911–12, 927 (noting that Napster’s “peer-to-peer file sharing system . . . allows Napster users to conduct relatively sophisticated searches for music files on the hard drives of millions of other anonymous users”); *MP3.com*, 92 F. Supp. 2d at 350, 352–53 (noting that MP3.com’s service “permit[ed] subscribers to store, customize[,] and listen to the recordings contained on their CDs from any place where they have an Internet connection”).

66. See Wu, *supra* note 51, at 731–37 (detailing the decentralized design of Napster’s successors).

67. *Id.* at 737.

68. See Thomas Mennecke, *Gnutella on the Rise*, SLYCK, July 21, 2004, <http://www.slyck.com/story530.html> (chronicling the influx of former Napster users to Gnutella networks when Napster failed).

69. Strahilevitz, *supra* note 57, at 535.

70. *Id.* at 550–52 (“The architecture of the networks is such that although many users on the networks do not share, the networks create an appearance that sharing is the norm.”).

71. *Id.* at 573–74 (indicating alternative motivations behind file sharing).

democratic legitimacy of the rule might be questioned. But, according to a Pew Internet and American Life report in May 2007, the entire music downloading public in the United States represents only 27% of internet users.⁷² Not all 27% of those internet users are necessarily engaged in copyright infringing activities.⁷³ Thus, only a minority of Internet users appear to reject the rule of intellectual property law, though they are a visible minority.

The tremendous effort and creativity deployed to undermine the rule of intellectual property law can also be seen in a larger commercial context. Google is promoting two prominent ventures, Google's YouTube and the Google Books Library Project, each of which use new online technology to fundamentally challenge the public law's copyright choices.⁷⁴ These ventures present a technological attack on the copyright principle of "fair use." The U.S. statutory framework allows royalty-free copying of a protected work for certain types of noncommercial uses, if the public benefits outweigh any losses to authors.⁷⁵ Google's technological designs, though, are fundamentally about commercial gain. Siva Vaidhyanathan goes even further and argues that "Google Library invites copyright meltdown."⁷⁶

The Google Books Library Project seeks to scan and store digitally as many books in print as possible so the books can be searched online and so portions of their text can be displayed.⁷⁷ Google has chosen to technologically reproduce the classic libraries of the world for online digital dissemination. The idea and scope of the project is undoubtedly extraordinary and

72. JOHN B. HARRIGAN, PEW INTERNET & AMERICAN LIFE PROJECT, A TYPOLOGY OF INFORMATION AND COMMUNICATION TECHNOLOGY USERS 2-3 (2007), http://www.pewinternet.org/reports/pdfs/PIP_ICT_Typology.pdf.

73. *Id.* (noting that 21% of internet users "[p]lay to access or download digital content online, such as music, video, or newspaper articles").

74. *See Google Buys YouTube for \$1.65 Billion*, MSNBC.COM, Oct. 10, 2006, <http://www.msnbc.msn.com/id/15196982> (discussing the copyright concerns associated with YouTube); *Google Moving Ahead with Digital Library*, MSNBC.COM, Sept. 18, 2005, <http://www.msnbc.msn.com/id/9392186> (predicting that the Google Books Library Project will put current copyright laws to a "digital-age test").

75. 17 U.S.C. § 107 (2000); *see* Willaim F. Patry & Richard A. Posner, *Fair Use and Statutory Reform in the Wake of Eldred*, 92 CAL. L. REV. 1139, 1649 (2004) (explaining fair use cases that "involve[] some harm to the copyright holder in lost revenues (and not because of criticism) but the harm is more than offset by the sum of the benefits to others and the savings in the transaction costs that would be incurred were licensing required").

76. Siva Vaidhyanathan, *The Googlization of Everything and the Future of Copyright*, 40 U.C. DAVIS L. REV. 1207, 1221 (2007).

