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# Copyright: From Stone Age Caves to the Celestial Jukebox

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# Commentary: "Copyright from Stone Age Caves to the Celestial Jukebox"

by  
NICHOLAS W. ALLARD\*

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## Introduction: Time to Improve Cyberlingo

It is appropriate to challenge you, while we are focused today so intently on the subject of creativity, to coin a replacement for one of the most tired, over-hyped, and commonly used but least understood phrases on the planet. I am, of course, referring to the mother of all modern metaphors, the "information superhighway." In a recent Harris poll, more than fifty percent of all Americans said they were in favor of the information superhighway, yet two-thirds indicated they did not know what it meant.<sup>1</sup> It is a phrase which is as soft, fuzzy, and un nourishing as cotton candy. At first it tastes good, but pretty soon makes you sick.

William Safire recently decried such inelegant infobahn pomposity, including the current mantra of bureaucratic techno-speak, "National Information Infrastructure."<sup>2</sup> Safire relates that the patron saint of English language watchdogs, Sir Winston Churchill, once rose up in the House of Commons to ridicule an opposition politician merely for using the word "infrastructure" in parliamentary debate.<sup>3</sup> Today, standing up to empty communications jargon in Congress would amount to aerobic exercise.

Perhaps the first telecommunications reform law the 104th Congress should enact is a statutory prohibition on the abuse of such annoying phrases as "National Information Infrastructure," "information superhighway," and all other inbred, metaphorical progeny.<sup>4</sup> For most, these concepts are elusive. Yet it is difficult to find a witness at a communications hearing who can resist calling the FCC the "highway patrol" or Chairman Reed Hundt the "top cop on the infobahn."

The popularity of the quasi-public worldwide system of computer networks known as the Internet is reportedly causing "traffic jams" that rival beach-bound lanes in the summer. For many, the failures of some start-up ventures and the well-publicized breakups of proposed mega-deals are blinking amber lights warning that not all roads on the superhighway are paved with gold. Businesses and industries left behind will be "roadkill." The underserved, including rural and poor Americans, must not be left on the "shoulder." They deserve a "right of way" and need "on ramps" that afford universal

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1. FCC Chairman Reed Hundt, Address at the Electronic Industries Association Consumer Electronics Show (Jan. 6, 1995).

2. William Safire, *On Language: Cyberlingo*, N.Y. TIMES, Dec. 11, 1994, § 6, at 32 [hereinafter *Cyberlingo*]; see also William Safire, *On Language: Dee-Cline, Dee-fense*, N.Y. TIMES, Jan. 22, 1995, § 6, at 14.

3. Safire, *Cyberlingo*, *supra* note 2.

4. This proposal was originally discussed in Nicholas W. Allard, *Reinventing Competition*, 17 HASTINGS COMM/ENT L.J. 473, 480 (1995).

access. Some say there should be a "bike lane" for public interest, educational, and health services because the whole shebang is "the fast track to Tomorrowland." No member of Congress wants legislative gridlock, U-turns, or fender benders that prevent drafting a "roadmap" for the future, and, of course, everyone wants to put the consumer in the "driver's seat."<sup>5</sup>

Thus far, the campaign to send the "information superhighway" into rhetorical retirement alongside "iron curtain," "military industrial complex," "domino theory," "star wars," and "Sonny and Cher" faces a big obstacle — finding a better substitute. Former Deputy White House Chief of Staff Roy Neel, who now heads the United States Telephone Association, has said he will simply call it "The Thing" until someone thinks of something better.<sup>6</sup> Stanford Professor Paul Goldstein calls it the "Celestial Jukebox" in his brilliant new book on copyright law.<sup>7</sup>

"World Wide Web" describes the snazzy part of the Internet used to distribute graphic material,<sup>8</sup> but expropriating that phrase to describe the whole megillah is hardly a step up from using the stodgy term "Global Information Infrastructure." Obviously there is plenty of room for improvement. Perhaps the *Hastings Communications and Entertainment Law Journal* will run a "Name the Thing" contest and announce the results at the Eighth Annual Computer Law Symposium next year.<sup>9</sup>

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5. *Id.*

6. See, e.g., *Needed: New Term for "Information Superhighway,"* SACRAMENTO BEE, Dec. 28, 1994, at F2. Neel also served as Chief of Staff to Vice President Al Gore, who is widely credited as the father of the phrase "information superhighway." *Id.*

7. PAUL GOLDSTEIN, *COPYRIGHT'S HIGHWAY: THE LAW AND LORE OF COPYRIGHT FROM GUTENBERG TO THE CELESTIAL JUKEBOX* (1994).

8. See *Out of the Caves*, WASH. POST, Jan. 28, 1995, at A14.

9. One favorite name for "The Thing" has been the term "cyberspace." But even that name seems to be hackneyed. "Cyber" now serves as the prefix for anything modern and computerized, from "cybersurfing" to "cybergadgets." In fact, a brief Nexis search for words with the prefix "cyber" revealed cyberwords ranging from mundane (cyberland, cybertypes, cyberpunk) to the absurd (cybersax, cyberhell, cyberhip, cyberbask).

"Cyberspace" itself is also a term in search of a definition. Some commentators have thought of cyberspace as a compilation of wires, fiber-optic cables, telephones, satellites, and antennae. However, this view ignores the information, the substance that makes up cyberspace. Others see cyberspace as a "virtual space" where certain activities occur. One commentator in this school sees cyberspace as "a completely spatialized visualization of all information in global information processing systems, along pathways provided by present and future communications networks, enabling full copresence and interaction of multiple users, allowing input and output from and to the full human sensorium, permitting simulations of real and virtual realities, remote data collection and control through telepresence, and total integration and intercommunication with a full range of intelligent products and environments in real space." Dan L. Burk, *Patents in Cyberspace: Territoriality and Infringement on Global Computer Networks*, 68 TUL. L. REV. 1, 3 n.9 (1993) (quoting Marcus Novak, *Liquid Architectures in Cyberspace*, in *CYBERSPACE: FIRST STEPS* 225 (1991)).

## I

**Out of the Caves and onto Your Laptop<sup>10</sup>**

The discovery on December 18, 1994 of a group of exquisite and incredibly well-preserved Stone Age paintings in the mountains of southern France may prove to be one of the archeological finds of this century—as momentous perhaps as finding the Dead Sea Scrolls.<sup>11</sup> This treasure trove has been only partially explored, and is already known to contain 300 vivid wall paintings and engravings of various prehistoric animals, all in perfect condition.<sup>12</sup> The caves also include carvings, animal skulls, traces of human hands, and prehistoric footprints.<sup>13</sup> Due to the delicacy of the paintings and other artifacts found there, estimated to be at least 20,000 years old, the caves will not be open to the public.<sup>14</sup> This is not unusual. The well-known caves in Lascaux, France, were formerly open to the public, but even “the breath of visitors and the microbes on their shoe-soles” turned out to

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Other commentators view cyberspace as a “marketplace for virtually all goods and services.” Stephen P. Johnson, *Planning for the Next Century in the California Courts*, 66 S. CAL. L. REV. 1751, 1751 (1993). Still others define cyberspace as including “all electronic messaging and information systems [and] including Bulletin Board Systems (BBS); commercial data services; [and] research data networks.” Anne M. Fulton, *Cyberspace and the Internet: Who Will Be the Privacy Police?*, 3 COMM.LAW CONSPECTUS 63, 63 (1995) (footnotes omitted).

