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Intellectual Property Rights in Digital Media: A Comparative Analysis of Legal Protection, Technological Measures, and New Business Models under EU and U.S. Law

NICOLA LUCCHI†

INTRODUCTION

How can intellectual property law operate to reward authors for their works, and to provide incentives for new creations, while not hindering freedom of expression and the free movement of information? How can intellectual property law promote access to culture and the free flow of ideas? How is it possible, in the new digital era, to reduce the number of violations of intellectual property rights and to balance the rights of holders and users? What are the new business models, the recent legal protections, and the technological measures used to deal with the use,

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distribution, and control of digital media? How can they work?

Some of these questions have yet to find reasonable answers. However, increased consciousness and worldwide debates about these new problems should assist in their solution.¹ A clearer view of the ongoing legal and technological approaches could also emerge from a comparative analysis of the American and European patterns.²

The production of digital content is a phenomenon which has completely changed the conditions of access to knowledge.³ It has become one of the most important assets

1. In the last few years there were several international conferences and workshops on these and connected subjects, ACM CCS, *Workshop on Digital Rights Management (DRM)*; DRM 2005 (Washington D.C.); DRM 2004 (Washington D.C.); DRM 2003 (Washington D.C.); DRM 2002 (Washington D.C.); DRM 2001 (Philadelphia); *Consumer Communications and Networking Conference (CCNC) 2005*; *Workshop on Digital Rights Management Impact on Consumer Communications* (Las Vegas); *Australasian Information Security Workshop (AISW) 2005: Digital Rights Management* (Newcastle, Australia); University of Dortmund, *Digital Rights Management Conference*, 2005, 2002, 2000, (Berlin); *International Open Digital Rights Language (ODRL) Workshop*: 2005 (Lisbon), 2004 (Vienna); Berkeley Center for Law and Technology (BCLT), *The Law and Technology of Digital Rights Management Conference: What Will DRM Technologies Mean for the Future of Information?*, 2003 (Berkeley); Institut National de Recherche en Informatique et en Automatique, *World Wide Web Consortium (W3C): Workshop on Digital Rights Management* (Sophia Antipolis, France).

2. As some commentators have noted, most of the literature on the digital media is ethnocentric, that is, it refers only to the experience of a single country. It "is written in general terms, as though the model that prevailed in that country were universal." In this framework, comparative analysis can have two functions: (1) concept formation and clarification and (2) evaluation of the role in causal inference. Comparative analysis is also "valuable in social investigation because it sensitizes us to variation and to similarity, and this can contribute powerfully to concept formation and to the refinement of our conceptual apparatus." Furthermore, it has been underlined how, in media systems, there is a relation between countries with the most-developed media scholarship, including the United States, and countries with less developed traditions of media research. This relation results in a tendency to borrow the literature of other countries—usually the Anglo-American—and to treat that borrowed literature as though it could be applied unproblematically anywhere. See DANIEL C. HALLIN & PAOLO MANCINI, *COMPARING MEDIA SYSTEMS: THREE MODELS OF MEDIA AND POLITICS* 2 (2004).

3. See COMM. ON INTELL. PROP. RIGHTS AND THE EMERGING INFO. INFRASTRUCTURE, NATIONAL RESEARCH COUNCIL, *THE DIGITAL DILEMMA: INTELLECTUAL PROPERTY IN THE INFORMATION AGE*, at ix (2000) [hereinafter

for economic growth, enterprise, and employment; for enhancing professional, social, and cultural development; and for fostering the creative and innovative capacity of modern society.⁴ In this framework it becomes even more important to find and formulate a new settlement for intellectual property rights.

Intellectual property rights⁵—such as copyrights, patents, trademarks, and so on—offer the legal protection upon which authors, inventors, firms, researchers, and others rely to protect their creations. Intellectual property rights dictate what use can legally be made of the creative work, and are thus essential to ensuring that authors are rewarded for their efforts.⁶

The advent of the Internet, however, has raised a new and unexpected challenge, making it more difficult to reach a balance, and has fostered an extremely protective environment where works are considered similar to physical properties, with rights-holders accorded extensive control over them.⁷

At the same time, digital technologies allow perfect, inexpensive, and unlimited copying and dissemination of content.⁸ Without adequate protection and enforcement, authors may decide not to make their content available in

DIGITAL DILEMMA] (discussing the different threats to the intellectual property rules and practice produced by digital technology and describing as a “digital dilemma” the technical, legal, political, economic and sociological issues connected to the advent of digital information).

4. *See id.*

5. In general terms, the expression “intellectual property” can be considered to include anything coming from the working of the human brain such as ideas, concepts, inventions, stories, songs, etc. However, there is a basic difference between intellectual property and intellectual property rights. The latter, in fact, defines the issue to encompass those aspects of the topic which receive a measure of legal protection. *See e.g.*, IAN J. LLOYD, *INFORMATION TECHNOLOGY LAW* 304 (4th ed. 2004).

6. *See generally* ROBERT P. MERGES ET AL., *INTELLECTUAL PROPERTY IN THE NEW TECHNOLOGICAL AGE* 15 (3d ed. 2003) (describing the economic incentive benefit of intellectual property protection and the necessity for encouraging inventors, authors, and artists to invest in the process of creation).

7. *See* DIGITAL DILEMMA, *supra* note 3, at 8-12.

8. *See id.* at 3-6.

digital form.⁹ In short, times are changing, and the needs of the information society differ from those of its industrial predecessor.¹⁰

This Article argues, in essence, that the owners of the old technology are trying to block the way to what they see as antagonism, failing to comprehend the original formulation of intellectual property law (e.g., the right to control copying), and the new means to be applied in the digital environment.¹¹ The Internet, in fact, offers new possibilities in terms of appropriation and distribution, and so the law should be re-designed, possibly in terms of economic exploitation, but considering the original aim of copyright law.¹² It could be also necessary, in view of the Internet's potential, to craft a new business model shaped around its own characteristics.¹³

The first section of this Article outlines how the balance that copyright law originally tried to establish has been jeopardized, and how, in response to the threats

9. When information is recorded in digital format, the job of the copier is much easier. The copy of a digital work will be the same in terms of quality as the original because it is the exact copy of a machine readable binary digit code (a series of zeros and ones). The same effect will apply no matter how many generations of copies are created. Furthermore the speed with which copies may be disseminated is also increased thanks to the power of the internet. *See id.* at 32.

10. *See* MANUEL CASTELLS, *THE RISE OF THE NETWORK SOCIETY* 33 (2d ed. 2002).

11. *See* Mohanbir Sawhney, *Hand in Hand*, *CONTEXT MAGAZINE* (2000), available at <http://www.contextmag.com/setFrameRedirect.asp?src=/archives/200004/DigitalStrategy.asp>.

12. In the United States, the original aim of copyright is codified in the U.S. CONST. art. I, § 8, cl. 8. However, it is necessary to remark about the substantial differences of approach in the historical foundations of the countries from the *droit d'auteur* tradition and countries from the copyright tradition. Several commentators remark about a movement of harmonization of copyright principles at an international level. *See, e.g.*, Gillian Davies, *The Convergence of Copyright and Authors' Rights—Reality or Chimera?*, 26 *INT'L REV. INDUS. PROP. & COPYRIGHT L.* 964, 965 (1995) (observing that the Berne Convention had "provided a bridge" between the two systems); J.A.L. Sterling, *Creator's Right and the Bridge Between Author's Right and Copyright*, 29 *INT'L REV. INDUS. PROP. & COPYRIGHT L.* 302 (1998). For an illustrative example of the differences between the two models compare TULLIO ASCARELLI, *TEORIA DELLA CONCORRENZA E DEI BENI MATERIALI* 355 (1960), and 1 PAUL GOLDSTEIN, *COPYRIGHT: PRINCIPLES, LAW AND PRACTICE* 317 (1989).

13. *See infra* Part III.D.

digitalization posed to copyright piracy, rights-holders have managed to create a system where their creations are protected to the same extent as physical goods. So, they set up a system where they exercise extensive control over access and use of their works, with consequent impairment of users' rights.

The second section discusses the measures taken at the legislative level to protect authors' rights. Particular attention is given to the situation in the United States, now leading in technological and legal developments.¹⁴ A comparative analysis will be made between legal protections, technological measures, and anti-circumvention provisions recently adopted in continental Europe and in the United States.

I also outline the debate surrounding peer-to-peer systems and the adverse effects of content industry lobbying activity, in particular the violent reactions against illegal file sharing and its users.

The third section looks at the technological measures embraced to secure content and prevent it from being copied and illegally shared over the Internet. It considers how the content industry is trying to develop licensing systems for online content distribution, imposing through technology excessive restrictions on the users' ability to enjoy the goods purchased. In particular, I reveal the upsetting trend to convert technological protection measures into functional equivalents of privately legislated intellectual property rights.¹⁵

The Article concludes with an overview of the adverse effects, and the possible solutions, under U.S. and EU law posed by using contractual arrangements to expand intellectual property rights. Finally, it also proposes to learn from the old media experience because new

14. See Hector L. MacQueen, *Copyright and the Internet*, in LAW AND THE INTERNET: A FRAMEWORK FOR ELECTRONIC COMMERCE 181, 184 (Lilian Edwards & Charlotte Waelde eds., 2d ed. 2000).

15. See James R. Maxeiner, *Standard-Terms Contracting in the Global Electronic Age: European Alternatives*, 28 YALE J. INT'L L. 109 (2003); 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, 878 (1999).

technologies do not necessarily destroy the current architecture. On the contrary, they create new business opportunities.¹⁶ Old technologies have to find ways to cooperate with, or even co-opt, the new technology.¹⁷ The real solution, in fact, is that intellectual property rights rules need to be adapted to our digital times. A balance must be found between the interests of rights-holders and users, and between protecting the original creative investment and enabling legal or licensed re-use by others.¹⁸

I. FEARS AND OPPORTUNITIES OF DIGITAL MEDIA

The Internet, as a global medium, has the potential to reach an unlimited number of people instantaneously, with minimum expenses, and with no restrictions in terms of time and geographical limits.¹⁹ Ubiquitous networking and low-cost computing offer an environment where products that were typically distributed as physical goods can now be delivered completely in digital form.²⁰ This transformation has extensive implications for the cost structure²¹ and strategies of content intermediaries.²²

The digitization of content, in fact, combined with the increasing adoption of broadband distribution technologies,

16. See Sawhney, *supra* note 11.

17. See *id.*

18. Copyright law must reach "a balance between a copyright holder's legitimate demand for effective . . . protection . . . and the rights of others freely to engage in substantially unrelated areas of commerce." Sony Corp. of Am. v. Universal City Studios, Inc., 464 U.S. 417, 442 (1984).

19. See MANUEL CASTELLS, *THE INTERNET GALAXY: REFLECTIONS ON THE INTERNET, BUSINESS, AND SOCIETY* 2-5 (2001).

20. See DIGITAL DILEMMA, *supra* note 3, at 32 (observing that "information in digital form is largely liberated from the medium that carries it"); see also John M. Gallagher et al., *Revenue Streams and Digital Content Providers: An Empirical Investigation*, 38 INFO. & MGMT. 473, 476 (2001).

21. Production of information goods has high fixed costs but low marginal costs, or "is costly to *produce* but cheap to *reproduce*." CARL SHAPIRO & HAL R. VARIAN, *INFORMATION RULES: A STRATEGIC GUIDE TO THE NETWORK ECONOMY* 3 (1999).

22. See George M. Giaglis et al., *The Role of Intermediaries in Electronic Marketplaces: Developing a Contingency Model*, 12 INFO. SYS. J. 231 (2002).

represents a revolution and a challenge that may be the greatest opportunity for the growth of new business and the transformation of the traditional distribution models.²³ The consequences brought about in the content industry as a result of the new technologies are already before our eyes. For example, the combination of MP3 technology—compressing digital files up to 1/22nd of their original size and significantly reducing their storage space²⁴—and peer-to-peer technology—ensuring independence from central servers so that file transfers occur directly through computers—has determined a substantial transformation in how intellectual creations are appropriated, used and distributed, maximizing the opportunities for the spread of culture, while also enhancing possibilities for illegal appropriation and distribution of pirated, counterfeit, and unauthorized products.²⁵ One of the effects of this new settlement has been the possibility of a drastic shift in power. In fact, the web can be converted into an inexpensive and widespread distribution medium.²⁶

In such a situation, it is evident that the owners of the old distribution technology are afraid of losing control over authors, composers, and performers because their role could become unnecessary.²⁷ In fact, the intermediation of publishers, distributors, and record companies can be easily eliminated.²⁸ In order to maintain their business, content

23. See SHAPIRO & VARIAN, *supra* note 21.

24. See generally Dean S. Marks & Bruce H. Turnbull, *Technical Protection Measures: The Intersection of Technology, Law and Commercial Licenses*, 22 EUR. INTELL. PROP. REV. 198 (2000). The same article was presented at the Workshop on Implementation Issues of the WIPO Copyright Treaty (WCT) and the WIPO Performances and Phonograms Treaty (WPPT) (Geneva, Dec. 6-7, 1999), available at http://www.wipo.int/documents/en/meetings/1999/wct_wppt/pdf/imp99_3.pdf.

25. See DIGITAL DILEMMA, *supra* note 3, at 90 (describing the industry consequences of the new technology).

26. See *id.*

27. Technology promotes the elimination of those individuals and organizations between end-users and originators. This concept is summarized by the term “disintermediation.” See DIGITAL DILEMMA, *supra* note 3, at 90.

28. See Alina M. Chircu & Robert J. Kauffman, *Strategies for Internet Middlemen in the Intermediation/Disintermediation/Reintermediation Cycle*, 9 ELECTRONIC MARKETS 109, 113 (1999).

intermediaries are obliged to make a radical change. The arrival of the new distribution systems is forcing suppliers to undergo an inevitable metamorphosis towards decentralization and disintermediation in content management systems.²⁹ Content intermediaries alarmed by the inevitable process of elimination of their role in the transaction process are resorting to very strict copyright protection measures.³⁰

Therefore, if the most important application of the new distribution technologies is allowing flow of information, content providers have initially argued that any technological security measures used to distribute content through the Internet can eventually be circumvented and that, consequently, new legal protections for copyrighted works in the network environment are also required.³¹ Content providers also fail to perceive some positive aspects of the new distribution technology, such as the dramatic reduction of production and distribution costs³² because

29. For an overview of the disintermediation issues see George M. Giaglis et al., *Disintermediation, Reintermediation, or Cybermediation? The Future of Intermediaries in Electronic Marketplaces*, in PROCEEDINGS OF THE TWELFTH INTERNATIONAL BLED ELECTRONIC COMMERCE CONFERENCE, BLED, SLOVENIA, JUNE 7-9, 1999 at 389 (Stefan Klein, Joze Gricar & Andreja Pucihar eds., 1999); Michael D. Smith et al., *Understanding Digital Markets: Review and Assessment*, in UNDERSTANDING THE DIGITAL ECONOMY 99, 121 (Erik Brynjolfsson & Brian Kahin eds., 2000). See also LAWRENCE LESSIG, *FREE CULTURE: HOW BIG MEDIA USES TECHNOLOGY AND THE LAW TO LOCK DOWN CULTURE AND CONTROL CREATIVITY* 41 (2004).

30. However, some seem to prefer to preserve the status quo. The content industry, in fact, is lobbying to protect its supremacy. For a more general analysis about the various ways in which institutional features can facilitate or impede the improvement of legal rules, see Clayton P. Gillette, *Lock-In Effects in Law and Norms*, 78 B.U. L. REV. 813 (1998).

31. See Pamela Samuelson, *Intellectual Property and the Digital Economy: Why the Anti-Circumvention Regulations Need to be Revised*, 14 BERKELEY TECH. L.J. 519 (1999). But see Kamiel Koelman, *The Protection of Technological Measures vs. the Copyright Limitations*, in ADJUNCTS AND ALTERNATIVES TO COPYRIGHT: PROCEEDINGS OF THE ALAI CONGRESS JUNE 13-17, 2001 at 448 (Jane C. Ginsburg & June M. Besek eds., 2002).

32. See Yochai Benkler, *Net Regulation: Taking Stock and Looking Forward*, 71 U. COLO. L. REV. 1203, 1240 (2000). Reduced costs could increase the size of the surplus to be had from transactions involving contents. The challenge and opportunity for copyright owners is how this new marginal surplus will be distributed either in the form of increased profits or lower prices.

digital data are no longer inseparable from a physical carrier, but could now be represented as abstract strings and symbols.³³ Technology, then, can promote ethics and the public good by reducing transactions costs.³⁴ Digital products are also particularly well-structured for price discrimination, and consumers are often ready to pay for immediate online access to specific content: a large variety of content, in fact, may be easily disaggregated and distributed on demand.³⁵ “Digital content also benefits from the ability to exploit various strata of consumers that can be classified by intent-to-use and immediacy-of-need.”³⁶ Finally, the migration of consumers to new media, the shifting expectations of consumers, the possibility to market to an increasingly diverse and stratified customer base, and the tangible differences of entirely digital vs. physical products, create a multitude of options for revenue generation.³⁷

Probably for these reasons, content providers are now looking with positive interest to “pay-per-view” or “pay-per-download” web services.³⁸ At the same time, many artists and authors seem to be convinced that it is possible to take advantage of the opportunity to directly expose themselves to the public even if the role currently played by major

See Michael W. Carroll, *Whose Music is it Anyway?: How We Came to View Musical Expression as a Form of Property*, 72 U. CIN. L. REV. 1405, 1413 (2004).

33. See DIGITAL DILEMMA, *supra* note 3, at 32 (observing that information in digital form is largely liberated from the medium that carries it).

34. See generally CASS R. SUNSTEIN, *FREE MARKETS AND SOCIAL JUSTICE* (1997). On the point of social norms, see also Eric A. Posner, *Efficient norms*, in *THE NEW PALGRAVE DICTIONARY OF ECONOMICS AND THE LAW* 19 (Peter Newman ed., 1998).

35. See Hal Varian, *Pricing Information Goods*, in *PROCEEDINGS OF SCHOLARSHIP IN THE NEW INFORMATION ENVIRONMENT SYMPOSIUM* (Carol Hughes ed., 1995).

36. Gallagher et al., *supra* note 20, at 479 (2001).

37. See *id.*

38. As demonstrated by the Apple iTunes experience, the real issue is the requirement of new philosophy. If content providers identify and focus on consumer needs instead of on business or control opportunities, innovation is possible. See generally Urs Gasser, *iTunes: How Copyright, Contract, and Technology Shape the Business of Digital Media—A Case Study* (Berkman Ctr. for Internet & Soc’y at Harvard Law School Research Publ’n No. 7, 2004), <http://ssrn.com/abstract=556802>.

distribution companies is still a restraint on complete transformation in the world of content circulation.³⁹

Conscious of the chance the Internet has to overtake the archaic monopolistic business model allowing authors to reach their audience autonomously, the content industry has been working towards the establishment of a safe infrastructure by looking to regional and global solutions in order to leverage resources, decrease cost, and increase the implementation of standardized technological protection measures.⁴⁰ At the same time, the current efforts at building an effective copy security structure have demonstrated the necessity to obtain laws that support protection technologies and prohibit the circumvention of technology protected works.⁴¹

An essential part of this paper will evaluate each condition and determine whether the imposed restrictions on a user's right could represent the correct and effective reaction to the disrespect of intellectual property rights.

A. Intellectual Property: A Tool for Economic Development?

Historically, the cradle of the IP system is considered the renaissance of northern Italy. A Venetian law of 1474 (the so called "Parte Veneziana") made the first systematic attempt to protect inventions by a form of patent, which

39. For example, current technology allows non-professional musicians to make high quality recordings and distribute them through the Internet directly to the public, bypassing intermediaries and with significant reductions in costs. See JOHN ALDERMAN, *SONIC BOOM-NAPSTER, MP3, AND THE NEW PIONEERS OF MUSIC* 64 (2002).

40. Regarding self-help measures and their purposes, see, e.g., Charles Clark, *The Answer To the Machine Is In the Machine*, in *THE FUTURE OF COPYRIGHT IN A DIGITAL ENVIRONMENT* 139 (P. Bernt Hugenholtz ed., 1996). See also Kenneth W. Adam, *Self-help in the Digital Jungle*, in *EXPANDING THE BOUNDARIES OF INTELLECTUAL PROPERTY: INNOVATION POLICY FOR THE KNOWLEDGE SOCIETY* 103 (Rochelle C. Dreyfuss et al. eds., 2001) also in 28 J. LEGAL STUD. 393 (1999); Julie E. Cohen, *Copyright and the Jurisprudence of Self Help*, 13 BERKELEY TECH. L.J. 1089 (1998); David Friedman, *In Defense of Private Orderings*, 13 BERKELEY TECH. L.J. 1151 (1998) (commenting on Cohen, *supra* note 40); and Mark Stefik, *Shifting the Possible: How Trusted Systems and Digital Property Rights Challenge Us to Rethink Digital Publishing*, 12 BERKELEY TECH. L.J. 137 (1997).

41. See Marks & Turnbull, *supra* note 24.

granted an exclusive right to an individual for the first time.⁴² In the same century, the invention of movable type and the printing press by Johannes Gutenberg, around 1450, contributed to the birth of the first copyright system in the world. Copyright is a form of intellectual property rights developed in response to the advent and rapid evolution of printing technology.⁴³ It is an instrument to both control the quality of the material made public and to regulate trade, preventing works from being pirated.⁴⁴ Past and present experience demonstrate that knowledge and inventions have played an essential role in economic growth⁴⁵ and, at the same time, states have had another

42. Venice was considered the first city in Europe in which the business of printing and publishing became significant, and was the precursor to the system of copyright. See PAUL F. GRENDLER, *THE ROMAN INQUISITION AND THE VENETIAN PRESS 1540-1605* (1977); GEORGE PUTNAM, *BOOKS AND THEIR MAKERS DURING THE MIDDLE AGES; A STUDY OF THE CONDITIONS OF THE PRODUCTION AND DISTRIBUTION OF LITERATURE FROM THE FALL OF THE ROMAN EMPIRE TO THE CLOSE OF THE SEVENTEENTH CENTURY* 404-05 (1962); EDWARD C. WALTERSCHEID, *TO PROMOTE THE PROGRESS OF USEFUL ARTS: AMERICAN PATENT LAW AND ADMINISTRATION, 1798-1836* 142 n.110 (1998) (Italy provided exclusive rights to inventors for their inventions through the Venetian Law of 1474). England followed in 1623 with the Statute of Monopolies. See *id.*; see also ADRIANO VANZETTI & VICENCENZO DI CATALDO, *MANUALE DI DIRITTO INDUSTRIALE* 265 (2000). This first exclusive right was granted from the Republic of Venice to the printer of the Histories of Pliny the Elder. See RICHARD CROSBY DEWOLF, *AN OUTLINE OF COPYRIGHT LAW* 2 (1986) (1925).

