MAPPING THE DIGITAL PUBLIC DOMAIN: THREATS AND OPPORTUNITIES

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I
INTRODUCTION

Whether the public domain is a virtual wasteland of undeserving detritus or the font of all new creation is the subject of some debate.[1] Those who adhere to the former perspective do not worry about "threats" to this domain any more than they would worry about scavengers who go to garbage dumps to look for abandoned property. Adherents of the latter view, interestingly enough, are not of one mind about "threats" to this domain. Some believe that propertizing value residing in the public domain will produce more social benefit than letting content languish there,[2] while others regard propertization itself as the main threat to the public domain.[3]

At the risk of seeming a contrarian, I concur with all three views: some of what is in the public domain is detritus; some of what is valuable in the public domain might be better utilized if propertized to some degree; other parts of the public domain need to remain open and unownable as sources for future creations. In the course of explaining why I embrace this seemingly contradic-

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1. Among those who seem to adhere to the former characterization are BENJAMIN KAPLAN, AN UNHURRIED VIEW OF COPYRIGHT 45-46 (1967) and Robert DeNicola, *Copyright in Collections of Facts: A Theory for the Protection of Nonfiction Literary Works*, 81 COLUM. L. REV. 516, 521-22 (1981). Among those who adhere to the latter are JAMES BOYLE, SHAMANS, SOFTWARE, & SPLEENS at x-xi (1998) and Jessica Litman, *The Public Domain*, 39 EMORY L.J. 965, 968 (1990).

2. *See, e.g.*, Eldred v. Reno, 239 F.3d 372, 379 (D.C. Cir. 2001), *cert. granted sub nom*. Eldred v. Ashcroft, 534 U.S. 1126 (2002), *and cert. amended*, 534 U.S. 1160 (2002) (suggesting that more works will be available if copyright terms are lengthened than if the works go into the public domain); JESSICA LITMAN, DIGITAL COPYRIGHT 77 (2001) (quoting Jack Valenti of the Motion Picture Association of America as saying that "[a] public domain work is an orphan," an observation that would seem to provide a rationale for perpetual protection for motion pictures).

3. *See, e.g.*, BOYLE, *supra* note 1, at 125-43; Yochai Benkler, *Free As the Air To Common Use: First Amendment Constraints on Enclosure of the Public Domain*, 74 N.Y.U. L. REV. 354, 397 (1999); David Lange, *Recognizing the Public Domain*, 44 LAW & CONTEMP. PROBS. 147, 147 (Autumn 1981).

tory perspective, I will offer a map of the public domain.[4] This map is a useful prelude to a discussion of possible impacts of various legal and policy developments affecting the digital public domain. Some initiatives would have adverse effects on the digital public domain, while others may not. This article will identify a number of threats to the public domain that deserve attention. It will also celebrate contributions that digitalization and digital networks have made in extending the public domain and enabling projects to preserve the digital commons. In some respects, digital information and digital networks have made the public domain more vibrant and robust, and if various digital commons initiatives attain their goals, the public domain may flourish as never before.

II

MAPPING THE PUBLIC DOMAIN AS AN AID TO UNDERSTANDING ITS PRESENT STATE IN THE DIGITAL ENVIRONMENT

The public domain has been, for the most part, an uncharted terrain. Sometimes it seems an undifferentiated blob of unnamed size and dimensions.[5] More often, discourse about the public domain focuses on one, or a small number, of its component parts or traits.[6] As a number of scholars have recognized, the public domain consists, in fact, of a vast and diverse assortment of contents.[7] The public domain is, moreover, different sizes at different times and in different countries.[8] Sometimes the public domain grows, as when patents or copyrights expire, or as in the aftermath of decisions such as *Feist Publications, Inc. v. Rural Telephone Service*, which held that uncreative compilations of facts

4. The idea of mapping the public domain is not original to me, but rather to Laurel Jamtgaard, formerly a Boalt student and now a practicing lawyer, who proposed to write a paper on this subject on the theory that such a map might prove fruitful in analysis of public domain issues.

5. *See, e.g.*, Edward Samuels, *The Public Domain in Copyright Law*, 41 J. COPYRIGHT SOC'Y U.S.A. 137, 137 (1993) (public domain is what remains when all forms of protected information are taken into account).

6. *See, e.g.*, Paul J. Heald & Suzanna Sherry, *Implied Limits on the Legislative Power: The Intellectual Property Clause as an Absolute Constraint on Congress*, 2000 U. ILL. L. REV. 1119, 1168-76 (2000) (arguing that the Copyright Term Extension Act is unconstitutional, as was earlier legislation restoring copyrights in foreign works that had been consigned to the public domain by U.S. formality requirements prior to 1989); Paul J. Heald, *Reviving the Rhetoric of the Public Interest: Choir Directors, Copy Machines, and New Arrangements of Public Domain Music*, 46 DUKE L.J. 241 (1996) (discussing illegitimate claims of derivative work copyrights in public domain music); Arti Rai, *Regulating Scientific Research: Intellectual Property Rights and the Norms of Science*, 94 NW. U. L. REV. 77 (1999) (expressing concern about efforts to propertize human genome data).

7. *See, e.g.*, BOYLE, *supra* note 1, at 209 n.8; Litman, *supra* note 1, at 992-95.

8. Some things are in the public domain in one country but not another. Some countries, such as the United Kingdom, allow copyright protection for laws and other government works, whereas U.S. law precludes this. *See* 17 U.S.C. §105 (2002). Some categories of intellectual creations that once were in the public domain are now subject to intellectual property rights. *Compare* 17 U.S.C. §102(a) (architectural works are listed as among the original works of authorship protected under the Copyright Act of 1976, as amended) *with* 17 U.S.C. §5 (repealed 1976) (listing protectable subject matters of copyright protection under the Copyright Act of 1909, now superceded, a list that did not include architectural works).

cannot be protected by U.S. copyright law.[9] Sometimes it shrinks, as when the European Union promulgated a directive requiring EU member states to protect the contents of databases[10] or when U.S. courts decided that business methods could be patented.[11] The public domain also has some murky areas. For example, some intellectual creations are, in theory, in the public domain, but for all practical purposes, do not really reside there.[12] Although I define the public domain as a sphere in which contents are free from intellectual property rights, there is another murky terrain near the boundaries of the public domain consisting of some intellectual creations that courts have treated as in the public domain for some, but not all, purposes.[13]

Across the border from the public domain are several categories of content that are so widely usable that, for practical purposes, they seem to be part of the public domain.[14] This includes, importantly, much content that is technically protected by copyright law but is widely available to the public, as when it is posted on publicly accessible web sites available to all comers without fee or apparent restrictions on use. Also outside the public domain in theory, but seemingly inside in effect, are such things as open source software; a penumbra of privileged uses under fair use, experimental use, and other copyright rules that permit unlicensed uses and sharing of information to take place; and standards that are licensed without payment of royalties.[15] Also at the perimeter of the public domain are works whose intellectual property rights are on the verge of expiring and, arguably, some creations that are about to be made—such as a new computer programming language or the solution to a longstanding mathematical problem—that, once they exist, will be part of the public domain. In the map below, the public domain is akin to its own nation-state. Various categories of public domain information are akin to regions of that nation. The contents of each category are akin to the cities or villages within that region that, in turn, have populations of various sizes. Some artifacts may reside in more than

9. 499 U.S. 340, 363-64 (1991).

10. Council Directive 96/9 of 11 March 1996 on the Legal Protection of Databases, 1996 O.J. (L 77), 20 [hereinafter EU Database Directive].

11. State St. Bank & Trust Co. v. Signature Fin. Servs., 149 F.3d 1368, 1375 (Fed. Cir. 1998). Policy-makers in the European Union have decided not to follow the United States in this respect.

12. A painting from the mid-nineteenth century that remains in a private collection or was destroyed in a fire is, in theory, in the public domain as a matter of copyright law, but its non-public nature or its destruction mean that it may, in fact, be there only in theory.

13. *See, e.g.*, Frederick Warne & Co. v. Book Sales, Inc., 481 F. Supp. 1191, 1196 (S.D.N.Y. 1979) (holding that illustrations from Beatrix Potter's Peter Rabbit stories were in the public domain as a matter of copyright law, but were nonetheless protected by trademark law when a competing publisher included the illustrations in its books).

