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INTELLECTUAL PROPERTY RIGHTS IN DIGITAL MEDIA: A COMPARATIVE ANALYSIS OF LEGAL PROTECTION, TECHNOLOGICAL MEASURES AND NEW BUSINESS MODELS UNDER E.U. AND U.S. LAW

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ABSTRACT
The production of digital content is a phenomenon which has completely changed the conditions of access to knowledge. Within this framework it becomes even more important to find and to formulate a new settlement for intellectual property rights balancing contrasted rights. Owners of the old technology and policy makers have found two different solutions and remedies for intellectual property rights: legal and technological. When both remedies work together any rights that a consumer may have under copyright law could be replaced by a unilaterally defined contractual term and condition. To balance this inequity this article analyses different solutions under U.S. and E.U. law, with particular attention paid to the relationship between contract law and copyright law. Ultimately this article suggests seeing technological protection measures as a souped-up standard form contract, and demonstrates how some business models are able to solve the problem of safe diffusion of digital media.

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

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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 level of violations of the intellectual property rights balancing holders and users rights? What are the new business models, the recent legal protections and the technological measures used to deal with the use, distribution and control of digital media? How can they work?

Some of these questions have yet to find reasonable answers. However the increased consciousness and the worldwide debates of 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].

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[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); World Wide Web Consortium - W3C: *Workshop on Digital Rights Management*, Institut National de Recherche en Informatique et en Automatique (Sophia Antipolis, France).

[2] As some commentators have noted, most of the literature on the digital media is ethnocentric, i.e. 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. 2) evaluation of 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

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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 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 rights[5] - such as copyrights, patents, trade marks and so on - offer the legal protection upon which authors, inventors, firms, researchers and others rely to protect

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how, in the 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* COMMITTEE ON INTELLECTUAL PROPERTY RIGHTS AND THE EMERGING INFORMATION INFRASTRUCTURE, NATIONAL RESEARCH COUNCIL, THE DIGITAL DILEMMA: INTELLECTUAL PROPERTY IN THE INFORMATION AGE, ix (National Academy 2000) [hereinafter 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] *Ibid.*

[5] In general terms, the expression «intellectual property» can be considered as including 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* IAN J. LLOYD, INFORMATION TECHNOLOGY LAW, 304 (4th ed. 2004).

their creations. Intellectual property rights dictate what use can legally be made of the creative work, and so are 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 fostering an extremely protective environment where works are considered similar to physical properties, with right-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 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

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[6] *See generally* ROBERT P. MERGES ET AL., INTELLECTUAL PROPERTY IN THE NEW TECHNOLOGICAL AGE, (3rd ed. 2003).

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

[8] *Id.* at 3-6

[9] When information is recorded in digital format the job of the copier is very much easier. The copy of a digital work will be the same in terms of quality to the original because is the exact copy a machine readable binary digit code (a series of zero 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 the power of the net. *See* DIGITAL DILEMMA *supra* note 3, at 32.

[10] *See* MANUEL CASTELLS, THE RISE OF THE NETWORK SOCIETY 33 (2nd ed., 2000).

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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 digitalisation posed to copyright piracy, right holders have managed to create a system where their creations are protected to the same extent as physical goods and 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 legislative level to protect authors' rights. Particular attention is given to the situation in the United States, now leading in

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[11] See on this point 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. Howerer, it is necessary to remark the substantial differences of approach in the historical foundations of the countries from *droit d'auteur* tradition and countries from the copyright tradition, several commentators remarks a movement of harmonisation of copyright principles at international level. *See, e.g.*, Gillian Davies, *The Convergence of Copyright and Authors' Rights – Reality or Chimera?*, 26 INT'L REV. OF INDUS. PROP. AND COPYRIGHT L. 964 (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(3) INT'L REV. OF INDUS. PROP. AND COPYRIGHT L. 302 (1998). For an illustrative example of the differences between the two models see, e.g., TULLIO ASCARELLI, TEORIA DELLA CONCORRENZA E DEI BENI MATERIALI, 355 (1960) and 1 PAUL GOLDSTEIN, COPYRIGHT: PRINCIPLES, LAW AND PRACTICE 1.1, at 317 (1989).

[13] *See infra* part III-D

technological and legal developments[14]. A comparative analysis will be made between legal protections, technological measures and anticircumvention provisions recently adopted in continental Europe and that of the United States.

We 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 we 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 E.U. law, posed by using contractual arrangements to expand intellectual property rights. Finally it also proposes to learn from the old media experience because new 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

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

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

[16] *See* Sawhney *supra* note 11.

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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 right 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 on the cost structure[21] and strategies of content intermediaries[22].

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[17] *Ibid.*

[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». *See 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* John M. Gallaugher et al., *Revenue Streams and Digital Content Providers: An Empirical Investigation,* 38 INFORMATION & MANAGEMENT 473, 476 (2001); DIGITAL DILEMMA *supra* note 3, at 32 (observing that information in digital form is largely liberated from the medium that carries it).

[21] Production of information goods have high fixed costs but low marginal costs or «is costly to produce but cheap to reproduce» *See* CARL SHAPIRO & HAL R. VARIAN, INFORMATION RULES, 3 (1998).

[22] *See* George M. Giaglis et al., *The Role of Intermediaries in Electronic Marketplaces: Developing a Contingency Model*, 12(3) INFORM. SYST. J., 231-246 (2002).

The digitization of content, in fact, combined with the increasing adoption of broadband distribution technologies, represent a revolution and a challenge that may be a greatest opportunity for the growth of new business and the transformation of the traditional distribution models[23]. The consequences brought about by in content industry as a result of the new technologies are already under 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 space[24] - 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, maximising the opportunities for the spread of culture, but also enhancing possibilities for illegal appropriation and distribution of pirated, counterfeit, 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

[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.org/eng/meetings/1999/wct_wppt/pdf/imp99_3.pdf.

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

[26] *Ibid.*

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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 intermediaries are obliged to make a radical change. The arrival of the new distribution systems is forcing suppliers to undergo a inevitable metamorphosis towards a decentralization and disintermediation[29] in content management systems. 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

[27] Technology promotes the elimination of those individuals and organizations between end-users and originators. This concept is summarized by the term «disintermediation».

[28] *See* ALINA M. CHIRCU & ROBERT J. KAUFFMAN, *Strategies for Internet Middlemen in the Intermediation /Disintermediation / Reintermediation Cycle*, 9 EM - ELECTRONIC MARKETS, 109 (1999).

[29] For an overview of the disintermediation issues *see* Michael D. Smith et al., *Understanding Digital Markets: Review and Assessment, in* UNDERSTANDING THE DIGITAL ECONOMY 99, 121 (Erik Brynjolfsson & Brian Kahin eds., 2000); George M. Giaglis et al., *Disintermediation, Reintermediation, or Cybermediation? The Future of Intermediaries in Electronic Marketplaces*, *in* PROCEEDINGS OF THE 12TH INTERNATIONAL BLED ELECTRONIC COMMERCE CONFERENCE 389-407 (Stefan Klein, Joze Gricar & Andreja Pucihar eds. 1999). *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, someone seems 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. 813-842 (1998).

network environment are also required[31]. They also never perceive some positive aspects of the new distribution technology: in fact it can dramatically reduce production and distribution[32] costs[33] because digital data are no longer inseparable from physical carrier but could be represented as abstract strings and symbols[34]. Technology, then, can promote ethics and the public good by reducing transactions costs[35]. Digital products are also particularly well structured for price discrimination and consumers are often ready to pay for immediate on-line access to a specific content: a large variety of contents, in fact, may be easily disaggregated and distributed on demand[36]. Digital content also benefits from the ability to exploit various strata

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[31] *See contra* Pamela Samuelson, *Intellectual Property and the Digital Economy: Why the Anti-Circumvention Regulations Need to be Advised*, 14 BERK. TECH. L. J. 519 (1999); 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 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).

[33] 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. *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).

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

[35] *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).

[36] *See* Hal Varian, *Pricing Information Goods, in* PROCEEDINGS OF SCHOLARSHIP IN THE NEW INFORMATION ENVIRONMENT SYMPOSIUM, (Harv. Law School, May 1995).

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of consumers that can be classified by intent-to-use and immediacy-of-need[37]. 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[38].

Probably for these reasons content providers are now looking with positive interest to «pay-per-view» or «pay-per-download» web services[39]. At the same time many artists and authors seem to be convinced that is possible to take advantage of the opportunity to directly expose themselves to the public even if the role currently played by major distribution companies is still a restraint to a complete transformation in the world of content circulation[40].

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 looking to regional and global solutions in order to leverage resources, decrease cost, and increase the implementation of

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[37] *See* Gallaugher et al., *supra* note 20, at 477 (2001).

[38] *Id.* at 479.

[39] As demonstrated by the Apple iTunes experience, the real question is the requirement of new philosophy: if content providers identify and focus on the consumer needs instead 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 Center for Internet & Society at Harvard Law School Research Publication No. 7, 2004) available at http://ssrn.com/abstract=556802

[40] 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 terms of costs. *See* JOHN ALDERMAN , SONIC BOOM- NAPSTER, MP3, AND THE NEW PIONEERS OF MUSIC, 64 (2002).

standardized technological protection measures[41]. At the same time the current efforts at building an effective copy security structure have demonstrated also the necessity to obtain laws that support protection technologies and prohibit the circumvention of technology protected works[42].

An essential part of this paper will evaluate each condition and determine whether the imposed restrictions on 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[43] Law of 1474[44] (the so called «Parte veneziana»[45]), in fact, made the first systematic

[41] 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., 1999). *See also* 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 Julie Cohen's article «Copyright and the Jurisprudence of Self-Help»); 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) 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).

[42] *See* Marks & Turnbull, *supra* note 24.

[43] Venice was considered the first city in Europe in which the business of printing and publishing becomes significant and the precursor of the system of copyright. *See* 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 404-405 (1962); PAUL F. GRENDLER, THE ROMAN INQUISITION AND THE VENETIAN PRESS *1540-1605*, (1977).

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attempt to protect inventions by a form of patent, which granted an exclusive right to an individual for the first time[46]. 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, in fact, is a form of intellectual property rights developed in response to the advent and rapid evolution of printing technology[47]. It is an instrument to both control the quality of the material made public and to regulate trade, preventing works from being pirated[48]. Past and present experience, in fact, demonstrates that

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[44] *See* EDWARD C. WALTERSCHEID, TO PROMOTE THE PROGRESS OF THE USEFUL ARTS: AMERICAN PATENT LAW AND ADMINISTRATION, 1798-1836 141-42 (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.

[45] *See* ADRIANO VANZETTI & VICENCENZO DI CATALDO, MANUALE DI DIRITTO INDUSTRIALE, 265 (2000).

[46] This first exclusive right was granted from the Republic of Venice to the printer of the Histories of Plinio the Old.

[47] *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 (2nd ed. 2002).

[48] *See* SIMON STOKES, DIGITAL COPYRIGHT- LAW AND PRACTICE 1 (2002). For a discussion over the history of copyright, see also CHRISTOPHER MAY, *The Venetian Moment: New Technologies, Legal Innovation and the Institutional Origins of Intellectual Property*, 20(2) PROMETHEUS (2002) 159-179 available at http://taylorandfrancis.metapress.com/index/QAAXAY05786CLA16.pdf; Daniel Burkitt, *Copyright Culture- The History and Cultural Specificity of the Western Model of Copyright*, 2 INTELL. PROP. Q. 146, 146 (2001); BRAD SHERMAN & LIONEL BENTLY, THE MAKING OF MODERN INTELLECTUAL PROPERTY LAW, (1999); 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).

knowledge and inventions have played an essential role in economic growth[49] and, at the same time, states have had another indispensable role recognizing, conferring and protecting intellectual property rights[50]. Economists suggest exactly that the accumulation of knowledge is the driving force behind economic growth[51]. 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 countries[52] was to encourage

[49] *See* Kamil Idris, *International Intellectual Property: introduction*, 26 FORDHAM INT'L L.J. 209, 210 (2003); Id., *Intellectual Property: a Power Tool for Economic growth*, available at http://www.wipo.int/about-wipo/en/dgo/wipo_pub_888/wipo_pub_888_1.htm#

> 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.

Id.

[50] RONALD V. BETTIG, COPYRIGHT CULTURE: THE POLITICAL ECONOMY OF INTELLECTUAL PROPERTY 3 (1996).

[51] *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».

[52] The Common Law tradition emphasises 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 recognised 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 the contribution given to culture. This perception is reflected in the name "author-law"(*droit d'auteur*) given to the topic by several

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creativity, science and democracy[53]. They indeed focused primarily on users' interests, according authors and publishers a level of protection just strong enough to encourage and reward them, but weak enough to not prevent free flow of culture and information[54].

In this sense, in the American tradition, the public granted authors a limited exclusive right in return for the prompt public dissemination of work[55]. But when authors realised they could make a living out of their work and publishing corporations spotted the right excuse for strengthening their position[56], the original focus of copyright law got lost. Policy talks started to lose ground, and to be slowly but steadily re-placed by property talks[57].