Perhaps the best, and simplest, definition for cyberspace views it as a place where information exists accessible to electronic transmission. This definition includes more than just the wires and circuits of communication, and conveys that cyberspace is at its essence information that is accessible by special means.

The Eighth Annual Computer Law Symposium could include a competition to define the term “PCS” or “Personal Communications Services.” This is a term that is quickly eclipsing “cyberspace,” “NII,” and “information superhighway” for frequency of use and emptiness of meaning. Citibank’s Douglas Conn, a leading authority in the field, states that PCS is “an emerging wireless communications business characterized as much by the package of services provided as by the technology deployed.” Douglas A. Conn, Vice President, North America Global Finance, Citibank, Address at the U.C. Davis Program on Telecommunications Policy, Institute of Government Affairs (Nov. 11, 1994). No one is certain what services PCS will include in the decades to come, but it could include options as diverse as “smart” cars that call for help if they are stolen, mobile e-mail, two-way electronic imaging services, and mobile PC linkups. A fear remains, however, that PCS may just amount to POTS (Plain Old Telephone Service) instead of PANS (Pretty Advanced New Stuff).

10. The linkage between the recent discovery of prehistoric art near Avignon, France and the Internet was discussed in a recent *Washington Post* editorial. See *Out of the Caves*, *supra* note 8.

11. Robert Hughes, *Behold the Stone Age*, TIME, Feb. 13, 1995, at 52; Marlise Simons, *Prehistoric Art Treasure is Found in French Cave*, N.Y. TIMES, Jan. 18, 1995, at A1; Dana Thomas, *Cave Paintings from Ice Age Found in France*, WASH. POST, Jan. 18, 1995, at A1.

12. Simons, *supra* note 11.

13. *Id.*

14. *Id.*

imperil the antiquities.<sup>15</sup> Now the Lascaux caves are shown only in glimpses to those who wait years on a list for an opening.<sup>16</sup> Discovery may have led to the deterioration and resultant destruction of other archeological sites as well—the tomb in the Valley of the Kings in Egypt, for example.<sup>17</sup> Struggling with this problem, officials at some sites have gone so far as to construct replicas for visitors.<sup>18</sup>

The stunning archeological cache in Avignon provides both an example of the uses of advanced information technology and a colorful fact pattern to explore many legal issues involving copyright and computers. A mere month after the Avignon discovery, images of the prehistoric art appeared on the Internet and have been transmitted around the world on commercial and noncommercial systems.<sup>19</sup> Included was background information in French, including the photo and e-mail address of the French culture official who took the trouble to load the images.<sup>20</sup> This is one instance when the *Washington Post* is right on the mark: “Whatever magic the unknown Stone Age painters thought they were summoning up—one of many fuzzy theories as to why masterpieces like these exist—it couldn’t have topped this wonder of access and distribution.”<sup>21</sup>

Some of the important copyright issues that the cave case study might be used to help analyze include:

1. Will books, paintings, sculptures, films, and music as we know them survive? Answer: only if they should. In other words, should copyright be used to support and protect “culture” as we know it? Probably not. After all, no one pines for those halcyon days of stone tablets (the *Contract with America* would be carried around on a Moses-style granite tablet rather than a vest-pocket laminated card), and few of us would prefer unfurling papyri down the steps of the Great Pyramid of Cheops to read chapter 27 of *War and Peace*. Technology could once again fundamentally change the way we view, and more importantly *prefer* to view, literary and artistic works in the future. As a book lover, I am glad to say that I expect books to be around for a long time to come, not only because reading long manu-

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15. *Out of the Caves*, *supra* note 8.

16. *Id.*

17. *Id.*

18. *Id.*

19. *Id.*

20. *Id.*

21. *Id.* See also *Cubby, Inc. v. Compuserve, Inc.*, 776 F. Supp. 135, 140 (S.D.N.Y. 1991) (“[I]t is now possible for an individual with a personal computer, modem, and telephone line to have instantaneous access to thousands of news publications from across the United States and around the world.”).

scripts from a fixed screen is awkward, a problem which innovation will inevitably reduce, but because we convert to the aesthetics of new uses rather gradually. Over the past forty years, the number of books published and book stores in existence has quadrupled.<sup>22</sup> Homo sapiens created the first artwork in 40,000 BP (before present).<sup>23</sup> Nearly fifteen to twenty millennia passed, however, before they produced the cave paintings at Avignon, roughly the same expanse of time between the creation of the cave art and the first television broadcasts.<sup>24</sup>

But let's not get too cocky about future preferences. Have you been in the Louvre recently to view the *Mona Lisa* or the Rijksmuseum to take in the *Night Watch*? Even if you are lucky enough to bull your way to a space where the full canvas is, for a nanosecond, in view, you might still enjoy the pleasures of sneaking off during the commercial break between *Married With Children* and *Pinky and the Brain* to view, in the privacy of your own home or trailer, Da Vinci's and Rembrandt's masterpieces—and without paying a commission to a travel agent.

2. Is copyright an incentive or a reward? Is it a necessary spur to creativity? Compare the traditional position of author's rights advocates with that taken by then law professor, now Justice, Stephen Breyer.<sup>25</sup> The Avignon cave painters were not motivated by copyright: "authors in ancient times, as well as monks and scholars in the middle ages, wrote and were paid without copyright protection."<sup>26</sup> Authors in the future might feel the same way.<sup>27</sup>

3. While the need for copyright as an incentive may be debatable, surely it is appropriate as compensation or reward. But which author is entitled to compensation? For example, why aren't the Avignon cave painters or their heirs entitled to compensation? (Yes, there are some very good reasons.) Moreover, what is the proper measure of the author's reward? Whenever this issue is debated in

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22. GOLDSTEIN, *supra* note 7, at 27.

23. See J.M. ROBERTS, *HISTORY OF THE WORLD* 42 (1990); H.W. JANSON, *HISTORY OF ART* 18 (5th ed. 1995); Hughes, *supra* note 11, at 54.

24. Hughes, *supra* note 11, at 56.

25. Stephen Breyer, *The Uneasy Case for Copyright: A Study of Copyright in Books, Photocopies, and Computer Programs*, 84 HARV. L. REV. 281 (1970).

26. *Id.* at 282.

27. See Barry W. Tyerman, *The Economic Rationale for Copyright Protection for Published Books: A Reply to Professor Breyer*, 18 UCLA L. REV. 1100 (1971); Stephen Breyer, *Copyright: A Rejoinder*, 20 UCLA L. REV. 75 (1972); GOLDSTEIN, *supra* note 7, at 22-26.

the U.S. Congress, it proves to be an extraordinarily difficult and hotly contested subject.<sup>28</sup>

4. What will be the nature of the information transmitted on global networks of the future, and will copyright problems restrict content quality and availability? So far, much of the policy debate in Washington on communications issues seems focused on legal questions relating to conduits, rather than legal issues relating to what the conduits will carry. Repositories of created works like the Library of Congress may have to limit access to holdings in the public domain, and consequently, antiquities like the cave paintings of Avignon may be more widely available than modern created works.