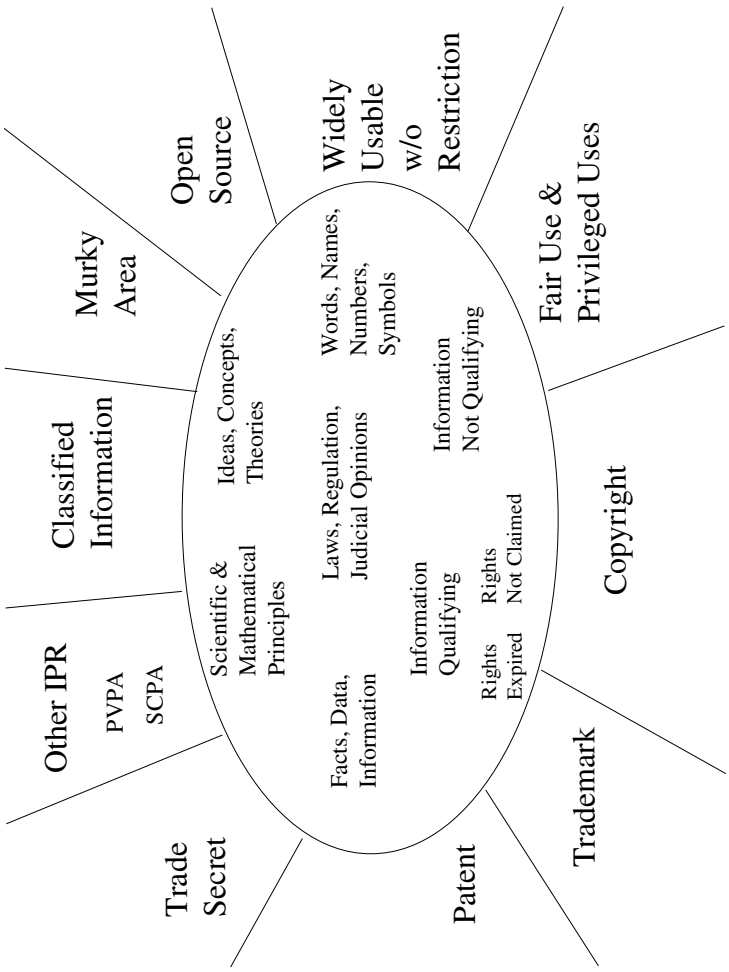
14. Some commentators consequently treat some of these contiguous areas as part of the public domain. *See, e.g.*, Benkler, *supra* note 3, at 358 n.16 (treating fair uses as part of the public domain).

15. Until very recently, the World Wide Web Consortium had a policy of standardizing on patented technologies only if they were licensed on a no-royalty basis for W3C purposes. A change in the W3C policy that would allow royalty-bearing licenses has generated some controversy. *See, e.g.*, Kendall Grant Clark, *Patents, Royalties, and the Future of the Web*, O'REILLEY XML.COM, Oct. 10, 2001, *at* http://www.xml.com/pub/a/2001/10/10/patents-web-future.html.

one "town;" for example, a scientific article may contain three or four categories of public domain contents.

Mapping the public domain and contiguous terrains is useful for several reasons. First, it can help in an assessment of the likely impacts of certain developments on the public domain, such as the digitization of information and the development of global digital networks. Second, the map can be a tool for calibrating the extent to which a particular legal or policy initiative may affect the public domain, either in a positive or negative way. Some legal and policy initiatives, as we shall see, have broader and more serious potential impacts than others. Third, it can contribute to an analysis of which among the contents of the public domain are detritus (for example, grocery lists), which are gems (for example, Mozart symphonies), which are among the constitutionally core elements of the public domain (for example, scientific principles), which elements are there more by chance than design or necessity (for example, exercises), and which of the public domain's contents will be most harmed if propertized (for example, information).

FIGURE 1:
A MAP OF THE PUBLIC DOMAIN



That digitization of information can have a very positive impact on the effective existence of the public domain is readily apparent. To the extent scientific data are either collected in or transposed into digital form, they can then be shared and processed more readily than if they remained in paper files in the basement of a scientist's lab.16 Global digital networks mean that scientists from around the world can share data sets and conduct experiments, leading to discoveries that will contribute to further growth of the public domain. Similarly, digitization of government information, such as bills pending before the legislature, government reports, schedules for hearings before legislative committees or administrative tribunals, and posting of this information on the Internet makes the information more widely accessible than print equivalents. This makes the public domain more effective and robust in serving that part of the public interested in such information.

Digitization of information and the existence of digital networks do not, of course, necessarily enhance the public domain. Firms may be able to attain meaningful exclusive control over digital information that is in the public domain, both in theory and in law, through technological access controls or licensing or both. The LEXIS and Westlaw databases contain hundreds of thousands of public domain judicial opinions and other legal texts in digital form that the database owners control both technologically and by licenses.[17] Do these technical controls or licenses diminish the public domain? Some would argue yes; others would argue no. Printed forms of these materials are, for the most part, still widely available without license or technical restrictions, and they may be a resource for further digitization projects having a non-proprietary character. Even those who care deeply for the continued existence of the public domain in legal information would have to admit that no firm could justify undertaking the very substantial expense of digitizing public domain legal information and building a database of these contents and software tools to enable effective use of the database without some way to recoup these expenses, as through some exercise of exclusive control over the resource. When Mead Data Central initially made its investments in digitizing judicial opinions, neither the government nor non-profit organizations had the foresight or the willingness to undertake such a project.[18] Legal scholars have greatly benefited by the existence of databases such as LEXIS and Westlaw. These scholars would be less capable of producing new works and making their own contributions to the public domain without access to these databases.

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16. *See, e.g.*, NATIONAL RESEARCH COUNCIL, BITS OF POWER: ISSUES IN GLOBAL ACCESS TO SCIENTIFIC DATA 2-3 (1997).

17. Mead Data Central, a forward-looking paper company, anticipated an era in which digital information might displace paper. It started the LEXIS legal database by scanning print copies of the same cases contained in West Publishing Company's books of laws and judicial opinions to make digital source files.

18. West Publishing Company did not initially perceive the market potential for online databases of legal information. It introduced its Westlaw database in 1975, nine years after the introduction of LEXIS. *See* About Westlaw, *at* http://www.westlaw.com/about/?tf=91&tc=0 (last visited Nov. 13, 2002); About Lexis Nexis, *at* http://www.lexisnexis.com/about/default.asp (last visited Nov. 13, 2002).

Concern about restrictions imposed by proprietary databases of legal information has, moreover, generated a variety of initiatives to "free" legal information from these constraints. Courts themselves have undertaken to publish judicial opinions on court web sites. Legislatures post pending bills. Certain law schools, most prominently Cornell, have undertaken to establish non-proprietary databases of key legal information, such as Supreme Court decisions, open to all comers.[19] Some for-profit firms provide open Internet access to digitized legal information without charge in the hopes of attracting customers to their sites.[20] In these and other initiatives, digitization of the information and the availability of digital networks have been essential components of the strategy for effectively contributing to an enhancement of this aspect of the public domain.

Should the data in the LEXIS and Westlaw databases be available free on the Internet without restrictions? Perhaps so, and this is surely achievable, although not without cost. The U.S. government could clearly exercise its eminent domain power to acquire rights to make this information freely available on the Internet. But even if the political will could be mustered to do this (about as likely as Osama bin Laden's conversion to Christianity), would society be better off with a public domain LEXIS? Who would continue to invest in maintaining the database, extending it, and improving its tools? Perhaps social welfare is enhanced by a mix of digital public domain and proprietary databases of legal information, with the public domain sites providing some competition to hold in check the duopolistic tendencies of the market players and providing access to key information, such as pending bills and Supreme Court opinions, to those who cannot afford to pay database access fees.

III

THREATS TO THE PUBLIC DOMAIN IN THE DIGITAL ENVIRONMENT

Threats to the public domain come in different shapes and sizes. A relatively small, although still significant, incursion on the subset of the public domain consisting of digital information is represented by the Anti-Cybersquatting Consumer Protection Act ("ACPA").[21] ACPA extends property rights of trademark owners in the digital networked environment well beyond the bounds of trademark law.[22] Insofar as ACPA is being used to seize domain names from legitimate organizations and users, this incursion on the public domain is troublesome.[23] As compared with other initiatives, however, ACPA

19. *See, e.g.*, Legal Information Institute, *at* http://www.law.cornell.edu (last visited Nov. 13, 2002).

20. *See, e.g.*, FindLaw, *at* http://www.findlaw.com (last visited Nov. 13, 2002); Bureau of National Affairs, Inc., *at* http://www.bna.com (last visited Nov. 13, 2002).

21. Pub. L. No. 106-113, 113 Stat. 1536 (1999).

22. *See, e.g.*, Jessica Litman, *The DNS Wars: Trademarks and The Internet Domain Name System*, 4 SMALL & EMERGING BUS. L. 149, 163 (2000).

23. *See* Ford v. Great Domains.com, 177 F. Supp. 2d 635 (E.D. Mich. 2001) (Ford claimed that a domain name incorporating the word "jaguar" violated ACPA even though defendant had posted information on the domain name web site about preserving these animals).

is a relatively minor threat to the digital public domain. Its impact only extends to one subset of the most southern terrain of the public domain map.