77. *See* Google, Google Books Library Project, <http://www.google.com/googlebooks/library.html> (last visited Aug. 27, 2007).

provides important public benefits through the dissemination of information. Yet Google wants to profit from the existence of these copyrighted works without compensating the authors of the copied works.⁷⁸ In essence, Google makes a copy of each author's work, for commercial gain, without any compensation to the author.⁷⁹ This is an exploitation of works of authorship. Google argues that its use is transformative and thus a "fair use" permitted under U.S. copyright law.⁸⁰ Copyright owners, however, are vigorously challenging Google's attack on the owners' rights to control the copying and distribution of their works.⁸¹ While the qualification of Google's actions as a fair use under the legal criteria in the United States remains to be determined by the courts, the project is global in scope, and the broad American fair use exception is not a feature in other national copyright laws.⁸²

The characterization of this project as a technological rejection of law is well illustrated by another project that offers an alternative approach in support of public law choices. The Internet Archive and the Open Content Alliance, composed of major companies such as Yahoo!, libraries, archives, and universities such as Rice University and Columbia University,

78. *Author's Complaint*, *supra* note 8, ¶ 5; see Jonathan Band, *The Google Library Project: The Copyright Debate*, LLRX.COM, June 10, 2006, <http://www.llrx.com/features/googlelibraryproject.htm> (acknowledging that although Google will not profit through direct advertising revenue, "Google hopes that by including a large number of books in its search index, it will differentiate itself from its competitors and attract more 'eyeballs,' which in turn will lead to more advertising revenue").

79. *Author's Complaint*, *supra* note 8, ¶ 39.

80. Answer at 7, *Author's Guild v. Google, Inc.*, No. 05-CV-8136 (Nov. 30, 2005) (asserting fair use as an affirmative defense); Posting of Susan Wojcicki to Official Google Blog, <http://googleblog.blogspot.com/2005/09/google-print-and-authors-guild.html> (Sept. 20, 2005) ("Google respects copyright. The use we make of all the books we scan through the Library Project is fully consistent with both the fair use doctrine under U.S. copyright law and the principles underlying copyright law itself, which allow everything from parodies to excerpts in book reviews."); see also ROBIN JEWELER, CONG. RESEARCH SERV., *THE GOOGLE BOOK SEARCH PROJECT: IS ONLINE INDEXING A FAIR USE UNDER COPYRIGHT LAW?* 2-5 (2005), http://openers.com/rpts/RS22356_20051228.pdf (analyzing Google's claim that the Google Books Library Project qualifies as a permissible fair use).

81. See *Author's Complaint*, *supra* note 8, at 2-3; see also Elinor Mills, *Author's Guild Sues Google over Library Project*, CNET NEWS.COM, Sept. 21, 2005, http://news.com.com/2100-1030_3-5875384.html (discussing the Author's Guild's copyright infringement suit against Google).

82. Berne Convention for the Protection of Literary and Artistic Works art. 10, Sept. 9, 1886, as last revised July 24, 1971, 25 U.S.T. 1341, 828 U.N.T.S. 221 (allowing authorization for fair use); see also Tyler G. Newby, *What's Fair Here Is Not Fair Everywhere: Does the American Fair Use Doctrine Violate International Copyright Law?*, 51 STAN. L. REV. 1633, 1642-47 (1999) (examining the "comparative breadth of the American fair use doctrine" by surveying copyright law in several other countries).

are likewise scanning books and making them available online.⁸³ But, these efforts only involve books that are already in the public domain by operation of copyright law or the author's choice.⁸⁴ As such, this model uses technology to promote legislative choices rather than to evade them.

In the realm of online video, Google has also challenged public law choices with its acquisition of YouTube, the popular video content hosting site. Google's purchase of the site for \$1.65 billion effectively transformed the online community of users sharing video into a commercial enterprise.⁸⁵ The price reflected value embodied in the third-party content stored on the site by users.⁸⁶ However, Google did not plan to compensate the owners of the content.⁸⁷ More troubling, a substantial quantity of the content available on YouTube appears to have been posted without authorization from the copyright owners.⁸⁸ Similar to the P2P technologies, the initial design and architecture of YouTube empowered the rejection of the rights that the law accorded to the video copyright owners.⁸⁹ Interestingly, once Google was sued

83. See Open Library, *The Vision*, <http://www.openlibrary.org/toc.html> (last visited Sept. 10, 2007) (listing the members of the Open Content Alliance and explaining how The Open Library allows visitors to read books online for free); Open Content Alliance, *FAQ*, <http://www.opencontentalliance.org/faq.html> (last visited Sept. 10, 2007) (detailing the Open Content Alliance's goal of creating "a permanent archive of multilingual digitized text and multimedia content").