5. Does not modern technology provide new opportunities to track use, increase use, and at the same time benefit authors by increasing opportunities for compensation, and could this technology-driven phenomenon lead to a completely new system of intellectual property rights and compensation? For example, do innovations such as "smart cards"<sup>29</sup> provide technological solutions to the challenge of compensating creators whose works go out on global networks? The more we are connected, however, the more we can monitor, regulate, and respond to the use of information by individuals. By monitoring who views the Avignon cave paintings, for example, it might be possible to develop a fundraising list for soliciting donors for the Louvre or some other worthy cause. The possibilities for use and abuse abound. Greater interconnection provides greater opportunities to monitor and control private activities. What are the new privacy concerns in cyberspace, and how should society strike a balance between privacy and the need to secure works for which no compensation has been received? Will copyright be extended further into the home, or will we attempt to maintain past copyright distinctions between private and public use?<sup>30</sup>

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28. Consider, for example, the recent difficulties in negotiating the royalty mechanisms of statutory compulsory licenses. See Copyright Act of 1976, Pub. L. No. 94-553, Title I, § 101, 90 Stat. 2550 (1976) (codified as amended at 17 U.S.C. § 111 (Supp. V 1993)); Satellite Home Viewer Act of 1988, Pub. L. No. 100-667, Title II, § 202, 102 Stat. 3949 (1988) (which amends satellite compulsory licensing); Satellite Home Viewer Act of 1994, Pub. L. No. 103-369, 108 Stat. 3477 (1994) (which extended compulsory license rights to both satellite and wireless cable).

29. "Smart cards" are card-shaped, portable information storage and processing devices that contain a microprocessor. Smart cards are used in a variety of personal identification and security applications. See Benjamin Miller, *Personal Information News 1995*, SMART CARD SOURCEBOOK (1995); Ed Jensen, President, VISA International, Address at CardTech/SecurTech 95 (Apr. 11, 1995).

30. See GOLDSTEIN, *supra* note 7, at 29-30 (discussing the extension of copyright protection into the home).



6. What impact will technology and copyright policy have on cultural and political identity? Does the Avignon cave Internet scenario, by demonstrating how technology can expand the influence and appreciation of indigenous culture, help to refute the cultural protectionists who try to preserve national culture by throwing up barriers to international information flow?

7. What impact will technology and copyright have on national democracy, individual rights, and liberties? Historically, doesn't greater information flow empower individuals and bolster freedom?<sup>31</sup>

Copyright protection may be the *sine qua non* of authors making original works available for global distribution, but too restrictive a regime might also impede the free flow of information. Restriction of information props up regimes of oppression. We know now that the mere whiff of what we could think, do, and enjoy in the West toppled a Soviet fortress impervious to decades of mutually assured destruction.

## II

### The Past: The World of Copyright According to Goldstein

Every so often a law professor writes a small book of beguiling simplicity and clarity about big ideas and synthesizes an entire field of law. Think of Guido Calabresi (torts),<sup>32</sup> Owen Fiss (injunctions),<sup>33</sup> Robert Bork (antitrust),<sup>34</sup> and of course, Grant Gilmore's grand tapestry of American law.<sup>35</sup> Stanford professor and copyright guru Paul Goldstein's slender volume on the evolution of the law and lore of copyright is just such a book. *Copyright's Highway* is a perfect introduction to the field, accessible even to the lay reader. Elegantly written, engaging, and comprehensive, it is also a powerful analytic tool for experts; no serious student, teacher, or practitioner in the field should fail to read it.

One of Professor Goldstein's central observations is that copyright law is both simple and complex. Jeffrey Blatt used as an example two people in separate rooms writing copyrightable books or computer programs. This example is extremely helpful in grasping the fundamental concept of how copyright law protects the "expression of

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31. This issue is discussed in AL GORE & RONALD H. BROWN, GLOBAL INFORMATION INFRASTRUCTURE: AGENDA FOR COOPERATION 5-8 (1995).

32. GUIDO CALABRESI & PHILLIP BOBBITT, TRAGIC CHOICES (1973).

33. OWEN M. FISS, THE CIVIL RIGHTS INJUNCTION (1978).

34. ROBERT H. BORK, THE ANTITRUST PARADOX (1978).

35. GRANT GILMORE, THE AGES OF AMERICAN LAW (1977).

ideas," rather than the ideas themselves.<sup>36</sup> Copyright is simply the right to make copies of a created work and to allow or stop others from making copies. This bare statement of the principle underlying copyright law, however, masks a tangle of complexity and uncertainty. Many will recall Justice Joseph Story's observation in *Folsom v. Marsh*: "[C]opyrights approach, nearer than any other class of cases belonging to forensic discussions, to what may be called the metaphysics of the law, where the distinctions are, or at least may be, very subtle [sic] and refined, and, sometimes, almost evanescent."<sup>37</sup>

Goldstein writes that in substantial measure this is because copyright "is an intricate web of public and private interests," which may not be merely contradictory, but also interwoven.<sup>38</sup> For example, both private and public interests benefit when copyright provides an adequate incentive to produce and distribute creative works.<sup>39</sup> If copyright is too lax, one can argue that authors will not write, painters will not paint, and composers will not compose, for fear that their labors will not be adequately rewarded. If, on the other hand, copyright is too strict, the public may not gain access to material of general interest.

Is copyright an author's right, Goldstein asks, giving the originator a claim on every market in which customers will pay for copies?<sup>40</sup> Or is it a user's right, entitling the user to enjoy a free copy unless the author and his publisher show that, if they are not paid, they will have no incentive to create and publish new works?<sup>41</sup>

These are scarcely narrow or frivolous issues. They touch questions that go to the core of the nature of the world in which we live. Will it be a world of absolute individual rights that cannot be infringed upon by common interest, or a world of communal domination to which the individual must submit?

The answers to those questions are quite different in democracies like the United States than in totalitarian-type regimes such as China, Iraq, Singapore, or the old Soviet empire. The answers even differ among western democracies. The United States tends to operate under the broad notion that the public has fair use of an individual's creative work, while in Europe it is widely believed that an author or

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36. Jeffrey Blatt, Address at *The Hastings Communications and Entertainment Law Journal Seventh Annual Computer Law Symposium* (Feb. 11, 1995).

37. *Folsom v. Marsh*, 9 F. Cas. 342, 344 (C.C.D. Mass. 1841) (No. 4901). See generally GOLDSTEIN, *supra* note 7, at ch. 1 ("The Metaphysics of Copyright").

38. GOLDSTEIN, *supra* note 7, at 12.

39. See generally *id.* ch. 6.

40. *Id.* at 168-69.

41. *Id.*

creator has a "moral right," or "droit moral," to the fruits of that creativity.