A more substantial and differently configured threat to the digital public domain arose from Congress' enactment of the Copyright Term Extension Act ("CTEA") in 1998.[24] Strictly speaking, it was a threat when enacted, but is now a virtual dam blocking the flow of information into the public domain. It will remain so unless a challenge to its constitutionality is eventually successful.[25] The CTEA's incursion on the public domain is more substantial and more economically significant than ACPA's because it affects a larger region of the public domain, altering the legal status of hundreds of thousands of works for decades. Its principal impact may be on non-digital components of the public domain; in contrast, ACPA's impact is only in the digital domain. That the CTEA impacts the digital public domain can be seen in the thwarted plans of Eric Eldred to build a digital library of works that, but for the CTEA, would be in the public domain.[26] The CTEA's raid on the public domain has more constitutional significance than ACPA's because the constitutional provision that authorizes Congress to enact intellectual property laws requires limits on the term of copyright.[27]

Among the legal initiatives primarily aimed at digital information with major implications for the public domain are these: the Uniform Computer Information Transactions Act ("UCITA"),[28] the Collections of Information Anti-Piracy Act ("CIAA"),[29] and the Digital Millennium Copyright Act of 1998 ("DMCA")[30] in tandem with its inevitable brother legislation to mandate instal-

24. Pub. L. No. 105-298, 112 Stat. 2827 (1998) (codified as amended in scattered sections of 17 U.S.C. including §§101-106, 203, 301-304).

25. One legal challenge to the CTEA's constitutionality has so far been unsuccessful. *See, e.g.*, Eldred v. Reno, 239 F.3d 372 (D.C. Cir. 2001), *en banc denied sub nom.* Eldred v. Ashcroft, 255 F.3d 849 (D.C. Cir. 2001). However, one judge dissented from this decision insofar as the CTEA extended the terms of existing copyrights. *See Eldred*, 239 F.3d at 380-83. The U.S. Supreme Court has granted a petition for certiorari to hear Eldred's appeal of this decision. Eldred v. Ashcroft, 534 U.S. 1126 (2002), *and cert. amended*, 534 U.S. 1160 (2002).

26. *See Eldred*, 239 F.3d at 374. Other plaintiffs in the Eldred case were non-digital distributors of public domain works affected by the CTEA extension. *Id.*

27. U.S. CONST. art. I, §8, cl. 8 (exclusive rights may be granted only for "limited times"). The characterization of the CTEA as an instance of perpetual copyright on the installment plan derives from the work of Peter Jaszi. *See The Copyright Term Extension Act: Hearing on S.4839 Before the Senate Comm. on the Judiciary*, 100th Cong. (1995) (statement of Professor Peter Jaszi, Washington College of Law, American University). For an analysis of the constitutional deficiencies of the CTEA by one of the counsel for Eldred, see Lawrence Lessig, *Copyright's First Amendment*, 48 UCLA L. REV. 1057, 1065 (2001). *See also* Jane C. Ginsburg, et al., *Symposia: The Constitutionality of Copyright Term Extension: How Long Is Too Long?*, 18 CARDOZO ARTS & ENT. L.J. 651 (2000) (expressing various views on CTEA).

28. UNIF. COMPUTER INFO. TRANSACTIONS ACT (UCITA) (2001), *available at* http://www.law.upenn.edu/bll/ulc/ucita/ucita01.htm.

29. *See* H.R. 354, 106th Cong. (1999) (to be codified as 17 U.S.C. §§1401-1408).

30. Pub. L. No. 105-304, 112 Stat. 2860 (1998) (codified as amended in scattered sections of 17 U.S.C. including §§1201-1204).

lation of standard technical measures in digital media devices.[31] Each of these initiatives poses threats to the digital public domain that are broader in scope and scale than those posed by the CTEA. This is, in part, because of their implications not just for one region of the public domain map, but for multiple regions. Of these initiatives, only the CIAA directly offers protection to what is, under current law, public domain material. The other three mainly aim to give an extra layer of protection to intellectual creations, most of which are already protected by intellectual property law, although each affects the public domain and contiguous territories as well. Before probing each initiative in detail, it is worth pointing out that there may be synergies amongst these initiatives that multiply their effects. Further magnifying the potential effects of these legal initiatives are certain non-legal developments such as the formation of the Secure Digital Music Initiative ("SDMI") and the DVD Copy Control Association ("DVD-CCA") that aim to provide a secure technical infrastructure to avert leakage of digital works that the law alone would be unable to control.[32]

UCITA's most obvious implications for the digital public domain arise from its validation of mass-market licenses for computer information. *Pro-CD, Inc. v. Zeidenberg*[33]—a case decided, it should be said, under state commercial law rules, not under UCITA—is a widely cited example of the use of mass-market licenses to undermine the public domain in digital information.[34] ProCD manufactured and mass-marketed a CD-ROM containing white pages listings from thousands of telephone directories in digital form. ProCD could not get copyright protection for this compilation because the Supreme Court's *Feist* decision held that the white pages listings of telephone directories are in the public domain because they consist of facts that copyright law does not protect and because, as compilations, they lack sufficient originality to qualify for copyright protection.[35] ProCD put a license in the package containing the CD-ROM of telephone directory information that permitted only personal uses of the data, a restriction that Zeidenberg violated by posting the contents of ProCD's disks on an open site on the Internet. In the view of the trial judge in the *ProCD* case and of many commentators, enforcing this license restriction interfered with achieving policy objectives of copyright law.[36] The appellate court disagreed,

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31. *See* Declan McCullagh , *New Copyright Bill Heading to DC*, WIRED NEWS, Sept. 7, 2001, (describing bill to mandate technical measures in digital devices), *at* http://www.wired.com/news/politics/ 0,1283,46655,00.html.

32. *See, e.g.*, DVD-CCA v. McLaughlin, 2000 WL 48512, *1 (Cal. Super. Ct. 2000) (describing DVD-CCA); SDMI challenge FAQ, (discussing the Secure Digital Music Initiative), *at* http://www.cs.princeton.edu/sip/sdmi/faq.html (last visited Nov. 13, 2002).

33. 86 F.3d 1447 (7th Cir. 1996).

34. *See, e.g.*, Niva Elkin-Koren, *Copyright Policy and the Limits of Freedom of Contract*, 12 BERKELEY TECH. L.J. 93, 93-98 (1997); David Nimmer et al., *The Metamorphosis of Contract into Expand*, 87 CALIF. L. REV. 17, 42-76 (1999); Maureen O'Rourke, *Copyright Preemption After the* ProCD *Case: A Market-Based Approach*, 12 BERKELEY TECH. L.J. 53, 55-57 (1997).

35. Feist Publ'ns Inc. v. Rural Tel. Serv. Co., 499 U.S. 340, 362-63 (1991).

36. *See* ProCD Inc. v. Zeidenberg, 908 F. Supp. 640, 658 (W.D. Wis. 1996); Elkin-Koren, *supra* note 34, at 63-71.

asserting that the existence of a contract between ProCD and Zeidenberg distinguished ProCD's claim from copyright.[37] Because ProCD's license only created rights as between the parties and not rights against the world, the license did not create rights equivalent to copyright.[38]

If UCITA's only impact on the public domain was to protect compilers of unoriginal data against market-destructive appropriations, there would be little reason to worry about this law. In a variety of ways, however, UCITA protects the interests of purveyors of digital information beyond—and in some respects in contradiction with—the default rules of intellectual property and other information laws. First, UCITA's willingness to enforce licenses protecting digital forms of public domain information does not depend on whether this is necessary to avert market failures. Second, to the extent that licenses are drafted to bind subsequent users, the distinction between contract rights that bind only the two parties to the transaction and property rights that bind the world erodes significantly.[39] Third, in a variety of subtle ways (for example, in presumptively enforcing confidentiality restrictions as to data that would generally be deemed "public" by virtue of its being mass-marketed), UCITA aims to stop leakages of information into the public domain.[40] Fourth, UCITA affects the penumbra of privileged uses lying adjacent to the public domain in significant ways. Under UCITA, the paradigmatic transaction is a license, not a sale.[41] This characterization of the transaction affects rights that copyright law confers on owners of copies of copyrighted content (for example, to make backup copies of software, to modify software, and to sell or otherwise redistribute one's copy of software).[42] In addition, UCITA presumes that all license terms are enforceable without regard to whether they aim to override public policy limitations on intellectual property rights.[43] For example, many software licenses restrict the right to reverse-engineer computer programs, even though

37. *ProCD*, 86 F.3d at 1454.

38. *Id*. Commentators have pointed out that preemption analysis can and should consider whether enforcing the state law would interfere with federal intellectual property policy. *See, e.g.*, Nimmer et al., *supra* note 34, at 40-63.

39. *See, e.g.*, Margaret Jane Radin, *Humans, Computers, and Binding Commitment*, 75 IND. L.J. 1125, 1132-33 (2000) (discussing viral contracts).