84. See Open Content Alliance, *FAQ*, *supra* note 83 ("[C]ontributors must secure the permission of all concerned copyright holders prior to submitting materials to the OCA for digitization or inclusion in the archive.").

85. See Press Release, Google, *Google To Acquire YouTube for \$1.65 Billion in Stock*, (Oct. 9, 2006), http://www.google.com/press/pressrel/google_youtube.html (announcing that the acquisition combines YouTube's enormous user network with "Google's expertise in organizing information and creating new models for advertising on the Internet").

86. See Tom Krazit, *Google Makes Video Play With YouTube Buy*, ZDNET, Oct. 9, 2006, http://news.zdnet.com/2100-9595_22-6124094.html (citing statistics that YouTube contained approximately 100 million videos at the time of its purchase, and quoting Google cofounder Sergey Brin as recognizing the "advertising possibilities" therein).

87. See Katie Hafner, *We're Google. So Sue Us.*, N.Y. TIMES, Oct. 23, 2006, at C1 (quoting Google's general counsel, who reported that Google had "investigated that whole issue" and planned to rely on the safe harbor provision of the DMCA to avoid liability). The YouTube Terms of Service require users to grant YouTube a royalty-free sublicenseable right to distribute and sell their uploaded content. See YouTube, *YouTube Terms of Service*, art. 6, <http://www.youtube.com/t/terms> (last visited Aug. 26, 2007).

88. See, e.g., Anne Broache & Greg Sandoval, *Viacom Sues Google over YouTube Clips*, CNET NEWS.COM, Mar. 13, 2007, http://news.com.com/Viacom+sues+Google+over+YouTube+clips/2100-1030_3-6166668.html (detailing Viacom's allegations that nearly 160,000 clips of Viacom-copyrighted content had been posted to YouTube without Viacom's permission). Viacom's original complaint is available at <http://www.lessig.org/blog/archives/vvg.pdf>.

89. See YouTube Terms of Service, *supra* note 87, arts. 6-8, 11 (putting the responsibility on users and copyright holders to police copyright infringement on YouTube and denying responsibility for consequences of such infringement); see also John Palfrey

by Viacom for copyright infringement on YouTube, Google agreed to re-engineer YouTube's infrastructure to filter from the site unauthorized, uploaded works that violate third-party copyrights.⁹⁰ In other words, when faced with a serious legal challenge to the technological attack on public law choices, Google appears to be relenting.

These technological attacks on copyrighted works are reminiscent of the famous trademark case, *Washington Post v. TotalNews, Inc.*, in which TotalNews was sued for posting content from third-party news sites within "frames" that contained the TotalNews logo and URL.⁹¹ The plaintiffs complained that TotalNews designed its technology to capture value from others' work by selling advertising in the frames.⁹² The case settled with an order prohibiting TotalNews from selling ads on content provided by *Washington Post* affiliates.⁹³

Beyond the technology companies disrupting law, the most novel and interesting technological attack on the rule of intellectual property law comes from the "open source" movement. In 1983, Richard Stallman launched the free software movement and said, "I consider that the golden rule requires that if I like a program I must share it with other people who like it. I cannot in good conscience sign a nondisclosure agreement or a software license agreement."⁹⁴ In the ensuing years, Stallman and the Free Software Foundation articulated an opposing model

& Stan Liebowitz, *Does YouTube Make Google a Big Target for Copyright Suits?*, WALL ST. J., Oct. 11, 2006, <http://online.wsj.com/public/article/SB116049721244288215.html> (differentiating YouTube from sites such as Napster and Grokster in that YouTube's original purpose was to provide a forum for users' self-generated works but recognizing that similar problems arise from the ease by which users can post copyright infringing material).

90. See *For YouTube, A System to Halt Copyright-Infringing Videos*, N.Y. TIMES, July 28, 2007, at C6 (detailing the proposed system's use of video recognition technology that would recognize and automatically remove copyrighted work).