One need not be able to out-calculate a micro-chip to understand how complicated copyright questions are becoming as a result of the breathtaking advances of information technology. Goldstein observes insightfully that "once a new technology (such as video recorders) is widespread and individuals get accustomed to using it for free, it is virtually impossible to get Congress to prohibit its use."<sup>42</sup> In the two centuries since it passed the first copyright law, Congress has consistently reacted about twenty years behind the arrival of new technologies such as photographs, phonograph records, motion pictures, radio, broadcast television, cable television, and so on.<sup>43</sup> This "iron law of consensus" dictates that Congress will not impose new copyright liability if to do so would disrupt entrenched consumer habits.<sup>44</sup> Goldstein believes that Congress must act preemptively as new technology is introduced, extending rights to every application where consumers derive value from literary and artistic works.<sup>45</sup> That, however, will remain unlikely, perhaps through the end of this century.

### III

#### The Future: What Must Be Done

Many are realizing that our system of copyright law may not suit the challenges posed by the communication system of the twenty-first century. Significant changes in United States and foreign copyright laws may prove essential.<sup>46</sup> The fabric of copyright law, despite its historically elastic qualities, is already straining to cover the myriad of novel issues raised by exploding innovation in computer and communication technologies. Meanwhile, in anticipation of the dawn of the information age, Congress has prepared the biggest rewrite of communications laws in sixty years,<sup>47</sup> resulting in landmark legal change

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42. *Id.* at 216.

43. *Id.* at 32-33.

44. *Id.*

45. *Id.*

46. It is beyond the scope of this paper to discuss the international issues raised by advanced technology. Their critical importance and interest is exemplified by the recently settled dispute between the U.S. and China over pirated digital CDs. See *China and the Pirated CDs*, WASH. POST, Feb. 3, 1995, at A18; Kevin Maney, *In a Digital World, It's the Bits that Count*, USA TODAY, Feb. 10, 1995, at 2B (interview with author Nicholas Negroponte, who argues that both sides in the dispute incorrectly focus on tangible copies rather than intangible bits); *A Lasting Trade Peace With China?*, CHI. TRIB., Mar. 15, 1995, at 24.

47. See S. 652, 104th Cong., 1st Sess. (1995); S. REP. NO. 104-23, 104th Cong., 1st Sess. (1995); *Hearings on Telecommunications Reform Legislation Before the Senate Comm. on Commerce, Science and Technology*, 104th Cong., 1st Sess. (1995).

which could make the existing copyright system as unfashionable as a Nehru jacket and bell bottoms.<sup>48</sup> For example, the Clinton Administration's Working Group on Intellectual Property (the "Working Group") found that even though the 1976 Copyright Act was carefully drafted to be flexible enough to apply to future innovations, technology has already outstripped the act and "alterations" are necessary.<sup>49</sup>

The Working Group's recommended statutory changes would, for example:

- (1) Clarify that electronic transmissions amount to a protected distribution of creative works;
- (2) Amend the definition of "transmit" in section 101 of the Copyright Act to clarify that reproductions, as well as performances and displays, can be transmitted, and to distinguish between transmissions that are communications of "performances" or "displays" and those that are "distributions of reproductions";
- (3) Relax prohibitions on imports to allow distribution of copies of copyrighted works into the United States by electronic transmission;
- (4) Amend the definition of "publication" in section 101 of the Copyright Act to include the concept of electronic transmission;
- (5) Narrow the "first sale" doctrine, which allows the owner of a particular lawfully made copy of a work to dispose of it without infringing the copyright owner's exclusive right of distribution, to make it clear that the first sale doctrine does not apply to electronic transmissions;
- (6) Enact a ban on encryption-breaking technology.

These and several other related amendments might yet be introduced in a copyright reform bill in the 104th Congress. It is, however,

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48. See Vice President Al Gore et al., Address at the Federal-State-Local Telecomm. Summit (Jan. 9, 1995); Nicholas W. Allard, *Congress Paves a New Road*, NAT'L L. J., Mar. 7, 1994, at 29; Nicholas W. Allard, *Can Congress Count?*, RED HERRING, Aug., 1994, at 103.

49. Bruce A. Lehman, *Intellectual Property and the N.I.I. Preliminary Draft Report of the Working Group on Intellectual Property Rights* (1994) (NII Task Force Report).

On September 5, 1995, several months after this address, the Working Group issued its final report. The final report was very similar to the draft report reviewed in this address in most important respects.

One difference between the draft and the final Working Group report was that a proposed revision of the first sale doctrine included in the draft report was excluded from the final report. The final report added recommendations relating to a reproduction right for the visually impaired and reproduction rights for libraries. None of these changes made in the Working Group's final report had the effect of changing the point of this address: the Working Group's final report is still only a minor step, which indicates that Congress may continue down the path of piecemeal legislation, rather than enacting a comprehensive approach to copyright on the NII.

Some commentators feel that the Working Group made an important first step, but failed to make the bold statement needed to spur Congress to action. See, e.g., John Byczkowski, *Copyright Law Still Lost in Cyberspace*, CINCINNATI ENQUIRER, Sept. 10, 1995, at E3; *A Face Lift for Copyright*, WASH. POST, Sept. 7, 1995, at A18.

too early to predict the extent or direction of the expected debate. One reason is the new leadership in Congress regarding intellectual property issues. Both Senator Dennis DeConcini (D-AZ), the former chair of the Senate Patent, Trademark, and Copyright Subcommittee, and Representative Bill Hughes (D-NJ), the former chair of the House Intellectual Property Subcommittee, retired at the end of the 103rd Congress.

In the House, Representative Carlos Moorhead (R-CA) (who has recently announced his retirement from Congress) is the new chairman, and Representative John Conyers (D-MI) is now the ranking minority member on the Intellectual Property Subcommittee with jurisdiction over copyright issues. In the Senate, the separate subcommittee which dealt with copyright has been eliminated and its responsibilities subsumed into the Antitrust Subcommittee. This likely indicates that copyright will not be a priority in the senior chamber in this Congress. Senator Patrick Leahy (D-VT), however, has shown great interest in the copyright aspects of new technology and is the ranking minority member on the Antitrust Subcommittee.<sup>50</sup>

So far in the 104th Congress, copyright reform has not even made the slightest blip on the legislative radar screen, already full of traffic over the *Contract with America* proposals and other major bills, including the budget, product liability, telecommunications reform, and reauthorization of environmental programs.<sup>51</sup> Thus, Congress will be very slow to act and will likely not take up the issue before the politically silly season of 1996 presidential politics destroys any potential for productive legislative work. Consequently, Congress will not address the policy issues in a systematic way in the foreseeable future, but will leave them to be fashioned through ad hoc litigation between private parties. Significant work on needed copyright revisions may not begin before the 105th Congress. By that time, as Professor Gold-

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50. See, e.g., Senator Patrick J. Leahy, *New Laws for New Technologies: Current Issues Facing the Subcommittee on Technology and Law*, 5 HARV. J.L. & TECH. 1 (1992).

