THE ADOPTION OF ANTI-CIRCUMVENTION REGULATION IN THE EU AND THE US; AN ILL-GROUNDED DECISION?

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Abstract

This paper unearths the legislative history of the Software Directive, the Information Society Directive and of the Digital Millennium Copyright Act in order to identify the justifications that led to the adoption of anti-circumvention regulation in the EU and the US. It argues that although Technological Protection Measures and anti-circumvention regulation were presented as a means to protect copyrightholders from allegedly novel threats, as a means to compensate them for the harm they would allegedly endure and finally as a means to encourage them to exploit the potential offered by new technologies, in reality they were a means to establish new models for the exploitation of copyright works, as the traditional business models for the exploitation of copyright works were challenged in the networked online environment.

1. Introduction

At both sides of the Atlantic anti-circumvention provisions were adopted long before the real potential of digitization and the internet was revealed. In Europe, the first anti-circumvention provision was adopted at Union level in 1991; article 7(1)(c) of the Software Directive[1] required the prohibition of facilitation of circumvention of Technological Protection Measures (TPMs) protecting computer programs. Since 2001 article 6 of the Information Society Directive[2] asks for the prohibition of circumvention and facilitation of effective TPMs protecting copyright works, other than computer programs.[3] In the US, the Digital Millennium Copyright Act[4] (DMCA) introduced anti-circumvention provisions in 1998, adding a new Section 1201 to the 1976 Copyright Act.[5]

Although the introduction of anti-circumvention regulation in the EU and the US was hailed as a necessary instrument to promote the development of an electronic marketplace and protect authors and creativity, it was ill-grounded. The Software Directive is the most

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characteristic example. In 1988 the Commission rejected the idea of an EU initiative to protect computer programs with technical devices with the rational that "further experience [was] needed with their use in practice".[6] Just one year later an anti-circumvention provision was included in the 1989 initial proposal of the Software Directive without any justification offered either in the Explanatory Memorandum of the proposal or in any other official document.[7] What is even more surprising is that the explanations provided by the Commission for the adoption of the Software Directive actually disfavoured the legal protection of TPMs. In the same document, where the first provision that introduced anti-circumvention at a Union level appeared, the Commission argued that copyright and not contract law was the most appropriate form of legal protection for computer programs, as

> "in some areas, the balance of power between producers and users of computer programs may not permit the latter to negotiate equitable contract conditions, due to the market strength of some software suppliers".[8]

One may wonder on what grounds negotiating conditions for the use of computer programs could be problematic, whereas imposing the conditions for use of computer programs through the use of technological systems was not.[9]

Nonetheless, justifications for the legal protection of TPMs can be found in the legislative documents that led to the adoption of the other anti-circumvention norms. Despite the differences in their formulation, the justifications brought forward can be categorised as three main arguments. Legislatures expected that the advent of technology would facilitate copyright infringement, it would change the nature of reproduction for private use and that it would require the development of new business models for the exploitation of copyright works.

In that regard, this paper examines the true dimensions and the novel character of the alleged issues that TPMs and anti-circumvention norms would tackle as well as the suitability of the adopted means to achieve the envisaged objectives.

2. Facilitation of Copyright Infringement

The first reason offered by legislatures to justify the necessity of affording legal protection to TPMs was the allegedly novel threat that the digital networked environment posed for copyright. Throughout the legislative history of the Information Society Directive and the DMCA it was claimed that the ease of copying, the new models for dissemination of

copyright works and the difficulty in detection and enforcement of copyright law would facilitate the infringement of copyright.

In the 1995 Green Paper the Commission anticipated that "[t]he digitization of works or other protected matter […] would create new scope for piracy and the incentive to engage in it" and that "the danger of piracy and improper use without payment to the rightholders will increase".[10] Two years later in the Explanatory Memorandum of the Proposal of the Information Society Directive it pointed out that "[t]he growing availability of protected works and other subject matter in on-line digital formats, also creates significant new risks for large-scale piracy of intellectual property. [11] Similar concerns were raised in the US before the adoption of the DMCA. In 1998 Senate Report it was stated that "[d]ue to the ease with which digital works can be copied and distributed worldwide virtually instantaneously, copyright owners will hesitate to make their works readily available on the Internet without reasonable assurance that they will be protected against massive piracy."[12] The House predicted that "[w]hile such rapid dissemination of perfect copies will benefit both U.S. owners and consumers, it will unfortunately also facilitate pirates who aim to destroy the value of American intellectual property" [13]