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continental systems. *See* MacQueen, *supra* note 14, at 182. Id., *Copyright and the Internet*, *in* LAW AND THE INTERNET – REGULATING CYBERSPACE 68-69 (Lilian Edwards & Charlotte Waelde eds., 1997).

[53] *See* SIVA VAIDHYANATHAN, COPYRIGHTS AND COPYWRONGS- THE RISE OF INTELLECTUAL PROPERTY AND HOW IT THREATENS CREATIVITY 4 (2001).

[54] *Id.* at 5. For a complete analysis on the democratic origin of copyright law an its importance in maintaining and furthering a democratic civil society, see Neil Weinstock Netanel, *Copyright and Democratic Civil Society*, 106 YALE L.J., 283 (1996); Mark Lemley, *The Economics of Improvement in Intellectual Property Law*, 75 TEX. L. REV. 989 (1997); Julie E. Cohen, *Lochner in Cyberspace: The New Economic Orthodoxy of Rights Management*, 97 MICH. L. REV. 462 (1998) 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).

[55] *See* JESSICA LITMAN, DIGITAL COPYRIGHT, 78 (2001).

[56] *See* VAIDHYANATHAN, *supra* note 53, at 38-41. This battle reached an important moment in England in 1709, with the enactment of the Statute of Anne recognising publishers an extended monopoly for further 21 years and authors' protection over their works for 14 years plus 14. Although both their positions had been made stronger, the Statute never meant to diminish the value and the centrality of 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' 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

An important step in that direction was probably taken in the meeting of the World Intellectual Property Organisation (WIPO), in 1976, when intellectual creations first got addressed in terms of 'intellectual property' and an emphasis was primarily put on commercial exploitation[58]. While the use of a new expression could seem just a terminological issue, changing the emphasis from property to economic potential, it degraded the works from being the 'engine' of development to mere consumer goods[59]. Their social value was reduced, while

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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); ID., AUTHORS AND OWNERS: THE INVENTION OF COPYRIGHT (1993).

[57] *See* VAIDHYANATHAN, *supra* note 53, 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 21 years from the effective date of April 10, 1710. For new works, the right ran for 14 years from the date of publication; the author, if living at the expiration of such term, was granted the privilege of renewal for 14 more years. For a comment about the reasons why information is not generally characterized as property. *See also* Samuelson *supra* note 54, at 369.

[58] *See* VAIDHYANATHAN, *supra* note 53, 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, 2004, 1027.

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

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fair use and access to culture lost their original dimension as rights to become something closer to mere concepts[60].

Actually, intellectual creations are cultural goods whose main value lies in their power to support the progress of society[61]. They undoubtedly become commercial goods, protected to the same extent as tangible property and shaped in terms of usage right[62]. With exception[63] of fair use[64], unrestricted enjoyment of legitimately purchased works became minimized, with the consequent impairment of the original copyright balance[65].

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[60] In particular, a great impulse towards the adoption of measures enhancing monopoly came in 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 at the top of its agenda and of the whole international community. *See* HALBERT, *supra* note 59, at 77-81 (1999); 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).

[61] *See* William Landes & Richard Posner, *An Economic Analysis of Copyright Law*, 18 J. LEG. STUD. 325 (1989).

[62] *See* JAN VAN DIJK,, THE NETWORK SOCIETY- SOCIAL ASPECTS OF NEW MEDIA, 133 (1999).

[63]Fair use exception, in the United States copyright system, is the most important exception to the right-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 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)); Robert C. Denicola, *Copyright and Free Speech: Constitutional Limitations on the Protection of Expression*, 67 CALIF. L. REV. 283 (1979); Floyd Abrams, *First Amendment and Copyright*, 35 J. COPR. SOC'Y 1 (1987). For an European perspective, see P. Bernt Hugenholtz, *Copyright and Freedom of Expression in Europe*, *in* INNOVATION POLICY IN AN INFORMATION AGE (Rochelle Cooper Dreyfuss et al., eds. 2001).

[64] Codified at 17 U.S.C. § 107

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[66]. 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 the current technological framework[67]. 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[68]. In other words, they have shaped the

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[65] In Europe, where copyright's features always appeared to be closer to those of a reward rather then a bargain, the 1886 Berne Convention represents a sort of cornerstone of the modern intellectual property order: by making copyright automatic and recognising the existence of moral rights, it opened up the path for granting right holders a far better service then that given to their own public. Within the Common Law tradition, in those times still reluctant to criticize the 'public sphere', the most outstanding example of this new trend is offered by Mark Twain, who revealed himself as one of the fiercest supporter 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 advocate of 'property talk'. *See* PAUL MARRET, INFORMATION LAW IN PRACTICE, 146-150 (2nd ed., 2002); VAIDHYANATHAN, *supra* note 53, at 57, 71.

[66] *See, e.g.,* Kenneth J. Arrow, *Economic Welfare an the Allocation of Resources for Inventions*, *in* THE RATE AND DIRECTION OF INVENTIVE ACTIVITY: ECONOMIC AND SOCIAL FACTORS 609 (Richard R. Nelson ed., 1962); Landes & Posner, *supra* note 61; Gillian K. Hadfield, *The Economics of Copyright: An Historical Perspective,* 38 COPYRIGHT L. SYMP. (ASCAP) 1 (1992). For a comparative description of different approaches, see William Fisher III, *Theories of Intellectual Property*, *in* NEW ESSAYS IN THE LEGAL AND POLITICAL THEORY OF PROPERTY, 168 (Stefhen R. Munzen ed., 2001).

[67] Giovanni Ramello, *Intellectual Property and the Markets of Ideas*, *in* THE ELGAR COMPANION IN LAW AND ECONOMICS, (Jürgen G. Backhaus ed., 2005), available also at http://ssrn.com/abstract=597482

[68] *Ibid.*

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characteristics of 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 the economic systems[69]. 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, for example copyright, relate to very different creative works that include variable degrees of creative and artistic expression[70]. Consequently a single property regime may not create efficiency in markets for all the different products.[71]

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[72] and, recently, the new approach is towards extensive instrument to control access[73] and use[74]. This transformation has been forcefully brought about

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[69] Giovanni Ramello, *Il Diritto d'Autore tra Creatività e Mercato*, 1 ECONOMIA PUBBLICA, 37-66 (2001).

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

[71] *Ibid.*

[72] *See* Paul Goldstein, *Derivative Rights and Derivative Works in Copyright*, 30 J. COPR. SOCIETY 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, *supra* note 61.

[73] *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 55, at 80

[74] *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*

by the pressure 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[75]. It consequently played a key role in the whole process of spreading culture[76]. The industry secured its monopolistic aspirations of gaining market control behind the pretext of ensuring their clients received adequate compensation for their efforts and the service done for their community[77]. 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[78].

Unfortunately, the digital revolution and the dematerialization of works as result of digitization, have demonstrated that the information product and its method of delivery are

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WILLIAM M. LANDES & RICHARD A. POSNER, THE ECONOMIC STRUCTURE OF INTELLECTUAL PROPERTY LAW 210-49 (2003).

[75] *See* EISENSTEIN, *supra* note 47.

[76] *See* JOHN TEBBEL, A HISTORY OF PUBLISHING IN THE UNITED STATES, 245, 220-221 (1972); *See also* Edward C. Walterscheid, *To Promote the Progress of Science and Useful Arts: The Anatomy of a Congressional Power*, 43 IDEA 1 (2002).

[77] *See* Calovi, *supra* note 58.

[78] In the 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 right 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 wide public. Available on-line at http://www.cerebalaw.com/ipnii.txt. For a comment of the paper, see Pamela Samuelson, *The Copyright Grab*, WIRED, Jan. 1996, at 135 (criticizing the White Paper for misrepresenting judicial copyright precedent and extending copyright protection beyond traditional commercial applications).

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inseparable[79]. At the same time, they have brought about a Copernican revolution in the traditional copyright system, demonstrating its unsuitability to control recent technological developments[80].

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 digitalisation of content have produced many new possibilities and challenges[81]. 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[82]. This has caused a substantial transformation in the way people can use and consume information and in the way it is delivered[83]. 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

[79] *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, 841-842 (1998).

[80] *See* P. Bernt Hugenholtz, *Software as a Commodity: International Licensing of Intellectual Property: Commentary: Copyright, Contract, and Code: What Will Remain of the Public Domain?,* 26 BROOKLYN J. INT'L L. 77, 78 (2000) (highlighting the concern that the traditional copyright system could not guarantee appropriate protection in the digital framework).

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

[82] *See* DIGITAL DILEMMA *supra* note 3, at 32.

[83] *Id.* at 39.

the end user without intermediation[84]. The flexibility of digital media[85] allows people to easily copy, modify and shift them in time and space[86]. The newly acquired independence from the carriers secured by digitalisation allows users to manipulate the information with the consequence that the 'originality' of a work is threatened to be lost, with no certainty of what of the primitive product has still remained. Digital technologies have transformed the copyright environment and have given rise to a potentially huge market for content[87]. The advent of broadband networks, and their capacity to transmit large dimensions of multimedia content at high speeds, emphasises the importance of ensuring that digital content is available under the appropriate conditions, to meet the interests of all stakeholders[88]. Related to this, technologies are available to establish the correct incentives for this development. Incentives include a secure environment for ensuring remuneration of right-holders in the context of private copy, payment for online content and prevention of illegal copying[89].

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[84] *See* CASTELLS *supra* note 19; Chircu & Kauffman, *supra* note 28.

[85] 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 an their social implication, see GUNNAR LIESTØL ET AL., DIGITAL MEDIA REVISITED : THEORETICAL AND CONCEPTUAL INNOVATION IN DIGITAL DOMAINS, (2003).

[86] *Recording Indus. Ass'n of Am. v. Diamond Multimedia Sys.,* Inc. 180 F.3d 1072 (9th Cir., 1999), gave recognition to the practice of 'space-shifting' of music for personal use.

[87] *See* EUROPEAN COMMISSION - INFORMATION SOCIETY - EEUROPE 2005 ACTION PLAN available on-line at http://europa.eu.int/information_society/eeurope/2005/all_about/digital_rights_man/index_en.htm

[88] *Ibid.*

[89] *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).

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As a result, many of the intellectual property rules and practices developed in the physical world are not suitable for the digital environment[90], and the issues connected with digitization of content are improved by the pervasiveness of the new information infrastructure.

Both the authors' and industry's prerogatives are in a difficult situation regarding copyright law. Until the advent of digitalisation it had been possible to ensure control over copying and distribution of tangible goods, by its nature susceptible of being counted and singularly identified. The function of Copyright was upset by the same structure of the new technological framework, which thickened the distinction between access and copying, strictly conditioning the former to the latter[91]. The whole process now is indeed substantially different from that occurring with physical goods, and attempts to exercise the same level of copying control exercised on the physical world necessarily implies maintenance of total control over access, with possible negative repercussions on the free flow of culture and the users' right[92].

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[93]. A large number of modern services are delivered through electronic networks, and this new phenomenon is not restricted to on-line digital content. As pointed out

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[90] *See* DIGITAL DILEMMA *supra* note 3, at ix.

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

[92] *See* VAIDHYANATHAN, *supra* note 53, at 152.

[93] Digital distribution systems do not involve tangible copies and access contracts or mass market licenses are an increasingly common method 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).

by Jerery Rifkin[94], president of the Foundation on Economic Trends[95], tangible things — cars, computers, office buildings, and catalogues — are also "dematerializing" into services. 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 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 exchange of property between buyers and sellers»[96]. 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 use. The exchange of property between buyers and sellers - the most important feature of the modern market system - gives way to access between servers and clients operating in a network relationship.

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 the possession of the physical medium that encloses the work but, instead, by the access to the contents. In the new network economy «..both physical and intellectual property are more likely to be accessed by businesses rather than exchanged.[97]». In the digital environment, providers able to collect important intellectual capital will be also able

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[94] *See* JEREMY RIFKIN, THE AGE OF ACCESS: THE NEW CULTURE OF HYPERCAPITALISM, WHERE ALL OF LIFE IS A PAID-FOR EXPERIENCE (2000); DIGITAL DILEMMA, *supra* note 3, at 6-7.

[95] 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.

[96] *See* JEREMY RIFKIN, *supra* note 94, at 4.

[97] *Id.* at 5.

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to wield power and control «over the conditions and terms by which users secure access to critical ideas, knowledge and expertise»[98].

This issue is a new and troublesome trend likely to have strong implications in particular on users' rights, with special regard to fair use[99]. Fair use is a defence[100] recognised for certain acts that would otherwise amount to copyright infringement[101]. The defence was introduced to balance the interests of opposing parties and to allow the limited use of intellectual works without having to ask for previous permission[102].

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[98] *Ibid.*

[99] 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. *See* William Fisher III, *Reconstructing the Fair Use Doctrine*, 101 HARV. L. REV., 1661, 1663-64 (1988).

[100] Fair use is not an affirmative right but a sort of defence. It is essentially a safety valve operating in the absence of licensing that can be structured in different ways but that is recognised by all modern copyright systems. Whilst Common Law countries generally recognise a general defence, Civil Law countries generally provide a strict list of exceptions, even though at present there are no pure systems adhere strictly to any of the above models.