43. See ELIZABETH EISENSTEIN, *THE PRINTING PRESS AS AN AGENT OF CHANGE: COMMUNICATIONS AND CULTURAL TRANSFORMATIONS IN EARLY-MODERN EUROPE* 27-29, 36 (1979); GILLIAN DAVIES, *COPYRIGHT AND THE PUBLIC INTEREST* 14 (2d ed. 2002).

44. See SIMON STOKES, *DIGITAL COPYRIGHT: LAW AND PRACTICE* 1 (2002). For a discussion of the history of copyright, see generally OFFICE OF TECHNOLOGY ASSESSMENT, U.S. CONGRESS, *INTELLECTUAL PROPERTY RIGHTS IN AN AGE OF ELECTRONICS AND INFORMATION* (1986); LYMAN RAY PATTERSON, *COPYRIGHT IN HISTORICAL PERSPECTIVE* (1968); BRAD SHERMAN & LIONEL BENTLY, *THE MAKING OF MODERN INTELLECTUAL PROPERTY LAW* (1999); Daniel Burkitt, *Copyrighting Culture: The History and Cultural Specificity of the Western Model of Copyright*, 2 *INTELL. PROP. Q.* 146 (2001); Christopher May, *The Venetian Moment: New Technologies, Legal Innovation and the Institutional Origins of Intellectual Property*, 20 *PROMETHEUS* 159 (2002), available at <http://taylorandfrancis.metapress.com/index/QAAXAY05786CLA16.pdf>.

45. See Kamil Idris, *International Intellectual Property: Introduction*, 26 *FORDHAM INT'L L.J.* 209, 210 (2003); WIPO, *Intellectual Property: A Power Tool for Economic Growth*, http://www.wipo.int/about-wipo/en/dgo/wipo_pub_888/

indispensable role “recognizing, conferring and protecting intellectual property rights.”⁴⁶ Economists suggest exactly that the accumulation of knowledge is the driving force behind economic growth.⁴⁷ However, despite the economic service fulfilled, when intellectual property rights (and copyright in particular) were first introduced, the main concern for legislators of common law as well as civil law countries⁴⁸ was to encourage “creativity, science and democracy.”⁴⁹ They indeed focused primarily on users’ interests, according authors and publishers a level of protection just strong enough to encourage and reward

wipo_pub_888_1.htm (last visited Sept. 13, 2005). Rapid knowledge creation, including the emergence of new technologies, resulted in policy changes regarding intellectual property and the adoption of new knowledge-asset management practices. One of the consequences of the emerging importance of IP and the new pattern of global trade that started in the beginning of the 1990s was the forging of a deliberate connection between the two. Some developed countries began to use trade measures to curb piracy of intellectual property rights abroad. Among other things, this led to the inclusion of the Agreement on the Trade-Related Aspects of Intellectual Property Rights (TRIPs) as one of the World Trade Organization (WTO) agreements resulting from the multilateral trade negotiations under the Uruguay Round. *See id.*

46. RONALD V. BETTIG, *COPYRIGHT CULTURE: THE POLITICAL ECONOMY OF INTELLECTUAL PROPERTY* 3 (1996).

47. *See* Paul Romer, *Increasing Returns and Long-Run Growth*, 94 J. POL. ECON. 1002 (1986). In this paper Romer proposes a model, quite different from the neo-classical economic theory, where economic growth is driven by the accumulation of knowledge. As pointed out by the author, this theory is based on “a model of long-term growth in which knowledge is assumed to be an input in production that has increasing marginal productivity. It is essentially a competitive equilibrium model with endogenous technological change.” *Id.*

48. The Common Law tradition emphasizes the economic role of copyright and the role played by the idea of “public sphere” and was expressly purported to “promote the Progress of Science and useful Arts” (as later recognized in the American Constitution under Art. I, § 8, cl. 8), thus representing the essential incentive to encourage artists to produce more. In the civil law tradition, where works were considered a reflection of authors’ personality, copyright was instead considered a way to reward artists for their contribution to culture. This perception is reflected in the name “author-law” (*droit d’auteur*) given to the topic by several continental systems. *See Copyright and the Internet, in LAW AND THE INTERNET—REGULATING CYBERSPACE* 68-69 (Lilian Edwards & Charlotte Waelde eds., 1997); MacQueen, *supra* note 14, at 182.

49. *See* SIVA VAIDHYANATHAN, *COPYRIGHTS AND COPYWRONGS—THE RISE OF INTELLECTUAL PROPERTY AND HOW IT THREATENS CREATIVITY* 4 (2001).

them, but weak enough not to prevent free flow of culture and information.⁵⁰

In this sense, in the American tradition, the public granted authors a limited exclusive right in return for the prompt public dissemination of the work.⁵¹ But, when authors realized they could make a living out of their work and publishing corporations spotted the right excuse for strengthening their position, the original focus of copyright law got lost.⁵² Policy talks started to lose ground, and to be slowly but steadily replaced by property talks.⁵³

50. See *id.* at 5. For a complete analysis on the democratic origin of copyright law and its importance in maintaining and furthering a democratic civil society, see Julie E. Cohen, *Lochner in Cyberspace: The New Economic Orthodoxy of Rights Management*, 97 MICH. L. REV. 462 (1998); Mark Lemley, *The Economics of Improvement in Intellectual Property Law*, 75 TEX. L. REV. 989 (1997); Neil Weinstock Netanel, *Copyright and Democratic Civil Society*, 106 YALE L.J. 283 (1996); and Pamela Samuelson, *Information as Property: Do Ruckelshaus and Carpenter Signal a Changing Direction in Intellectual Property Law?*, 38 CATH. U. L. REV. 365 (1989).

51. See JESSICA LITMAN, DIGITAL COPYRIGHT 78 (2001).

52. See VAIDHYANATHAN, *supra* note 49, at 38-41. This battle reached an important moment in England in 1709, with the enactment of the Statute of Anne recognizing for publishers an extended monopoly for a further twenty-one years and for authors protection over their works for fourteen years plus fourteen. Although both their positions had been made stronger, the statute never meant to diminish the value and the centrality of the public's interests, and acted in support of the diffusion of culture. Before the Statute of Anne, England only knew the 1557 Stationers' Company Charter, granting publishers a monopoly over distribution of written works, but not a right of property over them. With *Millar v. Taylor* (1769), stationers obtained the recognition of authors' natural property right over their productions, implying the abolition of Statute of Anne's anti-monopolistic provisions and the recognition of a common law "copyright" that existed in perpetuity. This condition only lasted until *Donaldson v. Beckett* (1774), when the absence of a perpetual right was ultimately maintained. For a detailed explanation of the controversy in *Millar v. Taylor* (1769) and *Donaldson v. Beckett* (1774), see Mark Rose, *The Author as Proprietor: Donaldson v. Beckett and the Genealogy of Modern Authorship*, in OF AUTHORS AND ORIGINS: ESSAYS ON COPYRIGHT LAW 23 (Brad Sherman & Alain Strouwel eds., 1994); MARK ROSE, AUTHORS AND OWNERS: THE INVENTION OF COPYRIGHT (1993).

53. See VAIDHYANATHAN, *supra* note 49, at 46-47. This quarrel, as already pointed out, concluded in England in 1709, with the enactment of the Statute of Anne (entered into force in 1710). For existing works, "authors or their assigns" were granted the exclusive right of publication for twenty-one years from the effective date of April 10, 1710. For new works, the right ran for fourteen years from the date of publication; the author, if living at the expiration of such term,

An important step in that direction was probably taken in the meeting of the World Intellectual Property Organization (WIPO) in 1976, when intellectual creations were first addressed in terms of “intellectual property” and an emphasis was primarily put on commercial exploitation.⁵⁴ While the use of a new expression may seem like just a terminological issue, changing the emphasis from property to economic potential degraded the works from their status as the “engine” of development to mere consumer goods.⁵⁵ Their social value was reduced, while fair use and access to culture lost their original dimension as rights and became something closer to mere concepts.⁵⁶

Actually, intellectual creations are cultural goods whose main value lies in their power to support the progress of society.⁵⁷ They undoubtedly become commercial goods, protected to the same extent as tangible property and shaped in terms of usage rights.⁵⁸ With the exception of fair

was granted the privilege of renewal for 14 more years. See WILLIAM F. PATRY, 1 COPYRIGHT LAW AND PRACTICE 11-12 (1994). For a comment about the reasons why information is not generally characterized as property, see Samuelson *supra* note 50, at 369.

54. See VAIDHYANATHAN, *supra* note 49, at 160; see also Francesca Calovi, Post-Napster: Protecting Content Owners Rights in the Peer-to-Peer Environment (2003) (unpublished LLM dissertation, University of Leeds) (on file with author); Francesca Calovi & Nicola Lucchi, *Pirateria Musicale: Tecnologia e Diritto*, 7/8 STUDIUM IURIS 1027 (2004).

55. For analysis of the issue, see DEBORA J. HALBERT, INTELLECTUAL PROPERTY IN THE INFORMATION AGE: THE POLITICS OF EXPANDING OWNERSHIP RIGHTS (1999).

56. See Wendy J. Gordon, *Excuse and Justification in the Law of Fair Use: Commodification and Market Perspectives*, in THE COMMODIFICATION OF INFORMATION 149, 171-72 (Niva Elkin-Koren & Neil Weinstock Netanel eds., 2002). In particular, a great impulse towards the adoption of measures enhancing monopoly came in the mid-eighties from America, which was undergoing a fundamental transformation from industrial to information society, and—with the anxiety of maintaining international economic supremacy—brought copyright issues to the top of its agenda and to the attention of the whole international community. See HALBERT, *supra* note 55, at 77-81 (1999).

57. See William M. Landes & Richard A. Posner, *An Economic Analysis of Copyright Law*, 18 J. LEGAL STUD. 325 (1989) [hereinafter Landes & Posner, *Economic Analysis*].

58. See JAN VAN DIJK, THE NETWORK SOCIETY: SOCIAL ASPECTS OF NEW MEDIA 133 (Leontine Spoorenberg trans., 1999) (1991).

use, unrestricted enjoyment of legitimately purchased works became minimized with the consequent impairment of the original copyright balance.⁵⁹

Common literature on intellectual property rights supports the thesis that they operate as an incentive to create and to make known new inventions or ideas.⁶⁰ On the other hand, even if this theory could be applicable in a wide range of cases, it is essentially unsuccessful if we look to a range of effects arising from new legal institutions and

59. The fair use exception in the United States copyright system is the most important exception to the rights-holder's rights, and it often plays an intricate role in the relation between freedom of expression and copyright. On the relations between copyright and freedom of expression, see Floyd Abrams, *First Amendment and Copyright*, 35 J. COPYRIGHT SOC'Y U.S.A. 1 (1987); Robert C. Denicola, *Copyright and Free Speech: Constitutional Limitations on the Protection of Expression*, 67 CAL. L. REV. 283 (1979); Paul Goldstein, *Copyright and the First Amendment*, 70 COLUM. L. REV. 983, 1011-15 (1970); Lionel Sobel, *Copyright and the First Amendment: A Gathering Storm?*, 19 COPYRIGHT L. SYMP. (ASCAP) 43 (1971), quoted in *Harper & Row, Publishers v. Nation Enters.*, 471 U.S. 539, 559 (1985). For a European perspective, see P. Bernt Hugenholtz, *Copyright and Freedom of Expression in Europe*, in EXPANDING THE BOUNDARIES OF INTELLECTUAL PROPERTY, *supra* note 40, at 343. The fair use exception is codified at 17 U.S.C. § 107 (2000). In Europe, where copyright's features always appeared to be closer to those of a reward rather than a bargain, the 1886 Berne Convention represents a sort of cornerstone of the modern intellectual property order. By making copyright automatic and recognizing the existence of moral rights, it opened up the path for granting rights-holders a far better service than that given to their own public. Within the common law tradition, which was in those times still reluctant to criticize the "public sphere," the most outstanding example of this new trend was offered by Mark Twain, who revealed himself as one of the fiercest supporters of the strongest copyright protection possible. Stirred by the extensive piracy his works suffered overseas, and regardless of the interests of the other parties, Twain fought tenaciously for the recognition of perpetual protection, becoming one of the most eager advocates of "property talk." See PAUL MARRET, *INFORMATION LAW IN PRACTICE*, 146-50 (2d ed. 2002); VAIDHYANATHAN, *supra* note 49, at 57 & 71.

60. See, e.g., Kenneth J. Arrow, *Economic Welfare and the Allocation of Resources for Invention*, in THE RATE AND DIRECTION OF INVENTIVE ACTIVITY: ECONOMIC AND SOCIAL FACTORS 609 (Richard R. Nelson ed., 1962); Gillian K. Hadfield, *The Economics of Copyright: An Historical Perspective*, 38 COPYRIGHT L. SYMP. (ASCAP) 1 (1992); Landes & Posner, *Economic Analysis*, *supra* note 57. For a comparative description of different approaches, see William Fisher, *Theories of Intellectual Property*, in NEW ESSAYS IN THE LEGAL AND POLITICAL THEORY OF PROPERTY 168 (Stephen R. Munzer ed., 2001).

the current technological framework.⁶¹ A result of this new condition is the dynamic effect that intellectual property rights have had on the market structure of the fields involved. They have significantly modified or conflicted with the original competitive process.⁶² In other words, they have shaped the characteristics of the market. So, if the logic underlying those rights is to remunerate a profitable idea or an invention with market power, thereby providing a sort of monopoly, we can also conclude that some intellectual rights, such as copyright, are unable to resolve the trade-off between private incentive and social welfare. On the contrary, they often amplify the inefficiency in economic systems.⁶³ Furthermore, the economically efficient level of copyright protection is not easy to define, especially in the digital intellectual property debate, because some intellectual property rights, again such as copyright, relate to very different creative works that include variable degrees of creative and artistic expression.⁶⁴ Consequently, a single property regime may not create efficiency in markets for all of the different products.⁶⁵

In the last years, in fact, we have seen a shift from the idea of a bargain between the public and the author towards the standard economic model of a right granted in the measure required to stimulate production,⁶⁶ and, recently, the new approach is towards extensive

61. See Giovanni B. Ramello, *Intellectual Property and the Markets of Ideas*, in THE ELGAR COMPANION TO LAW AND ECONOMICS, (Jürgen G. Backhaus ed., 2005), available at <http://ssrn.com/abstract=597482>.

62. See *id.*

63. See Giovanni B. Ramello, *Il diritto d'autore tra creatività e mercato*, 1 ECONOMIA PUBBLICA, 37-66 (2001).

64. See CONGRESSIONAL BUDGET OFFICE, U.S. CONGRESS, COPYRIGHT ISSUES IN DIGITAL MEDIA viii (Aug. 2004), <http://www.cbo.gov/showdoc.cfm?index=5738&sequence=0>.

65. See *id.*

66. See Paul Goldstein, *Derivative Rights and Derivative Works in Copyright*, 30 J. COPYRIGHT SOC'Y U.S.A. 209, 210 (1983); Wendy J. Gordon, *Fair Use as Market Failure: A Structural and Economic Analysis of the Betamax Case and its Predecessors*, 82 COLUM. L. REV. 1600 (1982); Landes & Posner, *Economic Analysis*, *supra* note 57, at 335.

instruments to control access⁶⁷ and use.⁶⁸ This transformation has been driven by the influence exerted by the printing and publishing industry, which in the pre-computer society had the necessary resources to enable large-scale reproduction and distribution of works.⁶⁹ It consequently played a key role in the whole process of spreading culture.⁷⁰ The industry secured its monopolistic aspirations behind the pretext of ensuring their clients received adequate compensation for their efforts and the service done for their community.⁷¹ It took advantage of its role within society and its economic supremacy, and lobbied for the adoption of regulations granting further control over works and allowing the creation of an entry barrier for unwanted competitors.⁷²

Unfortunately, the digital revolution and the dematerialization of works as result of digitization have

67. See generally Niva Elkin-Koren, *It's All About Control: Rethinking Copyright in the New Information Landscape*, in THE COMMODIFICATION OF INFORMATION 79 (Niva Elkin-Koren & Neil Weinstock Netanel eds., 2002); LITMAN, *supra* note 51, at 80.

68. See William M. Landes & Richard A. Posner, *Indefinitely Renewable Copyright*, 70 U. CHI. L. REV. 471, 475 (2003) (speculating that an infinite term of copyright, alternated by renewals, could be efficient); see also WILLIAM M. LANDES & RICHARD A. POSNER, THE ECONOMIC STRUCTURE OF INTELLECTUAL PROPERTY LAW 210-49 (2003).

69. See EISENSTEIN, *supra* note 43, at 17.

70. See 1 JOHN TEBBEL, A HISTORY OF BOOK PUBLISHING IN THE UNITED STATES, 245, 220-221 (1972); cf. Edward C. Walterscheid, *To Promote the Progress of Science and Useful Arts: The Anatomy of a Congressional Power*, 43 IDEA 1 (2003).

71. See Calovi, *supra* note 54.

72. In 1995, the Clinton Administration's Information Infrastructure Task Force released a white paper on Intellectual Property and the National Information Infrastructure, where it expressly stated that further protection of rights-holders' interests was necessary to guarantee the development of the National Information Infrastructure and that, lacking appropriate control over their works, authors would have stopped producing and making them available to the public. INFO. INFRASTRUCTURE TASK FORCE, INTELLECTUAL PROPERTY AND THE NATIONAL INFORMATION INFRASTRUCTURE: THE REPORT OF THE WORKING GROUP ON INTELLECTUAL PROPERTY RIGHTS 10 (1995), available at <http://www.cerebalaw.com/ipnii.txt>. For a comment on the paper, see Pamela Samuelson, *The Copyright Grab*, WIRED, Jan. 1996, at 134, 135 (criticizing the white paper for misrepresenting judicial copyright precedent and extending copyright protection beyond traditional commercial applications).

demonstrated that the information product and its method of delivery are separable.⁷³ At the same time, they have brought about a Copernican revolution in the traditional copyright system, demonstrating its unsuitability to control recent technological developments.⁷⁴

B. Protecting Digital Intellectual Property

The following question is about the fair means to protect digital intellectual property. As already seen, the revolution in information technology and digitalization of content have produced many new possibilities and challenges.⁷⁵ First of all, they have determined the independence of content from the medium. As argued above, data travels digitally and there is no more need to aggregate them to a physical carrier.⁷⁶ This has caused a substantial transformation in the way people can use and consume information and in the way it is delivered.⁷⁷ Secondly, the Internet allows information to be widely disseminated and readily accessed at incredible speed with extremely low expense, and to directly connect the source and the end user without intermediation.⁷⁸ The flexibility of digital media allows people to easily copy, modify, and shift them in time and space.⁷⁹ The newly acquired independence

73. See, e.g., STAN DAVIS & CHRISTOPHER MEYER, *BLUR: THE SPEED OF CHANGE IN THE CONNECTED ECONOMY* 22 (1998); see also Raymond T. Nimmer, *Breaking Barriers: The Relation Between Contract And Intellectual Property Law*, 13 *BERKELEY TECH. L.J.* 827, 841-42 (1998).

74. See P. Bernt Hugenholtz, *Commentary: Copyright, Contract, and Code: What Will Remain of the Public Domain?*, 26 *BROOK. J. INT'L L.* 77, 78 (2000) (highlighting the concern that the traditional copyright system could not guarantee appropriate protection in the digital framework).

75. On the power of technology, see generally LAWRENCE LESSIG, *CODE AND OTHER LAWS OF CYBERSPACE* (1999); Joel R. Reidenberg, *Lex informatica: The Formulation of Information Policy Rules Through Technology*, 76 *TEX. L. REV.* 553 (1998).

76. See *DIGITAL DILEMMA*, *supra* note 3, at 32.

77. See *id.* at 39.

78. See CASTELLS, *supra* note 19; Chircu & Kauffman, *supra* note 28.

79. Digital media are instruments for the development of innovative perspectives on both media and culture. They can contribute to our understanding of social and cultural change. For a detailed analysis of digital media and their social implications, see *DIGITAL MEDIA REVISITED: THEORETICAL*

from the carriers secured by digitalization allows users to manipulate the information with the consequence that the “originality” of a work is threatened to be lost. There is no longer certainty as to what of the primitive product remains. Digital technologies have transformed the copyright environment and have given rise to a potentially huge market for content.⁸⁰ The advent of broadband networks, and their capacity to transmit large quantities of multimedia content at high speeds, emphasizes the importance of ensuring that digital content is available under the appropriate conditions to meet the interests of all stakeholders.⁸¹ Related to this, technologies are available to establish the correct incentives for this development. Incentives include a secure environment for ensuring remuneration of rights-holders in the context of private copying, payment for online content, and prevention of illegal copying.⁸²

As a result, many of the intellectual property rules and practices developed in the physical world are not suitable for the digital environment, and the issues connected with digitization of content are improved by the pervasiveness of the new information infrastructure.⁸³

Both the authors’ and industry’s prerogatives are in a difficult situation regarding copyright law. Until the advent of digitalization, it had been possible to ensure control over copying and distribution of tangible goods, which were by their nature susceptible to being counted and singularly identified. The function of copyright was upset by the same

AND CONCEPTUAL INNOVATION IN DIGITAL DOMAINS (Gunnar Liestøl et al. eds., 2003). *Recording Industry Ass'n of America v. Diamond Multimedia Systems, Inc.*, 180 F.3d 1072 (9th Cir. 1999) (which gave recognition to the practice of “space-shifting” of music for personal use).

80. See COMMISSION OF THE EUROPEAN COMMUNITIES, *EUROPE 2005 ACTION PLAN: AN UPDATE* (2004), http://europa.eu.int/information_society/europe/2005/doc/all_about/com_eeurope_en.doc.

81. See *id.*

82. See Stefan Bechtold, *The Present and Future of Digital Rights Management: Musings on Emerging Legal Problems*, in *DIGITAL RIGHTS MANAGEMENT: TECHNOLOGICAL, ECONOMIC, LEGAL AND POLITICAL ASPECTS* 597 (Eberhard Becker et al. eds., 2003) (illustrating both problems and positive features of DRM).