Likewise, the alleged need for efficient enforcement of copyright appears to be behind the adoption of Article 7(1)(c) of the Software Directive, although the Commission and the Council did not provide explicit justifications, as mentioned above.[14] Nonetheless, given the placement of the anti-circumvention provision in the Initial Proposal under the title "Secondary Infringement", one may assume that concerns regarding indirect infringement and preparatory actions for the future infringement of copyrights lay behind the inclusion of what was at the time article 6(2) of the Initial Proposal for the Software Directive. According to the Explanatory Memorandum for the Initial Proposal of the Software Directive "the ease with which unauthorized copies of programs can be transferred electronically from one host computer to another, across national borders and without trace" prompted Union action in order to ensure that copyright holders would "bring successful actions against infringers".[15] As the circulation of circumventing devices was also considered by the Initial Proposal a means of secondary infringement, one may assume that the same problem, namely the efficient enforcement of copyright law, was behind the Commission's proposal to protect TPMs legally.[16] The view that article 7(1)(c) of the Software Directive was a means to protect computer programs against copyright infringements was also shared by commentators at the time. Tapper categorised article 7(1)(c) as a provision that addresses "concerns relating to

infringement of computer programs"[17] and Lehmann argued that it was enacted "for the purpose of direct, and also indirect, combating of software piracy".[18]

One may dispute, though, the validity of the claim that high speed chain copying for commercial purposes and the ease of dissemination of copyright works via the Internet constituted novel threats for the interests of copyright holders and thus called for the adoption of new norms. Firstly, large scale, commercially organised, unauthorised reproduction of copyright works threatened copyright holders long before the digitally networked age. Secondly, new technologies could not render commercially organised activities undetectable and thus make the enforcement of copyright law impossible or harder. On the contrary, as dissemination of works online leaves traces, detecting infringers was made easier than in the past. Thirdly, even if new technologies made home copying easier, copying for private purposes did not constitute infringement in many countries worldwide.

2.1. The threat of piracy before the emergence of the networked digital environment

The "fight against piracy" constituted part of the standard rhetoric of copyright holders when trying to promote their interests long before the appearance of the networked digital environment.[19] For instance, concerns regarding the future of book trade and authorship itself have been voiced since the 18th century, when reprints and abridgements of English books flourished outside and within the UK.[20] Printer William Strahan warned that trade "must soon be destroyed if everybody is permitted to print everything," whereas Thomas Birch's bookseller, Andrew Millar, was apparently "worried to death by such reprinting". Daniel Defoe argued that such practices robbed authors and readers from the "prize of learning", and John Wallis, a mathematician, claimed that abridgements of the works published might "endanger the loss of the author himself".[21]

With regard to music piracy, UK publishing firms in Victorian England were alarmed, especially about American pirates who not only sold copies of British copyright works in the US but also reintroduced them in the British market.[22] In the Edwardian era UK music publishers had to face the unauthorised mass production of sheet music due to the advent of photolithography.[23] Nonetheless, in the late 19th and early 20th centuries music publishing prospered as never before.[24] In the US at the turn of the 20th century, sheet music publishers were alarmed about the player piano, which threatened to reduce their revenues.[25] Composer

John Philip Sousa bemoaned the introduction of the technology, predicting "a marked deterioration in American music and musical taste, an interruption in the musical development of the country, and a host of other injuries to music in its artistic manifestation".[26]

The rhetoric of piracy emerging as a novel danger was not abandoned in the late 20th century. In the 1970s publishers were warning that "the unprecedented technological progress harms the environment the way that DDT affects wildlife, and if the condition is permitted to continue it may go beyond the point of no return […] Uncontrolled […] photocopying may destroy the incentive for writing and the economic viability of publication".[27] Public outcries for the "novel" piracy dangers were echoed in important international fora, such as the Intergovernmental Committee of the Rome Convention, WIPO and UNESCO, who drew "attention to the widespread and increasing unauthorised duplication of phonograms and the prejudice it brings to the interests of authors, performers and producers of phonograms";[28] and emphasized that "the enormous growth of commercial piracy and audio-visual recordings and of films all over the world is posing dangers to national creativity, to cultural development and to the industry, seriously affecting the economic interests of authors, performers, producers of phonograms, videograms and films and broadcasting organisations".[29]