40. *See, e.g.*, Rochelle Cooper Dreyfuss, *Do You Want To Know a Trade Secret? How Article 2B Will Make Licensing Trade Secrets Easier (But Innovation More Difficult)*, 87 CALIF. L. REV. 193, 198, 241 (1999). *See also* David A. Rice, *License With Contract and Precedent: Publisher-Licensor Protection Consequences and the Rationale Offered for the Nontransferrability of Licenses Under Article 2B*, 13 BERKELEY TECH. L.J. 1239, 1248-51 (1998).

41. *See, e.g.*, Robert W. Golmulkiewicz, *The License Is the Product: Comments on the Promise of Article 2B for Software and Information Licensing*, 13 BERKELEY TECH. L.J. 891, 892-902 (1998).

42. *See* 17 U.S.C. §117. Licensing has especially important implications for libraries to the extent that the rightsholder has adopted a "single user license" policy. *See, e.g.*, NATIONAL RESEARCH COUNCIL, THE DIGITAL DILEMMA: INTELLECTUAL PROPERTY IN THE INFORMATION AGE 100-04 (2000) (discussing implications for libraries of licensing) [hereinafter DIGITAL DILEMMA]. Similarly, to the extent that existing consumer protection laws apply to sales of goods, arguably UCITA relieves its licensors from consumer protection responsibilities. *See, e.g.*, Jean Braucher, The Uniform Computer Information Transactions Act (UCITA): Objectings From the Consumer Perspective (Aug. 15, 2000) (on file with the author).

43. *See* UNIF. COMPUTER INFO. TRANSACTIONS ACT (UCITA) §105 (2001).

this activity would be acceptable under trade secrecy and copyright law as a means to get access to information that, once known, may become part of the public domain.[44] UCITA's presumption of enforceability may also apply to clauses in mass market licenses that direct the licensee not to criticize or reveal flaws in the licensed computer information, [45] which affects the legal status of many uses of information at the borders of the public domain.

There are, however, several ways in which the public interest in balanced licensing rules may be protected even if UCITA is, over time, more widely adopted than now. First, section 105 of UCITA recognizes the possibility that courts may rule some license provisions conflict with federal law or otherwise violate fundamental public policies, and insofar as they do, they may be unenforceable.[46] Courts may interpret this broadly and not enforce anti-reverse-engineering clauses or license restrictions on public domain information when there is no danger of market failure. Second, courts may invoke other legal doctrines, such as misuse of intellectual property rights and First Amendment values, to limit the enforceability of computer information licenses in appropriate cases.[47] This, too, may enable reuse of public domain information. Third, new legal doctrines may emerge in the case-law, such as "fair breach" of licenses to reach similar results under UCITA licenses as under copyright's fair use doctrine.[48] Fourth, the desire of licensors to impose unreasonable restraints on users by means of licenses may be held in check to some degree by market forces.[49]

How much comfort one should take in these checks on UCITA licenses is hard to gauge, given that UCITA essentially allows vendors of computer information to give themselves more rights than intellectual property law would and to avoid the burdens of public interest limitations.[50] Licensor restrictions are guarded, under UCITA, by a heavy presumption in favor of enforceability; this presumption can only be overturned after lengthy and expensive litigation that

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44. *See, e.g.*, David McGowan, *Free Contracting, Fair Competition, and Article 2B: Some Reflections on Federal Competition Policy, Information Transactions, and "Aggressive Neutrality*," 13 BERKELEY TECH. L.J. 1173, 1195-96 (1998). For more general expressions of concern about UCITA licenses and fair uses, see, for example, Charles R. McManis, *The Privatization (or Shrinkwrapping) of American Copyright Law*, 87 CALIF. L. REV. 173 (1999); Nimmer et al., *supra* note 34. *But see* Joel Rothstein Wolfson, *Contract and Copyright Are Not at War: A Reply to "The Metamorphosis of Contract into Expand*," 87 CALIF. L. REV. 79 (1999) (arguing that Nimmer and McManis overstate the potential conflict between licenses and copyright policy).

45. *See, e.g.*, Mark A. Lemley, *Beyond Preemption: The Law and Policy of Intellectual Property Licensing*, 87 CALIF. L. REV. 111, 128-29 (1999).

46. UCITA §§105(a), (b). UCITA §105(c) defers to consumer protection laws to the extent they apply to computer information. There is, however, a question as to whether consumer protection laws, which were drafted to protect consumers in transactions involving *sales* of goods, apply to licensed information.

47. *See, e.g.*, Lemley, *supra* note 45, at 151-67.

48. *See* Jane C. Ginsburg, *Copyright Without Walls: Speculations on Literary Property in the Library of the Future*, 42 REPRESENTATIONS 53, 63 (1993).

49. *See, e.g.*, Gomulkiewicz, *supra* note 41, at 901.

50. *See, e.g.*, Julie E. Cohen, Lochner *in Cyberspace: The New Economic Orthodoxy of "Rights Management*," 97 MICH. L. REV. 462, 464-67 (1997).

those injured by UCITA licenses may not have the means or will to undertake.[51] Many will simply be chilled from engaging in activities that would be determined legitimate had they been able to challenge a UCITA license term. Parents may blithely ignore the license term for the Adobe e-book version of *Alice in Wonderland* that forbids reading the book aloud,[52] but libraries have greater reason to worry about the potential enforceability of such a term.

In contrast to UCITA, whose scope is presently restricted to transactions in computer information,[53] legislation proposed to protect the contents of data compilations resembles the CTEA in affecting more than the digital public domain. Much of the rationale for such legislation relies, however, on the vulnerability of information in digital form to market-destructive appropriations,[54] and this legislation would certainly affect the size and scope of the digital public domain. Under current U.S. law, neither unoriginal compilations nor the data in original (and, hence, copyrightable) compilations is legally protectable unless it is a trade secret or otherwise confidential.[55] Several times in the past five years, the U.S. Congress has considered legislation to protect the contents of databases akin to measures adopted by the European Union in 1996.[56] The EU regime grants those who have invested substantial resources in making a database fifteen years of exclusive rights to control the extraction and reuse of all or substantial parts of the contents of that database.[57] Database rights are renewable upon further expenditures of resources, and substantiality is to be judged in qualitative as well as quantitative terms.[58] The most recent EU-style database bill introduced into the U.S. Congress was the CIAA.[59]

Although its sponsors characterize the CIAA as a regulation of unfair competition,[60] opponents characterize it as an intellectual property regime that is unconstitutional, bad public policy, or both.[61] The CIAA differs from the EU

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51. *See* UCITA §105(b).

52. *See* Robert Menta, *Read an E-book to Your Child, Go to Jail?*, MP3.NEWSWIRE.NET, Dec. 26, 2002, *at* http://www.mp3newswire.net/stories/2000/ebook.html.

53. Drafters of this model legislation once intended it to regulate all transactions in information. *See, e.g.*, Pamela Samuelson & Kurt Opsahl, *Licensing Information in the Global Information Market: Freedom of Contract Meets Public Policy*, 21 EUR. INTELL. PROP. REV. 386, 386 (1999) (discussing the evolution of the scope of UCITA's subject matter).

54. *See, e.g.*, J.H. Reichman & Pamela Samuelson, *Intellectual Property Rights in Data?*, 50 VAND. L. REV. 51, 64-76 (1997) (discussing the rationale for sui generis database legislation).

55. *See, e.g.*, Feist Publ'ns Inc. v. Rural Tel. Serv., Inc., 499 U.S. 340, 344-45 (1991).

56. *See, e.g.* J.H. Reichman & Paul F. Uhlir, *Database Protection at the Crossroads: Recent Developments and Their Impact on Science and Technology*, 14 BERKELEY TECH. L.J. 793, 799-812 (1999) (discussing the DMCA and CIAA); Reichman & Samuelson, *supra* note 54, at 102-09 (discussing database bill).

57. EU Database Directive, art. 7, 10.

58. *Id*. art. 10.

59. H.R. 354, 106th Cong. (1999) (to be codified as 17 U.S.C. §§1401-1408); *see also supra* note 29 and accompanying text.

60. *See, e.g.*, H.R. REP. NO. 106-349 (1999).

61. Professor Benkler considers the CIAA to be an intellectual property law rather than an unfair competition law. *See, e.g.*, Yochai Benkler, *Constitutional Bounds of Database Protection: The Role of Judicial Review in the Creation and Definition of Private Rights in Information*, 15 BERKELEY TECH. L.J. 535, 575-86 (2000). Benkler concludes that the CIAA is unconstitutional. *Id*. at 586-87; *see also*

Directive in requiring proof of harm to actual or potential markets[62] and in its "reasonable use" limit on the liability of scientific and educational users for extractions and uses of data in protected compilations,[63] as well as in several exemptions such as those for news reporting, verification, and genealogical information.[64] By conferring rights on compilers to control the use or extraction of all or a substantial part of a collection of information that is the product of substantial investment,[65] however, the CIAA would substantially contract the digital public domain—and not just as to items of information, but also as to public domain works such as Shakespeare's plays, which fall within the meaning of "data" under the legislation.[66] The main reason that the CIAA has not been enacted is that organizations of scientists and a coalition of Internet-based firms, prominently including Yahoo!, recognized the serious threats that the CIAA posed to the digital public domain and mobilized against this legislation.[67] In the aftermath of the September 11 attacks on the World Trade Center and the Pentagon, Congress has had other more urgent matters to consider, but like the Terminator, the CIAA will almost certainly be back.