51. Proposed regulation of the information superhighway has been especially controversial in two areas. Proposals regarding the "Clipper Chip" and pornography on the internet have raised concerns about First Amendment freedoms and government intrusion into privacy. See, Christopher E. Torkelson, *The Clipper Chip: How Key Escrow Threatens to Undermine the Fourth Amendment*, 25 SETON HALL L. REV. 1142 (1995); Jeffrey E. Faucette, Note, *The Freedom of Speech at Risk in Cyberspace: Obscenity Doctrine and a Frightened University's Censorship of Sex on the Internet*, 44 DUKE L.J. 1155 (1995); Marty Rimm, *Marketing Pornography on the Information Superhighway: A Survey of 917,410 Images, Descriptions, Short Stories, and Animations Downloaded 8.5 Million Times by Consumers in Over 2000 Cities in Forty Countries, Provinces, and Territories*, 83 GEO. L.J. 1849 (1995); Philip Elmer-Dewitt, *On a Screen Near You*, TIME, July 3, 1995, at 38. This article does not attempt to deal with these issues, which are complex and merit separate attention.

stein points out, many policies may be foreclosed by events.<sup>52</sup> Moreover, one Congressional session is probably not enough to conduct the difficult balancing and consensus building necessary to enact copyright reform legislation. While the timing of needed legislation is uncertain, what is certain is that the outcome of this important, enormously complicated debate will determine the availability and permissible use of all literary and artistic works transmitted electronically in the twenty-first century.

## IV

### Outline of Copyright Reform Legal Issues<sup>53</sup>

#### A. Overview

Consider the technology-driven challenges to copyright law in the past several decades: copying of school materials by off-campus copy centers, bootleg audio recordings, digital audio tape (DAT) recorders. These are minor compared to the issues to be raised in the near future, when a person will be able to make numerous, first-run-quality digital copies of films and recordings, and distribute them worldwide in the blink of an eye.

In the last several years, there have been significant legal questions raised regarding the status of copies made from the Internet, musical recordings, and television.<sup>54</sup> Each of these distinct challenges has been the product of technological progress and has stretched our notions of copyright to the limit.

#### 1. Review of Technological Changes<sup>55</sup>

*Main technological innovations:* (1) digitization, which allows rapid, high-quality copying, easy altering, and high-quality transmission; (2) multimedia, the combination of traditionally distinct communications into one format; and (3) the widespread, rapid transmission of all media. The National Information Infrastructure (NII) and Global Information Infrastructure (GII) enable widespread access to

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52. See GOLDSTEIN, *supra* note 7.

53. The author is grateful to David A. Kass, Associate, Latham & Watkins, Washington D.C., for his assistance in preparing this outline.

54. See *Sony v. Universal City Studios*, 464 U.S. 417 (1984) (regarding home copying with a VCR); *Sega Enters. v. MAPHIA*, 857 F. Supp. 679 (N.D. Cal. 1994) (regarding copying of software over Internet); *Columbia Pictures v. Aveco*, 612 F. Supp. 315 (N.D. Pa. 1985) (regarding viewing of video cassettes in stores); see also Office of Technology Assessment, *Copyright & Home Copying: Technology Challenges the Law*, OTA-CIT-422 (1989) (describing the challenges posed to audio copyright by Digital Audio Tape).

55. In order to provide a comprehensive review of copyright issues in this area, this outline tracks the structure of the NII Task Force Report.

entertainment, communication, and information. With this new stream of information, however, users gain the ability to copy, distribute, and alter works in ways never imagined by the drafters of the original copyright act.

*Examples of problems:* (1) the ability to make unlimited, high-quality copies of audio, video, and computer software; (2) a greater and faster ability to transmit high-quality audio and video programming without purchase; and (3) the potential for worldwide communication of audio, video, and data transmissions, which increases potential interaction and the need for coordination with other nations' copyright law.<sup>56</sup>

*Examples of new benefits:* increased opportunities for use, dissemination, and monitoring use for compensation purposes.

## 2. Basics

Our current framework of copyright law was developed in the days before the telegraph, when the prevalent medium was the printed word, and inferior-quality copies were made by hand. Many modifications to the original copyright regime were made in the early days of broadcasting, when limited transmissions were evanescent and recordings poor. Now these standards are challenged by a world that relies less on material copies and more on electronic transmissions and digital copies.

*What can be copyrighted:* Copyright law has long held that only expressions, and not ideas, may be copyrighted. Modern technology has blurred what was once a simple distinction between literary and artistic work. Now, many creative works, such as computer programs, also serve a functional purpose, like running a computer. To copyright such a program is to reward its creative expression, but it also inadvertently protects the idea, the function that the program executes.<sup>57</sup>

*Eligibility for copyright:* A work eligible for copyright must satisfy three requirements: it must be original,<sup>58</sup> it must present a modicum of creativity,<sup>59</sup> and it must be fixed on either a "copy" or a

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56. Senator Patrick Leahy identifies five main concerns that new technology has brought to copyright law: (1) ease of replication, (2) ease of transmission, (3) ease of manipulation and modification, (4) breakdown of traditional format distinctions, and (5) invisibility of digital works to readers and users. Leahy, *supra* note 50, at 1.

57. *Sega Enters. v. Accolade*, 977 F.2d 1510, 1524 (9th Cir. 1992); *see Lotus Dev. v. Borland Int'l*, 831 F. Supp. 223 (D. Mass. 1993), *rev'd*, 49 F.3d 807 (Mass. 1995), *cert. granted*, 116 S. Ct. 39 (1995).

58. 17 U.S.C. § 102(a) (1988).

59. *Feist Publications v. Rural Tel. Serv.*, 499 U.S. 340, 345 (1991).

“phonorecord.”<sup>60</sup> This definition demonstrates by its language that it was conceived before our current technology. With its emphasis on material copies, the definition ignores the fact that in the future, most people probably will obtain audio and visual works through transmission rather than hard copies.

*Distinction between published & unpublished works:* Whether or not a work is published can be a factor in the application of the current Copyright Act. The legal provisions requiring physical dissemination of material in order for a work to be published clearly reveal some of the shortcomings of the present regime.

### 3. *Rights of Copyright*

When an author holds the copyright to a work, he has exclusive possession of several rights.

*Reproduction right:* The owner of the copyright has the exclusive right to reproduce copies and phonorecords. A copy has been interpreted, however, to also include the perception of a transmission with the aid of a device, thus implicating the reproduction right.<sup>61</sup> In this way, the reading of files or viewing of images over a computer network would implicate the reproduction right of the copyright holder. Surprisingly, the current regime may be too broad in its application, holding liable for infringement those who merely peruse works, rather than actually copying them, while failing to clearly hold liable those who copy works in other ways.<sup>62</sup>

In the future, the reproduction right will be central in any discussion of copyright. Many technologies to be used on the information superhighway will copy the material that they are transmitting. Any comprehensive copyright scheme must determine whether this is truly “reproduction” for purposes of the Copyright Act, and, if it is, whether such reproduction is infringement. Certainly, many will argue that some amount of copying in these situations is necessary and constitutes fair use.<sup>63</sup>

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60. See 17 U.S.C. § 101 (1988).