Similar worries were also raised in Europe. In 1983 the UK Publishers Association drew attention to the allegedly serious problem of book piracy, especially in regard to developing countries.[30] Piracy was one of the major subjects of debate at the Symposium on 'Copyright and Cultural Policy – The Gap Between Copyright and Related Rights Legislation and Technological Development' held under the auspices of the Council of Europe in June 1984. The participants stated in the resolution that "piracy has assumed alarming proportions and is to be regarded as a serious offence prejudicial to culture and the economy".[31] In 1988 the Commission stated that "in recent year, piracy has emerged as a serious problem for copyright industries and for creative artists depending upon due respect of copyright for their living".[32]

Large scale unauthorised reproduction and distribution of works was thus by no means a novel threat that emerged in the digital networked environment. However, new technologies could alter the nature of commercial piracy, making it a more significant threat for the interests of copyright holders in comparison to the past.

The US House stated in the Commerce Report that preceded the introduction of the DMCA "in contrast to the analogue experience, digital technology enables pirates to reproduce and distribute perfect copies of works - at virtually no cost at all to the pirate."[33] This statement though disregards the fact that not only the reproduction and distribution of unauthorised copies has been perfected, but also the reproduction and distribution of authorised copyright works. The "perfection" of copies is important to the extent that it makes the copies interchangeable substitutes of the authorised originals.[34] Of course, unauthorised reproductions and original copyright works are not perfect substitutes as the level of substitutability can be influenced by factors other than the quality of the unauthorised reproduction, such as the desire to compensate the author of the work for her creative effort. Nonetheless, contrary to the arguments of the legislature,[35] digital advancements did not render the markets for authorised and pirate goods substitutable to a greater extent than handwritten book copies or music sheets did in the past. For example, an unauthorised handwritten copy of a manuscript or handwritten music sheet substituted original handwritten works in the 15th century, an imported US or Dutch book substituted a printed English book in the 19th century and large scale unauthorised reproductions of cassettes made with the use of professional equipment could substitute the original works, just like the pirated CDs and DVDs sold by professionals are substitutes of the original works.

Moreover, the claim that reduced costs of production and distribution of copies of copyright works would induce greater levels of piracy is unsubstantiated. A reduction of the costs of unauthorised reproduction would create a greater profit margin for pirates, only if all other market factors remained the same. However, as new technologies reduced the cost of production and distribution for pirates, they also reduced these costs for copyright holders and allowed them to offer their products in lower prices.

The example of the fall of productions costs for hardcover books of general interests in the digital environment verifies that. Although publishers argue that the expenses for publishing a book do not differ substantially in the digital world, as royalties and the need for editing and marketing remain the same,[36] these costs would only amount to 36.5% of a book's cover price.[37] For e-books there are no returns, no warehouse fees, no printing expenses and shipping costs and the costs for maintaining an electronic market place are substantially less than for the maintenance of numerous bookstores[38]. The costs for running a publishing company are also reduced, as books are sold to a universal marketplace and there is no need for the distribution networks of the off-line world.[39] Moreover, the advent of

technology gives the opportunity to authors to publish their works themselves without the cost of the publisher as an intermediary.

So, following the same logic that the legislature accepted with regard to pirates, copyright holders would be in better position now than in the past to exploit the markets for copyright works, as they would not have to bear the higher costs that their predecessors had to bear and thus they could offer their products for lower prices.

Thus, at the time of the enactment of the anti-circumvention norms the "virtually costless" reproduction of copyright works could have led to three different scenarios, depending on how copyright holders would have reacted to the technological advancements. If copyright holders took full advantage of the possibilities offered by technological advancements and lowered the price of their products, the profit margin for commercial pirates would be reduced and thus they would be discouraged from engaging in unauthorised copying. On the other hand, if copyright holders retained the same price despite the reduction in the production costs, commercial pirates could benefit from "easy and costless" copying and be induced into piracy because of the greater profit margin they would enjoy as a result of their reduced costs for reproduction. Finally, if both took equal advantage of the new technologies the situation would not change from the past, since the profit margin of the pirates would remain the same. Moreover, even if the advent of technology actually created a greater profit margin for unauthorised activities and induced commercial piracy, it does not follow that the demand for pirate works would increase at a similar pace, as the demand for a work is influenced by divergent factors.

Besides, assuming that reduced costs induced more people to engage in piracy, pirates would also compete among themselves, driving some out of the market. In any case, even if pirate works substitute the sale or rental of authorised works, authorised and unauthorised works can never be perfect substitutes because consumers take into consideration other factors such as the need to compensate the author. The quantity of pirate works is not a crucial factor as such, given that there were pirate works in the market before the introduction of the networked digital environment.