91. See Complaint ¶¶ 7-10, *Washington Post v. Total News, Inc.*, No. 97-1190 (S.D.N.Y. Feb. 20, 1997), as reprinted at <http://legal.web.aol.com/decisions/dlip/washcomp.html> (alleging that TotalNews produced little content of its own but generated page views and advertising revenue by stealing and republishing the plaintiffs' news and editorial stories).

92. See *id.* ¶¶ 51-55 (alleging that TotalNews' practice infringed plaintiffs' trademarks by using the marks in connection with unauthorized advertising).

93. See Stipulation and Order of Settlement and Dismissal ¶¶ 1, 3, *Washington Post v. Total News, Inc.*, No. 97-1190 (S.D.N.Y. Jun. 6, 1997), as reprinted at <http://legal.web.aol.com/decisions/dlip/washorde.html> (dismissing the case and describing the settlement reached by the parties).

94. Richard Stallman, *About the GNU Project: Initial Announcement*, <http://www.gnu.org/gnu/initial-announcement.html> (last visited Aug. 26, 2007) (narrating Stallman's reasons for beginning work on a "complete Unix-compatible software system" that he intended to give away for free upon completion).

to the legally created proprietary rights approach to information innovation and creativity. This alternative model treats software like an information commons:

Free software is a matter of the users' freedom to run, copy, distribute, study, change and improve the software. More precisely, it refers to four kinds of freedom, for the users of the software:

- The freedom to run the program, for any purpose (freedom 0).
- The freedom to study how the program works, and adapt it to your needs (freedom 1). Access to the source code is a precondition for this.
- The freedom to redistribute copies so you can help your neighbor (freedom 2).
- The freedom to improve the program, and release your improvements to the public, so that the whole community benefits (freedom 3). Access to the source code is a precondition for this.

A program is free software if users have all of these freedoms.⁹⁵

In this sense, the “open source movement” was the first concerted effort of technologists to rebel against the prevailing public law choice.⁹⁶ Indeed, Richard Stallman calls for the technical community “to recognize the moral unacceptability of non-free software.”⁹⁷ He even goes so far as to call the overthrow of proprietary software “a moral imperative for Christian communicators.”⁹⁸

Ironically, the open source movement relies on copyright and an onerous licensing scheme to implement its philosophy.⁹⁹ The General Public License, known as the GPL, is the basic instrument used by software developers to promote this

95. Free Software Foundation, The Free Software Definition, <http://www.gnu.org/philosophy/free-sw.html> (last visited Aug. 26, 2007).

96. Throughout this Article, the terms “free software movement” and the “open source software movement” are used interchangeably.

97. Richard Stallman, *The Free Software Community After 20 Years: With Great, but Incomplete Success, What Now?*, LINUX.COM, Jan. 5, 2004, <http://www.linux.com/articles/33525>.

98. Richard Stallman, *Stallman: Free Software Is a Moral Imperative for Christians*, <http://www.wacc.org.uk/wacc/content/pdf/1691> (last visited Nov. 8, 2007).

99. See Ira V. Heffan, Note, *Copyleft: Licensing Collaborative Works in the Digital Age*, 49 STANFORD L. REV. 1487, 1504–11 (1997) (explaining the GPL and copyleft licensing).

information commons model.¹⁰⁰ The license relinquishes the privileges of copyright but requires developers to agree to allow others to use their software freely.¹⁰¹ Various other forms of open source license agreements now also exist.¹⁰²

The commons model has its conceptual difficulties. Philip J. Weiser notes that “the larger the Internet community becomes, the more difficult it is to maintain a completely ‘commons’ model.”¹⁰³ Polk Wagner goes further and challenges the open source view that the control of information distribution through intellectual property rights threatens the public domain of information.¹⁰⁴ He shows that information production can still thrive in a world of intellectual property controls and that the dark side of open source is an encouragement of economic free-riding.¹⁰⁵

More significantly, in adopting the commons approach to software, technologists reject the democratically expressed preference for proprietary intellectual property. The open source community creates instability that directly threatens legislative choice. The intermingling of proprietary software with open source software, or open source with proprietary, results in uncertainty for intellectual property rights. Indeed, the introduction of proprietary code in GNU/Linux, the basic open source operating system—either maliciously or unintentionally—is an Achilles Heel for the open source movement. The protracted IBM/SCO litigation illustrates this problem.¹⁰⁶ As Jonathan

100. See Free Software Foundation, Inc., Licenses, <http://www.gnu.org/licenses> (last visited Sept. 15, 2007) (explaining the GNU GPL and claiming that it is used by “more than half of all free software packages”).