Although the CIAA and the EU database law pose substantial threats to the digital public domain, more narrowly crafted legislation to protect data compilations against market failures would not. H.R. 1858 is the alternative bill to the CIAA, considered during the same congressional session.[68] It forbids duplicating another firm's database and then engaging in direct competition with that firm.[69] While this bill would, of course, affect the public domain, it does so in a much narrower and more targeted way than the CIAA. Assuming there was persuasive evidence that market failures were occurring or imminent in the database industry because firms were competitively duplicating existing databases, this limitation on the reuse of public domain information would be justifiable.[70] This approach is consistent with the Supreme Court's ruling in

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Malla Pollack, *The Right to Know? Delimiting Database Protection at the Juncture of the Commerce Clause, the Intellectual Property Clause, and the First Amendment*, 17 CARDOZO ARTS & ENT. L.J. 47, 49-50 (1999) (arguing that database legislation is unconstitutional). *But see* Jane C. Ginsburg, "*No Sweat?" Copyright and Other Protection of Works of Information After* Feist v. Rural Publications, 92 COLUM. L. REV. 338, 367-87 (1992) (arguing that database protection legislation would be constitutional). Whether EU-style legislation is a good idea as a matter of policy is a matter of heated debate. *Compare* Reichman & Samuelson, *supra* note 54, at 55-57 (critical of EU-style legislation) *and* Reichman & Uhlir, *supra* note 56, at 799-812 (critical of EU-style legislation) *with* Ginsburg, *supra*, at 341 (supportive of EU-style legislation).

62. H.R. 354 §1402.

63. *Id*. §1403.

64. *Id.*

65. *Id*. § 1402.

66. *Id*. § 1401. The CIAA defines "information" as "facts, data, works of authorship, or any other intangible material capable of being collected and organized in a systematic way." *Id*.

67. *See, e.g.*, Reichman & Uhlir, *supra* note 56, at 821.

68. H.R. 1858, 106th Cong. (1999).

69. *Id*. § 102.

70. In previous work, I have expressed support for narrowly drawn database protection. *See* Reichman & Samuelson, *supra* note 54, at 55-57; *see also* Benkler, *supra* note 61, at 602-03 (concluding that unfair competition legislation to protect data compilations would be constitutional); Reichman & Uhlir, *supra* note 56, at 836-37 (endorsing an unfair competition approach to database protection). In

International News Service v. Associated Press, which held that INS had engaged in unfair competition with the Associated Press ("AP") when its reporters took news from early editions of AP newspapers and published it verbatim in International News Service ("INS") papers that were in direct competition with AP papers.[71] The Supreme Court's *Feist* decision may have said that "raw facts may be copied at will,"[72] but the Court qualified this statement with a reference to its *INS v. AP* decision.[73]

The DMCA, like UCITA, principally aims to provide an extra layer of protection for commercially valuable digital information that is already protected by intellectual property law.[74] Like UCITA, the DMCA posits that private firms are free to devise regulatory regimes that deviate from the default rules of intellectual property law.[75] The principal difference between UCITA and the DMCA is that the DMCA's extra layer of protection is focused on technical measures used to protect digital information, whereas UCITA's extra layer protects licenses. Following on Lawrence Lessig's insights,[76] we might characterize the DMCA as code (law) that reinforces code (program instructions) as code (a private regulatory regime). Hacking is the act of civil disobedience (or user self-help) to which code as code is vulnerable. This is why the DMCA makes it illegal to "hack" certain technical measures and to make or distribute hacking tools.[77]

Although not principally aimed at protecting public domain works, the DMCA has significant implications for the digital public domain and for territories contiguous to the public domain. Technical measures will be effective in protecting public domain information as long as the vendor has the presence of mind to use the same technical measure to protect digital versions of both public domain and copyrighted works.[78] Technical measures will, unless pro-

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addition, I have endorsed a short term of anti-cloning protection for industrial compilations of applied industrial know-how. Pamela Samuelson et al., *A Manifesto Concerning the Legal Protection of Computer Programs*, 94 COLUM. L. REV. 2308, 2413-18 (1994). James Boyle, one of the strongest advocates of the public domain, has also endorsed intellectual property protection for shamanic knowledge (which U.S. law would likely consider to be in the public domain) to prevent unjust enrichment. *See* BOYLE, *supra* note 1, at 128-30.

71. 248 U.S. 215 (1918). The Court's decision is persuasive as a matter of unfair competition, but has been widely criticized insofar as it relied on the existence of a "quasi-property" right in AP to stop INS's misappropriation. *See, e.g.*, Wendy J. Gordon, *On Owning Information: Intellectual Property and the Restitutionary Impulse*, 78 VA. L. REV. 149, 179-80 (1992); Pamela Samuelson, *Information as Property: Do* Ruckelshaus *and* Carpenter *Signal a Changing Direction in Intellectual Property Law?*, 38 CATH. U. L. REV. 365, 388-95 (1989).

72. Feist Publ'ns, Inc. v. Rural Tel. Serv. Co., 499 U.S. 340, 350 (1991).

73. *Id*. at 353-54.

74. *See supra* note 30 and accompanying text.

75. *See, e.g.*, Cohen, *supra* note 50, at 464-67; *see also* Tom W. Bell, *Fair Use vs. Fared Use: The Impact of Automated Rights Management on Copyright's Fair Use Doctrine*, 76 N.C. L. REV. 557, 559-60 (1998).

76. *See* LAWRENCE LESSIG, CODE AND OTHER LAWS OF CYBERSPACE 6 (2000) (discussing computer program code as a regulatory regime).

77. 17 U.S.C. § 1201.

78. The implications of the DMCA rules for the public domain have been recognized by many commentators. *See, e.g.*, Benkler, *supra* note 3, at 421; David Nimmer, *A Riff on Fair Use in the Digital*

grammed otherwise, persist after copyrights expire, thereby undermining new entrants to the digital public domain. Even if one could successfully argue that bypassing an access control used to protect a public domain work was not actionable under the DMCA's anti-hacking rule (because that provision only protects technical measures used by *copyright owners* to protect access to their works),[79] it would generally be necessary to build a tool to bypass any technical measure that controls access to public domain and copyrighted information. That tool would arguably be illegal under the DMCA because it would necessarily enable bypassing of an access control protecting copyrighted works.[80] Even Judge Lewis Kaplan, who found the application of the DMCA untroublesome as to Eric Corley's posting of circumvention software on the Internet, seemed somewhat concerned that the DMCA might be used to protect public domain works in contravention to copyright policy.[81]

The more serious and immediate concern about the DMCA is not about its implications for the public domain, but about its implications for territory contiguous to the public domain, where fair use and other privileged acts have long resided.[82] Under existing law, technical measures do not need to be designed to enable privileged uses, and few thus far deployed do so.[83] For example, the Content Scrambling System ("CSS"), the technical measure widely used to protect DVD movies, does not enable fair uses to be made; indeed, it does not even permit users to skip through commercials included on the disk.

Debates have raged in the law review literature as to whether Congress intended to preserve some room for fair uses under the DMCA and whether the DMCA is constitutional to the extent they did not so intend.[84] A substantial

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Millennium Copyright Act, 148 U. PA. L. REV. 673, 738-40 (2000); Hannibal Travis, *Pirates of the Information Infrastructure: Blackstonian Copyright and the First Amendment*, 15 BERKELEY TECH. L.J. 777, 861 (2000).

79. 17 U.S.C. § 1201(a)(1)(A).

80. § 1201(a)(2). *See also* §1201(b)(2) (outlawing making or distributing other anti-circumvention tools). The vendor of technically protected public domain works might not have standing to complain about such a tool unless it used the same technical measure to protect works in which it did own copyrights.

81. Judge Kaplan stated:

> Moreover, the combination of such a work with a new preface or introduction might result in a claim to copyright in the entire combination. If the combination then were released on DVD and encrypted, the encryption would preclude access not only to the copyrighted new material, but also to the public domain work. As the DMCA is not yet two years old, this does not yet appear to be a problem, although it may emerge as one in the future.

Universal City Studios, Inc. v. Reimerdes, 111 F. Supp. 2d 294, 338 n.245 (S.D.N.Y. 2000), *aff'd sub nom.* Universal Studios, Inc. v. Corley, 273 F.3d 429 (2nd Cir. 2001).