83. See *DIGITAL DILEMMA*, *supra* note 3, at ix.

structure of the new technological framework which confused the distinction between access and copying, strictly conditioning the former to the latter.⁸⁴ The whole process now is indeed substantially different from that occurring with physical goods. Attempts to exercise the same level of copying control exercised on the physical world necessarily imply maintenance of total control over access, with possible negative repercussions on the free flow of culture and the users' rights.⁸⁵

Actually, we are in a new phase of capitalism. Its basic code is no longer ownership of property bought and sold in markets, but rather access to services leased within networks of providers and users.⁸⁶ A large number of modern services are delivered through electronic networks, and this new phenomenon is not restricted to online digital content. As pointed out by Jeremy Rifkin, president of the Foundation on Economic Trends, tangible things—cars, computers, office buildings, and catalogues—are also “dematerializing” into services.⁸⁷ Ownership of such things is becoming a liability, something to outsource. In the new environment, markets are making way for networks, and ownership is steadily being replaced by access. Rifkin explains that we are living in an age where new digital media constitute a cultural and economic phenomenon, and where industries and consumers “are beginning to abandon the central reality of modern economic life—the market

84. See Neil Weinstock Netanel, *Locating Copyright Within the First Amendment Skein*, 54 STAN. L. REV. 1, 24 (2001); Samuelson, *supra* note 31.

85. See VAIDHYANATHAN, *supra* note 49, at 152.

86. Digital distribution systems do not involve tangible copies, and access contracts or mass market licenses are increasingly common methods of distribution. For a comparative study of this latter aspect within the Italian scene, see Alessandro Palmieri & Roberto Pardolesi, *Gli Access Contracts: Una Nuova Categoria per il Diritto dell'Età Digitale*, 7(2) RIV. DIR. PRIV. 265 (2002).

87. JEREMY RIFKIN, *THE AGE OF ACCESS: THE NEW CULTURE OF HYPERCAPITALISM, WHERE ALL OF LIFE IS A PAID-FOR EXPERIENCE* 74 (2000); see also DIGITAL DILEMMA, *supra* note 3, at 6-7. The Foundation on Economic Trends is a non-profit organization whose mission is to examine emerging trends in science and technology and their impacts on the environment, the economy, culture and society. See The Foundation on Economic Trends, <http://www.foet.org> (last visited Nov. 17, 2005).

exchange of property between sellers and buyers.”⁸⁸ On the contrary, he asserts,

Suppliers hold on to property in the new economy and lease, rent, or charge an admission fee, subscription, or membership dues for its short-term use. The exchange of property between sellers and buyers—the most important feature of the modern market system—gives way to short-term access between servers and clients operating in a network relationship.⁸⁹

Rifkin then describes the change of theory that the digital systems establish in the process of protection of the intellectual property rights. In this digital framework, in fact, the barrier is not constituted by possession of the physical medium that encloses the work, but instead by access to the content. In the new network economy “both physical and intellectual property are more likely to be accessed by businesses rather than exchanged.”⁹⁰ In the digital environment, providers able to collect important intellectual capital will be also able to wield power and “control over the conditions and terms by which users secure access to critical ideas, knowledge, and expertise.”⁹¹

This issue is a new and troublesome trend likely to have strong implications, in particular, on users’ rights, with special regard to fair use.⁹² Fair use is a defense recognized for certain acts that would otherwise amount to copyright infringement.⁹³ The defense was introduced to

88. RIFKIN, *supra* note 87, at 4.

89. *Id.* at 4-5.

90. *Id.* at 5.

91. *Id.*

92. The fair use doctrine is codified at 17 U.S.C. § 107. It is “the precipitate of a series of decisions, beginning in the mid-nineteenth century, in which federal courts held that conduct seemingly proscribed by the copyright statute in force at the time did not give rise to liability.” William Fisher III, *Reconstructing the Fair Use Doctrine*, 101 HARV. L. REV. 1661, 1663-64 (1988).

93. Fair use is not an affirmative right but a sort of defense. It is essentially a safety valve operating in the absence of licensing that can be structured in different ways but that is recognized by all modern copyright systems. See *Campbell v. Acuff-Rose Music, Inc.*, 510 U.S. 569, 590 (1994); 3 MELVILLE B. NIMMER & DAVID NIMMER, *NIMMER ON COPYRIGHT* 13-155 to 13-156 (2003). While common law countries generally recognize a general defense, civil law countries generally provide a strict list of exceptions, even though at present there are no

balance the interests of opposing parties and to allow the limited use of intellectual works without having to first ask for permission.⁹⁴

What we are saying is that the economic power is changing. It is shifting from “a propertied regime based on the idea of broadly distributed ownership to an access regime based on securing short-term limited use of assets controlled by networks of suppliers.”⁹⁵ At the same time, the legal order will be obliged to shift from ownership to the access model.⁹⁶

In the meantime, content providers are confronting these new problems using and integrating models of technological protection measures⁹⁷ that ensure very high levels of digital media protection, creating a secure, digital environment for the production, management, and distribution of digital content, but with an impairment of a series of rights traditionally recognized for the consumer.⁹⁸

pure systems that adhere strictly to any of the above models. See LUCIE M.C.R. GUIBAULT, *COPYRIGHT LIMITATIONS AND CONTRACTS: AN ANALYSIS OF THE CONTRACTUAL OVERRIDABILITY OF LIMITATIONS ON COPYRIGHT* 19 (2002). In the U.S. system there is a strong relation between fair use and free speech. On the argument, see Netanel, *supra* note 84; L. Ray Patterson, *Free Speech, Copyright, and Fair Use*, 40 VAND. L. REV. 1 (1987); Harry N. Rosenfield, *The Constitutional Dimensions of “Fair Use” in Copyright Law*, 50 NOTRE DAME L. REV. 790 (1975). For a European perspective, see Hugenholtz, *supra* note 59.

94. For interpretation and criticism of the fair use doctrine, see Fisher, *supra* note 92 and Rosenfield, *supra* note 93. For an overview of the relationship between DRM and fair use, see Dan L. Burk & Julie E. Cohen, *Fair Use Infrastructure for Rights Management Systems*, 15 HARV. J.L. & TEC. 41, 48 (2001).

95. RIFKIN, *supra* note 87, at 6.

96. *See id.* at 6-7.

97. The term was defined as “any process, treatment, mechanism or system that prevents or inhibits any of the acts covered by the rights under this Treaty.” World Intellectual Property Organization, Basic Proposal for the Substantive Provisions of the Treaty on Certain Questions Concerning the Protection of Literary and Artistic Works to be Considered by the Diplomatic Conference, at Art. 13(3), (1996), http://www.wipo.int/documents/en/diplconf/pdf/4dc_e.pdf.

98. *See* Burk & Cohen, *supra* note 94, at 48; FRED VON LOHMANN, *FAIR USE AND DIGITAL RIGHTS MANAGEMENT: PRELIMINARY THOUGHTS ON THE (IRRECONCILABLE?) TENSION BETWEEN THEM* 3 (2002), http://www.eff.org/IP/DRM/cfp_fair_use_and_drm.pdf. *See also* Dan L. Burk, *Anticircumvention Misuse*, 50 UCLA L. REV. 1095, 1097 (2002) (arguing “that

Nonetheless, the technological protection measures arena is, at this time, much more like the Wild West. Even though technology is becoming highly developed, the market expansion for these systems is still at an early stage.⁹⁹ While standards continue to reach greater levels of maturity and adaptation, content companies will most likely continue to use technological protection measures without taking care of the problem of interoperability and users' expectations.¹⁰⁰ At the same time, this solution seems too simple a practice in which technology tries to replace the law.¹⁰¹

So, the present challenge is to achieve and maintain the balance, "offering enough control to motivate authors, inventors and publishers, but not so much control as to threaten important public policy goals."¹⁰²

II. DIFFERENT SOLUTIONS AND DEFENSES FOR INTELLECTUAL PROPERTY IN THE DIGITAL AGE: LEGAL REMEDIES

Despite the reported perplexities around the suitability of the current rules, which are still based on principles consolidated in a different technological context, rights holders and content providers are not prepared to revise, in the virtual world, the order that, in the real world, has been shaped for a long time.¹⁰³

the new anti-circumvention right created by the statute constitutes a type of exclusive right quite separate from . . . the legal protection provided by copyright.”).

99. COMM'N OF THE EUROPEAN COMMUNITIES, EUROPEAN UNION HIGH LEVEL GROUP ON DIGITAL RIGHTS MGMTS: FINAL REPORT 6 (2004), http://europa.eu.int/information_society/eeurope/2005/all_about/digital_rights_man/doc/040709_hlg_drm_2nd_meeting_final_report.pdf [hereinafter EU GROUP ON DIGITAL RIGHTS MGMTS., FINAL REPORT]. See generally DIGITAL RIGHTS MANAGEMENT, *supra* note 82.

100. See Bechtold, *supra* note 82, at 609, 630.

101. On this opinion, see LESSIG, *supra* note 75; Reidenberg, *supra* note 75; ANDREW L. SHAPIRO, THE CONTROL REVOLUTION: HOW THE INTERNET IS PUTTING INDIVIDUALS IN CHARGE AND CHANGING THE WORLD WE KNOW (1999).

102. DIGITAL DILEMMA, *supra* note 3, at 2.

103. See John Perry Barlow, *Intellectual Property, Information Age, in COPY FIGHTS: THE FUTURE OF INTELLECTUAL PROPERTY IN THE INFORMATION AGE* 37, 39 (Adam Thierer & Wayne Crews eds., 2002) (remembering Jack Valenti's attitude).

When it comes to intellectual property rights, legal remedies and technological protection measures are promptly invoked and prepared at record speed. The first have been introduced to deal especially with the new problems connected with the virtual world and the digitization of contents. The technological protection measures are able to operate autonomously. Nevertheless, they are often avoidable using circumvention techniques (or brute force). For these reasons, the new intellectual property rules have included extraordinary legal protection especially for technological protection measures, resulting in a kind of reinforced double protection, one for the copyrighted content and one for the technological measure that protects it.¹⁰⁴

The consequence is a complete and structured new legal tool able to prevent, check, and repress harmful actions against intellectual property rights. The most important decision in that direction has been made with the WIPO treaties,¹⁰⁵ followed by national legislative initiatives.¹⁰⁶

104. Some commentators describe this situation as a sort of "paracopyright." See H.R. REP. NO. 105-551, pt. 2, at 24-25 (1998); Netanel, *supra* note 84, at 24; David Nimmer, *A Riff on Fair Use in the Digital Millennium Copyright Act*, 148 U. PA. L. REV. 673, 686 (2000) [hereinafter, Nimmer, *Fair Use*]; MELVILLE B. NIMMER & DAVID NIMMER, 3 NIMMER ON COPYRIGHT 12A.18[B] n.15 (2003); see also Severine Dusollier, *Some Reflections on Copyright Management Information and Moral Rights*, 25 COLUM. J.L. & ARTS 377, 382 (2001-2002).

105. It is useful to remember that there are at least two other main international treaties that are intended to harmonize copyright law among nations. The first one is the Berne Convention for the Protection of Literary and Artistic Works, adopted in 1886. The other one is the 1994 Agreement on Trade Related Aspects of Intellectual Property Rights (hereinafter TRIPs Agreement). For a positive comment on the WIPO treaties as "a measured and balanced response to the digital age," see Thomas C. Vinje, *The new WIPO Copyright Treaty: a happy result in Geneva*, 5 EUR. INTELL. PROP. REV. 230, 230 (1997). For other commentators the treaties represented another step in the Americanization of world copyright law. For general discussion on the point, see Pamela Samuelson, *Challenges for the World Intellectual Property Organization and the Trade-related Aspects of Intellectual Property Rights Council in Regulating Intellectual Property Rights in the Information Age*, 21 EUR. INTELL. PROP. REV. 578 (1999); David Vaver, *Internationalizing Copyright Law: Implementing the WIPO Treaties*, OIPRC ELEC. J. INTELL. PROP. RIGHTS (1998), <http://www.oiprc.ox.ac.uk/EJWP0199.html>. For a general comment, see also Howard P. Goldberg, Note, *A Proposal for an International Licensing Body to Combat File Sharing and Digital Copyright Infringement*, 8 B.U. J. SCI. & TECH.

The official aim of these two treaties was to fix adequate legal protections and effective legal remedies against the circumvention of effective technological measures.

In 1996, the World Intellectual Property Organization (WIPO) adopted the Copyright Treaty.¹⁰⁷ In Article 11 it decreed that contracting parties have to “provide adequate legal protection and effective legal remedies against the circumvention of effective technological measures that are used by authors in connection with the exercise of their rights,” and to “restrict acts, in respect of their performances or phonograms, which are not authorized by the performers or the producers of phonograms concerned or permitted by law.”¹⁰⁸ The Article, therefore, provides the adoption of a legal framework to protect technological means of control over use; for example, copy protection encryption against circumvention by third parties. In a quite similar way, Article 18 of the WIPO Performances and Phonograms Treaty declares the same provision.¹⁰⁹

L. 272 (2002), and Silke von Lewinski, *WIPO Diplomatic Conference Results in Two New Treaties*, 28 INT'L REV. OF INDUS. PROP. & COPYRIGHT L. 203 (1997).

106. For the compliance of U.S. law with the WIPO treaties, see Pamela Samuelson, *The U.S. Digital Agenda at WIPO*, 37 VA. J. INT'L L. 369 (1997).

107. World Intellectual Property Organization: Copyright Treaty, Dec. 20, 1996, 36 I.L.M. 65 (1997) [hereinafter WIPO Copyright Treaty]. The list of signatories of the WIPO Copyright Treaty is available at http://www.wipo.int/edocs/notdocs/en/wct/treaty_wct_2.html (last visited Nov. 29, 2005).

108. WIPO Copyright Treaty, *supra* note 107, at art. 11.

109. World Intellectual Property Organization: Performances and Phonograms Treaty, Dec. 20, 1996, 36 I.L.M. 76 (1997) [hereinafter WIPO Performances and Phonograms Treaty]. The list of signatories of the WIPO Performances and Phonograms Treaty is available at http://www.wipo.int/edocs/notdocs/en/wppt/treaty_wppt_1.html (last visited Nov. 29, 2005). The WIPO Performances and Phonograms Treaty states in Article 18, the Obligations concerning Technological Measures:

Contracting Parties shall provide adequate legal protection and effective legal remedies against the circumvention of effective technological measures that are used by performers or producers of phonograms in connection with the exercise of their rights under this Treaty and that restrict acts, in respect of their performances or phonograms, which are not authorized by the performers or the producers of phonograms concerned or permitted by law.

Id. at 86.

To comply with the WIPO treaties, both Europe and the United States enacted very similar anti-circumvention provisions.¹¹⁰ The new treaties provided the fundamental background to the efforts of the United States and European Union to find their solutions to the issues of intellectual property rights in the digital age. In 1998, the United States implemented the Digital Millennium Copyright Act (hereinafter DMCA)¹¹¹ introducing new anti-circumvention provisions, while, some years later, Europe enacted Directive 2001/29/EC on the Harmonization of Certain Aspects of Copyright and Related Rights in the Information Society (hereinafter EUCD).¹¹²

A. *The Digital Millennium Copyright Act and the European Union Copyright Directive*

Although with some differences, the two acts strike the right balance between opposing interests.¹¹³ They pursue the same aim of creating a safe environment for transmission of digital information,¹¹⁴ and they also seem to reveal the same failures.¹¹⁵

110. Many commentators have noticed that the adoption of both acts has been the result of the great content-provider lobbying activity. See, e.g., Rick Boucher, *The Future of Intellectual Property in the Information Age*, in COPY FIGHTS, *supra* note 103, at 95, 97; MacQueen, *supra* note 14, at 213; Burk & Cohen, *supra* note 94.

111. 17 U.S.C. § 1201 (2000).

112. Council Directive 2001/29, 2001 O.J. (L 167) 10 (EC).

113. See Gregory Hunt, *In a Digital Age: the Musical Revolution Will Be Digitalized*, 11 ALB. L.J. SCI. & TECH. 181, 193 (2000). President Clinton stated that the DMCA implemented “[firm] standards, carefully balancing the interests of both copyright owners and users.” President’s Statement on Signing the Digital Millennium Copyright Act, 2 Pub. Papers 1902 (Oct. 28, 1998). On the other hand, Frits Bolkestein, Internal Market Commissioner, stressed how “Europe’s creators, artists and copyright industries can now look forward for renewed confidence to the challenges posed by electronic commerce. At the same time, the Directive secures the legitimate interests of users, consumers and society at large.” Press Release, European Commission, Commission Welcomes Adoption of the Directive on Copyright in the Information Society by the Council (Apr. 9, 2001), available at <http://europa.eu.int/rapid/pressReleasesAction.do?reference=IP/01/528&format=PDF&aged=1&language=EN&guiLanguage=fr>.

114. See Alice Ritchie, *Hanging in the Balance: Fair Use for Digital Works*, 9 U. BALT. INTELL. PROP. L.J. 29, 33 (2000). The EU Directive wants to “foster the

At the heart of both acts, as well as at the heart of most criticisms, are the provisions making illegal the circumvention of copy-protection technologies in order to gain access, as well as any activity (production, distribution, making available, etc.) performed with the intent to make possible or facilitate such circumvention.¹¹⁶

Content providers are particularly concerned about the illegal appropriation of content as it is carried out behind the backs of rights-holders and prevents them from being compensated for their works.¹¹⁷ They assert that technological protection measures have the limited purpose of preventing unauthorized access to copyright material, and, assuming they are imperfect, those laws have the

development of the information society in Europe.” Eur. Parl. Directive pmbl. 2001/29, 2001 O.J. (L 167) 2 (EC).

115. On the failures of DMC, see generally Nimmer, *Fair Use*, *supra* note 104, at 739-40; Netanel, *supra* note 84, at 79.

116. See Severine Dusollier, *Tipping the Scale in Favor of the Right Holders: the European Anti-Circumvention Provisions*, in DIGITAL RIGHTS MANAGEMENT, *supra* note 82, at 462, 466. See also Calovi, *supra* note 54; Calovi & Lucchi, *supra* note 54, at 1032. The DMCA provides that: “No person shall circumvent a technological measure that effectively controls access to a work protected under this title”, nor shall any person “manufacture, import, offer to the public, provide, or otherwise traffic in any technology, product, service, device, component, or part thereof, that (A) is primarily designed or produced for the purpose of circumventing . . . ; (B) has only limited commercially significant purpose or use other than to circumvent . . . ” 17 U.S.C. § 1201(a)(1)-(2) (2000). Under the European Union Copyright Directive:

(1) Member States shall provide adequate legal protection against the circumvention of any effective technological measures, which the person concerned carries out in the knowledge, or with reasonable grounds to know, that he or she is pursuing that objective. (2) Member States shall provide adequate legal protection against the manufacture, import, distribution, sale, rental, advertisement for sale or rental, or possession for commercial purposes of devices, products or components or the provision of services which: (a) are promoted, advertised or marketed for the purpose of circumvention of, or; (b) have only a limited commercially significant purpose or use other than to circumvent, or; (c) are primarily designed, produced, adapted or performed for the purpose of enabling or facilitating the circumvention of, any effective technological measures.

Eur. Parl. Directive 2001/29, art. 6, 2001 O.J. (L 167) 1, 2 (EC).

117. See, e.g., INTERNATIONAL FEDERATION OF THE PHONOGRAPHIC INDUSTRY, IFPI:05. DIGITAL MUSIC REPORT (2005) [hereinafter IFPI:05 DIGITAL MUSIC REPORT], <http://www.ifpi.com/site-content/library/digital-music-report-2005.pdf>.

effect of keeping users from engaging in illegal activities, thereby restoring artists' rights.¹¹⁸

Both the DMCA and the EUCD, in accordance with their intention to discipline only illegal appropriation, stipulated specific provisions to use technology protecting copyrighted work and allow honest users to exercise their rights. Unfortunately, some commentators have noticed that, in practice, they both fail in their stated purpose, obtaining "only" an extremely high level of protection for authors.¹¹⁹ Technology, in fact, may not be capable of distinguishing between legal and illegal uses.¹²⁰

The DMCA distinguishes measures controlling access from those protecting "other rights," stating that the latter are not compromised.¹²¹ If at first sight this seems to be a good balance, unfortunately it is the same structure of technological protection measures that negates it because, for users to enjoy "other rights," they first have to gain access to protected material.¹²² But, when this is prevented by technological protection measures and their circumvention is expressly criminalized, even the exercise of legitimate rights may become a crime since technology cannot detect the animus leading to circumvention, and the Act provides no defense in such respect.¹²³ In the digital environment, any attempt at circumvention is criminal and

118. See Ritchie, *supra* note 114, at 37.

119. See P. Bernt Hugenholtz, *Why the Copyright Directive is Unimportant, and Possibly Invalid*, 22 EUR. INTEL. PROP. REV. 499, 500 (2000); Michael Hart, *The Copyright in the Information Society Directive: An Overview*, 24 EUR. INTEL. PROP. REV. 58 (2002); Dusollier, *supra* note 116.

120. See Robin D. Gross, *Copyright Zealotry in a Digital World: Can Freedom of Speech Survive?*, in COPY FIGHTS, *supra* note 103, at 189, 190.

121. DMCA recognizes that: "Nothing in this section shall affect rights, remedies, limitations, or defenses to copyright infringement, including fair use, under this title." 17 U.S.C. § 1201 (2000).

122. See Calovi, *supra* note 54; Joanna Perrit, *Protecting Technology over Copyright: A Step Too Far*, 14 ENT. L. REV. 1, 2 (2003).

123. The Electronic Frontier Foundation has documented numerous problems that anti-circumvention provisions in the DMCA have caused in the U.S. for legitimate users of copyrighted works. See ELECTRONIC FRONTIER FOUNDATION, UNINTENDED CONSEQUENCES: FIVE YEARS UNDER THE DMCA, (Sept. 24, 2003), http://www.eff.org/IP/DMCA/unintended_consequences.php. See Calovi, *supra* note 54.

has to be regarded as piracy, even if it is not so in the physical world. The anti-circumvention provisions of the DMCA prevent three categories of transgressions. First, the DMCA prohibits circumventing technological measures that prevent access to a copyrighted work. Second, it prohibits trafficking in devices that can circumvent access controls. And third, it prohibits trafficking in circumvention devices for technological measures that protect the copyright holder's exclusive rights, for example copying and distribution.¹²⁴ These anti-circumvention provisions are an implicit admission that copy-protection technologies are not perfect.¹²⁵

The EUCD, on the other hand, deals with three main areas:¹²⁶ reproduction rights,¹²⁷ the right of communication,¹²⁸

124. For this schematization, see GASSER, *supra* note 38.

125. See DIGITAL DILEMMA, *supra* note 3, at 153; Pamela Samuelson, *DRM {and, or, vs.} the Law*, 46 COMM. ACM 41, 42 (2003).