61. MELVILLE B. NIMMER & DAVID NIMMER, 2 NIMMER ON COPYRIGHT § 8.08(A) (1995)

62. See *Atari Games v. Nintendo of Am.*, 975 F.2d 832 (Fed. Cir. 1992) (holding that reverse engineering of copyrighted software code was a fair use, as long as used to understand the underlying program).

63. Parties have made similar claims in recent cases, claiming that copying is necessary when using software in certain situations. See *Sega Enters. v. Accolade*, 977 F.2d 1510 (9th Cir. 1992); *Advanced Computer Servs. of Mich. v. MAI Sys.*, 845 F. Supp. 356 (E.D. Va. 1994).



*Right to prepare derivative works:* Copyright law in this area is sufficient to cover likely future problems. The increasing ability to modify digitized works, however, will obviously create problems as we move into the era of *Forrest Gump*- and *Zelig*-type manipulation of original works.<sup>64</sup>

*Distribution right:* Traditional copyright law limited this right with the "first sale doctrine." Recipients of copies had the right to distribute their copy in any way they saw fit.<sup>65</sup>

The first sale doctrine seems to create a large loophole in the day of the information superhighway—users may simply engage in widespread redistribution of copied works to other users without infringing on distribution rights held by the author of the work. This would not be the case, however, if Congress were to amend the Copyright Act to clarify that such activity infringes upon the reproduction rights of the copyright holder.

*Performance right:* When a work is rendered, regardless of whether it is recorded, it is a performance.<sup>66</sup> Mere downloading or transmission is not a performance. Because the NII will bring programming to so many homes, the performance right is of great significance. One of the most glaring shortcomings of the current law in this area is its inconsistency across media. Audio copyright holders, for example, enjoy no performance right. Such biases should be addressed by future changes in copyright law.

*Display right:* Copyright holders have the exclusive right to publicly show an image via any device.<sup>67</sup> Though users on the NII will often infringe this right, the application of the current law here will not be further challenged by technological developments.

#### 4. Fair Use

The fair use doctrine allows infringement in certain cases where the use is for beneficial purposes and is not deemed harmful.<sup>68</sup> Whether a given use is "fair" depends on the character of use, nature of work, amount of the work used, and the effect on the work's

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64. For a modern case dealing with the preparation of derivative works in a software setting, see *Lewis Galoob Toys v. Nintendo of Am.*, 964 F.2d 965 (9th Cir. 1992). For a discussion of the almost magical modifications now possible with digital technology, see GOLDSTEIN, *supra* note 7, at 30 (noting ability to convert a note of Paul McCartney's voice into McCartney singing an aria from *Rigoletto*).

65. 17 U.S.C. § 109(a) (1988).

66. 17 U.S.C. § 106(4) (1988).

67. 17 U.S.C. § 106(5) (1988).

68. 17 U.S.C. § 107 (1988).

value.<sup>69</sup> Other limitations on the exclusive rights of the copyright owner include the right of first sale, library use, and educational use.

As in the test cases to date, users will claim these rights with growing frequency. Many Internet users see their unauthorized downloading of copyrighted material as harmless, and have claimed fair use.<sup>70</sup> Fair use will be an even larger issue in the future, as users of the NII and GII will be able to copy and use parts of works in arguably "fair" ways.

One crucial matter that is unresolved in this area, and that Congress must address, is whether works put onto the NII are "published" for fair use purposes. Currently, unpublished works receive greater protection from fair use than published works.<sup>71</sup> Because the text of the current Copyright Act does not consider electronic transmission of text as "publication," many works on the NII will be considered "unpublished," and will be protected from most fair uses.<sup>72</sup> This condition could stifle growth of the NII, prohibiting the most basic educational, scholarly, and entertainment uses of "unpublished" materials.

Another major dispute within the area of fair use will be that of decompilation. Decompilation is a process used by computer and software manufacturers to decode programs of other manufacturers so that they can make their own programs compatible. Because a party must copy the copyrighted work of another party to decompile it, some courts have found this to be infringement, rather than fair use.<sup>73</sup> Still, decompilation will continue to be a crucial process in the development of software.

## 5. *Infringement*

In the past, challenging infringement was a relatively simple matter: copies of books could be detected, and it was clear which rights the copier had infringed upon. In the future, infringement will be more widespread and difficult to detect, and even when detected, it will be legally difficult to determine which rights were violated. Some ramifications are:

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69. *Id.*

70. *See, e.g.,* *Sega Enters. v. MAPHIA*, 857 F. Supp. 679 (N.D. Cal. 1994).

71. *Harper & Row, Publishers v. Nation Enters.*, 471 U.S. 539, 564 (1985).

72. *See* 17 U.S.C. § 101 (1988) (requiring distribution of copies for a work to be "published").

73. For varying views on decompilation, *see* *Atari Games v. Nintendo of Am.*, 975 F.2d 832 (Fed. Cir. 1992); *Sega Enters. v. Accolade*, 977 F.2d 1510 (9th Cir. 1992); *Lotus Dev. v. Borland Int'l*, 831 F. Supp. 223 (D. Mass. 1993), *rev'd*, 49 F.3d 807 (Mass. 1995), *cert. granted*, 116 S. Ct. 39 (1995).

1. *More infringement*: Digital works lend themselves to easy, high-quality, rapid copying. Naturally, this will increase the amount of infringement as digital works become more readily accessible over the NII.
2. *More difficult detection*: As the number of works increases, detecting unauthorized copies will be increasingly difficult. In addition, works will be available to users all over the globe, and detecting infringement in other nations may prove difficult.
3. *Legal problems*: Even when unauthorized copies, transmissions, or performances are located, application of the current laws may not reveal whether infringement has taken place. This difficulty results from the unclear definitions of copyright law, and their uncertain application to modern technologies. For example, is sending a digital file of a film over a computer system a transmission, reproduction, or performance?<sup>74</sup> Should the sending of a song be treated differently?<sup>75</sup>
4. *Usual solution—does it work?*: In the past, when a copyright holder wanted others to share his exclusive rights, he bargained to license away one or more of the rights. While this was the preferred means of publicizing works in the past, the efficiency of that solution is questionable in the era of mass communications. In the arena of cable programming, the federal government created a system of compulsory licensing, forcing copyright holders of broadcast programming to allow their works to be retransmitted on cable systems in exchange for a statutory fee. This system was created to replace the obvious inefficiency of having each distributor negotiate with each copyright holder for a fair fee. The NII will present an even greater number of users and copyright holders, and the efficiency of a traditional approach to licensing versus a compulsory clearing mechanism must be examined.

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74. Under current law, this would most likely be a reproduction. It would not be a performance unless the movie was actually shown in sequence, and because a permanent copy would be made on the receiving computer, it would not be a transmission.

75. Current law would treat the song differently—there is no performance right in a song comparable to that in a film. See generally William H. O'Dowd, Note, *The Need for a Public Performance Right in Sound Recordings*, 31 HARV. J. ON LEGIS. 249 (1993).