[101] In the U.S. system there is a deep relation between fair use and free speech. On the argument, see Netanel, supra note 91; Ray L. 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 prospective, see P. Bernt Hugenholtz, *Copyright and Freedom of Expression in Europe*, *in* INNOVATION POLICY IN AN INFORMATION AGE 343 (Rochelle Cooper Dreyfuss et al. eds. 2000);

[102] For interpretation and critics of fair use doctrine, see Fisher *supra* note 99; Rosenfield, *supra* note 101. For an overview on relationship between DRM and fair use, see Dan L. Burk & Julie E. Cohen, *Fair Use Infrastructure for Rights Management Systems*, 15 HARV. J. LAW & TEC. 41, 48 (2001).

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 network providers»[103]. At the same time, the legal order will be obliged to shift from ownership to the access model.[104]

In the meantime, content providers are confronting these new problems using and integrating models of technological protection measures[105] 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 recognised to consumer[106].

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[107]. While standards continue to reach greater levels of

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[103] *See* JEREMY RIFKIN, *supra* note 94, at 6.

[104] *Id.* at 6-7.

[105] 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». *See* Artiche 13(3) «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 Conference», prepared by the Chairman of the Committee of Experts on a Possible Protocol to the Berne Convention (WIPO doc. CRNR/DC/4 of August 30, 1996).

[106] *See* Burk & Cohen, *supra* note 102, at 48; Fred von Lohmann, *Fair Use and Digital Rights Management: Preliminary Thoughts on the (Irreconcilable?) Tension Between Them* 3, available at 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 (arguing that the new anticircumvention right created by the statute constitutes a type of exclusive right quite separate from […] the legal protection provided by copyright).

[107] *See* EUROPEAN UNION HIGH LEVEL GROUP ON DIGITAL RIGHTS MANAGEMENTS, FINAL REPORT (MARCH-JULY 2004), available at

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maturity and adaption, content companies will most likely continue to use technological protection measures without taking care of the problem of interoperability and users' expectations[108]. At the same time this solution seems too simple a practice, in which technology tries to replace the law[109].

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 aims[110].

II. Different solutions and defences for intellectual property in the digital age: legal remedies

Despite the reported perplexities around the suitability of the current rules, 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[111].

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http://europa.eu.int/information_society/eeurope/2005/all_about/digital_rights_man/high_level_group/index_en.htm; *See also generally* EBERHARD BECKER ET AL., DIGITAL RIGHTS MANAGEMENT - TECHNOLOGICAL, ECONOMIC, LEGAL AND POLITICAL ASPECTS (2003).

[108] *See* Bechtold, *supra* note 89, at 609, 630.

[109] On this opinion *see* LESSIG, *supra* note 81; REIDENBERG, *supra* note 81; ANDREW L. SHAPIRO, THE CONTROL REVOLUTION: HOW THE INTERNET IS PUTTING PEOPLE IN CHARGE AND CHANGING THE WORLD WE KNOW (1999).

[110] DIGITAL DILEMMA, *supra* note 3, at 2.

[111] *See* John Perry Barlow, *Intellectual Property, Information Age in* COPYFIGHTS: 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, especially to deal 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 an extraordinary legal protection especially for the technological protection measures, with the result a kind of reinforced double protection[112]: one for the copyrighted content and one for the technological measure that protect it[113].

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[114] followed by national legislative initiatives[115].

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[112] Some commentators describe this situation as a sort of «paracopyright». *See* REPORT OF THE HOUSE COMM. ON COMMERCE, H.R. REP. NO. 105-551, pt. 2, at 24-25 (1998); Netanel, *supra* note 91, at 24; David Nimmer, *A Riff on Fair Use in the Digital Millennium Copyright Act*, 148 U. PA. L. REV. 673, 686 (2000); 3 MELVILLE B. NIMMER & DAVID NIMMER, NIMMER ON COPYRIGHT 12A.18[B] n.15 (2003).

[113] *See* Severine Dusollier, *Some Reflections on Copyright Management Information and Moral Rights*, 25 COLUM. J.L. & ARTS 377, 382 (2003).

[114] It is useful to remind that there are, at least, other two 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 the 1994 Agreement on Trade Related Aspects of Intellectual Property Rights (TRIPs Agreement). For a positive comment on the WIPO treaties, «a measured and balanced response to the digital age», see Thomas C. Vinje, *The new WIPO Copyright Treaty: a happy result in Geneva*, 5 EIPR (1997), 230-236. For others 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*

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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[116]. 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». 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

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Property Rights Council in Regulating Intellectual Property Rights in the Information Age, 21(11) EIPR 536, 536, 578-591, (1991); David Vaver, *Internationalizing Copyright Law: Implementing the WIPO Treaties*, OXFORD ELEC. J. INTELL. PROP. RIGHTS (Jan. 1998) available on-line at http://www.oiprc.ox.ac.uk/EJWP0199.html. For a general comment, see also Silke von Lewinski, *WIPO Diplomatic Conference Results in Two New Treaties*, 28 INT'L REV. OF INDUS. PROP. AND COPYRIGHT L. 203 (1997) and Howard P. Goldberg, *A Proposal for an International Licensing Body to Combat File Sharing and Digital Copyright Infringement*, 8 B.U. J. SCI. & TECH. L. 272, (2002).

[115] 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).

[116] Copyright Treaty, 36 I.L.M. 65, (1997), adopted by the Diplomatic Conference, Geneva December 20, 1996, available at http://www.wipo.int/. The list of signatories of the WIPO Copyright Treaty is available at http://www.wipo.int/treaties/notifications/wct/0002.html.

quite similar way the WIPO Performances and Phonograms Treaty[117] in Article 18 declares the same provision[118].

To comply with the WIPO treaties, both Europe and United States enacted very similar anti-circumvention provisions[119]. The new treaties provided the fundamental background to the efforts of United States and European Union to find their solutions to the issues of intellectual property rights in the digital age. In 1998 the US implemented the Digital Millennium Copyright Act (hereafter: DMCA)[120] introducing new anticircumvention provisions, while, come years later, Europe enacted the Directive 2001/29/EC on the Harmonisation of Certain Aspects of Copyright and Related Rights in the Information Society (hereafter: EUCD)[121].

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[117] WIPO Performances and Phonograms Treaty, 36 I.L.M. 76 (1997), adopted in Geneva by the Diplomatic Conference on December 20, 1996, available at http://www.wipo.int/. The list of signatories of the WIPO Phonograms and Performances Treaty is available at http://www.wipo.int/treaties/notifications/wppt/0001.html.

[118] Article 18 - 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.

[119] Many commentators have noticed that the adoption of both acts has been the result of the great contents provider lobby activity. *See, e.g.,* Rick Boucher, *The Future of Intellectual Property in the Information Age*, *in* COPY FIGHTS: THE FUTURE OF INTELLECTUAL PROPERTY IN THE INFORMATION AGE 95, 97 (Adam Thierer & Clyde Wayne Crews, Jr. eds., 2002); MacQueen, *supra* note 14, at 213; Burk & Cohen, *supra* note 102.

[120] Pub. L. No. 105-304, 105th Congress, 2d Session (codified at 17 U.S.C. § 1201)

[121] Official Journal of the European Communities L 167, 22 June 2001 at 10 - 19.

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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[122]. They pursue the same aim of creating a safe environment for transmission of digital information[123] and they also seem to reveal the same failures[124].

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[125] (production, distribution, making available, etc.) performed with the intent to make possible or facilitate such circumvention[126].

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[122] President Clinton stated that the DMCA implemented «[firm] standards, carefully balancing the interests of both copyright owners and users» while 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». *See* Gregory Hunt, *In a Digital Age: the Musical Revolution Will Be Digitalized*, 11 ALB. L.J. SCI. & TECH. 181, 193 (2000).

[123] *See* Alice Ritchie, *Hanging in the Balance: Fair Use for Digital Works*, 9 U. BALT. INTELL. PROP. L.J. 29, 33 (2000). The E.U. Directive wants to «foster the development of the information society in Europe», see Preamble to the Directive 2001/29/EC, No. 2.

[124] On the failures of DMC, see generally Nimmer, *supra* note 112, at 739-40 (2000); Netanel, supra note 91, at 79.

[125] *See* Severine Dusollier, *Tipping the Scale in Favor of the Right Holders: the European Anti-Circumvention Provisions*, *in* DIGITAL RIGHTS MANAGEMENT - TECHNOLOGICAL, ECONOMIC, LEGAL AND POLITICAL ASPECTS 462, 466 (Eberhard Becker et al. eds., 2003). *See also* Calovi, *supra* note 58; Calovi & Lucchi, *supra* note 58 at 1032.

[126] DMCA, Section 1201:

> No person shall circumvent a technological measure that effectively controls access to a work protected under this title", nor shall "manufacture, import, offer to the public, provide, or otherwise traffic in any technology, product, service, device, component, or part thereof, that-

Content providers are particularly concerned about the illegal appropriation of contents as it is carried out behind the backs of right- holders and prevents them from being compensated for their works[127]. They assert technological protection measures have the limited purpose of preventing unauthorised access to copyright material and, assuming they are imperfect, those laws have the effect to keep users from engaging in illegal activities, thereby restoring artists' rights[128].

Both the DMCA and the EUCD, accordingly with their intention to discipline only illegal appropriation, stipulated specific provisions to use technology protecting copyright work and allowing honest users to exercise their rights. Unfortunately, some commentators[129], have noticed that, in practice, they both fail in their stated purpose, obtaining 'only' an extremely high

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> (A) is primarily designed or produced for the purpose of circumventing (…); (B) has only limited commercially significant purpose or use other than to circumvent (…)

Directive 2001/29/EC, Art. 6, Para. 4:

> (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.

[127] *See, e.g.,* INTERNATIONAL FEDERATION OF THE PHONOGRAPHIC INDUSTRY, IFPI:05. DIGITAL MUSIC REPORT, JANUARY 2005 [hereinafter IFPI:05 DIGITAL MUSIC REPORT], available at http://www.ifpi.com/site-content/library/digital-music-report-2005.pdf

[128] *See* Ritchie, *supra* note 123, at 37.

[129] *See* P. Bernt Hugenholtz, *Why the Copyright Directive is Unimportant, and Possibly Invalid*, 22 EUR. INTELL. PROP. REV. 499, 500 (2000); Michael Hart, *The Copyright in the Information Society Directive: An Overview*, 24 EUR. INTELL. PROP. REV. 58 (2002); Dusollier, *supra* note 125.

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level of protection for authors. Technology, in fact, may not be capable of distinguishing between legal and illegal uses[130].

The DMCA distinguishes measures controlling access from those protecting 'other rights', stating the latter are not compromised[131]. If at first sight this could seem 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[132]. 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[133]. As technology cannot detect the *animus* leading to circumvention, and the Act provides no defence in such respect[134]. In the digital environment any attempt at circumvention is criminal and has to be regarded as piracy, even if it is not so in the physical world. The anti-circumvention provisions of the DMCA[135] prevent three categories of transgressions. First, the DMCA prohibits circumventing technological measures that prevent the access to a copyrighted work.

[130] *See* Robin D. Gross, *Copyright Zealotry in a Digital World: Can Freedom of Speech Survive?*, *in* COPY FIGHTS: THE FUTURE OF INTELLECTUAL PROPERTY IN THE INFORMATION AGE 189, 190 (Adam Thierer & Clyde Wayne Crews, Jr. eds., 2002).

[131] DMCA, Sec. 1201 recognises that: «Nothing in this section shall affect rights, remedies, limitations, or defences to copyright infringement, including fair use, under this title».

[132] *See* Calovi, *supra* note 58; Joanna Perrit, *Protecting Technology over Copyright: A Step too Far*, 14(1) ENT. L.R. 1, 2 (2003).

[133] The Electronic Frontier Foundation has documented numerous problems that anti-circumvention provisions in the Digital Millennium Copyright Act have caused in the US for legitimate users of copyright works. *See* ELECTRONIC FRONTIER FOUNDATION, UNINTENDED CONSEQUENCES: FIVE YEARS UNDER THE DMCA, (Sept. 24, 2003) available at http://www.eff.org/IP/DMCA/unintended_consequences.php

[134] *See* Calovi, *supra* note 58.

[135] Codified at 17 USC § 1201 (1998).

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[136]. These anti-circumvention provisions are an implicit admission that copy protection technologies are not perfect[137].

The EUCD, on the other hand, deals with three main areas[138]: reproduction rights (art. 2[139]), the right of communication (art. 3[140]) and distribution rights (art. 4[141]). The Directive also

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[136] For this schematization *see* URS GASSER, *supra* note 39.

[137] *See* DIGITAL DILEMMA *supra* note 3, at 152; Pamela Samuelson, *DRM [and, or, vs.] the Law,* 46 COMM. ACM 4, 41, 42 (April 2003).

[138] For this outline, see EUROPEAN UNION SCADPLUS SERVICE - COPYRIGHT AND RELATED RIGHTS IN THE INFORMATION SOCIETY: THE HARMONISATION OF CERTAIN ASPECTS, available at http://europa.eu.int/scadplus/leg/en/lvb/l26053.htm

[139] Directive 2001/29/EC Art. 2. 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.