126. For this outline, see EUROPEAN UNION SCADPLUS SERVICE, COPYRIGHT AND RELATED RIGHTS IN THE INFORMATION SOCIETY: THE HARMONISATION OF CERTAIN ASPECTS (2001), <http://europa.eu.int/scadplus/leg/en/lvb/l26053.htm>.

127. Reproduction right:

Member States shall provide for the exclusive right to authorise or prohibit direct or indirect, temporary or permanent reproduction by any means and in any form, in whole or in part: (a) for authors, of their works; (b) for performers, of fixations of their performances; (c) for phonogram producers, of their phonograms; (d) for the producers of the first fixations of films, in respect of the original and copies of their films; (e) for broadcasting organisations, of fixations of their broadcasts, whether those broadcasts are transmitted by wire or over the air, including by cable or satellite.

Council Directive 2001/29, art. 2, 2001 O.J. (L 167) 10, 16 (EC).

128. Right of communication to the public of works and right of making available to the public other subject-matter:

1. Member States shall provide authors with the exclusive right to authorise or prohibit any communication to the public of their works, by wire or wireless means, including the making available to the public of their works in such a way that members of the public may access them from a place and at a time individually chosen by them.

2. Member States shall provide for the exclusive right to authorise or prohibit the making available to the public, by wire or wireless means, in such a way that members of the public may access them from a place and at a time individually chosen by them: (a) for performers, of fixations of their performances; (b) for phonogram producers, of their phonograms; (c) for the producers of the first fixations of films, of the

and distribution rights.¹²⁹ The Directive also obliged Member States to provide legal protection against the circumvention of any effective technological measures covering works or any other subject-matter.¹³⁰ In particular, it criminalizes circumvention in any respect regardless of

original and copies of their films; (d) for broadcasting organisations, of fixations of their broadcasts, whether these broadcasts are transmitted by wire or over the air, including by cable or satellite.

3. The rights referred to in paragraphs 1 and 2 shall not be exhausted by any act of communication to the public or making available to the public as set out in this Article.

Council Directive 2001/29, art. 3, 2001 O.J. (L 167) 10, 16 (EC).

129. Distribution right:

1. Member States shall provide for authors, in respect of the original of their works or of copies thereof, the exclusive right to authorise or prohibit any form of distribution to the public by sale or otherwise.

2. The distribution right shall not be exhausted within the Community in respect of the original or copies of the work, except where the first sale or other transfer of ownership in the Community of that object is made by the rightholder or with his consent.

Council Directive 2001/29, art. 4, 2001 O.J. (L 167) 10, 16 (EC).

130. Obligations as to technological measures:

1. Member States shall provide adequate legal protection against the circumvention of any effective technological measures, which the person concerned carries out in the knowledge, or with reasonable grounds to know, that he or she is pursuing that objective.

2. Member States shall provide adequate legal protection against the manufacture, import, distribution, sale, rental, advertisement for sale or rental, or possession for commercial purposes of devices, products or components or the provision of services which: (a) are promoted, advertised or marketed for the purpose of circumvention of, or (b) have only a limited commercially significant purpose or use other than to circumvent, or (c) are primarily designed, produced, adapted or performed for the purpose of enabling or facilitating the circumvention of, any effective technological measures.

3. For the purposes of this Directive, the expression 'technological measures' means any technology, device or component that, in the normal course of its operation, is designed to prevent or restrict acts, in respect of works or other subject matter, which are not authorised by the right-holder of any copyright or any right related to copyright as provided for by law or the *sui generis* right provided for in Chapter III of Directive 96/9/EC. Technological measures shall be deemed 'effective' where the use of a protected work or other subject matter is controlled by the right-holders through application of an access control or protection process, such as encryption, scrambling or other transformation of the work or other subject-matter or a copy control mechanism, which achieves the protection objective.

Council Directive 2001/29, art. 5, 2001 O.J. (L 167) 10, 17 (EC).

the rights it protects, but encourages rights-holders to voluntarily adopt any measure deemed necessary “to make available to the beneficiary of an exception or limitation . . . , the means of benefiting from that exception or limitation”¹³¹ and invites Member States to ensure compliance.¹³² Article 6.1 requires that Member States provide “adequate legal protection” against the deliberate circumvention of technological measures, regardless of whether such an act infringed any copyright.¹³³

With this Article the Directive introduces a pan-European legal defense for technological protection measures, even if its provisions have not been formally implemented by all of the European Union Member States.¹³⁴ Actually, some of them are currently under infringement procedure. In fact, even though the Directive was designed to be implemented by December 22, 2002, only two Member States (Greece and Denmark) managed to meet that deadline. By now, eight of the original Member States have implemented the act.¹³⁵ Among the new

131. “[T]o the extent necessary to benefit from that exception or limitation and where that beneficiary has legal access to the protected work or subject-matter concerned.” Council Directive 2001/29, art. 6, 2001 O.J. (L 167) 10, 17-18 (EC). The Article also allows for rights-holders’ compliance through “agreements between rightholders and other parties concerned,” namely through contracts. For a critical overview of the Directive, see Séverine Dussollier, *Fair Use by Design in the European Copyright Directive of 2001*, 46 COMM. ACM 51 (2003).

132. For further discussion on the complex structure of Article 6.4 of the EU Copyright Directive, see Alvise Maria Casellati, *The Evolution of Article 6.4 of the European Information Society Copyright Directive*, 24 COLUM.-VLA J.L. & ARTS 369, 372-77 (2001).

133. See Dussollier, *supra* note 116, at 472.

134. For a state of the art as to implementation *status* at the date of September 22, 2004, see Urs Gasser & Michael Girsberger, *Transposing the Copyright Directive: Legal Protection of Technological Measures in E.U.-Member States. A Genie Stuck in the Bottle?* (Berkman Working Paper No. 2004-10) available at <http://ssrn.com/abstract=628007>; Silke von Lewinski, *Rights Management Information and Technical Protection Measures as Implemented in EC Member States*, 35 INT’L REV. INTELL. PROP. & COMPETITION L. 844 (2004).

135. Greece (entered into force on October 10, 2002), Denmark (enforceable since December 22, 2002), Italy (implemented April 9, 2003), Austria (entered into force on 1st July 2003), Germany (implemented September 13, 2003), Luxembourg (implemented April 29, 2004), UK (implemented October 31, 2003), Ireland (implemented January 19, 2004), Netherlands (implemented September

Member States, just Hungary, Malta, Lithuania, Poland, Czech Republic, and Estonia have transposed it into national legislation.

The loophole of this provision is that both content owners and governments are invited but not compelled to ensure respect of users' rights.¹³⁶ The consequence of this is that the former somehow retain legal power to settle the rules of the game, just as it is with the DMCA, where at present the government does not exercise any form of control over the characteristics of copy-protection tools and is thus prevented from working towards the establishment of a certain balance between authors' and the public's interests.¹³⁷

Although the provisions of the two acts take different approaches to the problem of legitimate access, neither succeed in solving it, while they both pose high barriers to uses otherwise legally recognized. For example, "[i]n contrast to the DMCA, which does not need to list the exceptions for copyright infringement liability because these exceptions are well-established by statute and case law,"¹³⁸ the EUCD stipulates a list of exceptions that are

1, 2004). Gasser & Girsberger, *supra* note 134, at 8. For a comment on the Italian implementation, see Mario Fabiani, *L'attuazione della Direttiva CE su diritto di autore nella società dell'informazione. Un'analisi comparativa*, 74 DIR. AUT., 331 (2003).

136. Moreover, it has to be stressed how the Directive does not specifically identify any kind of measure to be taken by developers of technological protection measures, nor provides for guidelines in case of non-compliance both in terms of defining the extent of a possible action and the time deemed reasonable for voluntarily accomplishment. See MacQueen, *supra* note 14, at 219.

137. Orin S. Kerr, *A Lukewarm Defense of the DMCA*, in COPY FIGHTS, *supra* note 103, at 163, 168. 2001/29 is part of a wider program started with Directive 2000/31 aimed at preserving the status quo of power of the music industry through progressively but steadily limiting users' rights. The E-Commerce Directive 2001/31 obliges ISPs to remove illegal material or promptly inform authorities about such activities. This responsibility is only relieved when the ISP is not aware at all of the illegality of activities. Thus, ISPs are forced to intervene when illegality is proved, and also when it is only presumed. See Enzo Mazza, *Più facile contrastare il fenomeno della pirateria musicale online*, INTERLEX, May 15, 2003, <http://www.interlex.it/copyright/mazza3.htm>.

138. Eleanor M. Lackman, *Slowing Down the Speed of Sound: A Transatlantic Race to Head Off Digital Copyright Infringement*, 13 FORDHAM INTELL. PROP. MEDIA & ENT. L.J. 1161, 1177 (2003).

quite exhaustive. Article 5 of the Directive, for example, lays down a number of exceptions to the right of reproduction and the right of communication. At the same time, contrary to the DMCA,¹³⁹ the EUCD does not list exceptions to the anti-circumvention provision.¹⁴⁰

It has been argued that the DMCA constitutes a fairly good attempt to respond to the changes determined by digitalization and that it is still too early to condemn it, as the success of the Internet as a distribution model is yet to be determined.¹⁴¹ However, what has probably not been adequately considered is that behaviors that were taken for granted like making back-up copies of CDs, could now be criminalized.¹⁴²

It is reasonable to assert that a certain balance is necessary in the protection of rights in order to avoid total control. The European directive, on the contrary,

139. 17 U.S.C. § 1201(d)–(j) (2000) (in addition to a limited reverse engineering exception stipulated in Subsection (f), contains the following exceptions and exemptions: Subsection (d) grants an exemption from liability for nonprofit libraries, archives, and educational institutions. Subsection (e) explains that activities of law enforcement, intelligence, and other government activities are not prohibited by Section 1201. Subsection (g) sets forth permissible acts of encryption research. Subsection (h) provides limited exceptions when minors are concerned, to help parental control of children's internet access. Subsection (i) allows circumvention when personally identifying information is involved. Subsection (j) recognizes permitted acts for the purpose of computer system security testing).

140. See Dusollier, *supra* note 116, at 475 (remarking that Recital 48 of the directive states that protection “should not hinder research into cryptography”).

141. See Emery Simon, *The DMCA: Providing Locks for Digital Doors*, in COPY FIGHTS, *supra* note 103, at 171. The theory articulated by Simon could be easily extended to the EU Directive in question, as their scope and implications are alike.

142. It's allowed under 17 U.S.C. § 117 (2000) and under Council Directive 91/250/CEE, art. 5(2), 1991 O.J. (L 122/42). Computer programs are always provided on some storage device (DVDs or CDs). Such storage media are relatively fragile and it is all too possible that their contents might be accidentally corrupted or erased. In these situations, it might not seem irrational for an end user to get a back-up copy of the work with the only purpose that this will be stored and used in the case that the original copy of the software is damaged or lost. See LLOYD, *supra* note 5, at 397. For a brief overview of anti-circumvention systems in Europe, see Terese Foged, *U.S. v. E.U. Anti-Circumvention Legislation: Preserving the Public's Privileges in the Digital Age?*, 24 EUR. INTEL. PROP. REV. 525 (2002) (with specific reference to Denmark) and Hart, *supra* note 119.

contemplates the most extensive legal protection measures against circumvention in all of the implementation of the WIPO treaties.¹⁴³ Where technical tools are not effective enough, the law has to intervene, and vice versa.¹⁴⁴ However, it will be evident in the latter part of this Article how current technology is capable of delivering high protection, but legislation has not retreated.¹⁴⁵

The DMCA and the EUCD both seem to have a rather extreme and unbalanced approach to defending authors' rights. Legislators have also somehow "amended" their role of decision making in favor of copyright owners. In both cases there has not been a predetermined set of rules embedded into technological controls, and the power to determine the activities allowed with regard to protected content has shifted into the hands of their owners, representing a sort of "paracopyright."¹⁴⁶ In particular, if the aim of the Directive was the harmonization of the most troublesome aspects of copyright in the digital framework, then Article 6 fails because it principally leaves intervention up to individual Member States.¹⁴⁷ Moreover, EUCD, as already pointed out, is particularly evasive on the method of intervention. This uncertainty also persists in the implementation of legislation of several Member States.¹⁴⁸ Inevitably there will be differences found between Member States' implementations, particularly in regard to the most troublesome issue; the prohibited acts of circumvention.¹⁴⁹

143. See Dusollier, *supra* note 116, at 477.

144. John R. Therien, *Exorcising the Specter of a "Pay-Per-Use" Society: Toward Preserving Fair Use and the Public Domain in the Digital Age*, 16 BERKELEY TECH. L.J. 979, 985-990 (2001).

145. See generally Calovi, *supra* note 54.

146. See Nimmer, *Fair Use*, *supra* note 104, at 686.

147. See Perrit, *supra* note 122, at 4; see also Severine Dusollier, *Exceptions and Technological Measures in the European Copyright Directive of 2001—An Empty Promise*, 34 INT'L REV. INDUS. PROP. & COPYRIGHT L. 62, 70 (2003) (noting how the Directive employs a "fair use by design" approach in the field of copyright exceptions).

148. See Gasser & Girsberger, *supra* note 134, at 12.

149. *Id.*

As has been noted, copyright law has always been flexible, evaluating on particular occasions what uses are legal on the basis of some lodestars. People have been allowed to engage in different behaviors and to face the consequences of their evaluation mistakes later. Choosing to determine *ex ante*, and with precise accuracy, the limits of fair use would chill spontaneity, deterring the public from engaging in behaviors that are otherwise legal and part of their routine.¹⁵⁰

Unfortunately, thanks to the laws currently in force, such as DMCA and EUCD, content owners find themselves in an extremely strong position as they are offered the chance to impose their own rules and their own limits on use and access to digital content, to the point where they could possibly supplant legal regulations.¹⁵¹ However, as these provisions are going to have an effect essentially relating to the material provided with anti-circumvention tools, content providers have been forced to look for different solutions for material released prior to the development of technological protection.

B. A Current Intellectual Property Challenge: *Illegal File Swapping*

Illegal file swapping represents one of the most well-known and global threats to intellectual property rights enforcement. Thanks to technology, the content industry has succeeded in making the removal of content from their digital supports more complicated, but there is a great new challenge that remains to be faced. That is the file sharing software, or peer-to-peer distribution systems.¹⁵² This kind of software allows users to freely exchange and distribute musical files or other copyrighted contents via the Internet.

Because the greater part of these files are protected from copyright, the majors have initially attached, in vain,

150. See Burk & Cohen, *supra* note 94, at 60-61.

151. *Id.* at 50.

152. On the relationship between technological protection measures and peer-to-peer networks, see Peter Biddle et al., *The Darknet and the Future of Content Protection*, in DIGITAL RIGHTS MANAGEMENT, *supra* note 82, at 344.

the legitimacy of the MP3 standard.¹⁵³ They have then focused on the file-sharing system. Napster, born in 1999, is perhaps the most well known of the peer-to-peer systems.¹⁵⁴

The most recent peer-to-peer technology allows online connected computers to connect together without passing through a central file server. This creates a type of network constituted by interconnected computers, with the possibility to share files stored in single computers.

This kind of communion is possible through the setting of simple software, the most famous of which has been Napster. As in the noted judicial story, Napster was the first to be diffused on a wide area-network.

After the ban of Napster, its clones (i.e., programs based on the same technique) have spread on the Net with extreme success.¹⁵⁵ This new software enables Internet users to share music files and other types of files without such data being stored on a central server, so without the hybrid architecture of Napster.¹⁵⁶ Technically, through

153. In 1998 the Record Industry Association of America (RIAA) sued Diamond Multimedia, manufacturer of the first portable MP3 player, with the purpose to hinder the distribution of MP3 music format. In this case the judge, considering the fair use doctrine, recognized the right of consumers to copy, and therefore to transform the CD into musical files. At the same time he recognized the right to produce instruments that make it possible. *Recording Indus. Ass'n, Inc. v. Diamond Multimedia Sys., Inc.*, 29 F. Supp. 2d 624, 631-32 (C.D. Cal. 1998), *aff'd*, 180 F.3d 1072 (9th Cir. 1999).

154. For a Napster case summary, see Lisa M. Zepeda, *A&C Records, Inc. v. Napster, Inc.*, 17 BERKELEY TECH. L.J. 71 (2002). For a full coverage of Napster's history, see also ALDERMAN, *supra* note 39; TREVOR MERRIDEN, *IRRESISTIBLE FORCES: THE BUSINESS LEGACY OF NAPSTER & THE GROWTH OF THE UNDERGROUND INTERNET* (2001).

155. At present, some of the most popular sharing programs are: eDonkey, Kazaa, WinMX, LimeWire, Morpheus, BearShare, Gnutella, etc. For a detailed analysis of the current framework, see GARTNER, *G2 & THE BERKMAN CENTER FOR INTERNET & SOCIETY AT HARVARD LAW SCHOOL, COPYRIGHT AND DIGITAL MEDIA IN A POST-NAPSTER WORLD*, (2003) <http://cyber.law.harvard.edu/home/uploads/254/2003-05.pdf>.

156. Napster was found liable for vicarious copyright infringement because the court determined that it does have the ability to supervise and control its users. *A&M Records, Inc. v. Napster, Inc.*, 239 F.3d 1004, 1022-23 (9th Cir. 2001). It also derived a direct financial benefit through the infringing activity. *Napster*, 239 F.3d at 1023. In fact, "Napster's Achilles' heel was that it retained a trace of the client-server model" by depending on a centralized file server.

these programs, the download and upload of files happen directly from one user's computer to another's. To commence the exchange of data, all that is necessary is to install one of these software packages and identify a special directory in which all the available files to share are stored.

A peer network is created between all the users who install the same software, in which every computer operates, at the same time, as both client and server. This means that the sharing of the data does not happen through a central file server, but, on the contrary, through the sharing permissions established by every single user. Peer-to-peer networks are the result of a large number of individual connections among couples of computers. For just this reason, in a peer-to-peer net, all the computers can be considered client and file servers. In effect there is not a dominant file server, and all the positions are shaped to function in a work-group context. At the same time, every user is the administrator of his client, with the facility to decide autonomously whether to share a resource with the others or not.

In a network so constituted, to recover a file stored by another user it is necessary to digitize the name of the file in the search interface arranged by the software and to start the screening of items possessed by the other peers. The query is submitted to all the other peers to verify the presence of the files in their shared directories, and to confirm, in positive cases, consent to the download.

If existing laws have allowed the end of Napster, it is highly unlikely for rights-holders to obtain the same result with the new decentralized networks (second and third peer-to-peer generations). This is because it is the same law that prevents it. Consequently, the only chance they have to find a way around the problem is to rely on other parties not directly involved in the "game," like ISPs, cable operators and telephone companies, to make file sharing more difficult and to directly target single downloaders.¹⁵⁷

Kurt Kleiner, *Free Speech, Liberty, Pornography: The Internet and Peer to Peer Networking*, 169 *NEW SCIENTIST* 32, 33 (2001).

157. For alternative solutions to the problem of the peer-to-peer, see WILLIAM W. FISHER III, *PROMISES TO KEEP: TECHNOLOGY, LAW, AND THE FUTURE OF ENTERTAINMENT* 199-258 (2004) and Neil Weinstock Netanel, *Impose a Noncommercial Use Levy to Allow Free Peer-to-Peer File Sharing*, 17 *HARV. J.L.*

DMCA provisions, in fact, were enacted in a period of server-based rather than peer-to-peer network distribution. As a result, it is now very complicated for a rights-holder to prosecute unauthorized distribution of copyrighted materials by suing the enabling file-sharing services.¹⁵⁸ Furthermore, the DMCA immunizes service providers, telecommunications companies and Internet search engines from liability under the Copyright Act for certain activities related to the transmission of infringing material online if they satisfy some requirements designed to safeguard copyright holders' interests.¹⁵⁹ The consequence is that the content industry has tried to attack individual file-sharers as well. On the other hand, EU law, until now, had left much more discretion to Member States about the protection of non-commercial illegal file swapping. It is indisputable that the approval of the recent Directives¹⁶⁰ could change this condition, with the possibility of having lawsuits against individual file-sharers in Europe as well.¹⁶¹ Of course, these types of lawsuits could have only a deterrent effect on potential infringers.¹⁶² A final change in

& TECH. 1 (2003) (proposing to legalize peer-to-peer networks and replace the lost revenues with a tax on hardware and internet service). See also Lionel S. Sobel, *DRM as an Enabler of Business Models: ISPs as Digital Retailers*, 18 BERKELEY TECH. L.J. 667, 667-68 (2003) (proposing another way to assure remuneration for rights-holders: a model whereby ISPs act as digital retailers); see Charles Mann, *The Year the Music Dies*, WIRED, Feb. 2003, at 90, available at <http://www.wired.com/wired/archive/11.02/dirge.html>.

158. See CONGRESSIONAL BUDGET OFFICE, *supra* note 64, at 18.

159. See 17 U.S.C. § 512 (2000). For a discussion of this issue, see Douglas Lichtman & William Landes, *Indirect Liability for Copyright Infringement: An Economic Perspective*, 16 HARV. J.L. & TECH. 395, 401-02 (2003).

160. Council Directive 2001/29, 2001 O.J. (L 167) 10 (EC); Council Directive 2004/48, 2004 O.J. (L 195) 16 (EC). See *infra* Part II.C.

161. A first wave of legal actions has already affected Germany, Italy, and Denmark in March 2004. In Italy, thirty people have already been charged with copyright infringement, while computers and files have been seized as evidence. In Denmark, 120 people have been sent civil demands asking them to stop illegal file-sharing and to pay compensation or face legal action. See *Europe's Song-Swappers Face Court*, BBC NEWS (World ed.), Mar. 30, 2004, <http://news.bbc.co.uk/2/hi/entertainment/3581935.stm>.

162. See Mark A. Lemley & R. Anthony Reese, *Reducing Digital Copyright Infringement without Restricting Innovation*, 56 STAN. L. REV. 1345 (2004). Lemley and Reese assert that lawsuits against final users could be a good solution: in fact, according to their opinion:

consumer behavior may be possible when the content industry is able to provide a legal alternative to illegal peer-to-peer networks.¹⁶³

As pointed out in a recent report of the International Federation of the Phonographic Industry (IFPI), when the supply of music available digitally proliferates it could compete with piracy.¹⁶⁴ The report reviews the progress made in the digital music landscape in 2004.¹⁶⁵ The number of online sites where consumers can buy music legally has now hit more than 230, up from 50 a year ago, with record companies licensing the bulk of their active catalogue for download, totaling over one million songs—more than doubling the amount of available repertoire within one year. Furthermore, paid downloads went up more than tenfold to over 200 million. Services like iTunes and the new Napster have become household names internationally, and many other national sites are specializing in local repertoire.