## 6. Milestones

In an attempt to keep up with technology and changing circumstances, the Copyright Act has undergone amendment at several points in its history. Some of the recent changes include:

1. The Sound Recording Amendment of 1971, added to respond to the threat of audio home recorders.
2. The 1976 revision of the Copyright Act to keep pace with changes in copying techniques.<sup>76</sup>
3. The Computer Software Copyright Act of 1980.
4. The Semiconductor Chip Protection Act of 1984.
5. The amendments to the Copyright Act regarding the use of computers.<sup>77</sup>
6. The adoption of the Berne Convention in 1989.
7. The development of DAT, leading to the Audio Home Recording Act of 1992.
8. The addition of Compulsory License Provisions as the result of cable retransmission technology.<sup>78</sup>
9. The Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS Agreement), providing for added international coordination of intellectual property law.

## B. Judicial Approaches

In the face of major technological changes, Congress eventually responded by amending the Copyright Act. On numerous other occasions, however, when the technological progress was gradual or the questions less controversial, courts have modified the interpretations of existing copyright law. Still, courts are singularly ill-equipped to deal with broad-based technological development and its implications in copyright law.

In *Sony v. Universal City Studios*, the Supreme Court recognized that “[s]ound policy, as well as history, support[ed] [the Court’s] consistent deference to Congress when major technological innovations alter the market for copyrighted materials.”<sup>79</sup> The Court went on to recognize that the purpose of the Copyright Act is to promote broad public availability of information, and that “[w]hen technological

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76. See § 108 of the Copyright Act.

77. See § 117 of the Copyright Act. See generally *Vault Corp. v. Quaid Software*, 655 F. Supp. 750 (E.D. La. 1987).

78. See 17 U.S.C. § 111(d) (West Supp. 1995).

79. *Sony v. Universal City Studios*, 464 U.S. 417, 432 (1984).

change has rendered its literal terms ambiguous, the Copyright Act must be construed in light of this basic purpose.”<sup>80</sup>

Though courts have a narrow mandate when attempting to apply the Copyright Act to new technological innovations, many attempted applications end in failure. A court may look at only the facts presented to it in a given case and cannot look beyond at the broader policy implications of its actions. Courts facing the especially complex technological questions posed today can often barely formulate a coherent policy for one case, much less look beyond that one decision to see the impact it is making on the ever-converging communications world. In cases concerning copyright infringement via the Internet, for example, courts have so far been unable to decide whether unauthorized transmission of copyrighted work via the Internet infringes upon the holder’s distribution rights or his reproduction rights.<sup>81</sup> For a court to develop a coherent policy to deal with such questions takes decades of case law, yet technology constantly continues to evolve rapidly.

### C. Need For A Legislative Approach

#### 1. Introduction

Ideally, legislation would offer a more coherent and technologically-informed approach than piecemeal judicial decisions. Legislation can also legitimize the difficult balancing that must be achieved between creators and users and between privacy and security. The legislative approach, however, has often been as ad hoc and reactive as that of the courts.

#### 2. Need for Comprehensive Legislation

In the past, legislative approaches have been the product of special-interest laws and narrow responses to particular technological changes. Over the years, such technology-specific laws have created a patchwork of copyright statutes that have produced anomalous results, especially as different forms of media have converged.

##### a. Past Examples of Patchwork Copyright Laws

- (A) The jukebox exception to the licensing requirement; lack of performance right for audio recordings.

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80. *Id.* (quoting *Twentieth Century Music v. Aiken*, 422 U.S. 151, 156 (1975)).

81. See *Playboy Enters., Inc. v. Frena*, 839 F. Supp. 1552 (M.D. Fla. 1993); *Sega Enters. v. MAPHIA*, 857 F. Supp. 679 (N.D. Cal. 1994).

(B) Compulsory licenses for certain technologies but not for all distribution technologies.

b. Approach Needed

If a legislative approach is to be flexible and keep pace with innovation, it must be comprehensive and technologically neutral. The approach must not distinguish between different forms of transmission, storage, or communication. Similarly, it cannot distinguish between forms of the original work. As technology converges, such lines become blurred in reality, and any strict categories that remain in copyright law are arbitrary.

c. Recent Legislative Initiatives

Congressman Moorhead and Senator Hatch have recently introduced legislation that would grant a performance right for the digital transmission of sound recordings.<sup>82</sup> Former Senator DeConcini introduced legislation that would remove the technology bias from the compulsory licensing system, allowing the system to be used by home satellite programmers as well as wireless cable programmers.<sup>83</sup> These proposed changes are important steps, and reveal some willingness in Congress to take a more comprehensive approach to copyright questions across different media.

3. *Problems that a Legislative Approach Must Solve*

a. Legal Clarification

In drafting any statute, Congress should first clarify the application of the law to new technologies. Innovations have challenged the conventional definition of "publication," and pushed the current interpretations of reproduction and distribution rights to their respective limits.

(1) *Example*

The "Celestial Jukebox" provides the most stark example of the problem. In the future, home listeners will simply dial up their favorite songs to receive digital-quality play on their home stereos, forever eliminating the need to purchase CDs or tapes. If that listener of the future were to copy and distribute home copies of those songs, however, it would not be clear under the current legal regime if he had infringed on any copyright. The holders of copyright for audio record-

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82. H.R. 1506, 104th Cong., 1st Sess. (1995); S. 227, 104th Cong., 1st Sess. (1995).

83. S. 1485, 103d Cong., 1st Sess. (1994).

ings have no performance right under the current Copyright Act, a vestige of past days when radio broadcasters had such a right excluded from the Act.<sup>84</sup> But even if this anomaly in the law were remedied, it would not be clear which right, if any, was infringed.<sup>85</sup>

(2) *The Clarifications Proposed*

The NII Task Force (the "Task Force") has proposed "minor clarifications" of the current regime to solve these and other copyright dilemmas.<sup>86</sup> The Task Force has proposed that amendments be made to clarify that transmissions are both reproductions and distributions. Such amendments would help courts in determining when exactly there had been an infringement. Even if such clarifications are made, however, the fundamental problem is not solved.

b. Enforcement

The clarifications proposed by the task force are an important first step, helping to define how copyright law will apply to the new information superhighway. Much more clarification is needed, however, if the NII is to be used. Two serious problems remain, and will hamper the use of the NII even if legal rights are clarified. First, regardless of the NII's content, obtaining widespread compliance will be a challenge. Second, a classic enforcement system may not best serve the information superhighway.

The Task Force recognized that enforcement will be increasingly difficult in the future. Digital material lends itself to easy, high-quality, and rapid copying. As works are digitized, users will have unlimited access to audio recordings, film, and computer programs. The Task Force recognized this problem when it proposed a ban on encryption-breaking technology, similar to the ban on serial recording equipment enacted in the Audio Home Recording Act.<sup>87</sup> Detection of infringement, however, will become increasingly difficult as every home plugs into the NII. As this expands to a Global Information Infrastructure, detection will become nearly impossible.

A technological approach to enforcing copyright poses other problems. In the computer software arena, for instance, decompila-

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84. See O'Dowd, *supra* note 75.