[140] Directive 2001/29/EC Art. 3 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 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.

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obliged Member States to provide legal protection against the circumvention of any effective technological measures covering works or any other subject-matter (art. 6[142]). In particular, it criminalizes circumvention in any respect regardless of the rights it protects (art. 6.4), but encourages right 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 (…)»[143] and invites Member States to ensure compliance[144]. Article 6.1,

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[141]Directive 2001/29/EC Art. 4 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.

[142] Directive 2001/29/EC Art. 6 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. […]

[143] Directive 2001/29/EC, Article 6 (4): «…to 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». The Article also allows for right holders' compliance through «agreements between right holders and other parties concerned», namely through contracts. For a critical overview of the Directive, see Séverine Dussolier, *Fair*

then, requires that Member States provide «adequate legal protection» against the deliberate circumvention of technological measures, regardless of whether such an act infringed any copyright[145].

With this article the Directive introduces a pan-European legal defence for the technological protection measures, even if its provisions have not been formally implemented by all the European union member states[146]. Actually some of them are currently under infringement procedure. In fact, even though the Directive was designed to be implemented by 22 December 2002, only two member states (Greece and Denmark) managed to meet that deadline. By now eight[147] of the original Member States have implemented the act. Among the

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Use by Design in the European Copyright Directive of 2001: an Empty Promise, 46 (4) COMM. ACM 51 (Apr. 2003).

[144] For further discussion on the complex structure of Article 6.4 of the E.U. 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, 372-377 (2001).

[145] *See* Dusollier, *supra* note 125, at 472

[146] For a state of the art on the 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. *See also* Silke von Lewinski, *Rights Management Information and Technical Protection Measures as Implemented in EC Member States*, 35 (7) INT'L REV. OF INDUS. PROP. AND COPYRIGHT L., 844 (2004).

[147] Greece (entered into force 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 1, 2004). For a comment on the Italian

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new 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 and not compelled to ensure respect of users' rights[148]. The consequence of this is that the formers somehow detain legal power to settle the rules of the game, just like it happens with the DMCA where at present 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 public's interests[149].

Although the provisions of the two acts take different approaches to the problem of legitimate access, they both seem to not succeed in solving it and they both end up posing high barriers to uses otherwise legally recognized. For example, in contrast to the DMCA, which does not need to list the exceptions for copyright infringement liability because these exceptions

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implementation, see Mario Fabiani, *L'attuazione della Direttiva CE su Diritto di Autore nella Società dell'Informazione. Un'analisi Comparativa*, 74(3) DIR. AUT., (2003) 331.

[148] 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.

[149] Orin S. Kerr, *A Lukewarm Defence of the DMCA*, *in* COPY FIGHTS: THE FUTURE OF INTELLECTUAL PROPERTY IN THE INFORMATION AGE 163, 168 (Adam Thierer & Clyde Wayne Crews, JR. eds., 2002). The Directive 2001/29/EC is part of a wider program started with the Directive 2000/31/EC 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/EC) obliges ISP to remove illegal material or promptly inform authorities about such activities, but being ISPs responsibility excluded only when it is not aware at all of the illegality of activities, ISPs are forced to intervene whether illegality is proved, but also when it is only presumed.

are well-established by statute and case law[150], the EUCD stipulates a list of exceptions that are 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[151], the EUCD does not lists exceptions to the anti- circumvention provision[152].

Regarding the DMCA, it has been argued that it constitutes a fairly good attempt to respond to the changes determined by digitalisation and that it is still too early to condemn it as the success of the Internet as a distribution model is still to be determined[153]. However what has

[150] *See* 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).

[151] The Section 1201 of DMCA , 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.

[152] *See* Dusollier, *supra* note 125, at 475. (remarking that Recital 48 of the directive states that protection should not hinder research into cryptography)

[153] *See* Emery Simon, *The DMCA: Providing Locks for Digital Doors*, *in* COPY FIGHTS: THE FUTURE OF INTELLECTUAL PROPERTY IN THE INFORMATION AGE 171, (Adam Thierer & Clyde Wayne Crews, Jr. eds., 2002). The theory articulated by Simon could be easily extended to the E.U. Directive in question, as their scope and implications are alike.

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probably not been adequately considered is that behaviours, that were taken for granted, like making back-up copies of CDs[154], could be now criminalized[155].

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, seems to contemplate the most extensive legal protection measures against circumvention in all implementation of the WIPO treaties[156]. Where technical tools are not effective enough, the law has to intervene, and *vice versa*[157], but it will be evidenced in the latter part of this article how current technology is capable of delivering high protection and yet nevertheless legislation has not retreated[158].

The DMCA and the EUCD both seem to have a rather extreme and unbalanced approach in defending the authors' rights. It also seems legislators have somehow 'amended' their role of decision making in favour of copyright owners. In both cases there has not been predetermined a set of rules to be embedded into technological controls, and the power to determine the activities allowed with regard to protected content has been shifted into the hands

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[154] 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 stored and used in the case that the original copy of the software be damaged or lost. *See* LLOYD, *supra* note 5, at 397.

[155] For a brief overview of anticircumvention system in Europe, see Terese Foged, *U.S. v. E.U. Anti-Circumvention Legislation: Preserving the Public's Privileges in the Digital Age?,* 24 EUR. INTELL. PROP. REV. (2002) 525, (with specific reference to Denmark); Hart, *supra* note 129.

[156] *See* Dusollier, *supra* note 125, at 477.

[157] 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).

[158] *See* Calovi, *supra* note 58.

of their owners representing a sort of «paracopyright»[159]. 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[160]. Moreover EUCD, as already pointed out, is particularly evasive on the method of intervention. This uncertainty persists also in the implementation of legislations of several member states[161]. Inevitably there will be differences found between member states' implementations, particularly in regard to the most troublesome issues, that of the prohibited acts of circumvention[162].

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 behaviours 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 behaviours that are otherwise legal and part of their routine[163].

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 of digital contents, to the point where they could possibly supplant legal regulations[164]. However, as these provisions are going to have an effect essentially relating to the material provided with anti-circumvention tools,

[159] *See* Nimmer, *supra* note 112, at 686 (2000).

[160] *See* Perrit, *supra* note 132 at 4.

[161] *See* URS GASSER & MICHAEL GIRSBERGER, *supra* note 146, at 12.

[162] *Ibid.*

[163] *See* Burk & Cohen, *supra* note 74, at 60-61.

[164] *Id.* at 50.

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content providers have been forced to look for different solutions for that released prior to the development of technological protection.

B. A current intellectual property challenge : illegal file swapping

Illegal file swapping represents one the most well-known and global threats to intellectual property rights enforcement. Thanks to the technology the contents industry has succeeded in making more complicated the removal of contents from their digital supports, but there is a great new challenge that remains to be faced. That is the file sharing software, or peer-to-peer distribution systems[165]. This kind of software allows the 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 the copyright, the majors have initially attached, in vain, the legitimacy of the Mp3 standard[166]. Then they have focused on the file-sharing system. Napster[167], born in 1999, it is perhaps the more well known of the peer-to-peer systems.

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[165] On the relationship between technological protection measures and peer-to-peer networks, *see* Peter Biddle et al., *The Darknet and the Future of Content Distribution*, *in* DIGITAL RIGHTS MANAGEMENT - TECHNOLOGICAL, ECONOMIC, LEGAL AND POLITICAL ASPECTS 344 (Eberhard Becker et. al. eds., 2003).

[166] In 1998 the RIIA (Record Industry Association of America) has 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, has recognized the right of the consumers to copy, and therefore to transform the CD in musical files. At the same time he recognized the right to produce instruments that make it possible. *See 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).

[167] For a Napster case summary, see Zepeda Lisa, *A&C Records v. Napster Inc.*, 17 BERKELEY TECH. L.J. 71 (2002). For a full coverage of Napster's history, see also TREVOR MERRIDEN, IRRESISTIBLE FORCE S- THE

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 stocked in single computers.

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

After the ban of Napster, its clones (i.e. programs based on the same technique)[168] have spread on the net with extreme success[169]. These 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[170]. Technically, through these programs, the download and the upload of the files happen directly from one user's computer to another's. To commence to exchange 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.

BUSINESS LEGACY OF NAPSTER & THE GROWTH OF THE UNDERGROUND INTERNET, (2001); ALDERMAN *supra* note 40.

[168] At present, some of the most popular sharing programs are: Edonkey, Kazaa, Winmx, Limeware, Morpheus, Bearshare, Grnutella, etc.

[169] 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, available at http://cyber.law.harvard.edu/home/uploads/254/2003-05.pdf

[170] Napster was found liable for vicarious copyright infringement because the court determined that it does have the ability to supervise and control its users. It also derived a direct financial benefit through the infringing activity. Napster's Achilles' heel, in fact, was that it retained a trace of the client-server model by depending on centralized file server. *See* Kurt Kleiner, *Free Speech, Liberty, Pornography: The Internet and Peer to Peer Networking,* 169 NEW SCIENTIST 32 (2001). *See also A & M Records, Inc. v. Napster, Inc.*, 239 F.3d 1004 (9th Cir. 2001).

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Among all the users that install the same software is created a peer network, where 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 permissions of sharing attributed by every single user. Peer-to-peer network, in fact, are the result of a large number of individual connections among couples of computers. Just for this reason in a peer-to peer net, all the positions can be considered client and file server. In effect, there is not a dominion file server and all the positions are shaped to work in a working 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 the 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 right-holders to obtain the same result with the new decentralised networks (second and third peer-to-peer generation). This is because it is the same law that prevents it. Consequently the only chance they have to find a way around the problem[171] is to rely on other parties not directly involved

[171] 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. & TECH. 2 (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 right-holders: a model whereby ISPs act as digital retailers).

in the 'game', like ISPs, cable operators and telephone companies, to make file sharing more tricky and to target directly single downloader's[172]. DMCA provisions, in fact, were enacted in a period of server-based rather than peer-to-peer network distribution and, as a result, it is now very complicated for a right-holder to prosecute unauthorized distribution of copyrighted materials by suing the enabling file-sharing services[173]. 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[174]. The consequence is that the content industry have tried to attack individual file-sharers as well. On the other hand, E.U. law, up to 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 Directives[175] could change this condition, with the possibility of having lawsuits against individual file-shares in Europe as well[176]. Of course these kind of lawsuits could have

[172] *See* Charles Mann, *The Year the Music Dies*, WIRED, Feb. 2003, available on line at http://www.wired.com/wired/archive/11.02/dirge.html.

[173] *See* CONGRESSIONAL BUDGET OFFICE, U.S. CONGRESS, *supra* note 70, at 18.

[174] 17 U.S.C. §512 (2005). 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, 401-402 (2003)

[175] The European Union Copyright Directive (2001/29/EC) and also the new Enforcement Directive(2004/48/EC). *See infra* part 2C.

[176] A first wave of legal actions has already affected Germany, Italy, Denmark in march 2004. In Italy, 30 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 pay compensation - or face legal action.

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only a deterrent effect[177] on potential infringers. A final change in consumer behaviour could be possible when the content industry is able to provide a legal alternative to illegal peer-to-peer[178].

As pointed out in a recent report of the International Federation of the Phonographic Industry (IFPI)[179] when the supply of music available digitally proliferates it could compete with piracy. The report reviews the progress made in the digital music landscape in 2004[180]: 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, totalling over one million songs - more than doubling the amount of available repertoire within one year. Furthermore, paid-for 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 specialising in local repertoire.

It indicates, again, that the lawsuits against peer-to-peer did not bring positive results despite the thousand 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

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[177] *See* Mark A. Lemley & R. Anthony Reese, *Reducing Digital Copyright Infringement without Restricting Innovation*, 56 STAN. L. REV. 1345, 1434 (2004). Lemley and Reese assert that lawsuits against final users could be a good solution: in fact, according their opinion

> […] copyright owners sue facilitators online because it is cheaper and easier 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 the copyright owners do not have to bear.

The answer that they offer to the question «is to change the economics of targeting direct infringers» enforcing «civil and criminal copyright statutes against high-volume uploaders».

[178] *See* Peter Biddle et. al., *supra* note 165. *See also generally* Lemley & Reese, *supra* note 177.

[179] *See* IFPI:05 DIGITAL MUSIC REPORT, *supra* note 127.

[180] *Ibid.*

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 a more restrictive protection of contents would only contribute to change the traditional balancing 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 (hereafter: DRMSs or DRM), used to secure digital content and also to manage individual users' behaviour (see § III).