This indicates, again, that the lawsuits against peer-to-peer networks did not bring positive results despite the thousands of claims and other terror campaigns. On the contrary, the increase and proliferation around the world of services offering digital music have established a new market and new business models. Consumers have welcomed these new initiatives, and their attitudes to digital music are changing. Pay-per-downloads and subscription services are the real weapons to control music piracy, whereas fighting the problem of Internet piracy with

[C]opyright owners sue facilitators online because it is cheaper and easier for them than suing direct infringers. Cheaper and easier does not necessarily mean more efficient, however. The shift toward suing facilitators who are further and further removed from the act of direct infringement imposes substantial social costs on both legitimate users and on innovation, costs that the copyright owners do not have to bear.

Id. at 1434. The answer that they offer to the question “is to change the economics of targeting direct infringers” by enforcing “civil and criminal copyright statutes against high-volume uploaders.” *Id.*

163. See Biddle et. al., *supra* note 152. See generally Lemley & Reese, *supra* note 162.

164. See IFPI:05 DIGITAL MUSIC REPORT, *supra* note 117.

165. *Id.*

more restrictive protection of content would only contribute to change the traditional balance of public and private rights.

C. *Intellectual Property Enforcement: The New European Pattern*

Another troublesome aspect of intellectual property rights in the digital environment concerns the rules of enforcement and the application of technical protection measures or digital rights management systems (hereinafter DRMs or DRM), used to secure digital content and also to manage individual users' behavior.¹⁶⁶

On April 29, 2004 the Council of Ministers of the European Union adopted Directive 2004/48/EC on the enforcement of intellectual property rights.¹⁶⁷ This new Directive obliges all Member States to apply "effective, proportionate and dissuasive" measures, procedures, and remedies against piracy and counterfeiting, offering a strict defense to violations.¹⁶⁸ The rationale for that statement

166. See *infra* Part III.

167. Council Directive 2004/48/EC, 2004 O.J. (L 157) 45 (EC). For detailed information on this Directive, see Enforcement of Intellectual Property Rights, http://www.europa.eu.int/comm/internal_market/en/indprop/piracy/index.htm (last visited Dec. 1, 2005). For critical comments, see Ryan Bates, *Communication Breakdown: the Recording Industry's Pursuit of the Individual Music User, a Comparison of US and EU Copyright Protections for Internet Music File Sharing*, 25 NW. J. INT'L L. & BUS. 229 (2004); Rico Calleja, *The IP Enforcement Directive*, 10 COMP. & TELECOMM. L. REV. 55 (2004); David Ellard, *The EU's IPR Enforcement Directive: origin, key provisions and future of the EU's IPR Enforcement Directive*, 3 COMPUTER L. REV. INT'L 64 (2004); Peter Groves, *The proposed EC Directive on Enforcement of Intellectual Property Rights*, 25 BUS. L. REV. 149, 151 (2004); Annette Kur, *The Enforcement Directive—Rough start, happy landing?*, 35 INT'L REV. OF INDUS. PROP. AND COPYRIGHT L. 821 (2004); Charles-Henry Massa & Alain Strowel, *The Scope of the Proposed IP Enforcement Directive: Torn between the Desire to Harmonise Remedies and the Need to Combat Piracy*, 26 EUR. INTELL. PROP. REV., 244 (2004); Michael Vedder, *The Enforcement Directive 2004/48/EC—A Further Step in the Harmonization of IP Laws in Europe*, 16 IPR HELPDESK BULLETIN 4-5 (2004), http://www.ipr-helpdesk.org/newsletter/16/pdf/EN/N16_EN.pdf; Rogier Wezenbeek, *Balancing Consumer and Rightholders' Interests in- and outside European Union* (Jun. 2004), www.ipa-congress.com/prog/work/download/Wezenbeek.pdf.

168. The Member States will have to implement the Directive by April 28, 2006. Council Directive 2004/48, art. 3., 2004 O.J. (L 157) 61 (EC).

appears in the “Recital” sections. The European legislator asserts that enforcing intellectual property rights is necessary because without effective protection, “innovation and creativity are discouraged and investment diminished.”¹⁶⁹ In this direction it is therefore necessary to ensure that “the substantive law on intellectual property . . . is applied effectively in the Community” because enforcement is “of paramount importance for the success of the Internal Market.”¹⁷⁰ Besides, the European legislator has pointed out how “in the Member States, and despite the TRIPS Agreement,¹⁷¹ there are still major disparities regarding the means of enforcing intellectual property rights.”¹⁷² In particular, the legal instruments for applying provisional measures used to preserve evidence, the calculation of damages, or the instruments for applying injunctions, vary widely from one Member State to another. In fact, “[i]n some Member States, there are no measures, procedures and remedies such as the right of information and the recall, at the infringer’s expense, of the infringing goods placed on the market.”¹⁷³

After reading these main purposes, it would be difficult for any objective commentator to avoid the comparison to some of the dispositions of the U.S. Digital Millennium Copyright Act, that are utilized in the United States by organizations such as the RIAA to collect personally identifying information on file sharers with the intention to prosecute any individual responsible for copyright infringement.¹⁷⁴

169. Council Directive 2004/48, Recital 3, 2004 O.J. (L 157) 46 (EC).

170. *Id.*

171. Agreement on Trade Related Aspects of Intellectual Property Rights, Apr. 15, 1994, Marrakesh Agreement Establishing the World Trade Organization, Annex 1C, 33 I.L.M. 1125 (1994), available at http://www.wto.org/english/tratop_e/trips_e/t_agm0_e.htm. This agreement is an attempt to narrow the gaps in the way intellectual property rights are protected around the world, and to bring them under common international rules. It establishes a minimum level of protection that each government has to give to the intellectual property of fellow WTO members.

172. Council Directive 2004/48, Recital 7., 2004 O.J. (L 157) 48 (EC).

173. *Id.*

174. According to Robin Gross, the director of civil liberties group IP Justice, the Directive “[C]reates a broad new ‘Right of Information’ which requires

Actually,

[u]p till now, the action taken by the European Community . . . in the field of intellectual property has focused mainly on the harmonisation of national substantive law and the creation of a unitary right at Community level. Certain national intellectual property rights, for instance, have been harmonised, such as trade marks, designs, patents for biotechnological inventions, and certain aspects of copyright and related rights. . . . While the gradual harmonisation of substantive law on intellectual property rights has promoted the free movement of goods between the Member States and has made the rules applicable more transparent, the means of enforcing intellectual property rights have not yet been subject to any harmonisation.¹⁷⁵

For example, the rapidly growing piracy of intellectual property rights and production of counterfeit goods, as well as the infringement of intellectual property in general, are constantly increasing phenomena that currently have international diffusion and pose a critical threat to national economies.¹⁷⁶ The national disparities existing in the measures and procedures of enforcing intellectual property rights could support these phenomena in the European internal market. "In other words, counterfeited and pirated

Internet Service Providers (ISPs) to disclose personal information about their customers to recording industry executives for civil prosecution of Peer-to-Peer (P2P) file-sharing and other activities. Similar subpoena powers, created under the notorious US Digital Millennium Copyright Act" even if the power assigned by the directive could be much wider because it "applies to all types of intellectual property infringements, not just copyrights." ROBIN GROSS, EU PASSES DANGEROUS IP LAW, DESPITE MEP'S CONFLICT OF INTEREST "MIDNIGHT KNOCKS" BY RECORDING INDUSTRY EXECUTIVES GET GO-AHEAD (2004), http://www.ipjustice.org/CODE/release20040309_en.shtml [hereinafter IPjustice].

175. EUROPEAN UNION SCADPLUS, ENFORCEMENT OF INTELLECTUAL PROPERTY RIGHTS (2004), <http://europa.eu.int/scadplus/leg/en/lvb/l26057a.htm>.

176. Copyright, trademark and design industries are all affected by intellectual property theft, but practically no product is unaffected by these illegal practices. Contrary to what is thought, not only music, movies, software and other protected contents but also food and beverages, pharmaceuticals, watches, apparels, cigarettes and cosmetics are popular targets of counterfeiters. See Telecom Liberalization Can Benefit All Citizens, AGIP Bulletin June 2004, 5 available at http://www.agip.com/bulletin_sub.aspx?year=2004&month=6&lang=en. The first Global Congress on Combating Counterfeiting has estimated that the value of counterfeited and pirated goods at over €. 500 billion annually. The First Global Congress on Combating Counterfeiting, World Customs Organization Headquarters, Brussels (May 25-26, 2004), <http://www.akjassociates.com/wco2004/website.asp?page=declaration>.

products are more likely to be manufactured and sold in those countries that are less effective than others in combating counterfeiting and piracy.”¹⁷⁷

In practice, with the adoption of the Directive, the TRIPS provisions on enforcement of intellectual property rights¹⁷⁸—“the cornerstone of international law on enforcement of intellectual property”¹⁷⁹—are transposed into European law even if, arguably, they go beyond the same TRIPS rules on enforcement.¹⁸⁰ In fact, the Directive implements at a community level “certain so-called ‘best practice’ measures currently in operation in one or more Member States.”¹⁸¹ The harmonization is not limited to specific sectors of intellectual property rights, but can be applied to any sort of infringement of intellectual property rights with the problem that within Member States the concept of IPRs is often different, and the Directive never provides a definition of them.¹⁸² So, if from one perspective the aims of the Directive seem to be positive both for rights-

177. See EUROPEAN UNION SCADPLUS, *supra* note 175.

178. TRIPS art. 41-50 & 61.

179. Ellard, *supra* note 167, at 66.

180. The agreement states that governments have to ensure that intellectual property rights can be enforced under their laws, and that the penalties for infringement are tough enough to deter further violations. The measures must be fair and equitable, and not extremely complicated or costly. TRIPS art. 41.2. They should not require irrational time-limits or unwarranted delays. TRIPS art. 41.2. People involved should be able to ask a court to review an administrative decision or to appeal a lower court’s ruling. TRIPS art. 42. The agreement illustrates in some detail how enforcement should be handled, including rules for obtaining evidence, TRIPS art. 43, provisional measures, TRIPS art. 50, injunctions, TRIPS art. 44, damages, TRIPS art. 45, and other penalties, TRIPS art. 46. It also states that courts should have the right, under certain conditions, to order the disposal or destruction of pirated or counterfeit goods. TRIPS art. 59. Wilful and malicious trademark counterfeiting or copyright piracy on a commercial scale should be criminal offences. TRIPS art. 61. For other details, see Intellectual Property: Protection and Enforcement, World Trade Organization, http://www.wto.org/english/thewto_e/whatis_e/tif_e/agrm7_e.htm (last visited Dec. 3, 2005).

181. Ellard, *supra* note 167, at 65; *see also* Vedder, *supra* note 167, at 4.

182. For this and other criticisms, see ITALIAN MINISTER OF INNOVATION AND TECHNOLOGIES: DEPARTMENT FOR INNOVATION AND TECHNOLOGY, REPORT ON DIGITAL RIGHTS MANAGEMENT 42-43 (2004), http://www.innovazione.gov.it/ita/normativa/publicazioni/digital_rights_management.shtml. *See also* Kur, *supra* note 167, at 823.

holders and consumers, we cannot hide some critical points of view. It is indubitable that the main purpose of the act is the reduction of the discrepancies and distortions in national laws.¹⁸³ It is also indubitable that the dispositions provided will encourage freedom of movement and protect fair and equal competition in the internal market, increasing a safer environment for new investment in innovation and creation. It is also possible that in this new legal framework there is something positive for the consumers who are often damaged by the counterfeited and pirated products.¹⁸⁴ "These activities may also pose a real threat to the health of the consumer (counterfeit medicines) or to his safety (counterfeit toys or parts for cars or aircraft)."¹⁸⁵ But, the Directive offers to consumers merely an outward gift ("*timeo Danaos et dona ferentes*" Laocoon admonished in front of the Trojan Horse¹⁸⁶) because the disadvantages are more severe than the advantages. Some of the most controversial aspects of the Directive, in fact,

183. According to the official press release of the Commission, the main objectives of the Directive are: a) to create a level playing field for the enforcement of intellectual property rights in different EU countries, by bringing enforcement measures into line across the European Union, especially in those countries where the enforcement of intellectual property rights is currently weakest; b) to establish a general framework for the exchange of information between the responsible national authorities; c) to maintain a balance between helping holders of intellectual property defend their rights and protecting users from unfair litigation (so-called rights of due process). Press Release, Proposed Directive on Enforcement of Intellectual Property Rights, <http://europa.eu.int/rapid/pressReleasesAction.do?reference=MEMO/03/20&format=HTML&aged=0&language=EN&guiLanguage=en> (last visited Dec. 1, 2005) (discussing MEMO/03/20 Brussels, Jan. 30, 2003).

184. Is important to underline that,

[c]ounterfeiting and piracy are generally accompanied by deliberate cheating of the consumer as to the quality he is entitled to expect from a product bearing, for instance, a famous brand name, since counterfeit or pirated products are produced without the checks made by the competent authorities and do not comply with minimum quality standards. When he buys counterfeit or pirated products, the consumer does not in principle benefit from a guarantee, after-sales service or effective remedy in the event of damage.

EUROPEAN UNION SCADPLUS SERVICE, *supra* note 175.

185. *Id.*

186. "I fear the Greeks, even when they bring gifts." VERGIL, AENEID, Book II, line 49 (Oxford Univ. Press 1969).

start by setting out various obligations necessary to establish the infringement of an intellectual property right, such as provisions on evidence and the protection of evidence.¹⁸⁷ Articles 6 and 7 try, specifically, to solve the problem of the control of evidence in intellectual property infringement cases. Usually the evidence in these cases is under the control of the infringer himself, and it may be difficult for the plaintiff to produce prima facie evidence of the infringement.¹⁸⁸ So, Article 6.1 stipulates that the competent judicial authorities, on particular occasions, may order that reasonably available evidence, sufficient to support a claim, could be presented by the opposing party. According to Article 6.2, Member States should also take such measures as are necessary to enable the responsible authorities to order, upon application by a party, and only for infringements committed on a commercial scale, the communication of banking, financial or commercial documents under the control of the opposing party. Meanwhile, Article 7 sets out provisional measures to preserve evidence, which are enforceable when there is a demonstrable risk of intellectual property rights infringement, and even before the commencement of proceedings on the merits of the case.

Article 8 of the Directive stipulates a right of information, in particular circumstances, allowing judicial authorities to order certain persons to provide information on the origin of the goods or services which are thought to infringe an intellectual property right for commercial purposes. In addition, it provides provisional and precautionary measures in Article 9.1, such as seizure of alleged infringing goods or the blocking of the bank account and other assets of the alleged infringer in Article 9.2. Other measures, resulting from a decision on the merits of the case, could be the destruction, recall, or final removal from the market of the infringing goods as discussed in Article 10.

187. See European Commission, *IPR Enforcement Directive Gets Go-Ahead: Counterfeiting and Piracy*, SINGLE MARKET NEWS, July 2004, at 10, available at http://europa.eu.int/comm/internal_market/smn/smn34/index_en.htm.

188. See Ellard, *supra* note 167, at 68; Kur, *supra* note 167, at 825; Vedder, *supra* note 167, at 5.

Even if the current Enforcement Directive could represent “a step on the path toward a comprehensive Community framework of legislation both substantive intellectual property law and its enforcement,” we cannot hide several other questionable aspects.¹⁸⁹ One of the points most criticized in relation to this new Directive is connected to the limits of the application of the measures provided for enforcement. In particular, there was heated discussion connected to peer-to-peer file sharing and the possibility of limiting application of these measures to acts carried out on a commercial scale.¹⁹⁰ As pointed out in Recital 14 of the Directive, acts carried out on a commercial scale are those executed for direct or indirect economic or commercial advantage. Therefore, this would normally exclude acts carried out by end consumers acting in good faith. Unfortunately, only the original proposal of the Directive was in this direction, limited to infringement committed for commercial purposes which generate significant harm to the rights-holder.¹⁹¹

The final version of the Directive, that is, the one adopted by the European Parliament and the Council, does not insist that Member States apply penalties to the individual file swapper, but gives them wide discretion.¹⁹²

189. Ellard, *supra* note 167, at 71.

190. For example, in Italy, the so-called Decree “Urbani”—“Interventions to oppose the illegal electronic circulation of audiovisual material, and to support film and entertainment activities” (Decreto 72/04), gave rise to a fervent controversy because, in its very first version, it distorted the distinction between violating copyrights for commercial and for non-commercial purposes, overturning the previous legal system. The Decree was converted into law, as amended by Law No. 128 of May 21, 2004 published in the Official Gazette of the Italian Republic No. 119 of May 22, 2004, and it went into effect on May 23, 2004. One of the goals of the provision is to fight electronic piracy. In this sense it was greatly opposed by the Internet Service Provider associations and telecommunications firms that, while agreeing with its ultimate objectives, felt that the system of safeguards the decree introduces for digital media copyrights is particularly repressive and disproportionate. Recently the law has been amended again by the law No. 43 of 31 March, 2005 published in the Official Gazette of the Italian Republic No. 75 of April 1, 2005. For some criticism of this law, see Calovi & Lucchi, *supra* note 54.

191. See Ellard, *supra* note 167, at 67; Vedder, *supra* note 167, at 4.

192. See Kur, *supra* note 167, at 821. The final version of the Directive, in fact, includes only civil measures and remedies while the proposal to harmonize criminal proceedings and penalties was rejected.

In the U.S. system, on the contrary, rights-holders and Internet service providers have lobbied on behalf of their business interests for moving legal liability onto individual users.¹⁹³ It was argued that some DMCA provisions “reflect[] an early attempt to clarify an ISP’s potential liability for contributory copyright infringement.”¹⁹⁴ The DMCA, in fact, specifies that Internet service providers cannot be held liable for copyright infringement for either the transmission or the storage of copyright-infringing materials on their networks if they follow the requirements laid out by the statute.¹⁹⁵ The absence of these “safe-harbor” provisions in the EU system may push liability against ISPs and other intermediaries also, for hosting illegal content or activities.¹⁹⁶ Currently, the problem of liability of Internet service providers is ruled in detail by Directive 2000/31/EC, also called the E-commerce Directive.¹⁹⁷ This distinguishes the liability standards that apply to various

193. See Bates, *supra* note 167, at 248.

194. CONGRESSIONAL BUDGET OFFICE, *supra* note 64, at 14.

195. See Lichtman & Landes, *supra* note 159, at 402.

196. See Kur, *supra* note 167, at 826. One of the most famous European cases in this direction was LICRA v. Yahoo!, Tribunal de Grande Instance de Paris [T.G.I.] [court of original jurisdiction] Paris, Nov. 20, 2001, available at http://eff.org/legal/Jurisdiction_and_sovereignty/LICRA_v_Yahoo/20001120_fr_int_ruling.en.pdf. U.S. court will not uphold French censorship ruling against U.S.-based company for speech that is legal in the United States: in fact this ruling contrasts with section 512 of the DMCA and was not enforced in the United States due to First Amendment concerns. See Marc H. Greenberg, *A Return to Lilliput: The LICRA v. Yahoo! Case and the Regulation of Online Content in the World Market*, 18 BERKELEY TECH. L.J. 1191 (2003); Lackman, *supra* note 138, at 1177. The same approach could be found in a German case in which CompuServe was found liable under German criminal law for the distribution of child pornography over the internet. See Amtsgericht München Geschäftsnummer: 8340 Ds 465 Js 173158/95 (1998), available at <http://www.jurawelt.com/gerichtsurteile/strafrecht/AG/1402> (unofficial English translation available at <http://www.cyber-rights.org/isps/somm-dec.htm> (last visited Jan. 10, 2005)). Some similar approaches could also be found in previous decisions of Italian courts: Tribunale di Napoli, Ordinanza 8 August 1996 (comparing, in terms of liability, a service provider to a newspaper’s director), 1 Giustizia Civile, Vol. XLVIII, January 1998 at 259, and, more recently, Tribunale di Catania, Sentenza 29 June 2004 (distinguishing the liability for content providers and service providers), available at <http://www.interlex.it/testi/giurisprudenza/ct040629.htm> (last visited Dec. 1, 2005).

197. Council Directive 2000/31, On Certain Legal Aspects of Electronic Commerce in the Internal Market, 2000 O.J. (L 178) 1 (EC).

online intermediary players, punctually classifying the liabilities that emerge from activity as a mere conduit, caching and hosting.¹⁹⁸ On the contrary, the Enforcement Directive opens new questions and practical consequences for other types of intermediates.¹⁹⁹

Civil liberties organizations and consumer rights groups are worried that the Directive could be used by the recording and content industry to attack users in Europe much like the lawsuits in the United States. In fact, there is more than some doubt that the Directive was influenced, at least in part, by the recent attacks on peer-to-peer and file sharing music piracy in the United States, and supported by intense lobbying of the content industry.²⁰⁰ As argued by John Perry Barlow, the Enforcement Directive does not seem to be very effective at protecting the interest of artists, or at least the majority of them. Rather, it seems more designed to over-protect the interests of those "same distribution institutions that have preyed on musicians and songwriters for the last one hundred years."²⁰¹ Therefore, there is a real possibility that, even if it seems suited only for cases involving infringement for commercial purposes, it will also be used against European consumers for minor non-commercial infringements.²⁰²

198. For a complete overview of the Directive, see Rosa Julià-Barceló & Kamiel J. Koelman, *Intermediary Liability In The E-Commerce Directive: So Far So Good, But It's Not Enough*, 4 COMPUTER L. & SEC. REP. 231 (2000).

199. See Kur, *supra* note 167, at 826-27 ("As liability of ISPs seems to be confined in most of the crucial cases to what is set out in the e-commerce directive, the practical consequences may materialize primarily in the transport business.").

200. By sheer coincidence, the European Parliament's Rapporteur of the new intellectual property enforcement directive is Janelly Fourtou, wife of Jean-René Fourtou former top manager of Aventis and currently the CEO of Vivendi Universal, the media giant that is the biggest holder of intellectual property rights worldwide. See *File Swappers Avoid Home Invasion*, BBC NEWS (UK ed.), Mar. 9, 2004, <http://news.bbc.co.uk/1/hi/technology/3545839.stm>.

201. John Perry Barlow, *Why Artists Oppose the EU Intellectual Property Rights Enforcement Directive*, http://www.ipjustice.org/CODE/Barlow_stmnt.html (last visited Dec. 1, 2005).

202. See IPjustice, *supra* note 174.

III. DIFFERENT SOLUTIONS AND DEFENSES FOR INTELLECTUAL PROPERTY IN THE DIGITAL AGE: TECHNOLOGICAL REMEDIES

As argued above, the extremely fast technological progress in information technologies has brought about new legislative and judicial attempts to restructure intellectual property rights for digital media, trying to balance the interests of both rights-holders and consumers.