82. *See, e.g.*, Julie E. Cohen, *WIPO Treaty Implementation in the United States: Will Fair Use Survive?*, 21 EUR. INTELL. PROP. REV. 236, 237-39 (1999); Pamela Samuelson, *Intellectual Property and the Digital Economy: Why the Anti-Circumvention Regulations Need To Be Revised*, 14 BERKELEY TECH. L.J. 519, 557 (1999).

83. An exception is technically protected digital audio tapes which permit first generation digital copies. *See infra* notes 89-90 and accompanying text.

84. *Compare* Samuelson, *supra* note 82, at 537-41 (fair use preserved to some degree) *and* Jane C. Ginsburg, *From Owning Copies to Experiencing Works*, *in* UNITED STATES INTELLECTUAL PROPERTY LAW (Hugh Hansen ed., forthcoming 2002) (fair use preserved to some degree; DMCA might be unconstitutional without some fair use limitations) *with* Raymond T. Nimmer, *Breaking Barriers: The*

consensus exists among scholars that without some room for fair use hacking, the DMCA would be unconstitutional.[85] Federal judges, however, may be reluctant to strike down the DMCA given the vulnerability of digital information products to uncontrolled infringements. They may be disinclined to second-guess the congressional judgment that the DMCA is necessary to the survival of the entertainment industry, exaggerated though this claim may be.

Senator Hollings has recently introduced a bill to mandate technical measures in every digital media device.[86] The assumption underlying this legislation seems to be that digital content cannot be protected effectively by software because the software's protections are too easy to hack, and the programs to bypass them, even though illegal under the DMCA, can be distributed easily via the Internet.[87] Content will not really be secure until and unless hardware systems have embedded technical protections. The Hollings bill would require all digital media devices to comply with standard technical protection measures.[88] In this respect, the Hollings bill resembles the Audio Home Recording Act ("AHRA"), which requires vendors of consumer-grade digital audio taping ("DAT") technologies to install serial copy management system ("SCMS") chips that prevent the making of perfect digital copies of digital sound recordings.[89] The AHRA represents a compromise between copyright owner and consumer interests because the SCMS chip allows consumers to make usable first generation copies of music, thereby allowing some fair uses of the music. [90] Any copies made from those copies, however, degrade in quality.

The Hollings bill does not contain a similar compromise provision, and the entertainment industry will undoubtedly resist efforts to add one. If it is enacted, the Hollings bill would have substantial implications for the public domain and contiguous terrain. Once technical protection measures are embedded in hardware, hacking to release public domain information or to enable fair or other privileged uses will become much more difficult than at present—and indeed, that would seem to be the point of making systems more secure.[91] The computer industry has successfully opposed legislation that would

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Relation Between Contract and Intellectual Property Law, 13 BERKELEY TECH. L.J. 827, 880-88 (1998) (fair use not preserved).

85. *See, e.g.*, Ginsburg, *supra* note 48; Glynn S. Lunney, *The Death of Copyright: Digital Technology, Private Copying and the Digital Millennium Copyright Act*, 87 VA. L. REV. 813, 846-49 (2001); Neil Netanel, *Locating Copyright Within the First Amendment Skein*, 54 STAN. L. REV. 1, 37-42 (2001).

86. S. 2048, 107th Cong. (2002).

87. *See, e.g.*, DIGITAL DILEMMA, *supra* note 42, at 154-64.

88. Senate Bill 2048 would require the Federal Communications Commission to hold hearings about standard technical measures that might be installed in digital media devices and to mandate that future digital media devices install such technical measures. *See* S. 2048 § 3.

89. *See* 17 U.S.C. § 1002.

90. Sellers of DAT machines and tapes must, however, make regular payments of two percent of their sales to the U.S. Copyright Office to fund a royalty pool for compensating copyright owners for personal use copying. *See* 17 U.S.C. §§ 1003-04.

91. *See, e.g.*, Mark Stefik, *Shifting the Possible: How Trusted Systems and Digital Property Rights Challenge Us to Rethink Digital Publishing*, 12 BERKELEY TECH. L.J. 137, 144-53 (1997).

have required them to install copy-protection systems in the past,[92] so they may be allies of advocates of the digital public domain in lobbying against the Hollings bill.

More likely, at least in the short run, is scaled-back legislation applicable to consumer electronics equipment, but not (yet) to computers. This would address a key problem for the content industry: Manufacturers of consumer electronics equipment want to make products that customers will be eager to buy, and customers prefer technologies that enable them to copy and share digital content over those that lock the content down to one device. Efforts, such as the Secure Digital Music Initiative ("SDMI"), which aim to establish standards that can be built into equipment or rendering software to technically protect digital content, are not easy to bring to fruition because the content industry has very different interests than the consumer electronics industry.[93] Why waste all that time, money, and energy in a long, drawn-out negotiation with a consumer electronics industry that does not share your perspective on the need for technical protections, when generous campaign contributions and years of successful lobbying experiences provide access to a group with a long history of sympathizing with copyright industry concerns, namely the U.S. Congress? If private legislation proves unsuccessful, public legislation offers an alternative means to the desired end.

Which among these three initiatives—UCITA, the CIAA, and the DMCA/Hollings bill—poses the most serious threat to the digital public domain? Each is a serious threat in its own right, but more significant are the potential synergies among them, assuming all are enacted in the form currently proposed and are deemed constitutional. Any compilation of digital information protectable by the CIAA may also be protected by a UCITA license and by a technical protection measure capable of enforcing any restriction imposed on the digital information and legally validated by the DMCA and the CIAA. Even if the CIAA exempts "reasonable uses" from liability, such uses may be thwarted by the terms of a UCITA license or by a technical measure controlling what the user can and cannot do with the information.

As between UCITA licenses and technical measures (backed up by the DMCA), the more significant threat to the digital public domain and to reasonable uses of digital information would seem to be from technical measures. Secure systems do not allow reasonable uses to be made of protected digital information unless those uses have been authorized, whereas one can always ignore a UCITA license provision purporting to override rights to use information arising under other laws or challenge its enforceability in a legal proceeding. A person who makes reasonable uses of UCITA protected information in breach of the license can at least argue that the license term interferes with fed-

92. *See, e.g.*, News Release, Computer & Communications Industry Association, Hollywood's Copy-Control Proposal Will Harm Industry and Betray Consumers (June 4, 2002), *available at* http://www.ccianet.org/press/02/0604.php3.

93. *See supra* note 32.

eral intellectual property policy and should be preempted, is a misuse of intellectual property rights, is a fair breach of the license, or is unconscionable.[94] Ignoring a technical measure will be ineffectual because it will simply enforce the licensor's rules regardless of what the law says. A legal challenge to a technical measure that interferes with reasonable uses, given early court interpretations of the DMCA, is unlikely to succeed or be cost-effective. Some scholars have endorsed "self-help" measures by users to preserve the public domain or have argued for changes to the DMCA, making anti-circumvention protections only available to copyright owners who had escrowed keys to unlock technical measures and get access to the blocked material.[95]

Although the Internet was initially constructed as an open information environment, it is capable, as Lawrence Lessig has pointed out, of evolving into an architecture of perfect control.[96] The DMCA and the Hollings bill are elements of a legal infrastructure to support such a secure technical infrastructure. Governments and commercial entities may prefer architectures of control to architectures of openness.[97] Although the reasons for their preferences may differ, their goals may converge sufficiently to make governments and commercial entities allies in insisting on greater control over the online environment. This would diminish the digital public domain.

As between UCITA and the CIAA, it is difficult to say which would have the most harmful effects on the digital public domain. The CIAA would have a more immediate impact on this domain because it would propertize collections of digital information across the board. Analysts who have studied the CIAA's exceptions and limitations do not believe they adequately protect the public interest.[98] It is possible, of course, that courts will construe the exceptions and limitations more generously than intended in order to comport with constitutional requirements.[99] The CIAA has not yet been enacted and may evolve into a more balanced piece of legislation in response to criticisms leveled at highly protectionist versions of the bill.[100] UCITA does not directly diminish the public domain; it only presumptively validates license terms that implicate the public domain and adjacent terrain. The harm UCITA may do to the digital public

94. *See* sources cited *supra* notes 34, 44; J. H. Reichman & Jonathan A. Franklin, *Privately Legislated Intellectual Property Rights: Reconciling Freedom of Contract with Public Good Uses of Information*, 147 U. PA. L. REV. 875 (1999).

95. *See, e.g.*, Dan L. Burk & Julie E. Cohen, *Fair Use Infrastructure for Copyright Management Systems*, 15 HARV. J.L. & TECH. 41, 54-65 (2001); Julie E. Cohen, *Copyright and the Jurisprudence of Self-Help*, 13 BERKELEY TECH. L.J. 1089, 1137-42 (1998).

96. LESSIG, *supra* note 76, at 6-7.

97. *Id*. at 54-60. Governments may want more control over the Internet in order to stop gambling or to protect children from patently offensive materials; commercial firms may want more controls over the Internet in order to protect commercial transactions.