On 29 April 2004 the Council of Ministers of the European Union adopted the Directive 2004/48/EC on the enforcement of intellectual property rights[181]. This new Directive

[181] For detailed information and *iter* of the Directive 2004/48/EC of the European Parliament and of the Council of 29 April 2004 on the enforcement of intellectual property rights, see http://www.europa.eu.int/comm/internal_market/en/indprop/piracy/index.htm. For critical comments, see 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 64-75 (2004); Michael Veddern, *The Enforcement Directive 2004/48/EC – A Further Step in the Harmonization of IP Laws in Europe*, 16 IPR HELPDESK BULLETIN 4-5 (2004); Annette Kur, *The Enforcement Directive – Rough start, happy landing?*, 35(7) INT'L REV. OF INDUS. PROP. AND COPYRIGHT L. 821-830 (2004); Rico Calleja, *The IP Enforcement Directive*, 10 (3) C.T.L.R. 55-57 (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(6) EUR. INTELL. PROP. REV., 244-253 (2004); Rogier Wezenbeek, *Balancing Consumer and Right-Holders' Interests in-and outside European Union*, available at www.ipa-congress.com/prog/work/download/Wezenbeek.pdf; Ryan Bates, *Communication Breakdown: the Recording Industry's Pursuit of the Individual Music User, a*

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obliges all Member States[182] to apply «effective, proportionate and dissuasive» measures, procedures and remedies[183] against piracy and counterfeiting, offering a strict defences to violations. The rationale for that statements appears in the "Recital" sections. The European legislator asserts that enforcing intellectual property rights is necessary because without an effective protection, innovation and creativity are discouraged and investment diminished[184]. In this direction it is therefore necessary to ensure that the substantive law on intellectual property is applied effectively in the Community because enforcing is a paramount aim for the success of the internal market[185]. Besides, the European legislator has pointed out how in the Member States, despite the TRIPS agreement[186], there are still important disparities regarding the means of enforcing intellectual property rights[187]. 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, in some

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Comparison of US and EU Copyright Protections for Internet Music File Sharing, 25 NW. J. INT'L L. & B. 229 (2004); Peter Groves, *The proposed EC Directive on Enforcement of Intellectual Property Rights*, 25 BUSINESS LAW REV. 149, 151 (2004).

[182] The Member states will have to implement the Directive by 28 April 2006.

[183] *See* Article 3.

[184] *See* Recital 3

[185] *Ibid.*

[186] The 1994 Agreement on Trade Related Aspects of Intellectual Property Rights (*available at* http://www.wto.org/english/tratop_e/trips_e/t_agm0_e.htm) and, as already mentioned at § 2, the 1996 World Intellectual Property Organization Copyright Treaties (WCT). This agreement is an attempt to narrow the gaps in the way the intellectual property rights are protected around the world, and to bring them under common international rules. It establishes a minimum levels of protection that each government has to give to the intellectual property of fellow WTO members.

[187] *See* Recital 7.

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[188].

Reading these main purposes, it is difficult not to think again about some strange similarity with the dispositions of the U.S. Digital Millennium Copyright Act, that in the United States, organisations such as the RIAA, used, for example, to collect personally identifying information on file sharers with which to prosecute them[189].

Actually, up to 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[190]. While the continuing harmonisation of substantive law on intellectual property rights has supported the free movement of goods between the Member States and has made the applicable rules more transparent, the means of enforcing intellectual property rights have not yet been subject to any

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[188] *Ibid.*

[189] According to Robin Gross, the director of civil liberties group IP Justice, the Directive

> …creates a broad new "Right of Information" which requires 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.» A quite «similar powers, created under the notorious US Digital Millennium Copyright Act» even if the power assigned by the directive could be much more wide because it «applies to all types of intellectual property infringements, not just copyrights.

See Ipjustice, *EU Passes Dangerous IP Law, Despite MEP's Conflict of Interest "Midnight Knocks" by Recording Industry Executives Get Go-Ahead*, [hereinafter Ipjustice] available at http://www.ipjustice.org/CODE/release20040309_en.shtml

[190] *See* EUROPEAN UNION SCADPLUS SERVICE - ENFORCEMENT OF INTELLECTUAL PROPERTY RIGHTS available at http://europa.eu.int/scadplus/leg/en/lvb/l26057a.htm

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harmonisation[191]. For example, the rapidly growing piracy of intellectual property rights and production of counterfeit goods, as well as infringements of intellectual property in general[192], are constantly increasing phenomena that currently have an international diffusion and are a critical threat to national economies[193]. 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 products are more likely to be manufactured and sold in those countries that are less effective than others in combating counterfeiting and piracy[194]».

In practice, with the adoption of the Directive, the TRIPS provisions on enforcement of intellectual property rights[195], i.e. «the cornerstone of international law on enforcement of intellectual property»[196], are transposed into European law even if, probably, they go beyond the

[191] *Ibid.*

[192] Copyright, trademark and design industries are all affected by intellectual property theft but practically no products is unaffected by these illegal practice. 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.

[193] The first Global Congress on Combating Counterfeiting (Brussell, 24-26 May 2004) has estimated that the value of counterfeited and pirated goods at over €. 500 billion annually. *See* The First Global Congress on Combating Counterfeiting, available at http://www.akjassociates.com/wco2004/website.asp?page=home.

[194] *See* EUROPEAN UNION SCADPLUS SERVICE, *supra* note 190.

[195] This is covered in Part 3 of TRIPS (from Art. 41 to 50 and Art. 61). The TRIPs Agreement, now Annex 1C of the Marrakesh Agreement, is available on-line at http://www.wto.org/english/docs_e/legal_e/legal_e.htm#TRIPs

[196] *See* Ellard, *supra* note 181, at 66.

same TRIPS rules on enforcement[197]. In fact, the Directive implements at a community level «certain so-called 'best practice'[198] measures currently in operation in one or more Member States»[199]. The harmonization is not limited to specific sectors of intellectual property rights but, it can be applied to any sort of infringement of intellectual property rights with the problem that in the Member States the concept of IPRs is often different and the Directive never provides a definition of them[200]. So, if from one perspective the aims of the Directive seem to be positive both for right-holders and consumers we cannot hide some critical point of views. Is

[197] 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 (art. 41.2). They should not require irrational time-limits or unwarranted delays (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 (art. 42). The agreement illustrates in some detail how enforcement should be handled, including rules for obtaining evidence (art.43), provisional measures (art. 50), injunctions (art. 44), damages (art. 45) and other penalties (art.46). It also statues that courts should have the right, under certain conditions, to order the disposal or destruction of pirated or counterfeit goods (art.59). Wilful and malicious trademark counterfeiting or copyright piracy on a commercial scale should be criminal offences (art. 61). For other details, see: World Trade Organization, *Understanding the WTO - Intellectual Property: Protection and Enforcement* at http://www.wto.org/english/thewto_e/whatis_e/tif_e/agrm7_e.htm

[198] The term "best practice" is frequently used in the law enforcement field to describe the best available method for performing a task.

[199] *See* Ellard, *supra* note 181, at 65. On the same argument, see also Veddern, *supra* note 181 at 4.

[200] For this and other criticisms, see ITALIAN MINISTER OF INNOVATION AND TECHNOLOGIES – DEPARTMENT FOR INNOVATION AND TECHNOLOGY, REPORT ON DIGITAL RIGHTS MANAGEMENT, OCTOBER 2004, at 42-43 available at http://www.innovazione.gov.it/ita/intervento/normativa/pubblicazioni/digital_rights_management.shtml. *See also* Kur, *supra* note 181 at 823.

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indubitable that the main purpose of the act is the reduction of the discrepancies and distortions in the nationals law[201]. It is also indubitable that the dispositions provided will encourage the freedom of movement and protect fair and equal competition in the internal market increasing a more safe environment for new investment in innovation and creation. It could be also possible that in this new legal framework there is something of positive for the consumers often damaged by the counterfeited and pirate products[202]. These behaviours may also create a physical risk to the health of the consumer (e.g. counterfeit medicines) or to his safety (e.g. counterfeit toys or parts for cars or aircraft)[203]. But the Directive offers to consumers just an

[201] According to the official press release of the Commission (*See* MEMO/03/20 Brussels, 30th January 2003) the main objectives of the Directive are: a) create a level playing field for the enforcement of intellectual property rights in different E.U. 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) maintains a balance between helping holders of intellectual property defend their rights and protecting users from unfair litigation (so-called rights of due process). The document is available on line at http://europa.eu.int/rapid/pressReleasesAction.do?reference=MEMO/03/20&format=HTML&aged=0&language=EN&guiLanguage=en.

[202] Is important to underline that counterfeiting 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.». *See* EUROPEAN UNION SCADPLUS SERVICE - ENFORCEMENT OF INTELLECTUAL PROPERTY RIGHTS available at http://europa.eu.int/scadplus/leg/en/lvb/l26057a.htm

[203] *Ibid.*

outward gift («*timeo Danaos et dona ferente*»[204], Laocoonte admonished in front of the Trojan Wooden Horse) because the disadvantages are more severe than the advantages. Some of the most controversial aspects of the Directive, in fact, start with the setting out of various obligations necessary to establish the infringement of an intellectual property right such as provisions on evidence and the protection of evidence[205]. Article 6 and 7 try, specifically, to solve the problem of the control of evidence in intellectual property infringement cases. Usually, in these cases the evidence is under the control of the infringer himself and it could be difficult for the plaintiff to produce a prima facie evidence of the infringement[206]. So art. 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. Member States should also (6.2) take such measures as are necessary to enable the responsible authorities to order, on 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, enforceable when there is a demonstrable risk of an intellectual property right infringement and even before the commencement of proceedings on the merits of the case.

The Directive, then, stipulates a right of information (art. 8) consenting, in particular circumstances, 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 (art. 9.1) such as seizure of alleged infringing goods or the blocking of the bank account and other assets

[204] «I fear the Greeks, even when they bring gifts».

[205] *See* European Commission, SINGLE MARKET NEWS, n° 34, July 2004, at 10.

[206] *See* Ellard., *supra* note 181, at 68; Veddern, *supra* note 181, at 5; Kur, *supra* note 181 at 825

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of the alleged infringer (art. 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 (art. 10).

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[207]», we cannot hide several other questionable aspects. One of the points most criticized related to this new Directive is, probably, the one connected to the limits of application of the measures provided for the enforcement. In particular there was heated discussion connected to the peer-to-peer file sharing and the possibility to apply these measures only in respect of acts carried out on a commercial scale[208]. 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

[207] *See* Ellard, *supra* note 181, at 71.

[208] 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, 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 goal 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 emended 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 58.

was in this direction, or to be limited to infringements committed for commercial purposes and generating significant harm to the right-holder[209].

The final version of the Directive, i.e. the one adopted by the European Parliament and the Council, does not insist members states apply penalties on the individual files swapper but gives them wide discretion[210]. In the U.S. system, on the contrary, right-holders and internet service provider have lobbied on behalf of their business interests moving legal liability onto individual users[211]. It was argued that some DMCA provisions reflect an attempt to set and clarify the internet service provider's potential liability for contributory copyright infringement[212]. DMCA[213], 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 network if they follow the requirements laid out by the statute[214]. The absence of these «safe-harbour» provisions in the European Union system may push liability against ISPs[215] and other intermediaries also, for hosting illegal content or activities[216]. Currently the

[209] *See* Ellard, *supra* note 181, at 67; *see also* Veddern, *supra* note 181 at 4.

[210] *See* Kur, *supra* note 181, 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.

[211] *See* Bates, *supra* note 181, at 248.

[212] *See* CONGRESSIONAL BUDGET OFFICE, U.S. CONGRESS, *supra* note 70, at 14.

[213] 17 U.S.C. §512.

[214] *See* Lichtman & Landes, *supra* note 174, at 402.

[215] *See* Kur, *supra* note 181 at 826.

[216] One of the most famous European cases in this direction was *LICRA v. Yahoo!,* Tribunal de Grande Instance de Paris, Interim Order No. 00/05308, 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 section 512 of the DMCA and was not enforced in the United States due to

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problem of liability of Internet service providers is ruled in detail by the Directive 2000/31/EC, also called the E-commerce Directive[217]. This distinguishes the liability standards that apply the various on-line intermediary players, punctually classifying the liabilities that emerge from activity of mere conduit, caching and hosting[218]. On the contrary the Enforcement Directive opens new questions and practical consequences on other types of intermediates[219].

Civil liberties organizations and consumer rights groups are worried that 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 doubts 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

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First Amendment concerns. *See* Lackman, *supra* note 150, at 1177; 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). 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. Some similar approaches could be found also in some previous decisions of Italian courts: Tribunale di Napoli, Ordinanza 8 August 1996 (comparing, in term of liability, a service provider to a newspaper's director) and, more recently, Tribunale di Catania, Sentenza 29 June 2004 (distinguishing the liability for content providers and service providers).

[217] Directive 2000/31/EC of the European Parliament an the Council of on certain legal aspects of electronic commerce in the internal market, Official Journal of the European Union L 178/1 of 17 July 2000.

[218] For a complete overview on the Directive See Kamiel J. Koelman & Rosa Julià-Barceló, *Intermediary Liability In The E-Commerce Directive: So Far So Good, But It's Not Enough*, 4 COMPUTER L. & SECURITY REP. 231-239 (2000).

[219] *See* Kur, *supra* note 181, at 826-827 «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 materialise primarily in the transport business».

States and supported by intense lobbying of the content industry[220]. As argued by John Perry Barlow, the Enforcement Directive seems not very effective at protecting the interest of artists, or at least the majority of them. Rather, it seems more designed to over-protect the interest of those «same distribution institutions that have preyed on musicians and songwriters for the last one hundred years». Therefore there is a real possibility that, even if it seems suited only in cases involving infringements for commercial purposes, it will be also used against European consumers for minor non-commercial infringements[221].