In sum, piracy still threatened the interests of copyright holders in the networked digital environment, however, this threat was not a novel one and its characteristics did not change with the advent of technology.

2.2. TPMs and anti-circumvention were unable to stop commercial piracy

Even if large scale unauthorised reproduction and dissemination of copyright works would actually increase in the networked digital environment, TPMs would be unlikely to deter commercial pirates. This was in fact pointed out by the European Commission in the 1988 Green Paper with regard to the Digital Audio Tape (DAT) recorder, a digital recording and playback device developed by Sony in 1987. The recording industry viewed the DAT recorder as a potential problem in relation to home copying and the Commission proposed the use of TPMs as a deterrent. It stated clearly, though, that TPMs would "not prevent the determined pirate from producing illegitimate copies". [40] However, a decade later the legislature did not provide any reasons in the legislative documents preceding the adoption of the Information Society Directive or the DMCA justifying why TPMs would deter large scale pirates.

Commercially organised piracy had thrived in the past when the reproduction of works was subject to numerous limitations. Expensive production costs, long printing schedules and limited markets for copyright works had not deterred pirates from engaging in the infringement of others' copyrights. Copyright holders and the legislature repeatedly claimed that for every lock there is a key and it would be naïve to claim that the organised pirates would not be able to find it. At a minimum, digital copy protection of non-interactive works is subject to the analogue hole. [41] Almost-perfect copies of music and audiovisual works can be made by tapping into the analogue output of a player and once redigitised into an unprotected form, duplicated indefinitely. Likewise, if text based content can be printed or displayed, it can be scanned and distributed in unprotected formats.[42] Thus, TPMs are not able to stop professional operations involved in the unauthorized mass duplication of media.

Furthermore, large scale reproduction and distribution of copyright works was already illegal under copyright law at the time of the enactment of the anti-circumvention provisions. People who engaged in such activities were determined to break the law and thus a separate legal obligation to respect copy and access controls embedded in copyright works was unlikely to stop them from engaging into piracy. Nor was it likely that the legal prohibitions on circumvention would deter circumventors who cooperated with pirates. Regardless of the adoption of anti-circumvention norms, circumventors who wilfully cooperated with pirates would be liable under the secondary liability doctrine for copyright infringement or under

unfair competition laws. Thus, TPMs and anti-circumvention were not the appropriate tools in the fight against commercially organised piracy.

2.3. New technologies did not have a negative impact on the detection of copyright infringements and the enforcement of copyright law

According to the legislative history of the relevant acts, the alleged difficulties in detecting copyright violations and enforcing copyright law due to the "international" and intangible nature of the violations in the networked digital environment prompted the use of TPMs and their legal protection.[43] This claim contains a logical contradiction though; if assumed correct, it does not explain why the detection of circumventors, who could also be situated in any country in the world and could also use the Internet, and the enforcement of the anti-circumvention provisions, would be more successful than the detection of copyright violators and the enforcement of copyright law.

This contradiction is particularly obvious in the Software Directive. The protection of TPMs applied to computer programs was introduced concurrently with the protection of computer programs as literary works under copyright law at an EU level.[44] The legislative history of the Directive does not support the contention that copyright law did not provide adequate protection for computer programs, so that the use of technology was necessary to safeguard the efficient enforcement of copyright law. On the contrary, the Commission argued that "copyright [could] provide the solution of ensuring adequate protection against misappropriation and, in particular, against unauthorised reproduction" and rejected contract law as the means of protecting computer programs.[45]

Nonetheless, it is not the first time that copyright holders complained about the difficulties of detection of infringers and enforcement of copyright law. In 1903 music publishers were highly worried with the difficulties in bringing actions against pirates and their inabilities to recover damages.[46] In 1905 a meeting of the Music Publishers' Association noted that "an immense number of copies of piratical works have been seized and plates destroyed, but unfortunately fresh offenders spring up in one neighbourhood as soon as they are stopped in another".[47]

Similar concerns have been uttered just before the digital revolution took place. A 1984 survey requested by the Commission found that "in many instances the courts have tended to treat pirates very leniently" "the police take an interest in piracy only when it can

be shown that the pirates also engaged in other criminal activities" and "customs authorities have to date been very reluctant to become involved in controlling imports of pirate good products".[48]