98. *See, e.g.*, Benkler, *supra* note 61, at 583-84; Reichman & Uhlir, *supra* note 56, at 811-12.

99. If, for example, an historian of the Vietnam War extracted and used a substantial quantum of data from a compilation of data about weaponry of that war, a court might consider the First Amendment as a limiting principle on CIAA liability.

100. *See, e.g.*, Reichman & Uhlir, *supra* note 56, at 823-28 (regarding Senator Hatch's discussion draft of database legislation).

domain is more likely to occur indirectly from the manner in which information providers license information and the extent to which they enforce license limitations. The same may be true for the DMCA. How much harm it ultimately does to the digital public domain and contiguous terrain depends in large part on how copyright owners deploy technically protected products in the marketplace and the extent to which courts limit uses (*if* they limit uses) of the DMCA against liberators of public domain information or fair users.

Threats to the digital public domain should also be gauged in terms of the statutes' likelihood of enactment and success. The CTEA constitutes the most substantial threat to the digital public domain because it has already been enacted and, thus far, has successfully blocked works from entering the public domain. The DMCA's anti-circumvention rules are also in effect, and its anti-tool rules have so far withstood constitutional challenges.[101] In the years since its initial promulgation, UCITA has been enacted in two states.[102] It has met with resistance in several state legislatures, and its future is clouded because of the controversies surrounding it. As noted above, Congress has not adopted the CIAA, although the House of Representatives passed it twice in 1998.[103] Compromise legislation may be necessary to attain enactment, and this would presumably limit the damage that the CIAA would do to the digital public domain. The Hollings bill has very little immediate chance of passage, but it is an ominous portent for the future.

As for private initiatives, DVD-CCA has, through a complex licensing arrangement, successfully ensured that all DVD players sold in the United States. and elsewhere have technical measures embedded in them. The huge success of the DVD movie market shows that the content industry's fond hope that consumers will buy technically protected content once they get used to it may have some chance of being actualized. The overwhelming majority of movies distributed on DVDs are works in copyright, not public domain works. Although the impact on the digital public domain from CSS-protected DVDs is consequently limited, impacts on fair uses are considerable. SDMI has been unsuccessful as a recording industry initiative to ensure secure content and secure players, but there is every reason to believe that the major players in the sound recording industry will move forward with distributing technically protected content. The major players are, moreover, aggressively challenging through litigation a range of technologies they perceive as threats to their interests. MP3 files of commercial sound recordings and technologies for distribut-

101. *See, e.g.*, Universal City Studios, Inc. v. Reimerdes, 111 F. Supp. 2d 294 (S.D.N.Y. 2000), *aff'd sub nom.* Universal Studios, Inc. v. Corley, 273 F.3d 249 (2d Cir. 2001); Real Networks, Inc. v. Streambox, Inc., 2000 U.S. Dist. LEXIS 1889 (W.D. Wash. 2000).

102. The states that have enacted UCITA are Virginia, VA. CODE ANN. tit. 59.1 §501.1-509.2, and Maryland, MD. CODE. ANN., tit. 22 §101-816.

103. The House version of the legislation that became the DMCA included the CIAA. However, because the Senate had not given due consideration to the CIAA or similar legislation at that point and because of non-consensus about such legislation, the Senate would not agree to the inclusion of the CIAA in the DMCA. *See* Reichman & Uhlir, *supra* note 56, at 829-30.

ing MP3 files have come dangerously close, in the industry's view, to an involuntary dedication of this digital content to the public domain.[104] While some commentators assert that efforts to use technical measures to protect mass-marketed digital content and legislation such as the DMCA will prove as futile as trying to make water not wet,[105] it remains an open and hotly contested question how technology, digital content, and the law will evolve and interact in the next decade or so.

IV

STRATEGIES FOR PRESERVING AND NURTURING THE PUBLIC DOMAIN IN THE DIGITAL ENVIRONMENT

One of the goals of this symposium is to articulate strategies for preserving and nurturing the public domain as a natural, if intangible, resource. This goal is particularly appropriate for digital information because it is so cheap and easy to collect, store, process, and make available via global digital networks. The THOMAS database of materials on legislation pending before Congress is an example of a digital public domain resource of great value to the public.[106] Other federal government web sites publish agency reports, procedures for applying for benefits, schedules of hearings, judicial opinions, rulemaking data, and the like in digital form on the Internet.[107] Numerous states have made similar resources available on open sites on the Web.[108] In addition, projects to establish digital libraries, digital repositories, knowledge conservancies, creative commons, and the like already exist, and more such initiatives will surely be undertaken in the coming years.[109] Scientists have created a variety of digital public domain resources, including libraries of reusable code and databases of scientific and technical information in digital form, which are also available on the Internet.[110] The Library of Congress has undertaken digitalization projects of historically significant parts of the Library's collection.[111] It has also convened a group to consider strategies for digital preservation of information.[112] Both initiatives have very substantial and positive implications for the digital public

104. *See, e.g.*, DIGITAL DILEMMA, *supra* note 42, at 76-94 (analyzing digital music as "intellectual property's canary in the digital coal mine").

105. *See* Bruce Schneier, *The Futility of Digital Copy Protection*, THE CRYPTOGRAM NEWSLETTER, May 15, 2001, *at* http://www.counterpane.com/crypto-gram-0105.html.

106. THOMAS: US Legislative Database, *at* http://thomas.loc.gov (last visited Nov. 13, 2002).

107. *See, e.g.*, Social Security Agency, *at* http://www.ssa.gov (last modified Nov. 12, 2002).

108. *See* Library of Congress State and Local Government Resources, *at* http://www.loc.gov/global/state/stategov.html (last modified Mar. 3, 2000); New York State Assembly, *at* http://www.assembly.state.ny.us (last visited Nov. 13, 2002).

109. *See, e.g.*, Project Gutenberg, *at* http://promo.net/pg (last modified Nov. 13, 2002).

110. *See, e.g.*, Scientific Applications on Linux, *at* http://sal.kachinatech.com (last visited Nov. 13, 2002).

111. Library of Congress Prints and Photographs Online Catalog, *at* http://lcweb.loc.gov/rr/print/

domain. As much information may be lost to the public domain because it was stored in proprietary formats that are no longer readable by current generations of technologies as by legislation such as the CIAA or UCITA.

Entrepreneurial individuals have also taken advantage of the Web to make available a wide array of materials that, strictly speaking, are protected by copyright, but nonetheless are posted on open web sites with few or no restrictions on copying or distribution. This includes articles written by academics posted on their home pages,[113] pre-print archives of articles enabling scientists to share the latest learning in their fields,[114] electronic journals,[115] newsgroups,[116] web resources on the poster's favorite topic,[117] and MP3 files of music posted by bands wanting to attract new audiences.[118] Brewster Kahle has created a vast non-profit digital archive of the Internet and World Wide Web so that researchers can investigate such things as how much the Web has grown over time, what changes occur in the languages used on the Web over time, and what proportion of Web content is taken down or put up in units of time, just to name a few researchable questions.[119] A very substantial amount of high quality free content is available on the Web, although junk information is also prevalent. Even sites of profit-making entities, such as espn.com, cnn.com, and nytimes.com, post a large volume of high quality information on the Internet which are accessible by those who are willing to let cookies be planted on their hard drives or sign up as users.

Open source or "free" software is among the most interesting developments contributing to the digital public domain, even though open source software is not, strictly speaking, in the public domain.[120] Open source software contributes to the public domain because its licenses require that source code instructions be publicly available. All of the know-how embodied in the program is thus accessible. Because open source licenses encourage follow-on innovation, open source contributes to ongoing learning that further enhances the public domain. Open source software, however, is not itself in the public domain. Rather, it invokes intellectual property rights as the basis for a licensing strategy aimed at preserving the digital commons that the program's developer wished to establish for it.[121] From the standpoint of many open source developers, dedicating a

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113. *See, e.g.*, Professor Alessandro Duranti, *at* http://www.sscnet.ucla.edu/anthro/faculty/duranti/publish.htm (last visited Nov. 13, 2002).

114. *See* Los Alamos Physics Preprint Server, *at* http://www.arxiv.org (last visited Nov. 13, 2002).

115. *See, e.g.*, First Monday, *at* http://www.firstmonday.dk (last visited Nov. 13, 2002).

116. *See, e.g.*, Slashdot, *at* http://slashdot.org (last visited Nov. 13, 2002).

117. *See, e.g.*, Archinect: Architectural and Urban Planning Sites, *at* http://www.archinect.com (last visited Nov. 13, 2002).

118. *See, e.g.*, Epitonic Music, *at* http://www.epitonic.com (last visited Nov. 13, 2002).

119. *See, e.g.*, The Internet Archive, *at* http://www.archive.org (last visited Nov. 13, 2002).