III. Different solutions and defences 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 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. These legislations, then, back up the enforceability of privately generated norms[222]. Acts, such as DMCA and EUCD, recognise a legal status and explicit legal protection

[220] 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 ands currently the CEO of Vivendi Universal, the media giant that is worldwide the biggest holder of intellectual property rights.

[221] *See* Ipjustice *supra* note 189.

[222] *See* Elkin-Koren, *A Public Regarding Approach to Contracting over Copyright*, *in* EXPANDING THE BOUNDARIES OF INTELLECTUAL PROPERTY: INNOVATION POLICY FOR THE KNOWLEDGE SOCIETY 191, 192 (Rochelle C. Dreyfuss et al. eds., 2001).

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for «technological measures» and «copyright management information» hampering unauthorised uses and determining the conditions for legitimate use[223].

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, right-holders, to prevent unauthorised copying and to enforce the intellectual property law, have applied physical barriers to control reproduction and distribution of their goods, in this new legal framework, the technological protection measures have found a formal recognition replacing the old practical barriers[224]. This has the relevant advantage that technology is not subject to any legal limit and can regulate transactions in a much more powerful way[225]. As a result, in order to prevent non-copyright 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 used to control legally acquired digital creative works, if on one hand could limit infringing distribution and have effects on innovation and economy, on the other it could also have involuntary negative effects for consumer rights[226].

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[223] 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 the creative works. For a description of technological protection measures, their implications and uses, see SOBEL, *supra* note 171.

[224] *See* Reidemberg supra note 81 at 567-568; LESSIG, *supra* note 81 at 136.

[225] *See* de Werra , *Moving Beyond the Conflict Between Freedom of Contract and Copyright Policies: In Search of a New Global Policy for On-Line Information Licensing Transactions: A Comparative Analysis Between U.S. Law and European Law*, 25 COLUM. J.L. & ARTS 239, 251 (2003).

[226] For more extensive treatment of the different threats posed by digital technologies to consumers rights, see, e.g., Julie E. Cohen, *DRM and Privacy*, 18 BERKELEY TECH. L.J. 575, 585 (2003); Lee A. Bygrave, *DRM and Privacy. Legal aspects in the European Union*, *in* DIGITAL RIGHTS MANAGEMENT - TECHNOLOGICAL,

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 right-holders to engage in differential pricing according to the specific uses made of their rights. However the applications of these measures are also one of the most troublesome sources of conflict between right-holders and consumers[227].

The role technology can hold in protecting intellectual property can vary 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 right holders determine at their own discretion terms and conditions for access and use of their works, and embed these rules in technical devices[228]. In both cases, it nurtures the amount of control right holders exert over their productions, because, as is already seen, technology is not subject to any legal limit and is able to control transactions much more strictly than a contract[229].

There are many expressions currently in use to indicate the expanding set of technologies and systems designed to protect content from unauthorised copying and to facilitate monitoring the use of the products by consumers[230]. The terms «self-help systems», «Digital Rights Managements Systems», «Technological Protection Measures», «Automated Rights

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ECONOMIC, LEGAL AND POLITICAL ASPECTS 418 (Eberhard Becker et al. eds., 2003); Samuelson, *supra* note 137 at 42-45; Burk & Cohen, *supra* note 102, 50-51; 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).

[227] *See* CONGRESSIONAL BUDGET OFFICE, U.S. CONGRESS, *supra* note 70, at 11-13.

[228] *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).

[229] On the power of technology, see Reidemberg, *supra* note 81.

[230] *See* Adam, *supra* note 41, at 104.

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Management» all refer to automated systems able to protect and manage, individually , the distribution of digital works.

Prominent, among the problems which could 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 a commercial agreement between the parties with a modifying consequence on the balance of rights[231]. Moreover these means can also control individually users' behaviour presenting a powerful threat to freedom of expression as well as privacy[232].

Generally speaking, these measures are used to manage rights. According to the context, managing rights could embrace[233]: a system that is used to secure and distribute protected contents or protected media files while the rights are defined during the protection step and issued as a usage license to consumers; a system that is used to control access to an online service; an accounting system that can track the rights issued and the royalties that are associated with those rights. Essentially, Digital Rights Management or Technological Protection measures allow «the smooth, secure, trusted movement of digital works from creators and publishers to

[231] *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(5) INT'L REV. OF INDUS. PROP. AND COPYRIGHT L., 491, 496-499 (2004). For comment on the replacing 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).

[232] *See* Gross, *supra* note 130, at 190; Cohen, *supra* note 226 and for a European perspective, see Bygrave, *supra* note 226.

[233] *See* WILLIAM ROSENBLATT ET AL., *supra* note 231.

retailers and consumers»[234]. 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»[235]. 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»[236].

A. Technological features to protect access and rights control

The inclusion of copy protection devices, is a feature of many digital media. A wide range of techniques is 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»[237].

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[234] See ContentGuard, *XrML - The Technology Standard for Trusted Systems in the eContent*, available at http://www.contentguard.com/xrml.html

[235] *Ibid.*

[236] *Ibid.*

[237] For this distinction, see 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 231, 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.

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The first one deals with the concept of "who has access to what" and includes to the types 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.

The second one limits a users' ability to exercise one of the rights of the content owner. These distinctions imply, for example, that those who circumvents a right control will not infringe the copyright owner's rights[238]. In this sense, access controls may enjoy stronger protection than rights controls and right-holders could have more incentive to use access controls rather than rights controls in order to obtain the stronger legal protection against circumvention[239]. However, technological protection systems could incorporate both types of control.

From a practical point of view, these systems can be characterised by different technology. Encryption is one of the basic features. It keeps content secure by scrambling ('encrypting') it and preventing from being read until it is unscrambled with the appropriate decryption key[240]. It

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[238] *See* Reese, *supra* note 237, at 624.

[239] *Id.* at 641.

[240] *See* DIGITAL DILEMMA *supra* note 3, at 156-158. 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 techniques ensures higher speed in terms of computer processing, but it is also less secure if compared to public-key as 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, 295.

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 unauthorised users.

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 a digital content. This protection system is based on the science of steganography or data hiding[241]. 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 right-holders or content provider, 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 the ownership, authenticating the content's integrity, ascertaining unauthorized distribution or publication (fingerprinting)[242], there is not actually a type of watermarking capable of satisfying all its

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

[242] *See* DIGITAL DILEMMA *supra* note 3, at 296-299. 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 will be obtained an error message, meaning that an alteration occurred. Robust watermarking works the same way but it makes provisions for changes to occur. If any alteration occurred, the watermark obtained after using the key to extract the file will only be "close" to the original.

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possible applications and especially it cannot be used to prevent production of pirated copies. Programs like web-crawlers allow extensive searches over the Net for documents digitally marked, and even though watermarking cannot control the use made of digitally marked works nor stop people from distributing them, unauthorised applications can be detected. With such evidence, right holders are then enabled to sue individuals for intellectual property rights infringement[243].

Finally, another type of protection measures is constituted by the "trusted systems". They 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[244]. Trusted systems are essentially based on the principle of confidence between participants in an exchange, with the understanding that all parties concerned will accept to certain rules. These rules are disposed to

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A particular kind of watermarking is fingerprinting. Here, digital objects are embedded with further information identifying the recipient. If the file is distributed without authorisation, by extracting the original fingerprint it is possible to detect its original source.

[243] Content owners also rely on labelling, providing documents with a logo or a notice warning viewers about the uses allowed by the right holder. Due to their purpose, they are generally visible, susceptible of alteration and do not offer enforcement of usage terms.

[244] *See* Jonathan Weinberg, *Hardware Based ID, Rights Management, and Trusted Systems*, 52 STAN. L. REV. 1251, 1254-1255 (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. 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. *See* David Safford, *The Need for TCPA,* IBM Watson Research - Global Security Analysis Lab (Oct., 2002), available at http://www.research.ibm.com/gsal/tcpa/why_tcpa.pdf.

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[245].

B. How technological solutions could govern users' behaviour

Technological protection measures have a series of upsetting and unexpected uses. For example, most software programs are subject to End User License Agreements (hereafter: EULAs) and the common consumers' attitude towards EULAs is to agree to them without reading. But a EULA is a classic example of contracts of adhesion[246] that does not come as the result of a negotiation between the vendor and the user[247]. A mass-market software company,

[245] *See* DIGITAL DILEMMA *supra* note 3, at 167- 171. 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, 381-388 (2002).

[246] *See* Robert A. Hillman & Jeffrey J. Rachlinski, *Standard-form Contracting in the Electronic Age*, 77 N.Y.U.L. REV. 429 (2002) (remarking the easy adaptation of traditional contract law to electronic transactions).

[247] On EULA *see* Robert W. Gomulkiewicz & Mary L. Williamson , *A Brief Defense of Mass Market Software License Agreements,* 22 RUTGERS COMPUTER & TECH. L.J. 335 (1996); John J.A. Burke, *Reinventing Contract*, 10 MURDOCH U. ELEC. J.L. 2, para. 18 (2003) available on line at http://www.murdoch.edu.au/elaw/issues/v10n2/burke102_text.html

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writes the EULA to license copies of their goods, so they can restrict their customers' rights of transfer and use. Essentially the only possibility for the end user is to take 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 right-holders to set excessive condition 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 of protected content[248]. So DRM, *de facto*, could also be seen as the imposition of a unilaterally contractual term and conditions[249]. When users access content protected by a technological protection measure, the content provider, in practice, impose a contractual provision by a click-through or click-wrap[250] agreement[251].

In this sense, technological protection measures could be considered a condition of the common use of contract-based distribution models on the internet[252]. Therefore the inequity

[248] *See* P. BERNT HUGENHOLTZ, COPYRIGHT AND ELECTRONIC COMMERCE: LEGAL ASPECTS OF ELECTRONIC COPYRIGHT MANAGEMENT, 2 (2000).

[249] *See* de Werra , *supra* note 225, at 244 (2003).

[250] 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, 1241 (1995).

[251] Some commentators argue that, even if DRM usage contracts are usually made over the Internet and are therefore not shrink-wrap licenses in the strict sense, they could be analogized to their online counterpart: the so-called "click-wrap" licenses. *See* Stefan Bechtold, *Digital Rights Management in the United States and Europe,* 52 AM. J. COMP. L. 323, 343 (2004) (remarking also that most DRM usage contracts are such click-wrap licenses). On the electronic contracting environment, see also Hillman & Rachlinski, *supra* note 246, at 464.

[252] *See* de Werra, *supra* note 225, at 250.

that these measures introduce in the different position should be considered by policymakers if they want support this kind of business models[253]. Some commentators have reasonably argued that, unless the legislator clarifies the issue, the copyright regime would succumb to mass-market licenses and technological measures[254]. 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 a means to exploit intellectual property rights. Otherwise the risk is that consumers lose all the privileges granted under its regime[255].

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[256]. There is, then, an essential contradiction: if the technological measures against copy 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 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

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[253] For an 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, LEGAL ASPECTS OF ELECTRONIC COPYRIGHT MANAGEMENT 125, 149-152 (P. Bernt Hugenholtz ed., 2000).

[254] *Id.* at 160.

[255] *See* de Werra *supra* note 225, at 244.

[256] WILLIAM ROSENBLATT ET AL., *supra* note 231, at 46.

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this bad practice because right 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[257].

A possible solution could be to see Digital Right Management systems as a means to put into affect a contract between the content provider and the end user in a very similar way to «shrink-wrap licenses» for computer software [258]. The latter issue will be to set the limit of infringement: i.e. if it could be identified as a simple contractual infringement, concerning civil law and with a private nature, or as a criminal offence. 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 content user.

Transactions supervised and enforced by technological protection measures as well as based on this type of contract, could alter the balance of rights between right-holders and consumers[259], in particular because, in the US systems, «some types of technologically-enforced rights transactions supersede the limits of fair use[260] and the first sale doctrine[261]»[262].

[257] *See* European Consumers' Organization, *Digital Rights Management (DRM) - BEUC Position paper, X/025/2004*, [hereinafter DRM-BEUC Position paper] available at http://europa.eu.int/information_society/eeurope/2005/all_about/digital_rights_man/doc/beuc.pdf

[258] *See* Bechtold, *supra* note 251, 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 also DIGITAL DILEMMA *supra* note 3, at 34.

[259] *See* DAN L. BURK, *DNA Rules: Legal and Conceptual Implications of Biological "Lock-Out" Systems*, 92 Calif. L. Rev. 1553, 1564 (2004) (observing that implementing technical constraints on access to and use of digital information, a copyright owner can effectively supersede the rules of intellectual property law). *See also* NIVA ELKIN-KOREN, *supra* note 222.

[260] Codified at 17 U.S.C. § 107

[261] Codified at 17 U.S.C. § 109 (a)

Nevertheless DRM, when seen as a contract, could be used to protect contents that are not subject to intellectual property rights protection[263] and could also erect barriers not only at entrance level. DRM has the potential to set up an exit barrier because it does not know when copyright terms expire, thereby the same control on works that should exit copyright, hampering their entry into the public domain and establishing a *de facto* unending copyright protection[264].