101. See generally Free Software Foundation, Inc., GNU General Public License: Version 3, <http://www.gnu.org/licenses/gpl.html> (last visited Aug. 27, 2007); Free Software Foundation, Inc., The GNU General Public License: Version 2, <http://www.opensource.org/licenses/gpl-license.php> (last visited Aug. 27, 2007).

102. See Free Software Foundation, Inc., Licenses, http://www.fsf.org/licenses/licenses/index_html (last visited Sept. 10, 2007) (describing and providing links to several different types of open source licenses); Opensource.org, Open Source Licenses, <http://www.opensource.org/licenses/category> (last visited Aug. 27, 2007) (providing a list of licenses approved as open source).

103. Philip J. Weiser, *Internet Governance, Standard Setting, and Self-Regulation*, 28 N. KY. L. REV. 822, 830 (2001).

104. R. Polk Wagner, *Information Wants to Be Free: Intellectual Property and the Mythologies of Control*, 103 COLUM. L. REV. 995, 1033 (2003).

105. See *id.* at 1029 (“[O]pen source software invites a form of free-riding whereby open software is taken, improved or altered, and then distributed under the more typical closed commercial model.”).

106. See Pamela Jones, Summary of *SCO v IBM*, <http://www.groklaw.net/staticpages/index.php?page=20050315132709446> (last visited Sept. 7, 2005) (setting forth the parties’ current allegations and relief requested); see also Ronald Mann, *Commercializing Open Source Software: Do Property Rights Still Matter?*, 20 HARV. J. L.

Zittrain points out, the legal system can cripple open source through high stakes litigation over proprietary claims and cannot easily resolve the conflict between the open and proprietary models.¹⁰⁷

The legal instability created by open source licensing even attacks works protected by the law's choice of intellectual property rights. Greg Vetter, in an insightful piece, suggests the goal of "infectious licenses" is to prevent the very existence of proprietary software.¹⁰⁸ He argues that the public value of interoperability is undermined by overbroad terms in infectious licenses like the GPL.¹⁰⁹ In other words, the open source community seeks to use a market approach to impose political values on the network participants. When mainstream companies like IBM and Sun Microsystems adopt open source,¹¹⁰ they make normative decisions about information flows through technological choices.¹¹¹ In effect, the emphasis on market adoption empowers the private domination of information flows without the political decisions embodying the protection of citizens' rights that are expected in democratic society. The open source community wants to make these political decisions without the public order protections that democracies include in law for minorities. In effect, open code shifts fundamentally political decisions from democratic institutions to technological and network elites. This shift undermines the philosophy of freedom and citizens' rights in democracy.

& TECH. 1, 43 (2006) (noting that Linux may infringe 283 patents); Jonathan Zittrain, *Normative Principles for Evaluating Free and Proprietary Software*, 71 U. CHI. L. REV. 265, 266–67 (2004) (explaining the issue of using proprietary code in open source software in *SCO v. IBM*, which may potentially result in "the conversion of the flagship example of free, copylefted software into a proprietary system owned and controlled by SCO, one user at a time").

107. See Zittrain, *supra* note 106, at 265, 285–87 ("[T]he costs of litigation are beyond the reach of many free software developers.").

108. See Greg R. Vetter, "Infectious" *Open Source Software: Spreading Incentives or Promoting Resistance?*, 36 RUTGERS L.J. 53, 58–59 (2004) ("Some estimate that infectious terms promote open source growth by supporting community development norms and preventing proprietary poaching of the software, or converting proprietary software to open source.").

109. See *id.* at 59.

110. See Martin LaMonica, *IBM Urges Sun to Make Java Open Source*, CNET NEWS.COM, Feb. 26, 2004, http://news.com.com/IBM+urges+Sun+to+make+Java+open+source/2100-1007_3-5165427.html (discussing IBM's open letter to Sun Microsystems, requesting that Sun make Java open source).