Now, protection of intellectual property rights in the information society is essentially governed by different international conventions and the subsequent compliance of national legislative principles. This legislation backs up the enforceability of privately generated norms.²⁰³ Acts, such as the DMCA and EU CD, recognize a legal status and explicit legal protection for “technological measures” and “copyright management information” hampering unauthorized uses and determining the conditions for legitimate use.²⁰⁴

The transition from analog to digital media has had a Copernican impact on intellectual property rights, consumers, and content industries. While in the past analog era, rights-holders applied physical barriers to control reproduction and distribution of their goods in order to prevent unauthorized copying and to enforce intellectual property law, in this new legal framework, the technological protection measures have found formal recognition replacing the old practical barriers.²⁰⁵ This has the relevant advantage that technology is not subject to any legal limit and can regulate transactions in a much more powerful way.²⁰⁶ As a result, in order to prevent non-copyright

203. See Elkin-Koren, *A Public Regarding Approach to Contracting over Copyright*, in EXPANDING THE BOUNDARIES OF INTELLECTUAL PROPERTY, *supra* note 40, at 191, 192.

204. See Stefan Bechtold, *Digital Rights Management in the United States and Europe*, 52 AM. J. COMP. L. 323 (2004). These systems are designed to prevent the easy copying of digital works. Both the acts protect the systems with a legal regime designed to ensure protection for creative works. See *id.* at 356. For a description of technological protection measures, their implications and uses, see Sobel, *supra* note 157.

205. See LESSIG, *supra* note 75, at 136; Reidenberg *supra* note 75, at 567-68.

206. See Jacques de Werra, *Moving Beyond the Conflict Between Freedom of Contract and Copyright Policies: In Search of a New Global Policy for On-Line*

holders from infringing upon the exclusive rights of the copyright holder, intellectual property law was amended to meet the needs of the highly technological world. The revision of current law, however, is much more difficult and complicated than in the past. The rapid advance and indiscriminate use of digital technology to control legally acquired digital creative works, on one hand could limit infringing distribution and have effects on innovation and economy, but on the other it could also have involuntary negative effects for consumer rights.²⁰⁷

Since the development of the first technical protection system, technology has taken giant steps. The most recent measures—very effective in the protection of authors' rights—have enhanced the feasibility of new business models, in particular, enabling rights-holders to engage in differential pricing according to the specific uses made of their rights. However, the application of these measures is also one of the most troublesome sources of conflict between rights-holders and consumers.²⁰⁸

The role technology can hold in protecting intellectual property varies greatly. It can be used simply to prevent users from gaining access or engaging in definite uses, like copying, or it can be used to develop licensing business models where rights-holders determine at their own discretion terms and conditions for access and use of their works and embed these rules in technical devices.²⁰⁹ In both cases it nurtures the amount of control rights-holders exert over their productions, because, as has already been seen,

Information Licensing Transactions: A Comparative Analysis Between U.S. Law and European Law, 25 COLUM. J.L. & ARTS 239, 251 (2003).

207. For more extensive treatment of the different threats posed by digital technologies to consumers rights, see, for example, Jack M. Balkin, *Digital Speech and Democratic Culture: A Theory of Freedom of Expression for the Information Society*, 79 N.Y.U. L. REV. 1 (2004); Burk & Cohen, *supra* note 94, 50-51; Lee A. Bygrave, *DRM and Privacy. Legal Aspects in the European Union*, in DIGITAL RIGHTS MANAGEMENT, *supra* note 82, at 418; Julie E. Cohen, *DRM and Privacy*, 18 BERKELEY TECH. L.J. 575, 585 (2003); Samuelson, *supra* note 137, at 42-45.

208. See CONGRESSIONAL BUDGET OFFICE, U.S. CONGRESS, *supra* note 64, at 11-13.

209. See, e.g., Pamela Samuelson, *Will the Copyright Office be Obsolete in the Twenty-First Century?*, 13 CARDOZO ARTS & ENT. L.J. 55, 61 (1994).

technology is not subject to any legal limit and is able to control transactions much more strictly than a contract.²¹⁰

There are many expressions currently in use to indicate the expanding set of technologies and systems designed to protect content from unauthorized copying and to facilitate monitoring the use of the products by consumers.²¹¹ The terms “self-help systems,” “Digital Rights Managements Systems,” “Technological Protection Measures,” and “Automated Rights Management” all refer to automated systems able to protect and manage, individually, the distribution of digital works.

Prominent among the problems that may be connected with the use of these systems is the fact that any rights a consumer may have under copyright law could be replaced by unilaterally defined contractual terms and conditions in a sort of commercial agreement between the parties with a modifying consequence on the balance of rights.²¹² Moreover, these means can also individually control users' behavior presenting a powerful threat to freedom of expression as well as privacy.²¹³

Generally speaking, these measures are used to manage rights. According to the context, managing rights could embrace a system that is used to secure and distribute protected content or protected media files. In such a system the rights are defined during the protection step and issued as a usage license to consumers. Managing rights could also embrace a system that is used to control access to an online service and an accounting system that can track the rights issued and the royalties that are

210. On the power of technology, see Reidenberg, *supra* note 75.

211. See Adam, *supra* note 40, at 104.

212. See WILLIAM ROSENBLATT ET AL., DIGITAL RIGHTS MANAGEMENT: BUSINESS AND TECHNOLOGY 46 (2002); see also Andrea Ottolia, *Preserving Users' Rights in DRM: Dealing with "Juridical Particularism" in the Information Society*, 35 INT'L REV. OF INDUS. PROP. & COPYRIGHT L. 491, 496-99 (2004). For comment on the replacement of a copyright system with a contract-based system, see Niva Elkin-Koren, *Copyright Policy and the Limits of Freedom of Contract*, 12 BERKELEY TECH. L.J. 93, 111 (1997).

213. See Cohen, *supra* note 207; Gross, *supra* note 120, at 190. For a European perspective, see Bygrave, *supra* note 207.

associated with those rights.²¹⁴ Essentially, DRM or Technological Protection measures allow “the smooth, secure, trusted movement of digital works from creators and publishers to retailers and consumers.”²¹⁵ The first step is always the creation of an original work, then the “eContent owner can then edit and finish the original work by aggregating it with other edited works. Utilizing DRM, publishers then assign rights to a digital work and stipulate fees and access conditions resulting in a license governing the exercise of each specific right.”²¹⁶ In this sense, DRM enables “eTailers to establish prices associated with different business models and consumers” while at the same time users can “access digital content with a valid license, which will trigger an automated process for royalty payments.”²¹⁷

A. *Technological Features to Protect Access and Rights Control*

The inclusion of copy protection devices is a feature of much digital media. A wide range of techniques are used in an attempt to guarantee that only the authorized user can make use of the content. In general, it is possible to classify two different kinds of technological control measures, “access control” and “rights control.”²¹⁸

214. See Digital Rights Management Terms, http://www.xrml.org/reference/xrml_terms.asp (last visited Dec. 1, 2005). For a definition of DRM and its basic elements and features see also generally ROSENBLATT ET AL., *supra* note 212.

215. See ContentGuard, *XrML: The Technology Standard for Trusted Systems in the eContent Marketplace* (2000), http://www.xpert.co.kr/1com/2network/p2p/pds/0_WhitePaper.pdf#search='The%20Technology%20Standard%20for%20trusted.'

216. *Id.*

217. *Id.*

218. For this distinction, see R. Anthony Reese, *Will Merging Access Controls and Rights Controls Undermine the Structure of Anticircumvention Law?*, 18 BERKELEY TECH. L.J. 619 (2003). See also Kamiel J. Koelman & Natali Helberger, *Protection of Technological Measures*, in COPYRIGHT AND ELECTRONIC COMMERCE: LEGAL ASPECTS OF ELECTRONIC COPYRIGHT MANAGEMENT 165 (P. Bernt Hugenholtz ed., 2000); Ottolia, *supra* note 212, at 493. As pointed out by the latter, “access control” measures allow the DRMS to function as a conditional access system while “rights control” measures allow the user who has obtained the access to carry out certain uses on it. *Id.*

Access control deals with the concept of “who has access to what,” and includes the type and number of operations that can be executed by users. In other words, access control measures provide a framework for the definition of authorization policies.

Rights control limits a user’s ability to exercise one of the rights of the content owner. These distinctions imply, for example, that those “who circumvent a rights control will not infringe the copyright owner’s rights.”²¹⁹ In this sense, access controls may enjoy stronger protection than rights controls, and rights-holders could have more incentive to use access controls rather than rights controls in order to obtain the stronger legal protection against circumvention.²²⁰ However, technological protection systems could incorporate both types of control.

From a practical point of view, these systems can be characterized by different technology. Encryption is one of the basic features. It keeps content secure by scrambling (or “encrypting”) it and preventing it from being read until it is unscrambled with the appropriate decryption key.²²¹ It is also particularly useful in preventing undesired access. Conversely, once access is gained, encryption provides no means of controlling how content is used, so that it could be copied in the decrypted format or passed along, together with its decryption key, and accessed by unauthorized users.

219. Reese, *supra* note 218, at 624.

220. *See id.* at 641.

221. *See* DIGITAL DILEMMA, *supra* note 3, at 156-58. There are two different encryption techniques, symmetric-key and public-key. In the former, the same key used to encrypt content is also used to decrypt it so that the key is universal and can be widely distributed. Choosing to rely on this technique ensures higher speed in terms of computer processing, but it is also less secure if compared to public-key. If the key is intercepted during its transmission to the recipient and the code is broken, content becomes freely available. Public-key cryptography relies instead on two different keys, a public and a private one, the former being used to send content, the latter to decrypt it. Here, possession of the public key only is not sufficient to gain access to encrypted content. Generally, symmetric-keys are used to encrypt the message, whilst public-keys are used to send the key. The symmetric-key is used, for example, for pay-per-view television. For a full description of encryption technology, see *id.* at 283-95.

Digital watermarking is another technique used to authenticate, validate, and communicate information in digital media. It enables identification of the source, author, creator, owner, distributor, or authorized consumer of digital content. This protection system is based on the science of steganography or data hiding.²²² Invisible data or information, imperceptible to human senses, are embedded in a digital media but detectable by appropriate software or devices. In fact, the invisible signal may include information about the identity of rights-holders or content providers, a serial number, the name of the author, or other information that a particular software or device could read to establish the exact origin of the digital data.

Even if it could be used for different purposes, like identifying ownership, authenticating the content's integrity, ascertaining unauthorized distribution or publication (fingerprinting), there is no single type of watermarking capable of satisfying all possible applications.²²³ And, it certainly cannot be used to prevent production of pirated copies. Programs like web-crawlers allow extensive searches over the Internet for documents digitally marked, and even though watermarking cannot control the use made of digitally marked works nor stop people from distributing them, unauthorized applications can be detected. With such evidence, rights-holders are then

222. *See generally* CHUN-SHIEN LU, MULTIMEDIA SECURITY: STEGANOGRAPHY AND DIGITAL WATERMARKING TECHNIQUES FOR PROTECTION OF INTELLECTUAL PROPERTY (2005).

223. *See* DIGITAL DILEMMA *supra* note 3, at 296-99. Watermarks can be either "perceptible" or "imperceptible" by people; "fragile" or "robust." Fragile watermarking involves marking a file with a key associated to its creator. If the file has not been altered, using the same key to extract the file should result in obtaining the original watermark. Otherwise, an error message will be obtained, meaning that an alteration occurred. Robust watermarking works the same way but it makes provisions for changes to occur. If any alteration has occurred, the watermark obtained after using the key to extract the file will only be "close" to the original. A particular kind of watermarking is fingerprinting. Here, digital objects are embedded with further information identifying the recipient. If the file is distributed without authorization, by extracting the original fingerprint it is possible to detect its original source.

enabled to sue individuals for intellectual property rights infringement.²²⁴

Finally, another type of protection measure is constituted by “trusted systems.” These systems strengthen content protection, involving both software and hardware in the control process by building security features like cryptographic signatures in personal computers. This solution would probably lead users to lose control over their machines, but it would also make copying more easily controlled by verifying that users are trustworthy.²²⁵ Trusted systems are essentially based on the principle of confidence between participants in an exchange, with the understanding that all parties concerned will accept certain rules. These rules are disposed to be related primarily with usage rights, such as the formats and the purposes for which the content may be used. In the case of encrypted and digitally signed CDs or DVDs, for example, in addition to this protection the same CD or DVD players could also be equipped with copy protection technology, so that they have to be played with a specific device able to verify the digital signature.²²⁶

224. Content owners also rely on labeling, which provides documents with a logo or a notice warning viewers about the uses allowed by the rights-holder. *Id.* at 299-300. Due to their purpose, they are generally visible, susceptible of alteration and do not offer enforcement of usage terms. *Id.* at 300.

225. See Jonathan Weinberg, *Hardware-Based ID, Rights Management, and Trusted Systems*, 52 STAN. L. REV. 1251, 1254-55 (2000). A step in this direction has already been made by the Trusted Computing Platform Alliance (TCPA) while Microsoft is currently preparing to release a version of Windows that would co-operate with TCPA technology. For a general discussion of TCPA, see DAVID SAFFORD, *THE NEED FOR TCPA* (2002), http://www.research.ibm.com/gsal/tpa/why_tpa.pdf. A possible negative effect of such systems is little control of consumers over their computer, as well as invasion of privacy and blockage of innovation. Weinberg, *supra* at 1254-55.

226. See DIGITAL DILEMMA, *supra* note 3, at 167-71. A further example of a device embedded with “trusted system” is connected with Content Scrambling System (CSS). This is technology used by motion picture studios to encrypt DVD contents and to code contents with a geographic region feature. Only licensed devices—DVD players and DVD ROM drives, different for every region—can decrypt and play the DVD contents. The CSS decryption licenses, which permit consumer equipment manufacturers to embed keys to unlock the decrypted contents to play on their devices, require that content be sent only to authorized outputs. On the CSS technology and the *Universal City Studios v. Corley* lawsuit, see Nicola Lucchi, *Il Caso DeCSS: tra Libertà di Manifestazione del Pensiero e Diritto d'Autore*, 3 STUDIUM IURIS 381-88 (2002).

B. *How Technological Solutions Could Govern Users' Behavior*

Technological protection measures have a series of upsetting and unexpected uses. For example, most software programs are subject to End User License Agreements (hereinafter EULAs), and the common consumers' attitude towards EULAs is to agree without reading them. But a EULA is a classic example of a contract of adhesion that does not come as the result of a negotiation between the vendor and the user.²²⁷ A mass-market software company writes the EULA to license copies of its goods, so it can restrict their customers' rights of transfer and use. Essentially, the only possibility for the end user is to take it or leave it. Well, DRM can be used to enforce EULA clauses or even policies that are not legally enforceable.

Generally, the use of technological protection measures could increase the power of rights-holders to set excessive conditions on the users. The combination of a contract and technological protection measures could represent a powerful mixture for a fully automated system of secure distribution, rights management, monitoring, and payment for protected content.²²⁸ So, DRM, *de facto*, could also be seen as the imposition of "unilateral[] contractual terms and conditions."²²⁹ When users access content protected by a technological protection measure, the content provider, in practice, imposes a contractual provision by a click-through or click-wrap agreement.²³⁰

227. See Robert A. Hillman & Jeffrey J. Rachlinski, *Standard-form Contracting in the Electronic Age*, 77 N.Y.U. L. REV. 429 (2002) (remarking on the easy adaptation of traditional contract law to electronic transactions). On EULA, see John J.A. Burke, *Reinventing Contract*, 10 MURDOCH U. ELEC. J.L. 2, ¶ 18 (2003), http://www.murdoch.edu.au/elaw/issues/v10n2/burke102_text.html; Robert W. Gomulkiewicz & Mary L. Williamson, *A Brief Defense of Mass Market Software License Agreements*, 22 RUTGERS COMPUTER & TECH. L.J. 335 (1996).

228. See P. Bernt Hugenholtz, *Copyright and Electronic Commerce: An Introduction*, in COPYRIGHT AND ELECTRONIC COMMERCE, *supra* note 218, at 1, 2.

229. de Werra, *supra* note 206, at 244.

230. Under this legal fiction, the consumer can agree to the terms of contract in a very similar way to the shrink-wrap license. On the latter form of licensing agreement, see Mark A. Lemley, *Intellectual Property and Shrinkwrap Licenses*, 68 S. CAL. L. REV. 1239 (1995). Some commentators argue that, even if "DRM usage contracts are usually made over the Internet and are therefore not

“In this sense, technological protection measures can be considered a condition of the widespread use of contract-based distribution models on the Internet.”²³¹ Therefore, the inequity that these measures introduce in the different positions should be considered by policymakers if they want to support this kind of business model.²³² Some commentators have reasonably argued that, unless the legislature clarifies the issue, “the copyright regime would succumb to mass-market licenses and technological measures.”²³³ It will be necessary, for example, to reconsider the norms protecting consumers and weak contracting parties, particularly dealing with a contract able to impose unlimited restrictions on the contents. As already done in other similar situations, it is necessary to rebalance the function of copyright law, or rather, to identify the limits of contracts as means of exploiting intellectual property rights. Otherwise, the risk is that consumers will lose all the privileges granted under its regime.²³⁴

One of the consequences of the use of technological protection measures is that any rights that consumers may have under copyright law could be replaced by a commercial agreement between the parties with a modifying consequence on the balance of rights.²³⁵ There is an essential contradiction: if the technological measures against copying are legal, and, at the same time, the private copy is legal too, what kind of solution is possible? The issue is that users are not allowed to eliminate the legal protection to

shrink-wrap licenses in the strict sense . . . [they could be] analogized . . . to their online counterpart: the so-called ‘click-wrap’ licenses.” Bechtold, *supra* note 204, at 343 (remarking also that “[m]ost DRM usage contracts are such click-wrap licenses”). On the electronic contracting environment, see Hillman & Rachlinski, *supra* note 227, at 464.

231. de Werra, *supra* note 206, at 250.

232. For a European perspective on whether copyright limitations and exceptions can be contracted or overridden through contract law or technological protection devices, see Lucie M.C.R. Guibault, *Contracts and Copyright Exemptions*, in COPYRIGHT AND ELECTRONIC COMMERCE, *supra* note 218, at 125, 149-52.

233. *Id.* at 160.

234. de Werra *supra* note 206, at 244.

235. ROSENBLATT ET AL., *supra* note 212, at 46.

make their legal copies. In fact, even when consumers have the right to make private copies, technological protection measures can effectively hinder consumers in exercising these rights. The legal environment seems to support this bad practice because rights-holders are not legally obliged to assist a user in exercising his right of copying for private use. As a consequence, that right becomes illusory.²³⁶

A possible solution could be to see DRM systems as means to put into effect a contract between the content provider and the end user in a very similar way to "shrink-wrap licenses" for computer software.²³⁷ The issue will be to set the limit on infringement, if it could be identified as a simple contractual infringement concerning civil law of a private nature, or as a criminal offense. It is necessary to keep in mind the fact that the problem of intellectual property exceeds simple private agreements. It is essential to mention explicitly the contractual obligations of the content user.

Transactions supervised and enforced by technological protection measures in addition to this type of contract could alter the balance of rights between rights-holders and consumers.²³⁸ In particular, in the U.S. systems, "some types of technologically-enforced rights transactions supersede the limits of fair use and the first sale doctrine."²³⁹ Nevertheless, DRM, when seen as a contract, could be used to protect content that is not subject to intellectual property rights protection, and could also erect

236. See European Consumers' Organisation, *Digital Rights Management*, BEUC/X/025/2004, Sep. 15, 2004, http://europa.eu.int/information_society/eeurope/2005/all_about/digital_rights_man/doc/beuc.pdf [hereinafter DRM-BEUC Position Paper]. See also Dusollier, *supra* note 147, at 71.

237. See Bechtold, *supra* note 204, at 342 (arguing that DRM usage contracts are employed to establish contractual privity between providers and individual consumers in a mass market protecting content not only by technology, but also by contract). On the increasing use of licensing, see DIGITAL DILEMMA, *supra* note 3, at 34.

238. See Dan L. Burk, *DNA Rules: Legal and Conceptual Implications of Biological "Lock-Out" Systems*, 92 CAL. L. REV. 1553, 1564 (2004) (observing that by implementing technical constraints on access to and use of digital information, a copyright owner can effectively supersede the rules of intellectual property law); ELKIN-KOREN, *supra* note 212.

239. ROSENBLATT ET AL., *supra* note 212, at 46. The first sale doctrine is codified at 17 U.S.C. § 107 (1992); 17 U.S.C. § 109(a) (1997).

barriers not only at the entrance level.²⁴⁰ DRM has the potential to set up an exit barrier because it does not know when copyright terms expire. Therefore it exercises the same control on works that should exit copyright, hampering their entry into the public domain and establishing a de facto unending copyright protection.²⁴¹

In general, a content transaction could be identified as a license or a sale, but the controversial nature of the distinction between a license and a sale, when applied to the technology world, could make this doctrinal dispute more confusing.²⁴² However, the main difference is that in the first case the content transaction falls under contract law while in the second it falls under copyright law.²⁴³ In the U.S. systems, the relationship between copyright law and contract law is highly debated because copyright is a federal matter governed by federal law while contract law is state law, and states cannot limit or expand copyrights through state law.²⁴⁴ In the U.S. system the preemption doctrine is in force. It is a constitutional principle, codified in 17 U.S.C. § 301, by which Congress may impose its

240. See *ProCD, Inc. v. Zeidenberg*, 86 F.3d 1447 (7th Cir. 1996). In this case the court upheld a shrinkwrap license agreement that would protect the plaintiff's CD-ROMs of telephone listings from being posted on the Internet although the Supreme Court had said that this kind of material could not be protected by copyright. See *Feist Publ'ns, Inc. v. Rural Tel. Servs. Co.*, 499 U.S. 340 (1991). On the argument and for examples of contractual terms that conflict with copyright law, see Mark A. Lemley, *Beyond Preemption: The Law and Policy of Intellectual Property Licensing*, 87 CAL. L. REV. 111, 125-26, 132 (1999). See also Elkin-Koren, *supra* note 212.

241. See Therien, *supra* note 144, at 994.

242. See Raymond T. Nimmer, *Intangibles Contracts: Thoughts of Hubs, Spokes, and Reinvigorating Article 2*, 35 WM. & MARY L. REV. 1337, 1345-46 (1994) (discussing distinctions between sales of tangible goods and licenses of intangible software under U.C.C. Article 2). See RAYMOND T. NIMMER, *THE LAW OF COMPUTER TECHNOLOGY: RIGHTS, LICENSES, LIABILITIES* § 6:1 (3d ed. 1997).