In general a content transaction could be identified as license or as sale[265], but the controversial nature of the distinction between a license and sale, when applied to technology world, could make more confused this doctrinal dispute[266]. However, the main difference is that in the first case the content transaction falls under contract law while in the second under

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[262] WILLIAM ROSENBLATT et al., *supra* note 231, at 46

[263] *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 while the Supreme Court had said that this kind of material could not be protected by copyright (*See* Feist Publications, Inc. v. Rural Tel. Servs. Co, Inc., 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 CALIF. L. REV. 111, 125-26, 132 (1999). *See also* Elkin-Koren *supra* note 231.

[264] *See* Therien, *supra* note 157, at 994.

[265] *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).

[266] *See* RAYMOND T. NIMMER, THE LAW OF COMPUTER TECHNOLOGY : RIGHTS, LICENSES, LIABILITIES, (1985) ¶ 6.01 at 6-3.

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copyright law[267]. In the U.S. systems, the relationship between copyright law and contract law is quite debated because, copyright is a federal matter governed by the federal law while contract law is state law and States cannot limit or expand copyright rights through state law[268]. In the U.S system, in fact, the preemption doctrine is in force. It is a constitutional principle, codified in 17 U.S.C. 301, under which Congress may impose its intent to totally or partially supplant state law[269]. 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 law[270] in order to guarantee a homogeneous federal copyright law system that not leave any unclear areas between

[267] *See* WILLIAM ROSENBLATT ET AL., *supra* note 231, at 48 (arguing that he tension between copyright and contract law affects the balance that copyright law seeks to strike).

[268] In the US system works the preemption doctrine, i.e. a constitutional principle codified in 17 U.S.C. 301 stating that copyrighted material is governed exclusively by this title and it preempts «the common law or statutes of any State».

[269] The principle derives from the Supremacy clause, U.S. Const. art. VI, cl. 2.: «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.»

[270] On the relationship between copyright and contract law pre-emption, see Lemley, *supra* note 263; Elkin-Koren *supra* note 231; Maureen A. O'Rourke, *Copyright Preemption After the ProCD Case: A Market-Based Approach,* 12 BERKELEY TECH. L.J. 53 (1997); Id., *Striking a Delicate Balance: Intellectual Property, Antitrust, Contract and Standardization in the Computer Industry*, 12 HARV. J.L. & TECH. 1 (1998); I. Trotter Hardy, *Contracts, Copyright, and Preemption in a Digital World*, 1 RICH. J.L. & TECH. 2 (1995). *See also* Nimmer *supra* note 79.

state and federal protection[271]. This implies that in the United States this principle could be strictly related to the contractual extension of copyright rights beyond those granted by the copyright Act, or the reduction of the rights that users have conventionally benefited from apart from contract[272].

In this sense some commentators assert that preemption could play an important role to solve the conflict between contract and copyright law[273] but cannot and will not solve the problem alone[274].

However the main issue is to decide if DRM could be seen as a contract between buyer and seller. In this case, in 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 right 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[275]:

> …the movement at the state level toward resolving questions as to the enforceability of non-negotiated contracts coupled with legally-protected

[271] *See* Elkin-Koren *supra* note 231, at fn45.

[272] *See* Hardy, *supra* note 270.

[273] 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 231.

[274] *See* Lemley, *supra* note 263 at 136.

[275] U.S. COPYRIGHT OFFICE, DMCA SECTION 104 REPORT, xxxi-ii (2001) available at http://www.egov.vic.gov.au/pdfs/sec-104-report-vol-1.pdf. The 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.

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> 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.

On the other hand, in the E.U. system, the tension between contract law and copyright is much less perceived, probably because in Europe the regulation of contractual practices in the matter of copyright in not unusual[276]. In addition to the mandatory provisions of the Directives on computer programs[277] and database[278], the same copyright law suggests a «guidance for the determination of the validity of a contract that restricts the lawful exercise of a limitation on copyright»[279]. However it is evident also in continental Europe that there is an increasing inclination within the market to create private copyright protection through contract[280].

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[276] For an European point of view on the relation between contract and copyright law, see Lucie M.C.R. Guibault, *Pre-emption Issues in the Digital Environment: Can Copyright Limitations be Overriden by Contractual Agreements Under European Law*, *in* MOLENGRAFICA N. 11. EUROPEES PRIVAATRECHT. OPSTELLEN OVER INTERNATIONALE TRANSACTIES EN INTELLECTUELE EIGENDOM, 225, 226-227 (F.W. Grosheide & K. Boele-Woelki ed., 1998).

[277] Directive 91/250/EEC of the Council of 14 May 1991 on the legal protection of computer programs, 1991 O.J. (L 122).

[278] Directive 96/9/EC of the European Parliament and of the Council of 11 March 1996 on the legal protection of databases, 2001 O.J. (L 167).

[279] *See* Lucie M.C.R. Guibault, *Copyright Limitations and Contracts : an Analysis of the Contractual Overridability of Limitations on Copyright,* 214 (2002); de Werra, *supra* note 225, at 318.

[280] 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).

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 right holders and consumers, with altered consumer rights, freedoms and expectations and towards the general replacement of copyright law with contract law and codes»[281]. The question is directly related to the 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 term and conditions. In this case, in fact, 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 of the legal system and, in general, they do not support business models based upon the first-sale doctrine[282], disabling consumers from reselling material.

What we see in the contractual structure of DRM is something similar to a standard form contract that is already popular in commercial and consumer transactions and particularly diffused in technological transfers, licensing intellectual property and service agreements[283].

The American legal system, generally, has allowed the use of these kind of agreements and has enforced their terms[284]. Federal and state legislatures have enacted statutes to protect the

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[281] *See* DRM-BEUC Position paper, *supra* note 257.

[282] *See* Burk, *supra* note 106, at 1100 (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). *See also* David Nimmer et. al., *The Metamorphosis of Contract into Expand*, 87 CAL. L. REV. 17, 137 (1999).

[283] DRM has been defined «a souped-up standard form contract». *See* Ian Kerr & Jane Bailey, *The Implications of Digital Rights Management for Privacy and Freedom of Expression,* 2(1) INFO. COMM. & ETHICS IN SOCIETY, 87–94, (2004).

[284] For an overview of standard terms in American law, see EDWARD ALLAN FARNSWORTH, CONTRACTS (4d ed. 2004).

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consumer against aggressive contracting and his own ignorance in certain transactions[285]. Furthermore, in the common law systems there is in force the "doctrine of unconscionability"[286] with the effect of extending the protection of weak contractual parties as far as possible[287], giving judges the power to determine boundaries of this remedy[288]. On the other hands the E.U.

[285] *See* BURKE, *supra* note 247.

[286] 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.

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); John A. Spanogle, *Analyzing Unconscionability Problems*, 117 U. PA. L. REV. 931 (1969); Richard A. Epstein, *Unconscionability: A Critical Reappraisal*, 18 J. LAW & ECON. 293 (1975); Richard Craswell, *Property Rules and Liability Rules in Unconscionability and Related Doctrines*, 60 U. CHI. L. REV. 1 (1993); 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); Carol B. Swanson, *Unconscionable Quandary: U.C.C. Article 2 and the Unconscionability Doctrine*, 31 N.M. L. REV. 359, 367 (2001); Russell Korobkin, *Bounded Rationality, Standard Form Contracts, and Unconscionability*, 70 U. CHI. L. REV. 1203, (2003). On the relation between contract and intellectual property, see Lemley, *supra* note 263, at 111, 151-158 (1999); Nimmer, *supra* note 79.

[287] *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 246, 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).

[288] *See* Cristiana Cicoria, *The Protection of the Weak Contractual Party in Italy vs. United States Doctrine of Unconscionability. A Comparative Analysis*, 3(3) GLOBAL JURIST (2003) available at http://www.bepress.com/gj/advances/vol3/iss3/art2. The doctrine of unconscionability is a doctrine of contract

framework is based on a set of rules incorporated in the European Union Council Directive on Unfair Terms in Consumer Contracts[289]. 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[290]. It also contains a non-exclusive grey list of unfair terms. The E.U. Directive sets only a minimum baseline, while every E.U. member States have national consumer legislation that protects the adherent of standardized conditions. The Commission has, in fact, 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»[291]. 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 to the difficult legislative options.

We have to decide if we want all content rights transactions have to fall under contract instead of copyright law and, if yes, we have to find remedies to protect the consumer's rights.

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law that makes a contract term unenforceable when is demonstrated the occurrence of both procedural and substantive unfairness. For the distinction of these two kind of unconscionability, see Leff, *supra* note 286, at 505.

[289] EC Council Directive 93/13/EEC of 5 April 1993 on Unfair Terms in Consumer Contracts, 1993 O.J. (L95/29).

[290] 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.

[291] *See* REPORT FROM THE COMMISSION ON THE IMPLEMENTATION OF COUNCIL DIRECTIVE 93/13/EEC OF 5 APRIL 1993 ON UNFAIR TERMS IN CONSUMER CONTRACTS, 13 (2000), available at http://europa.eu.int/comm/consumers/cons_int/safe_shop/unf_cont_terms/uct03_en.pdf

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Consumer contracts governing the use of digital material, in particular, must be fair and transparent[292].

C. The Role of DRM in the E .U. 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 digital rights management systems (DRMSs), that is, the process by which right holders of digital materials and content providers seek implement usage rules and ensure they are respected[293]. Because the right of right-holders and consumer must be balanced also in the digital environment, in the public interest, we need to clarify the role set out of DRM and its capability to develop successful content-based business models.

The DRM, as seen, has potential to ensure a large variety of positive and negative effects. It could offer a wider range of choices for consumers to access and use digital material in a number of ways. DRM also introduce a more valuable and efficacious remedy to fight the commercial piracy and illegal malpractice of file sharing. But, at the same time, it could offer more information for right-holders about the consumers' use of digital media and allows monitoring of the consumers' use of digital material[294]. 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 could be absolutely unjustified, against the law and with the power to make unnecessary the judicial enforcement of copyright.

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[292] *See* DRM-BEUC Position paper, *supra* note 257.

[293] For a general overview on DRM, see WILLIAM ROSENBLATT ET AL., *supra* note 231.

[294] *See, e.g.*, Cohen, *supra* note 226, at 585; Bygrave, *supra* note 226.

Nobody can force the right holders to not protect their business. The challenge is to find, in this new digital environment, an appropriate balance between the conflicting rights, i.e. 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[295].

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 European pragmatic approach in the political debate over DRM technologies. For example, in the United States under the Digital Millennium Copyright Act, copyright holders are allowed to request subpoenas for information on copyright infringers without taking further legal action[296]. 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[297].

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[298]. Furthermore in the European Union the legal framework for digital content protection was established by the

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

[296] 17 U.S.C. 512(h) (2005).

[297] *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 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». 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).

[298] *See* Article 9 of the Directive 2004/48/CE , *supra* part II C.

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previously mentioned Directive on the Harmonisation 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 protection systems, addressing the use of DRM systems. The political and technical debate over the role of DRM in the E .U. internal market has reached its fever pitch in July 2005, when a Commission "Broadband Content Workshop", showed that operators, internet service providers, content providers, broadcasters and the entertainment industry need adequate DRMs to develop successful content-based business models. Market take-up of DRMs, in fact, is patchy. 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. The Commission therefore, as part of the eEurope 2005 Action Plan[299], established a High-Level Group[300] (hereafter: HLG) on DRMs in March 2004. The High Level Group Final Report, presented on 8 July, 2004, reflected a consensus on basic principles and recommendations for future actions in three main areas.

[299] 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.

[300] 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.

The HLG has produced a document[301] that outlines the recommended actions concerning some key aspects: DRM and interoperability, impact of DRM on levies[302], migration to legitimate services and consumer confidence.

About interoperability, the High Level Group found that while open standards are best for true cross-platform interoperability, various scenarios are currently possible, ranging from different proprietary systems through to standards-based convergence. 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. Recommendations included that stakeholders 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

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[301] *See* EUROPEAN UNION HIGH LEVEL GROUP ON DIGITAL RIGHTS MANAGEMENTS, FINAL REPORT (MARCH-JULY 2004)*, supra* note 107.

[302] Because technical protection measures and management systems in general makes possible to compensate rightholders in a direct way, it seems illogical to preserve also a levies system. In fact, with this double compensation system, rightholders could be compensated two time for the same reasons: they control and receive remuneration for private copying with the technical protection measures and then they 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). The 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.

Article 5.2(b), Directive 29/2001/EC.

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States should foster open standards, ensuring that DRM security will not be undermined and enforcing anti-piracy measures. The current absence of interoperability 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 contents that fit their devices. However the assumption of a DRM system able to ensure interoperability between very different hardware and software systems, at the moment, is quite utopian. The fact is that 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 to using the same standard[303], with the consequence that a standardized DRM system could be more vulnerable to piracy. Furthermore, the imposition of a standard in this start-up situation can have the effect to restrain all the investments of new and more advanced systems[304].