120. *See, e.g.*, Chris DiBona et al., *Introduction*, *in* OPEN SOURCES: VOICES FROM THE OPEN SOURCE REVOLUTION (Chris DiBona, et al. eds., 1999), *available at* http://www.oreilly.com/catalog/opensources/book/intro.html (last visited Nov. 13, 2002).

121. *See, e.g.*, Eben Moglen, *Anarchism Triumphant*: *Free Software and the Death of Copyright*, 4 FIRST MONDAY 8 (Aug. 2, 1999) (discussing the General Public License used by the Free Software Foundation), *at* http://firstmonday.dk/issues/issue4_8/moglen/index.html. The open source community

program to the public domain is a suboptimal strategy for achieving open source objectives because proprietary derivatives can be made of public domain programs. Those who breach the terms of an open source license by making a proprietary derivative program will be deemed infringers of the underlying intellectual property rights in the program and may be enjoined from this form of free-riding on open source development. Thus, open source licenses use property rights to preserve and maintain a commons in an existing intellectual resource.[122] While the initial subject matter of open source development was software, some efforts are being made to adapt open source licenses to other subject matters, such as digital music.[123]

As admirable as open source is as an example of a strategy for preserving and extending the digital commons, there is also value in preserving a public domain from which proprietary derivatives can be made. One of the key objections to the CTEA concerns new works that will not be created because of it. An inducement to the creation of new works from the public domain is the incentive of copyright protection for the derivative work. Writers would be less likely to adapt a public domain story into a dramatic play if the play, once written, had to be dedicated to the public domain because its genesis was a public domain work.

Concerns about risks to the public domain should not blind us to risks to investing in high- value digital information products. The marginal cost of reproducing and distributing digital information may be zero (or nearly so), but initial development costs may still be high, as may be costs of transforming digital information into marketable form and then marketing it. While some have hoped that advertising would provide a sustainable revenue stream through which digital content providers could recoup investments, this seems a less viable long-term strategy after the dot.com bust. Some commentators have proposed that firms give digital content away for free and rely on what were previously ancillary markets as their new primary markets, for example, selling support or customization services instead of software, or selling concert tickets instead of copies of digital music.[124] This strategy may be more viable for some digital content than for others. Some economists have suggested that digital

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has mixed feelings about UCITA. On the one hand, members want mass-market licenses to be enforceable and want warranties to be disclaimable. On the other hand, open source developers depend on the ability to reverse engineer and make other unauthorized uses of other firms' software—which software licenses generally forbid. Hence, open source developers are generally opposed to enactment of UCITA.

122. Carol Rose suggests that limited common property rights may be appropriate for some types of digital information. *See* Carol M. Rose, *The Several Futures of Property: Of Cyberspace and Folk Tales, Emission Trades and Ecosystems*, 83 MINN. L. REV. 129, 181 (1998). This, in essence, is what open source licenses assert.

123. *See, e.g.*, Oscar S. Cisneros, *Expanding the Universe of Ideas*, WIRED NEWS, June 17, 1999 (discussing the open publication license), *at* http://www.wired.com/news/news/politics/story/20276.html; Campaign for Audiovisual Free Expression (CAFÉ project), *at* http://www.eff.org/cafe (last visited Nov. 13, 2002).

124. *See, e.g.*, Esther Dyson, *Intellectual Value*, WIRED, July 1995, *at* http://www.wired.com/wired/archive/3.07/dyson.html.

content providers may be able to sell different versions of their products on different terms to different customers, for example, giving away some content to create demand for one's product, but offering higher value versions for a higher price, or offering some information for free or at very low cost, but charging more to those willing to pay for earlier access to the information.[125] With a good business model, intellectual property rights may be much less important.[126] The digital information market is quite unstable right now, in part because no one is sure what business models are viable for distributing digital information via global networks. The fear, uncertainty, and doubt this has engendered among content providers may explain why they have been so intent on getting stronger legal rights. They do not exactly know what they need, but want more rights just in case an emerging business model might be based on those rights. What they don't need, they won't use.[127]

V

CONCLUSION

This article has considered a variety of ways in which the digitalization of information and the development of global digital networks have made positive contributions to the public domain. It mapped the public domain as an aid to assessing how various legal and policy initiatives threaten the digital public domain. UCITA, the CIAA, and the DMCA affect a broad swath of the digital public domain and contiguous territories, such as the realm of fair uses and, as shown above, these legislative initiatives may produce negative synergistic effects that further undermine the digital public domain.

There are several ways to avert these threats to the digital public domain. First, Congress, or in the case of UCITA, state legislatures, can become more aware of and attentive to expressions of concern about the deleterious effects these laws would have. Legislators can decide not to enact them, or to amend them to alleviate the problems they present. Second, courts can construe these laws more narrowly than they were initially drawn, strike them down as unconstitutional, or interpret them as unconstitutional unless limited by public domain and fair use principles. A key obstacle to reliance on the Constitution is that courts too often behave as though there is an intellectual property exception to the First Amendment.[128] They have been quite deferential to legislative

125. *See, e.g.*, CARL SHAPIRO & HAL VARIAN, INFORMATION RULES: A STRATEGIC GUIDE TO THE NETWORK ECONOMY 53-55 (1999); DIGITAL DILEMMA, *supra* note 42, at 176-86 (discussing various business models for digital content).

126. DIGITAL DILEMMA, *supra* note 42, at 183-84 ("One approach to IP rights in a world where digital content is difficult to control entails selecting a business model that does not require strict control.").

127. Cary Sherman, General Counsel to the Recording Industry Association of America, once offered this explanation when I asked him why the content industry was so intent on getting control over all temporary, as well as permanent, copies of digital content.

128. *See, e.g.*, Eldred v. Reno, 239 F.3d 372, 375 (D.C. Cir. 2001) (citing case-law holding that copyrights are categorically immune from challenges under the First Amendment); *but see* Mark A. Lemley & Eugene Volokh, *Freedom of Speech and Injunctions in Intellectual Property Cases*, 48 DUKE L.J. 147,

judgments, using rational basis analysis rather than intermediate scrutiny.[129] Judges sometimes act as though the limits in Article I, section 8, clause 8, both express and applied, lack meaningful substance.[130] The progress of science and the useful arts depends on information being in the public domain and available for reuse, as much as on the grant of intellectual property rights. Third, the public can refuse to accept laws that impede socially desirable uses. If people just say no to licensing and to technically protected content, the content industry, the courts, and the legislature will have to adjust.

Those who care about preserving and nurturing the public domain should pay attention to legal and policy initiatives affecting this domain, analyze their implications, assess their constitutionality, and write and speak to various audiences to raise consciousness about the negative impacts that particular initiatives may have. Some will undertake litigation to preserve the public domain and contiguous territories.[131] Others will draft testimony about pending or proposed legislation or offer alternative proposals. The rhetoric of scholarly discourse lacks the crispness of the vernacular. Legal scholars need to search for new vocabularies and metaphors to convey messages of concern. Efforts to affect policymaking will sometimes bear fruit (for example, the CIAA has not been enacted, and UCITA has encountered more difficulties than its drafters expected), but sometimes they will not (for example, DMCA and CTEA). To achieve our public interest objectives, we need not only to keep doing what we do well but also to reach beyond the communities we already inhabit to find friends and allies among those likely to be affected by initiatives that concern us. And, we need to be cheerful about it, too.

It is possible to construct a new politics of intellectual property that has regard for the public domain and fair uses.[132] To be successful, a new public-regarding politics of intellectual property must have a positive agenda of its own. It cannot just oppose whatever legislative initiatives the major content industry organizations support (although it almost certainly will need to do this as well). It should be grounded on the realization that information is not only or mainly a commodity; it is also a critically important resource and input to learning, culture, competition, innovation, and democratic discourse. Intellec-

150 (1999) (criticizing the frequency with which injunctions issue in intellectual property cases on First Amendment grounds).

129. *See Eldred*, 239 F.3d at 378.

130. The D.C. Circuit, for example, recently held that the preamble to Art. I, § 8, cl. 8 ("to promote the progress of science and useful arts") did not constitute a substantive limitation on Congress. *Id.* at 376-77.

131. *See, e.g.*, Paul J. Heald, *Payment Demands for Spurious Copyrights: Four Causes of Action*, 1 J. INTELL. PROP. L. 259, 261-62 (1994) (discussing legal claims that might be used to challenge spurious claims of copyright in public domain material).

132. James Boyle was the first to call for a new politics of intellectual property. *See, e.g.*, James Boyle, *A Politics of Intellectual Property: Environmentalism for the Net?*, 47 DUKE L.J. 87, 87 (1997). For my endorsement of this concept, see Pamela Samuelson, *Toward a New Politics of Intellectual Property*, 44 COMM. ACM 98 (2001). Public Knowledge is a nonprofit organization recently established to build a public-regarding politics of intellectual property. *See* Public Knowledge, *at* http://www.publicknowledge.org (last visited Nov. 13, 2002).

tual property must find a home in a broader-based information policy, and be a servant, not a master, of the information society.