243. See ROSENBLATT ET AL., *supra* note 212, at 48 (arguing that the tension between copyright and contract law affects the balance that copyright law seeks to strike).

244. The U.S. system uses the preemption doctrine, i.e., a constitutional principle codified in 17 U.S.C. § 301 (2000), stating that copyrighted material is governed exclusively by this title and it preempts "the common law or statutes of any State."

intent to totally or partially supplant state law.²⁴⁵ In practice, states do not have the constitutional authority to legislate on some subject just to save the unifying function of federal law. In the copyright framework, preemption can have effect when federal law diverges from state contract law²⁴⁶ in order to “guarantee[] a homogeneous federal copyright law system that does not leave any vague areas between state and federal protection.”²⁴⁷ This implies that in the United States this principle could be strictly related to the contractual extension of copyrights beyond those granted by the Copyright Act, or the reduction of the rights that users have conventionally benefited from apart from contract.²⁴⁸

In this sense, some commentators assert that preemption could play an important role in solving the conflict between contract and copyright law,²⁴⁹ but cannot and will not solve the problem alone.²⁵⁰

However, the main issue is to decide if DRM could be seen as a contract between buyer and seller. In this case, in

245. The principle derives from the Supremacy Clause:

This Constitution, and the Laws of the United States which shall be made in Pursuance thereof; and all Treaties made, or which shall be made, under the Authority of the United States, shall be the supreme Law of the Land; and the Judges in every State shall be bound thereby, any Thing in the Constitution or Laws of any State to the Contrary notwithstanding.

U.S. CONST. art. VI, cl. 2.

246. On the relationship between copyright and contract law pre-emption, see Elkin-Koren, *supra* note 212; I. Trotter Hardy, *Contracts, Copyright, and Preemption in a Digital World*, 1 RICH. J.L. & TECH. 2 (1995), <http://www.richmond.edu/jolt/v1i1/hardy.html>; Lemley, *supra* note 240; Maureen A. O'Rourke, *Copyright Preemption After the ProCD Case: A Market-Based Approach*, 12 BERKELEY TECH. L.J. 53 (1997); Maureen A. O'Rourke, *Striking a Delicate Balance: Intellectual Property, Antitrust, Contract and Standardization in the Computer Industry*, 12 HARV. J.L. & TECH. 1 (1998); see also Nimmer, *supra* note 73.

247. Elkin-Koren, *supra* note 212, at 102 n.45.

248. See Hardy, *supra* note 246.

249. One of the most eloquent court decisions applying the copyright preemption doctrine to contract law is the case *ProCD, Inc. v. Zeidenberg*, 86 F.3d 1447 (7th Cir. 1996). For a plain analysis of this decision, see Elkin-Koren, *supra* note 212.

250. See Lemley, *supra* note 240, at 136.

the U.S. systems, federal copyright law is not involved because the relation is based on contract law. This also implies that, after the expiration of copyright, the rights-holder would no longer have any right under copyright law, but the contract could still be effective and enforceable despite the expiration. It is interesting to note that the problem concerning use of contracts to create a private copyright protection was already pointed out in the same DMCA Report. It stated that:

[T]he movement at the state level toward resolving questions as to the enforceability of non-negotiated contracts coupled with legally-protected technological measures that give right-holders the technological capability of imposing contractual provisions unilaterally, increases the possibility that right-holders, rather than Congress, will determine the landscape of consumer privileges in the future.²⁵¹

On the other hand, in the EU system, the tension between contract law and copyright is less obvious, because in Europe the regulation of contractual practices in the matter of copyright is not unusual, even if freedom of contract is the general rule while contractual restraint is the exception.²⁵² However the relationship between copyright exemptions and usage contracts is still quite ambiguous.²⁵³ In fact, in addition to the mandatory provisions of the Directives on computer programs²⁵⁴ and

251. U.S. COPYRIGHT OFFICE, DMCA SECTION 104 REPORT, at xxxi-ii (2001), available at <http://www.egov.vic.gov.au/pdfs/sec-104-report-vol-1.pdf>. This report was issued following the DMCA mandate of section 104, to evaluate the effects of the amendments made by the DMCA on the operation of sections 109 and 117 of the Copyright Act, with regard to digital technologies.

252. For a European point of view on the relation between contract and copyright law, see Lucie Guibault, *Pre-emption Issues in the Digital Environment: Can Copyright Limitations be Overridden by Contractual Agreements under European Law*, in MOLENGRAFICA N. 11. EUROPEES PRIVAATRECHT. OPSTELLEN OVER INTERNATIONALE TRANSACTIES EN INTELLECTUELE EIGENDOM, 225, 226-27 (F.W. Grosheide & K. Boele-Woelki eds., 1998).

253. See Bechtold, *supra* note 204, at 366.

254. Council Directive 91/250/EEC, On the Legal Protection of Computer Programs, 1991 O.J. (L 122).

databases,²⁵⁵ the same copyright law suggests a “little guidance for the determination of the validity of a contract that restricts the lawful exercise of a limitation on copyright.”²⁵⁶ In this context, it is evident in continental Europe that there is an increasing inclination within the market to create private copyright protection through contract.²⁵⁷

As observed by the Bureau Européen des Unions de Consommateurs (BEUC), the current course of DRM development “seems to aim at creating a new relationship between rights-holders and consumers, with altered consumer rights, freedoms and expectations and towards the general replacement of copyright law with contract law and codes.”²⁵⁸ The issue is directly related to cases in which the contract is shaped not as the consequence of negotiation between parties, but rather as a form of imposition of unilaterally defined contractual terms and conditions. In this case the licensor is effectively using the contract, the license, to manage his rights. Furthermore, in the DRM contract structure, technology has the power to enforce the terms of the contract without any support from the legal system. In general, DRM does not support business models based upon the first-sale doctrine, disabling consumers from reselling material.²⁵⁹

What we see in the contractual structure of DRM is something similar to a standard form contract, already popular in commercial and consumer transactions, and

255. Council Directive 96/9, On the Legal Protection of Databases, 2001 O.J. (L 167) (EC).

256. LUCIE M.C.R. GUIBAULT, COPYRIGHT LIMITATIONS AND CONTRACTS: AN ANALYSIS OF THE CONTRACTUAL OVERRIDABILITY OF LIMITATIONS ON COPYRIGHT 214 (2002); *see also* de Werra, *supra* note 206, at 318.

257. For an analysis of this inclination within the European scene, *see generally* GIOVANNI PASCUZZI & ROBERTO CASO, I DIRITTI SULLE OPERE DIGITALI: COPYRIGHT STATUNITENSE E DIRITTO D'AUTORE ITALIANO (2002); ROBERTO CASO, DIGITAL RIGHTS MANAGEMENT: IL COMMERCIO DELLE INFORMAZIONI DIGITALI TRA CONTRATTO E DIRITTO D'AUTORE (2004).

258. DRM-BEUC Position paper, *supra* note 236, at 3.

259. *See* Burk, *supra* note 98, at 1100 (citing David Nimmer et. al., *The Metamorphosis of Contract into Expand*, 87 CAL. L. REV. 17, 137 (1999), arguing that licensing a work may be attractive to a copyright holder because the first sale doctrine does not apply if a copy of a work is leased rather than sold).

particularly diffused in technological transfers, licensing intellectual property, and service agreements.²⁶⁰

The American legal system, generally, has allowed the use of these kinds of agreements and has enforced their terms.²⁶¹ Federal and state legislatures have enacted statutes to protect the consumer against aggressive contracting and his own ignorance in certain transactions.²⁶² Furthermore, in the common law systems there is in force the "doctrine of unconscionability"²⁶³ with the effect of extending the protection of weak contractual parties as far as possible,²⁶⁴ giving judges the power to

260. DRM has been defined as "a souped-up standard form contract." Ian Kerr & Jane Bailey, *The Implications of Digital Rights Management for Privacy and Freedom of Expression*, 2 INFO. COMM. & ETHICS IN SOC'Y 87, 89 (2004).

261. For an overview of standard terms in American law, see EDWARD ALLAN FARNSWORTH, *CONTRACTS* (4th ed. 2004).

262. See Burke, *supra* note 227.

263. Codified in UCC § 2-302 (1978).

If the court as a matter of law finds the contract or any clause of the contract to have been unconscionable at the time it was made the court may refuse to enforce the contract, or it may enforce the remainder of the contract without the unconscionable clause, or it may so limit the application of any unconscionable clause as to avoid any unconscionable result.

Id. For more regarding unconscionability, see Arthur Allen Leff, *Unconscionability and the Code--The Emperor's New Clause*, 115 U. PA. L. REV. 485, 505 (1967) (coining the terms "procedural" and "substantive" unconscionability); Richard Craswell, *Property Rules and Liability Rules in Unconscionability and Related Doctrines*, 60 U. CHI. L. REV. 1 (1993); Richard A. Epstein, *Unconscionability: A Critical Reappraisal*, 18 J. LAW & ECON. 293 (1975); Russell Korobkin, *Bounded Rationality, Standard Form Contracts, and Unconscionability*, 70 U. CHI. L. REV. 1203, (2003); Eric A. Posner, *Contract Law in the Welfare State: A Defense of the Unconscionability Doctrine, Usury Laws, and Related Limitations On The Freedom to Contract*, 24 J. LEGAL STUD. 283 (1995); John A. Spanogle, *Analyzing Unconscionability Problems*, 117 U. PA. L. REV. 931 (1969); Carol B. Swanson, *Unconscionable Quandary: U.C.C. Article 2 and the Unconscionability Doctrine*, 31 N.M. L. REV. 359, 367 (2001). On the relation between contract and intellectual property, see Lemley, *supra* note 240, at 151-58 (1999); Nimmer, *supra* note 73.

264. See DAVID W. SLAWSON, *BINDING PROMISES: THE LATE 20TH- CENTURY REFORMATION OF CONTRACT LAW* 57 (1996) (describing the doctrine's introduction in the 1960s and subsequent adoption); see also Hillman & Rachlinski, *supra* note 227, at 456 (noting that unconscionability doctrine "affords courts considerable discretion to strike unfair terms directly rather than covertly by stretching less-applicable rules in order to reach a fair result").

determine boundaries of this remedy.²⁶⁵ On the other hand, the EU framework is based on a set of rules incorporated in the European Union Council Directive on Unfair Terms in Consumer Contracts.²⁶⁶ This Directive invalidates standardized terms that are unfair and result in a significant imbalance of obligations between the parties to the detriment of the consumer.²⁶⁷ It also contains a non-exclusive grey list of unfair terms. The EU Directive sets only a minimum baseline, while every EU Member State has national consumer legislation that protects consumers who adhere to standardized conditions. The Commission has stated that “general contractual terms and conditions aim to replace the legal solutions drawn up by the legislator and at the same time to replace the legal rules in force in the Community by unilaterally designed solutions with a view to maximizing the particular interests of one of the parties.”²⁶⁸ If we can accept this pattern as a reasonable solution for the situation of conflict between the two opposing rights, we can probably find a resolution to intellectual property disputes over digital content, different from the difficult legislative options.

We have to decide if we want all content rights transactions to fall under contract instead of copyright law, and, if so, we have to find remedies to protect the consumer’s rights. “Consumer contracts governing the use

265. See Cristiana Cicoria, *The Protection of the Weak Contractual Party in Italy vs. United States Doctrine of Unconscionability. A Comparative Analysis*, 3 GLOBAL JURIST ADVANCES (2003), <http://www.bepress.com/gj/advances/vol3/iss3/art2>. The doctrine of unconscionability is a doctrine of contract law that makes a contract term unenforceable when is demonstrated the occurrence of both procedural and substantive unfairness. See BLACK’S LAW DICTIONARY 1524 (6th ed. 1990). For the distinction of these two kind of unconscionability, see Leff, *supra* note 263, at 487-88.

266. Council Directive 93/13/EEC, On Unfair Terms in Consumer Contracts, 1993 O.J. (L95/29).

267. The Directive applies only to consumer transactions, i.e., those involving an individual who acquires products for her own personal consumption and not for business or professional use. *Id.*

268. Report from the Commission On the Implementation of Council Directive 93/13/EEC of 5 April 1993 on Unfair Terms in Consumer Contracts, at 13 (Apr. 27, 2000), available at http://europa.eu.int/comm/consumers/cons_int/safe_shop/unf_cont_terms/uct03_en.pdf.

of digital material,” in particular, “must be fair and transparent.”²⁶⁹

*C. The Role of DRM in the EU Internal Market:
Interoperability, Development and Correct Use*

As noted above, there is no doubt that the arrival and actual explosion of information and creative material in digital form has produced many new possibilities and challenges. One of the new challenges is in the adoption of DRMSs, that is, the process by which rights-holders of digital materials and content providers seek to implement usage rules and ensure that they are respected.²⁷⁰ Because the rights of rights-holders and consumers must also be balanced in the digital environment, in the public interest we need to clarify the role set out by DRM and its capability to develop successful content-based business models.²⁷¹

The DRM, as already demonstrated, has potential to ensure a large variety of positive and negative effects.²⁷² It could offer a wider range of choices for consumers to access and use digital material in a number of ways. DRM also introduces a more valuable and efficacious remedy to fight commercial piracy and illegal malpractice of file sharing. But, at the same time, it could offer more information for rights-holders about consumer use of digital media and allow for the monitoring of consumer use of digital material.²⁷³ In this way, content providers are able to restrict the number of uses and the power of users on the media. The problem is that some of these restrictions may be absolutely unjustified, against the law, and may make the judicial enforcement of copyright unnecessary.

Nobody can force rights-holders not to protect their business. The challenge is to find, in this new digital environment, an appropriate balance between the

269. DRM-BEUC Position Paper, *supra* note 236, at 3.

270. For a general overview on DRM, see ROSENBLATT ET AL., *supra* note 212.

271. See DRM-BEUC Position Paper, *supra* note 236, at 3.

272. See, e.g., DIGITAL RIGHTS MANAGEMENT, *supra* note 83; ROSENBLATT ET AL., *supra* note 212;

273. See, e.g., Cohen, *supra* note 207, at 585; Bygrave, *supra* note 207.

conflicting rights—“a balance between a copyright holder’s legitimate demand for effective . . . protection . . . and the rights of others freely to engage in substantially unrelated areas of commerce.”²⁷⁴

In attempting to answer this question, it is useful to articulate the points of contact and tension between the different approaches adopted by countries to ensure copyright protection, in particular the pragmatic European approach in the political debate over DRM technologies. For example, in the United States under the DMCA copyright holders are allowed to request subpoenas for information on copyright infringers without taking further legal action.²⁷⁵ In some cases they have also tried to use—without success—the same means to access the personal information of ISP customers they assert are infringing their rights.²⁷⁶

In this sense the European Union has, de facto, aligned its copyright law more closely to that of the United States because Article 9 of the Directive on the Enforcement of Intellectual Property Rights stipulates very similar provisional and precautionary measures.²⁷⁷ Furthermore, in the European Union, the legal framework for digital content protection was established by the previously mentioned Directive on the Harmonization of Copyright and Related Rights in the Information Society (EUCD). That Directive supports the use of technological measures to protect content against illegal use, but at the same time encourages the interoperability of different copyright

274. *Sony Corp. of Am. v. Universal City Studios, Inc.*, 464 U.S. 417, 442 (1984).

275. 17 U.S.C. 512(h) (2000).

276. See *Recording Indus. Ass'n of Am. v. Verizon Internet Servs.*, 351 F.3d 1229 (D.C. Cir. 2003). Accepting Verizon’s interpretation, the DC circuit considered that the DMCA did not authorize a subpoena when the offending material is stored on a person’s home computer, since the applicable provision is addressed to “material that resides on a system or network controlled or operated by or for [a] service provider.” *Id.* at 1234 (quoting 17 U.S.C. § 512(c)(1) (2000)). For a detailed note of the case, see Alice Kao, *RIAA v. Verizon: Applying the Subpoena Provision of the DMCA*, 19 BERKELEY TECH. L.J. 405 (2004).

277. See Council Directive 2004/48/CE, art. 9, 2004 O.J. (L 157) 16, 17; *supra* Part II.C.

protection systems, addressing the use of DRM systems. The political and technical debate over the role of DRM in the EU internal market reached fever pitch in July 2003, when a Commission, the Broadband Content Workshop, “showed that operators, Internet service providers, content providers, broadcasters and the entertainment industry [were] trying to adapt their activities through new forms of partnerships crossing the traditional boundaries,”²⁷⁸ and that to develop successful content-based business models, they required adequate DRMs.²⁷⁹ However, market take-up of DRMs is still extremely fragmented. “Although devices are being progressively ‘DRM enabled,’ most consumers do not yet have devices equipped to use DRM services. It is also unclear whether, or how much, they would pay for them.”²⁸⁰ The Commission therefore, as part of the eEurope 2005 Action Plan, established a High Level Group (hereinafter HLG) on DRMs in March 2004.²⁸¹ The High Level Group Final Report, presented on July 8, 2004, represents a compromise on basic principles and recommendations for future actions in three main areas.

278. Commission of the European Communities, *Communication from the Council, the European Parliament, the European Economic and Social Committee of the Regions, Connecting Europe at High Speed: Recent Developments in the Sector of Electronic Communications* at 13 (Feb. 3, 2004), available at http://europa.eu.int/eur-lex/en/com/cnc/2004/com2004_0061en01.pdf.

279. See EUROPEAN COMM’N FACTSHEET 20, INTELLECTUAL PROPERTY RIGHTS AND DIGITAL RIGHTS MANAGEMENT SYSTEMS (2004), http://europa.eu.int/information_society/doc/factsheets/020-ipr_drm-october04.pdf.

280. *Id.*

281. The eEurope 2005 action plan succeeds the 2002 action plan, which mainly focused on Internet connectivity in Europe. The new action plan, which was approved by the Seville European Council in June 2002, is aimed at translating this connectivity into increased economic productivity and improved quality and accessibility of services for all European citizens based on a secure broadband infrastructure available to the largest possible number of people. See the eEurope 2005 Action Plan, *eEurope 2005: An Information Society for All*, available at http://europa.eu.int/information_society/eeurope/2005/index_en.htm (last visited Dec. 1, 2005). Current members of the group are: GESAC, IFPI, Vivendi, Eurocinema, FEP (Federation European Publishers), BBC, France Telecom, Vodafone, Fastweb, Philips, Nokia, Alcatel, HP, New Media Council, BEUC. See Digital Rights Management, http://europa.eu.int/information_society/eeurope/2005/all_about/digital_rights_man/high_level_group/index_en.htm (last visited Dec. 1, 2005).

In this document, the HLG outlines the recommended actions concerning some key aspects: DRM and interoperability, impact of DRM on levies, migration to legitimate services, and consumer confidence.²⁸²

With regard to interoperability, the HLG found that, while open standards are best for true cross-platform interoperability, various scenarios are currently possible, ranging from different proprietary systems to standards-based convergence.²⁸³ "It was agreed that DRM must not be allowed to become a commercial or technology licensing control point, that DRM implementation must not be undermined by lack of compliance, and that DRMs must fit business models, not vice versa."²⁸⁴ Recommendations included that "[s]takeholders should continue work on open, cross-platform DRM systems and standards," that the European Union "should foster open standards and discuss compliance mechanisms with stakeholders," and that "Member States should foster open standards, ensur[ing] that DRM security will not be undermined and enforce[ing]

282. See EU GROUP ON DIGITAL RIGHTS MGMTS., FINAL REPORT, *supra* note 99. Because technical protection measures and management systems in general make possible compensation of rights-holders in a direct way, it seems illogical to also preserve a levies system. In fact, with this double compensation system, rights-holders could be compensated twice for the same reason. They control and receive remuneration for private copying with the technical protection measures and also receive another remuneration for the same copying with the levies. See Marie-Thérèse Huppertz, *The Point of View of Software Industry, in THE FUTURE OF INTELLECTUAL PROPERTY IN THE GLOBAL MARKET OF THE INFORMATION SOCIETY: WHO IS GOING TO SHAPE THE IPR SYSTEM IN THE NEW MILLENNIUM?* 70 (Frank Gotzen ed., 2003). Article 5.2(b) of the Copyright Directive seems to want to avoid this inconvenience. Member States, in fact, may allow for a limitation to the exclusive reproduction right,

in respect of reproductions on any medium made by a natural person for private use and for ends that are neither directly nor indirectly commercial, on condition that the right holders receive fair compensation which takes account of the application or non application of technological measures.

Council Directive 29/2001, On the Harmonization of Certain Aspects of Copyright and Related Rights in the Information Society, art. 5(2)(b), 2001 O.J. (L 167) 10, 16 (EC).

283. See EU GROUP ON DIGITAL RIGHTS MGMTS., FINAL REPORT, *supra* note 99.

284. EUROPEAN COMM'N FACTSHEET 20, *supra* note 279.

anti-piracy measures.”²⁸⁵ The current absence of interoperability between the various technological solutions offered by manufacturers and their lack of interest in devising shared open standards constitutes a significant restraint on the free circulation of creative works because consumers are unable to decide autonomously where to buy, and they often must choose only content that fit their devices.²⁸⁶ However, the assumption of a DRM system able to ensure interoperability between very different hardware and software systems, at the moment, is quite utopian. In order to promote interoperability among different content-distribution and playback devices any industry standard would have to be adopted by service providers as well as consumer electronics manufacturers. Service providers, such as cable operators, license content under an agreement for copyright protection. Therefore, to obtain real interoperability, service providers and content owners would have to accept the same standard, with the consequence that a standardized DRM system could be more vulnerable to piracy.²⁸⁷ Furthermore, the imposition of a standard in this start-up situation could have the effect of restraining all the investments of new and more advanced systems.²⁸⁸

Actually, in practice industry has been able to reach agreements on the adoption of technological protection measures for special format. The case of DVD is the most

285. *Id.*

286. See UNION FEDERALE DES CONSOMMATEURS—QUE CHOISIR, VENTE DE MUSIQUE EN LIGNE: LES CONSOMMATEURS SONT PIEDS ET POINGS LIES PAR APPLE ET SONY, <http://www.quechoisir.org/> (“Cette absence totale d’interopérabilité entre les DRM enlève non seulement au consommateur son pouvoir de choisir indépendamment ses matériels et son lieu d’achat, mais constitue aussi un frein réel à la libre circulation des oeuvres de l’esprit.”) (last visited Nov. 10, 2005).

287. Recently (Jan. 19, 2005) Intertrust Technologies, Matsushita Electric Industrial (Panasonic), Royal Philips Electronics, Samsung Electronics, and Sony Corporation announced the formation of the Marlin Joint Development Association. This new step toward reducing the many different DRM systems used today will provide standard specifications for content management and protection for the consumer electronics industry. See Press Release, CE and DRM Technology Leaders to Create a DRM Toolkit for Consumer Devices (Jan. 19, 2005), available at http://www.intertrust.com/main/news/2003_2005/050119_marlin.html.