85. Recent decisions have shown some courts' inability to clearly apply traditional copyright law to new technological innovations. In *Playboy*, the court found infringement when copyrighted photographs were displayed over the Internet for use and copying by others, but could not clearly enunciate which right was infringed. Such cases show the need for clarification of the current Copyright Act.

86. Lehman, *supra* note 49, at 10.

87. 17 U.S.C. § 1002 (Supp. V 1993).

tion of programs is necessary to develop new software and to make various programs compatible.<sup>88</sup> Too strict an encryption standard will render decompilation impossible and halt the "useful progress" that copyright is designed to promote.

c. Licensing

Does the traditional copyright law framework efficiently serve the NII? Clarifying the rights of copyright holders may not create a system where their works are used legally and efficiently, and where the public truly benefits from the NII. With the massive number of copyright holders seeking to have their works used and viewed, and the massive number of customers looking to do the same, consensual bargaining for a fair price for license or use may well be difficult. On the other hand, the technology—high speed, two-way communication—might simplify the copyright clearing process.

The NII Task Force concluded that such a system would be unnecessary on the information superhighway, claiming that its technological nature may permit some form of automatic payment and licensing as works are used or copied.<sup>89</sup> This sentiment is echoed by the vast majority of copyright holders, who feel that the technology of the NII will allow much more efficient consensual licensing than will a centrally-administered compulsory license program.<sup>90</sup> This may be true, but a comprehensive study must be undertaken to see if such a system is actually feasible. If it is not, licensing is far too crucial an area to be left to chance—works may be available over the NII, but legal use of them may be impossible if efficient licensing is not a reality.

Even if technology does solve the licensing dilemma, unauthorized copying and use of copyrighted materials will still be difficult to enforce. In this area, the Task Force's proposed encryption-breaking technology ban is a vital step in the correct direction.

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88. Some courts have seemingly accepted decompilation as a non-infringing activity if it yields non-infringing programs as an end-product. *See* *NEC v. Intel*, 10 U.S.P.Q.2d (BNA) 1177 (N.D. Cal. 1989). The vast majority of copyright law, however, has treated intermediate copying of a work, even if to create a non-infringing product, as impermissible. *See* WILLIAM F. PATRY, *THE FAIR USE PRIVILEGE IN COPYRIGHT LAW* 400 (1985).

89. Lehman, *supra* note 49, at 134.

90. *See* Transcript, *Public Hearing on Intellectual Property Issues Involved in the National Information Infrastructure Initiative*, pp. 21 (statement of Steven J. Metalitz, Vice President, General Counsel of Information Industry Association), 37 (statement of Stephen L. Haynes, Manager, Westlaw Research & Development), 46 (statement of Lisa Freeman, Director, Association of American University Presses). *But see* p. 80 (statement of Dennis L. Bybee, International Society for Technology in Education, proposing a universal licensing system for the NII).



#### d. Fair Use

Another area of copyright law that should be comprehensively addressed by legislation before the advent of the NII is fair use. Unfortunately, the Working Group concluded that existing fair use law would likely suffice in the future, and left whatever minor adjustments were needed in the law to the Conference of Fair Use. The Working Group made it clear, however, that it anticipated that such adjustments would only be needed in the area of educational and library use.

The failure to squarely address fair use constitutes perhaps the greatest shortcoming of the Working Group's report. Section 107 of the Copyright Act creates a four-pronged test to determine whether a use is fair. Under this test, a court is to consider: (1) the purpose and character of the use, (2) the nature of the copyrighted work, (3) the amount and substantiality of the work used, and (4) the effect of the use on the market for the original. New technology may potentially allow an abuse of the first prong of this test, as digital technology allows wholesale transformation of original works. Yet the Supreme Court has held that "transformative uses" enjoy fair use protection, even if for commercial gain.<sup>91</sup> As the potential for "transformative uses" explodes in the digital age, Congress should squarely address this issue and decide whether transformative uses are always fair uses.

Congress must also address how much of an original work can be utilized while remaining a fair use. Professor Goldstein has recognized that digital technology allows the transformation of one note of an old song into an entirely new work. Under existing fair use law, however, this type of use may be a fair use, even if it is for commercial gain. At the minimum, this is another fair use issue that should be clarified if not reformed. Whatever Congress' final decision may be, it must be clear that fair use law is in need of serious re-examination.

#### e. Need for International Coordination

The global nature of communication on our increasingly interconnected planet multiplies the issues with which copyright law must deal. Coordinating the definitions of copyright and copyrightable material, and treating all foreign nationals equally must be the cornerstones of any international agreement. A system lacking these fundamentals will fail to utilize the full potential of the GII, impeding the extension of each individual nation's information infrastructure beyond its own borders.

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91. See *Campbell v. Acuff-Rose Music, Inc.*, \_\_\_ U.S. \_\_\_, 114 S. Ct. 1164 (1994).

The United States has entered into the TRIPS Agreement as part of its general approval of the GATT treaty in late 1994. The TRIPS Agreement has the effect of adopting the Berne Convention as the basis for international intellectual property protection among World Trade Organization member states. While this agreement had an important effect in creating a uniform standard of intellectual property protection, it does not address many of the dilemmas posed by increasing technological change.

When the United States does finally address copyright in a comprehensive manner that is well-adapted to modern technology, it will only be the beginning of a process: the United States will then have to seek the creation of a similar international standard. Considering the effort that it took simply to have the TRIPS Agreement included in the GATT treaty, obtaining global consensus on copyright reform will be a daunting task.<sup>92</sup> Nonetheless, some global approach is needed, as the information superhighway will inevitably reach beyond America's borders and across the globe.

## V

### Conclusion

Defining for statutory purposes elusive concepts such as "information highway" and "cyberspace," as daunting a project as that may be, may be relatively easy compared to the challenge of overhauling copyright law and protecting intellectual property in the digital age. The technological transformations that have already occurred and will occur in the next decade will strain the existing copyright paradigm to its limits. Almost the only thing that is certain in this time of innovation is that the existing system of copyright law will be inadequate. The Working Group is correct that technology is developing so fast that it is hard to know what form comprehensive legislation should take. However, Professor Goldstein is equally right in observing that in copyright, it is almost impossible to legislate once a new technology is widespread and consumers have grown accustomed to its unrestricted use.

If Congress wants to have some control over copyright in the coming age, it must make an attempt to address the area comprehensively before it has all the answers. This legislation must come on a federal level: although international coordination will be necessary in

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92. See generally Robert A. Cinque, Note, *Making Cyberspace Safe for Copyright: The Protection of Electronic Works in a Protocol to the Berne Convention*, 18 *FORDHAM INT'L L.J.* 1258 (1995).

the future, this is impossible without a sound national framework in place. Congress must decide whether the new copyright framework should be an updated version of a law first drafted in 1909, applying traditional copyright principles by analogy to novel electronic situations, or whether it will create a new system for protecting intellectual property with the unique problems posed by advanced technology specifically in mind. These questions are complex and politically difficult; any legislation would take a great deal of effort and compromise to find solutions. Unfortunately, the Working Group on Intellectual Property Rights asked too few of the important questions, and has started very slowly down the road to revamping copyright so it can function in the digital, interconnected world.