111. See LESSIG, *supra* note 9, at 104–05 (tracking the shift from closed code to open code and commenting on the motivations for this shift); Reidenberg, *Lex Informatica*, *supra* note 9, at 554–55 ("[T]he set of rules for information flows imposed by technology and communication networks form a 'Lex Informatica' that policymakers must understand, consciously recognize, and engage."); see also Rob Merges, *A New Dynamism in the Public Domain*, 71 U. CHI. L. REV. 183, 184 (2004) (hypothesizing that open source might be a market correction due to an overly protective intellectual property regime).

V. NORMATIVE RESPONSES

The technologists' and network elites' challenges to intellectual property rights go much deeper than intellectual property law. Intellectual property law has democratic legitimacy through its legislative enactment as a result of democratic political processes. For example, whether one approves or not, the DMCA legitimizes access control technologies because legislators chose that rule. The technologists' evasions do not have this democratic political legitimacy. The challenge thus goes to society's very commitment to the rule of law. Law cannot operate in the digital environment without technical code. Indeed, technical infrastructure design plays a critical normative role in democratic society and architecture defines rules for an information network.¹¹² Yet, the relinquishment of the rule of law for the control by code as sought by technologists in their fights against intellectual property rights sets a dangerous precedent for democracy.

The information society will necessarily have several critical responses to address the technological challenge to democratic authority. First, states cannot accept the contradiction of public rulemaking. To do otherwise would constitute an abdication of the public responsibilities entrusted to the state by its citizens at the ballot boxes. Second, states will increase intermediary liability. The DMCA, for example, allows greater liability for intermediaries through the notice and take-down safe-harbor rules than the earlier telecommunications rules that totally precluded internet service providers' responsibility for the content they carried.¹¹³ Similarly, the Supreme Court's *Grokster* decision illustrates a greater willingness to impose intermediary liability.¹¹⁴ These decisions increasing liability will affect

112. See Joel R. Reidenberg, *Governing Networks and Rule-Making in Cyberspace*, 45 EMORY L.J. 911, 917 (1996) ("System design imposes rules of order on an information society."); Reidenberg, *Lex Informatica*, *supra* note 9, at 568–69. (distinguishing *Lex Informatica* from the substantive legal rules as the impositions placed on information flows by technological choices).

113. Compare 17 U.S.C. § 512(c) (2000) (granting limited immunity for hosts of infringing content only where the host receives notification of claimed infringement and properly removes or disables the content), with 47 U.S.C. § 230(c)(1) (2000) (declaring that ISPs are not treated as publishers, thus absolving them of responsibility for content provided by another). See generally Mark A. Lemley, *Rationalizing Internet Safe Harbors* 1–2 (Stanford Public Law Working Paper, No. 979836, 2007), available at <http://ssrn.com/abstract=979836> (discussing intermediary liability and safe harbor rules).

114. See *Metro-Goldwyn-Mayer Studios Inc. v. Grokster, Ltd.*, 545 U.S. 913, 919 (2005) ("We hold that one who distributes a device with the object of promoting its use to infringe copyright, as shown by clear expression or other affirmative steps taken to foster infringement, is liable for the resulting acts of infringement by third parties.").

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THE RULE OF IP LAW

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architectural designs in ways that will support the public law decisions. To the extent that technologists will then seek to evade new legal rules, further state intervention is likely. And lastly, states will increasingly focus laws on the technologies themselves. By way of illustration, the DMCA prohibits anticircumvention devices,¹¹⁵ and the Communications Assistance for Law Enforcement Act (CALEA) requires digital communications service providers to make their networks “wiretap-ready” through specific technical capabilities.¹¹⁶ These technology-focused laws will seek to assure functionality that supports the public law decisions. In combination, these three types of state responses channel the network elite’s opposition to legislative policy choices in ways that will assure the rule of law rather than the rule of technology.

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In short, democracy must prevail over the “technocracy.”

115. 17 U.S.C. § 1201(a)(2), (b) (2000) (advancing a strict prohibition against devices used “to circumvent a technological measure that effectively controls access to a work protected under this title”).

116. 47 U.S.C. § 1002(a) (2000) (requiring telecommunication carriers to have “equipment, facilities, or services” capable of allowing properly authorized government interceptions of “wire and electronic communications”).