288. See Huppertz, *supra* note 282, at 70.

evident example. In any case, the same EUCD avoids the requirement of any particular standard yet encourages the compatibility and interoperability of different systems.²⁸⁹

On the question of the migration to legitimate services, the HLG emphasizes the importance for consumers of legitimate online services to create a thriving e-content market.²⁹⁰ According to HLG, DRMs could play an important role, enabling new business models and preventing unauthorized use. Stakeholders recommend that the European Union and Member States should reflect in their policy positions that abuse and unauthorized file sharing of copyrighted content will not be tolerated, that there is a necessity to provide political commitment to protecting content delivered by DRMs, and that they should promote awareness among consumers of legitimate alternative offerings.²⁹¹

On the other hand, the HLG report never expresses any "recognition of the lawfulness and benefits of private copying for consumers and the many options of peer-to-peer (P2P) networks for usages that are not illegal, e.g., for the promotion of content or the potential benefits of P2P networks for unknown/independent artist[s]."²⁹² Furthermore, the paper never distinguishes between piracy for commercial purposes and individual acts of private consumers, almost assuming that current consumer usages are illegitimate.

Finally, the HLG focuses on the relationship between DRMs and private copying levies. Levies were introduced in many European countries to compensate rights-holders for the limitation to their exclusive right of reproduction

289. *Id.* As pointed out in the text, "the practice has shown that industry was able to reach agreements for the adoption of DRMs for certain formats (e.g. DVD video)." *Id.* However, the Copyright Directive avoids requiring a single management standard but encourages the compatibility and interoperability of different systems. In fact, even if the goal could be the development of a global system, the content industry is worried that a standardized management system could be more vulnerable to piracy. Furthermore, the imposition of a standard, in this start-up time, can have the result of stopping all of the investments in the development of new, more advanced systems.

290. EU GROUP ON DIGITAL RIGHTS MGMTS, FINAL REPORT, *supra* note 99, at 17.

291. *Id.* at 17-18.

292. DRM-BEUC Position Paper, *supra* note 236, at 5.

regarding reproductions made for private use.²⁹³ The “establishment of levies emerged in view of the *de facto* non-enforceability of the reproduction right.”²⁹⁴ “Levies operate as a tax on all purchasers, irrespective of whether [they are] engaged in private copying or not.”²⁹⁵ Even if the HLG paper ignores important consumer perspective on levies, it underlines the necessity to avoid double payment and to use levies as a mechanism to compensate for piracy.²⁹⁶ In fact, as noted by one commentator, because technical protection measures and management systems generally allow rights-holders to be compensated in a direct way, it seems illogical to also maintain a levies system.²⁹⁷ In fact, with this double compensation system, rights-holders could be compensated twice for the same reasons—they control and receive remuneration for private copying with the technical protection measures, and then they receive remuneration again for the same copying with the levies.²⁹⁸ The same European Consumers’ Organization has remarked that levies systems continue to be imposed incorrectly on an increasing number of multipurpose devices in most of the European Member States.²⁹⁹

293. On the levies systems in the DRM-based services, see P. BERNT HUGENHOLTZ ET AL., *THE FUTURE OF LEVIES IN THE DIGITAL ENVIRONMENT*, (2003), <http://www.ivir.nl/publications/other/DRM&levies-report.pdf>; Jörg Reinbothe, Address Before the Conference on The Compatibility of DRM and Levies: Private Copying, Levies and DRMs against the Background of the EU Copyright Framework (Sep. 8 2003), available at http://europa.eu.int/comm/internal_market/copyright/documents/2003-speech-reinbothe_en.htm.

294. EU GROUP ON DIGITAL RIGHTS MGMTS., FINAL REPORT, *supra* note 99, at 14.

295. DRM-BEUC Position Paper, *supra* note 236, at 9.

296. On the European levies system, see Costanze Ulmer-Eilfort, *Private Copying and Levies for Information- and Communication—Technologies and Storage Media in Europe*, in *DIGITAL RIGHTS MANAGEMENT*, *supra* note 83, at 447.

297. See Huppertz, *supra* note 282, at 70.

298. *Id.*

299. See DRM-BEUC Position Paper, *supra* note 236, at 9. The uncontrolled imposition of levies does not take into account the content of the recital 35 of the Information Society Directive that stipulates the concrete harm of private copies must be declared when determining the compensation. In fact recital 35 states that:

In cases where right holders have already received payment in some other form, for instance as part of a licence fee, no specific or separate

Another challenge related to the development of DRMs briefly mentioned in the HLG report concerns the data protection issue and tracing individuals accessing protected content. In Europe, the collection of personal information by rights-holders is regulated by data protection principles stipulated by Directive 95/46/EC on the protection of personal data.³⁰⁰ These principles can contradict the legitimate purpose used by rights-holders to prevent misuse of protected information through technological protection measures that are able to trace and monitor users and their preferences. Users, for example, often identify themselves before being able to download a song from a content provider. Their profile is then completed with information through the unique identifier included in each piece of music downloaded by the same user. This technique allows for the profiling of the user based on the quality and quantity of contents downloaded or used. Rightly so, "Article 2(3) (a) of Directive 2004/48/EC, on the enforcement of intellectual property rights, confirmed the principle that the Directive 2004/48/EC does not affect Directive 95/46/EC and therefore the application of the data protection principles."³⁰¹ For these reasons, technological protection

payment may be due. The level of fair compensation should take full account of the degree of use of technological protection measures referred to in this Directive. In certain situations where the prejudice to the right holder would be minimal, no obligation for payment may arise.

Council Directive 2001/29, On the Harmonization of Certain Aspects of Copyright and Related Rights in the Information Society, 2001 O.J. (L 167) 4 (EC).

300. Council Directive 95/46, On the Protection of Individuals with Regard to the Processing of Personal Data and on the Free Movement of Such Data, art. 1, 1995 O.J. (L 281) 31, 35 (EC) (requiring Member States to ensure the rights and freedoms of persons with regard to the processing of personal data, and in particular their right to privacy, in order to ensure the free flow of personal data in the Community).

301. ARTICLE 29 DATA PROTECTION WORKING PARTY, WORKING DOCUMENT ON DATA PROTECTION ISSUES RELATED TO INTELLECTUAL PROPERTY RIGHTS 4 (2005), http://europa.eu.int/comm/justice_home/fsj/privacy/docs/wpdocs/2005/wp104_en.pdf. The Working Party has also noted that:

While control and tracing is developing at the source with the intention of checking "*a priori*" every user downloading legally information on the Internet, the protection of copyright information also leads most of

measures should also guarantee anonymous access to network services while the information collected should be compatible with the purpose of the service, and the storage of personal data should be limited in time.

D. *Some New Business Models for Digital Media*

The action of new technologies has upset traditional business models. In particular, the diffusion of peer-to-peer systems has been a determinant in the emergence of successful digital business in the music industry. Content providers have realized the benefits of technology in delivering content to multiple broadcast markets. Also, the possibilities offered by the Internet in terms of lower costs, reproduction, and distribution offer customers an attractive and legal alternative to illegal file sharing. The content industry, in particular the recording industry, is developing legitimate online services that will displace illegal file-sharing.

Even if, as declared by the International Federation of the Phonographic Industry (IFPI), the emergence of a successful digital business has reached the peak in 2004, important initiatives in this sector had already begun in December 2001.³⁰² Unfortunately, these first attempts were unsuccessful. The main reason for their failure was that, although the majors decided to get in on these digital projects, they never really took the challenge of developing an entirely new business model compatible with the economics of digital distribution. Instead, they maintained their old practices based upon dependence on predictable regular income and high profit margins profits guaranteed

copyright actors to take actions "*a posteriori*" and to conduct investigations towards users suspected of infringements.

Id.

302. IFPI:05 DIGITAL MUSIC REPORT, *supra* note 117, at 4. In that year, in fact, were launched two online distribution services based on the idea of offering a wide choice of music paying a subscription fee. "Pressplay" (formerly "Duet"), by Sony Music Entertainment and Universal Music Group, provided access to the entire catalogue of three of the five major labels and "MusicNet," by AOL Time Warner, Bertelsmann AG and the EMI Group. See Brad King, *Pressplay Arrives in Music Fog*, WIRED, Jan. 23, 2002, available at <http://www.wired.com/news/mp3/0,1285,49934,00.html>.

by the sale of physical products.³⁰³ Furthermore, they failed to take into account the new consuming trends, pointing towards the acquisition of single songs rather than entire albums. So, consumers' reasonable expectations to obtain music files for significantly reduced prices were frustrated. Users not only want ease of access, but also flexibility of use. They want to be able to listen to the music purchased at all the times they want, and to burn them into CDs to make their own collections, lend them to friends, and play them on stereos, just like they used to do before the advent of music in digital format.³⁰⁴ Originally, music industry services prevented all these features by securing works with technological protections and dictating the terms of use in order to protect content.

The main problem associated with the first fee-based services was that customers entered a contract where they had no negotiating power at all because content owners de facto unilaterally determine and dictate terms and conditions limiting consumers' behaviors with technological protection measures. As already discussed, the lack of legal limits and the extension of self-help measures can move responsibility for the enactment of legal regulations from the hands of policy-makers into those of the major distribution companies.³⁰⁵

Meanwhile, in the last few years new business models have emerged in the digital music market. The year 2004 was a milestone for the content industry.³⁰⁶ The combination of searching, browsing, downloading and portability is transforming the way to consuming content. An essential event in the growth of these services is the portable player explosion. As in the past when the Sony VCR opened a new market for the film industry, today the incredible diffusion of portable players, like Apple's iPod,

303. See Matthew Fagin et al., *Beyond Napster: Using Antitrust Law to Advance and Enhance Online Music Distribution*, 8 B.U. J. SCI. & TECH. L. 450, 490-91 (2002).

304. See Brendan Scott, *Copyright in a Frictionless World: Toward a Rhetoric of Responsibility*, FIRSTMONDAY http://www.firstmonday.dk/issues/issue6_9/scott/ (last visited Sep. 9, 2005).

305. See *supra* note 40 and accompanying text.

306. IFPI:05 DIGITAL MUSIC REPORT, *supra* note 117, at 6.

have convinced the recording industry to start relevant online services.

Increasingly seen in the digital services arena are two business models: pay-per-download and subscription services.³⁰⁷ The first one gives consumers the chance to own music with greater flexibility than traditional media since single tracks can be selected, downloaded, and managed.³⁰⁸ This model is used by services such as iTunes Music Store and MSN Music.³⁰⁹

Subscription services offer downloadable content for a monthly fee. Usually these services allow the user to access music file databases with the possibility of purchasing selected tracks. This model characterizes services like the new Napster, Rhapsody and Virgin Digital that offer streaming access for a monthly fee while download and use on portable players is possible for an extra per-track fee or allowed as long as the consumer continues to be a subscriber.³¹⁰ This trend suggests a long-term shift in music consumption from traditional physical media to digital sales with an increasing market for single track sales. In other words, digital use is expected to replace CD buying.

Nobody can deny that the forerunner of this new legal alterative was Apple's iTunes Music Store offering the most successful online distribution service in combination with an extremely popular portable music device.³¹¹

The Apple system was first launched in the United States in April 2003 and expanded into three key European

307. *Id.* at 7.

308. *Id.*

309. Apple Music Store, <http://www.apple.com/itunes/store/> (last visited Sep. 12, 2005); MSN Music, <http://music.msn.com/> (last visited Sep. 12, 2005). For a comprehensive directory of services, see Pro-Music, <http://www.pro-music.org> (last visited Sep. 12, 2005).

310. Napster, <http://www.napster.com> (last visited Sep. 13, 2005); Real Rhapsody, <http://www.real-download.com> (last visited Sep. 13, 2005); Virgin Digital, <http://www.virgindigital.com/> (last visited Sep. 13, 2005).

311. Apple's iTunes Music Store, <http://www.apple.com/music/store/> (last visited Sep. 13, 2005). Online services are present also outside the United States and Europe with over forty services. For a worldwide directory of Authorized Digital Music Services divided by region, see Pro-Music, <http://www.pro-music.org/musiconline.htm> (last visited Nov. 10, 2005).

markets in June 2004—The United Kingdom, France, and Germany—and extended to eleven other countries in October and December 2004—Austria, Belgium, Canada, Finland, Greece, Ireland, Italy, Luxembourg, Netherlands, Portugal, and Spain. It appears to be the first product created and shaped with consideration to market expectations, but, more significantly, the first to understand that strong copy protection cannot benefit the market and that it is possible to develop a business model where different interests are allocated with profit.

iTunes Music Store does not require subscription to any online contract.³¹² It instead works on the idea of allowing single purchases for the reduced price of ninety-nine cents,³¹³ and allows buyers unlimited CD burning for individual songs (and for personal use only, of course), or copy them onto Apple's MP3 player, iPod, and access them from five different Macintosh or Windows-compatible computers,³¹⁴ thus offering ease of access, reasonable flexibility, content security, and quality. In this way, customers are able to exercise their right to make legal back-up copies of the material purchased.³¹⁵ iTunes uses a proprietary DRM system—called "FairPlay"—based on the possibility of moving the downloaded files to an unlimited number of portable devices but with the restriction that it can be copied only onto five computers. Users can then make unlimited CD burns, but are limited to burning the same playlist seven times. FairPlay also enables customers to create custom playlists but limits the total number of copies to ten. Probably the most important limitation is that only iTunes and Quicktime software are able to play FairPlay files, and the iPod is the only compatible portable player.³¹⁶

312. On the iTunes case, see GASSER, *supra* note 38.

313. € 0.99 in the European Countries.

314. See Apple, iTunes, <http://www.apple.com/itunes> (last visited Nov. 16, 2005). FairPlay iTunes allows burning of the same playlist to seven times in order to avoid mass-production of copies for illegal use. See *id.*

315. See GASSER, *supra* note 38, at 11, 56.

316. "The rapid rise of different portable player systems has exposed one key problem, namely the lack of interoperability between different devices and services." IFPI:05 DIGITAL MUSIC REPORT, *supra* note 117, at 13.

However, it seems that the essential reason for the general consensus it obtained is that it abandoned the idea of perfect technological control, apparently finding the right point of convergence between the interests of music labels, the computer industry, and customers. What is quite curious about this service is that it was developed within the computer industry and has not been the product of the music industry which, at least in theory, should be the most concerned about developing possible business models and finding a way to satisfy its customers.

From these examples we can conclude that when the supply of content available digitally proliferates, it could compete with piracy. The increase and proliferation around the world of services offering digital music have, in fact, established new markets and new business models. Consumers have accepted these new initiatives and their attitudes toward digital music are changing.

As demonstrated by the emergent business in the digital music sector, pay-per-downloads and subscription services are the real weapons to control music piracy.³¹⁷ Fighting the problem of Internet piracy with a more restrictive protection of content can only contribute to change the traditional balancing of public and private rights.

CONCLUSION

We have illustrated how new communication technologies have increased the difficulties of maintaining a balance between the inherently contradictory interests of intellectual property rights-holders and the general public.

We have also seen that different forms of government intervention have not removed inequalities. On the contrary, they have brought about detrimental side effects for consumers because they have expanded the legislative boundaries of intellectual property rights and embedded technical and contractual constraints into digital media. The legislative solutions under U.S. and EU law have shown a determined trend toward the protection of content

317. See Stuart Haber et al., *If Piracy is the Problem, is DRM the Answer?*, in *DIGITAL RIGHTS MANAGEMENT*, *supra* note 83, at 224.

and management of rights which are considered fundamental to ensure the compliance of a business model with contractual and regulatory demands.³¹⁸

We have, at the end, discussed how European harmonization emulates the leading American regulatory model, seriously affecting the configuration of the continental pattern. In fact, even though eight directives³¹⁹ have been adopted in the last fourteen years in the field of copyright and information society, EU copyright legislation is yet to be completely granted by every Member State's national legislation. For that reason, some commentators support the idea of a consolidation of the *Acquis Communautaire*,³²⁰ so that copyright protection would be granted directly at the EU level and would apply to its entire territory.³²¹ On the other hand, we have noticed an unprecedented effort to organize transnational policy planning and to create a safe international legal infrastructure directed at safeguarding "U.S. global economic hegemony . . . upon the production, ownership,

318. See BILL ROSENBLATT & GAIL DYKSTRA, INTEGRATING CONTENT MANAGEMENT WITH DIGITAL RIGHTS MANAGEMENT (2003), <http://www.xrml.org/reference/CM-DRMwhitepaper.pdf>.

319. In order: Council Directive 91/250/EEC, On the Legal Protection of Computer Programs, 1991 O.J. (L 122) 42; Council Directive 92/100/EEC, On Rental Right and Lending Right and on Certain Rights Related to Copyright in the Field of Intellectual Property, 1992 O.J. (L 346) 61; Council Directive 93/83/EEC, On the Coordination of Certain Rules Concerning Copyright and Rights Related to Copyright Applicable to Satellite Broadcasting and Cable Retransmission, 1993 O.J. (L 248) 15; Council Directive 93/98/EEC, On Harmonization of Term of Protection of Copyright and Certain Related Rights, 1993 O.J. (L 290) 9; Council Directive 1996/9/EC, On the Legal Protection of Databases, 1996 O.J. (L 77) 20; Council Directive 2001/84/EC, On the Resale Right for the Benefit of the Author of an Original Work of Art, 2001 O.J. (L 272) 32; Council Directive 2001/29/EC, On the Harmonisation of Certain Aspects of Copyright and Related Rights in the Information Society, 2001 O.J. (L167) 10; Council Directive 2004/48/EC, On the Enforcement of Intellectual Property Rights, 2004 O.J. (L 195) 16.

320. The *acquis communautaire* is defined as "everything that was decided and agreed upon since the establishment of the Communities, whatever the form in which this was done, whether legally binding or not. It refers to the body of rules which govern the Communities in whatever field of activity". P.S.R.F. MATHIJSEN, A GUIDE TO EUROPEAN UNION LAW 5 n. 12 (8th ed. 2004).

321. See Jörg Reinbothe, *European Copyright—Yesterday, Today, Tomorrow*, in DIGITAL RIGHTS MANAGEMENT, *supra* note 83, at 416, 416-17.

and marketing of intellectual property-based goods and services.”³²²

The above-mentioned legislation makes a persuasive argument for considering limits on freedom of contract³²³ in the framework of intellectual property licensing agreements because contractual arrangements distort copyright policy.³²⁴ Technological protection measures,³²⁵ on the other hand, make possible “a regime that is very similar in its nature to a property regime.”³²⁶ In fact, when rights-holders are free to use contractual obligations to restrict use, and are then able to exercise their rights to prevent any use that is not subject to these restrictions, they can obtain an absolute monopoly over their works.³²⁷

Finally, we can assume a different perspective to successfully resolve the problem of trying to learn something from the old media experience.³²⁸ As with other important events in the evolution of technological progress, we are confronting a situation in which the owners of older technology are trying to block the way to what they see as a threat, thus “fail[ing] to look for ways to cooperate with or even co-opt the new technology.”³²⁹

As both recent and old business experience demonstrates, new technologies do not destroy the current

322. BETTIG, *supra* note 46, at 197.

323. For a discussion of the different levels of freedom of contract, see MICHAEL J. TREBILCOCK, *THE LIMITS OF FREEDOM OF CONTRACT* (1997).

324. While “copyright law defines entitlements protected under a property rule, and therefore creates rights in rem . . . Contract law, by contrast, only creates rights against parties to the contract.” Elkin-Koren, *supra* note 212, at 102. The same concept is demonstrated in the case *ProCD, Inc. v. Zeidenberg*, 86 F.3d 1447, 1454 (7th Cir. 1996).

325. See the distinction between access control and rights control *supra* note 236, and accompanying text.

326. Elkin-Koren, *supra* note 212, at 104.

327. *Id.* at 112.

328. See Dirk J. G. Visser, *Copyright Exemptions Old and New: Learning from Old Media Experiences*, in *THE FUTURE OF COPYRIGHT*, *supra* note 40, at 49.

329. Sawhney, *supra* note 11. The author explains how often people mistakenly assume that a new technology will directly replace an old one.

architecture but rather create new trade opportunities.³³⁰ The idea that a new technology renders obsolete all that came before it is inflaming today's debate about the protection of digital content. However, as always in the history of technological progress, the evolution towards new models has meant an initial loss of revenue for some industries. But, in the long run, this kind of development allows new markets to open and ensures new opportunities for commercial exploitation.

Sometimes, like what is now happening in the field of digital media, this process can be quite slow because the government is involved in providing financial and legal aids in order to prevent social and political costs in the period of transition. But, this approach has the end result of upsetting the market and slowing economic growth.

The information society uses precisely this framework. Digital technologies allow for the wide distribution of perfect copies at practically no marginal cost with a disjuncting effect on copyright law. This process is irreversible. It is difficult to imagine that one would react to this with repeated extensions of intellectual property rights, or with the arrangement of expensive repressive equipment in order to make such an extension effective. This kind of approach is accomplished in the name of the influential content industry and its business model.

Cultural and economic progress is the result of the free circulation of ideas and knowledge. Continuing on the road of restrictions and barriers, or to the indiscriminate use of technological protection measures, is a return to

330. For example the videocassette recorder (VCR) at first was perceived as a threat for the content distribution system. In fact,

the VCR offered home tapers the ability to decide when they wanted to watch particular programs. Taking some scheduling control out of the hands of broadcasters. Television program producers also feared losing income from advertisers as home tapers deleted or fast-forwarded through commercials. The apparent threat of this new technology caused the filmed entertainment industry to seek to protect its markets through judicial and legislative action. However, when the dust settled, the VCR, like television and cable television before it, ha[d] become yet another ancillary market for the major filmed entertainment companies.

BETTIG, *supra* note 46, at 4, 151.

anachronistic measures of the past, such as what happened many years ago with the untenable “red flag act” enacted to defend the carriage industry at the advent of the first automobiles.³³¹ The present must learn from the past in order to avoid the same mistake and to protect the future.

331. After the first recognized automobiles became commonplace, in England the carriage industry promoted some untenable acts (the 1865 “Red Flag Act,” or “Locomotives on Highways Act”) stipulating that all motorized vehicles be preceded by an ambulating man bearing a red flag in the day, and a lantern at night. ANTHONY BIRD, *ROADS AND VEHICLES* 41-42 (1969). This act restricted the maximum speed of motor cars to 2 miles per hour in urban area and 4 mph in countryside. This was not welcomed by many, and protests were organized. The act was modified in 1878.