Actually the practice has shown that industry has been able to reach agreements on the adoption of technological protection measures for special format. The case of DVD is the most evident example. In any case the same EUCD avoids the requirement of any particular standard but encourages the compatibility and interoperability of different systems[305].

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[303] Recently (19 January 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.

[304] *See* Marie-Thérèse Huppertz, *supra* note 302, at 70.

[305] *Id.* at 70. As pointed out in the text, the practice has shown that industry was able to reach agreements for the adoption of technological protection measures for certain formats (e.g. DVD video). However the

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. According to HLG, DRMs could play an essential part, enabling new business models and preventing unauthorized use. Stakeholders, then, 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, and that there is a necessity to provide political commitment to protecting content delivered by DRMs, and promoting awareness among consumers of legitimate alternative offerings.

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 networks for practices that are not illegal, for example for the promotion of content or the potential benefits of peer-to-peer networks for unknown or independent artists[306]. Furthermore the paper never distinguishes between piracy for commercial purposes and the individual acts of many private consumers, almost assuming that current consumer usages are illegitimate.

Finally HLG focuses on the relation between DRMs and private copying levies. Levies were introduced in many European countries to compensate right holders for the limitation to their exclusive right of reproduction as regards to reproductions made for private use[307]. The

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Copyright directive avoids to require a single management standard but encourage 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 to stop all the investments in the development of new more advanced systems.

[306] *See* DRM-BEUC Position paper, *supra* note 257.

[307] On the levies systems in the DRM-based services, see also P. Bernt Hugenholtz et al., *The Future of Levies in the Digital Environment*, INSTITUTE FOR INFORMATION LAW, (2003), available at

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establishment of levies, emerged in view of the *de facto* non- enforceability of the reproduction right. They operate as a tax on all purchasers, irrespective of whether engaged in private copying or not[308].Even if the paper of HLG ignores some important consumer perspective on levies, it underlines the necessity to avoid double payment and the purpose to use levies ad a mechanism to compensate for piracy[309]. In fact, as noted by some commentator, because technical protection measures and management systems, in general, makes possible to compensate right-holders in a direct way, it seems illogical to preserve also a levies system[310]. In fact, with this double compensation system, right-holders could be compensated two time for the same reasons: they control and receive remuneration for private copying with the technical protection measures and then they receive another remuneration for the same copying with the levies[311]. Unfortunately the same European Consumers' Organization remarked as levies system continue to be imposed incorrectly on an increasing number of multipurpose devices in most of the European Member States[312].

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http://www.ivir.nl/publications/other/DRM&levies-report.pdf; Jörg Reinbothe, *Private Copying, Levies and DRMs against the Background of the EU Copyright Framework*, held at the Conference on The Compatibility of DRM and Levies (Brussels, 8 September 2003) available on-line at http://europa.eu.int/comm/internal_market/copyright/documents/2003-speech-reinbothe_en.htm

[308] *See* DRM-BEUC Position paper, *supra* note 257.

[309] 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 - TECHNOLOGICAL, ECONOMIC, LEGAL AND POLITICAL ASPECTS 447 (Eberhard Becker et al. eds., 2003).

[310] *See* Marie-Thérèse Huppertz, *supra* note 302, at 70.

[311] *Ibid.*

[312] The uncontrolled imposition of levies does not take in 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:

D. Some new business models for digital media

The action of the 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 realised 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 on-line services that will displace illegal file-sharing.

Even if, as declared by the International Federation of the Phonographic Industry (IFPI), the most important development in the content industry has been in 2004[313], important initiatives in this sector started already in December 2001[314]. Unfortunately these first attempts were not successful. The main problem for their failure was that although the majors decided to get on these digital projects, they never really took the challenge of developing an entirely new business model compatible with the economics of digital distribution, maintaining their old

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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 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.

[313] *See* IFPI:05 DIGITAL MUSIC REPORT, *supra* note 127, at 4

[314] 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. 2002 available on line athttp://www.wired.com/news/mp3/0,1285,49934,00.html

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practices based on dependence on predictable regular income and high margin of profits guaranteed by the sale of physical products[315]. 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, in fact, 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[316]. Originally, the initial music industry services prevented all these features securing works with technological protections and dictating terms of use in order to protect contents.

The main problem associated with the first fee-based services was that customers entered a contract where they have 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[317], can change the responsibility of the enactment of legal regulations from the hands of policy-makers into those of the major distribution companies.

Meanwhile, in these last few years they have emerged new business models in the digital music market. 2004 was a milestone year for the content industry[318]. The combination of searching, browsing, downloading and portability is transforming the way to consuming

[315] *See* Fagin Matthew et al., *Beyond Napster: Using Antitrust Law to Advance and Enhance Online Music Distribution*, 8 B.U. J. SCI. & TECH. L. 451-573, 490 (2002).

[316] *See* Brendan Scott, *Copyright in a Frictionless World: Toward a Rhetoric of Responsibility*, FIRSTMONDAY available at http://www.firstmonday.dk/issues/issue6_9/scott/

[317] *See supra* note 41.

[318] *See* IFPI:05 DIGITAL MUSIC REPORT, *supra* note 127, at 7

contents. An essential event in the growth of these services is the portable player explosion. As in the past the Sony VCR opened a new market for the film industry, today the incredible diffusion of portable players like Apple's Ipod, have convinced recording industry to start relevant online services.

Increasingly seen in the digital services arena are two business models: pay per download and subscription services[319]. The first one gives consumers the chance to own music, with greater flexibility than traditional media as single tracks can be selected, downloaded and managed[320]. This model is used by services[321] such as iTunes Music Store[322] and MSN Music[323].

Subscription services offer downloading content for a monthly fee. Usually these services allow user to access music file databases with the possibility of purchasing selected tracks. This model characterized services like the new Napster[324], Rhapsody[325] and Virgin Digital[326]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 contains to be a subscriber. This trend suggest a long-term shift in music consumption from traditional physical media to digital sales with an increasing market for single tracks sales. In other words, digital use is expected to replace CD buying.

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[319] *Ibid.*

[320] *Ibid.*

[321] For a comprehensive directory of services is possible to visit the web site http://www.pro-music.org

[322] http://www.apple.com/itunes/store/

[323] http://music.msn.com/

[324] http://www.napster.com

[325] http://www.real-download.com

[326] http://www.virgindigital.com/

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Nobody can deny that the forerunner of this new legal alterative was Apple's iTunes Music Store[327] offering the most successful online distribution service[328]in combination with an extremely popular portable music device.

The Apple system was first launched in US in April 2003 and expanded into three key European markets - UK, France and Germany – in June 2004 and extended to other eleven countries – Austria, Belgium, Canada, Finland, Greece, Ireland, Italy, Luxembourg, Netherlands, Portugal and Spain - in October and December 2004. It appears to be the first product thought 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[329] does not require subscription to any online contract. It instead works on the idea of allowing single purchases for the reduced price of $ 0,99[330] and on the allowing buyers to burn songs onto CDs no more than ten times (and for personal use only, of course), or copy them onto Apple's MP3 player, iPod, and access them from three different Apple computers, 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[331]. iTunes uses, in fact, a proprietary DRM system - called "FairPlay" – based

[327] Apple's iTunes Music Store is available at http://www.apple.com/music/store/.

[328] Online services are present also outside U.S. and Europe with over 40 services. For a Worldwide directory of Authorised Digital Music Services divided for region see http://www.pro-music.org/musiconline.htm

[329] On the iTunes case, see URS GASSER, *supra* note 39.

[330] € 0,99 in the European Countries

[331] *See* Ron Harris, *Secure Music at a Crossroads; Rights Management vs. User-friendly Tunes- Is DRM Dead?*, THE MERCURYNEWS, May 15, 2003, at http://www.bayarea.com/mld/mercurynews/news/local/5871332.htm.

on the possibility to move 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 burn 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[332].

However, it seems that the essential reason of 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 has been 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 contents available digitally proliferates it could compete with piracy. The increase and proliferation around the world of services offering digital music have, in fact, established a new market and new business models. Consumers have accepted these new initiatives and their attitudes to digital music are changing.

As demonstrated by the emergent digital business in the digital music sector, pay-per-downloads and subscription services are the real weapons to control music piracy[333]. Fighting

[332] The rapid rise of different portable player systems has exposed one key problem, namely the lack of interoperability between different devices and service. *See* IFPI:05 DIGITAL MUSIC REPORT, *supra* note 127, at 13.

[333] *See* Stuart Haber et al., *If Piracy is the Problem, is DRM the Answer?*, *in* DIGITAL RIGHTS MANAGEMENT - TECHNOLOGICAL, ECONOMIC, LEGAL AND POLITICAL ASPECTS 224 (Eberhard Becker et al. eds., 2003).

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the problem of internet piracy with a more restrictive protection of contents can only contribute to change the traditional balancing of public and private rights.

Conclusions

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

We have also seen that different forms of government intervention have not removed inequalities but, on the contrary, 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 E.U. law have shown a determined trend toward the protection of content and management of rights which are considered fundamental to ensure the compliance of a business model with contractual and regulatory demands[334].

We have, at the end, discussed how the European harmonization emulates the American leading regulatory model, affecting seriously the configuration of the continental pattern. In fact, even though after eight directives[335] have been adopted in the last fourteen years

[334] *See* BILL ROSENBLATT & GAIL DYKTRA, INTEGRATING CONTENT MANAGEMENT WITH DIGITAL RIGHTS MANAGEMENTS, (2003)

[335] In order: Council Directive of 14 May 1991 on the legal protection of computer programs [91/250/EEC]; Council Directive 92/100/EEC on rental right and lending right and on certain rights related to copyright in the field of intellectual property; 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; Council Directive 93/98/EEC on harmonization of term of protection of copyright and certain related rights; Directive 1996/9/EC of the European Parliament and of the Council on the legal protection of databases; Directive

in the field of copyright and information society, the E.U. 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*[336] so that copyright protection would be granted directly at the European Union level and apply to its entire territory[337]. On the other hand we have noticed an unprecedented effort to organize transnational policy planning and to create a safe international legal infrastructure directed to safeguard U.S. global economic hegemony upon the production, ownership and marketing of intellectual property-based goods and services[338].

The above mentioned legislative experience has also persuaded to consider useful to set limits of freedom of contract[339] in the framework of intellectual property licensing agreements,

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2001/84/EC of the European Parliament and of the Council on the resale right for the benefit of the author of an original work of art; Directive 2001/29/EC on the Harmonisation of Certain Aspects of Copyright and Related Rights in the Information Society; Directive 2004/48/EC of the European Parliament and of the Council of 29 April 2004 on the enforcement of intellectual property rights.

[336] 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». *See* P.S.R.F. MATHIJSEN, A GUIDE TO EUROPEAN UNION LAW 6 (8th ed. 2004).

[337] *See* Jörg Reinbothe, *European Copyright –Yesterday, Today, Tomorrow, in* DIGITAL RIGHTS MANAGEMENT: TECHNOLOGICAL, ECONOMIC, LEGAL AND POLITICAL ASPECTS, 416-417 (Eberhard Becker et al. eds., 2003).

[338] *See* BETTIG, *supra* note 50, at 197.

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

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because contractual arrangements distort copyright policy[340] while technological protection measures[341] make possible a regime that is very similar, in its nature, to a property regime[342]. In fact, when right-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[343].

Finally, we can assume a different perspective to successfully resolve the problem of trying to learn something from the old media experience[344]. 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 failing to look for ways to cooperate with or even co-opt the new technology[345].

As both recent and old business experience demonstrates[346], new technologies do not destroy the current architecture but rather create new trade opportunities. The idea that a new

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[340] 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. *See* Elkin-Koren, *supra* note 231, at 102. The same concept is demonstrated in the case ProCD II, 86 F.3d at 1454.

[341] *See* the distinction among access control and right control *supra* note 237.

[342] *See* Elkin-Koren, *supra* note 231 , at 104

[343] *Id.* at 112

[344] *See* Dirk J. G. Visser, *Copyright Exemptions Old and New: Learning from Old Media Experiences*, *in* THE FUTURE OF COPYRIGHT IN A DIGITAL ENVIRONMENT 49 (P. Bernt Hugenholtz ed., 1996).

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

[346] For example the videocassette recorder (VCR), in a first time, 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

technology renders obsolete all that came before is inflaming today's debate about the protection of digital content. However, as always, in the history of the 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, as what is now happening in the field of digital media, this process can be quite slow because the government is involved 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 down economic growth.

The information society uses precisely this framework in that digital technologies allow for the wide distribution of perfect copies at practically no marginal cost with a disjointing 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 too the indiscriminate use of technological protection measures, is a return to anachronistic measures of the past as happened many years ago with the untenable "red flag act" enacted to defend the carriages industry at the

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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 become yet another ancillary market for the major filmed entertainment companies». *See* BETTIG, *supra* note 50, at 4, 151.

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advent of the first automobiles[347]. The present must learn from the past in order to avoid the same mistake and to protect the future.

[347] After the first recognized automobiles became commonplace, in England the carriage industry promoted some untenable acts (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. *See* MARCO MATTEUCCI. HISTORY OF THE MOTOR CAR, 392, (1970). 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 welcome to many and protests were organised. This act was modified in 1878.