According to this survey the distribution network of pirate products was sophisticated and complex and had a variety of outlets.[49] Pirate products were distributed via wholesalers and established retail outlets as well as street traders, stalls in fairs, local markets, petrol stations, corner shops and sales by travelling agents out of the back of their van. Off-line distribution of copyright works, hence, required effective search and seizure procedures for taking legal action against and proving pirate activity, enabling copyright holders to enter the premises of the presumed infringer, search for evidence of pirate activity and seize that evidence.[50]

Nor were copyright infringements of a strictly national nature in the past.[51] Even in the early nineteenth century the British book trade was facing threats to its market from France, Belgium, Germany and the US.[52] In the end of the twentieth century the Commission was stating that "the cross-frontier nature of the [piracy] traffic emerges clearly both as between Member States and non Member States"[53] and "a considerable proportion of pirate goods sold in the Member States have been imported from countries both from within and without the Community."[54] Book piracy in developing countries was considered a serious problem, especially in India, Pakistan, the Middle East, Southeast Asia, Latin America and Africa[55], whereas piracy of sound recordings and audiovisual works was viewed as a serious problem, addressed in numerous conferences and working groups within international organizations.[56] According to Gillian Davies, the Associate-Director General of the International Federation of Phonogram and Videogram Producers, "[p]irates do not discriminate between the national repertoire of their own country of origin and the repertoire of other countries; they seek to earn easy money from all successful recordings, whatever their origin".[57] Hence, copyright enforcement was more complicated as a result of international piracy, which required customs cooperation at the international level.

Detection and enforcement in the off-line environment called for time-consuming administrative procedures that required close international cooperation, international initiatives such as customs seizure and search and seizure proceedings administered by foreign authorities, which may not have been willing to cooperate or secure the disposal of infringing equipment and equipment used to produce them.

2.4. Unauthorised reproduction for private use was permitted under copyright law

As mentioned above, large scale piracy did not begin with the internet or digitization of works. With the exception of the 1988 Green Paper,[58] though, legislative documents do not specify whether piracy refers solely to commercial organised activities, or also encompasses unlicensed activities pursued by end users.[59] The scale tilts to the latter definition as the claim was brought forward that the advent of digital technology along with the possibilities provided by the Internet would change the person of the infringer of the reproduction and distribution rights from that of an organised pirate to the consumer of copyright works.[60] However, at the time of the adoption of the Information Society Directive, the Software Directive and the DMCA the reproduction of copyright works was permitted under specific conditions in many countries worldwide.[61]

At an international level Article 9(2) of the Berne Convention leaves signatory states with the discretion to introduce exceptions to the right of reproduction of copyright works.[62] This exception was used as a basis so that many States would allow copying in the private sphere. In the EU, with the exception of Ireland, Luxemburg and the UK, Members States explicitly permitted home copying in their national legislation. Austria[63], Belgium[64], Denmark[65], Finland[66], France[67], Germany[68], Greece[69], Italy[70], the Netherlands[71], Portugal[72], Spain[73] and Sweden[74] introduced levy systems to provide remuneration for the act of home copying.[75]

Home copying was also permitted in the US, although it has been a controversial issue for a long time.[76] Under the Copyright Act of 1971[77] home copying of sound recordings was permitted, as the legislative history of that act explicitly stated that home taping for private use was not considered infringing activity.[78] However, in the Copyright Act of 1976, which superseded the 1971 Amendment, there was no mention in the Act or in its legislative history of whether home copying constituted an infringing activity. The 1976 Copyright Act accorded statutory recognition for the first time to the jurisprudence developed doctrine of fair use, which allows limited use of copyright material without acquiring permission of the copyright holder under a four factor balancing test. For two decades after 1976 there was a wide debate among academics, the recording industry and electronics manufacturers over whether home copying constituted fair use. The US Supreme Court was asked to decide upon this issue in the *Sony Betamax* case, where a safe harbour from copyright challenges for

technologies suitable for substantial non-infringing uses was established.[79] The Court held that private, non-commercial copying for time shifting purposes came within the fair use exception to the exclusive right of reproduction. The *Sony Betamax* ruling was statutorily confirmed in 1992, when the Audio Home Recording Act was enacted, which permitted the making of private, non commercial copies by consumers using digital or analogue audio recording devices.[80] More specifically, private non-commercial copies of music recordings were explicitly permitted under Section 1008 of the AHRA, whereas home copying of other works could fall under the fair use defence.

Hence, the introduction of anti-circumvention provisions was not necessary for tackling infringements of copyright law by consumers who reproduce copyright works, as the making of not-for-profit private copies of published works for personal use was permitted in many jurisdictions.

2.5. Interim conclusion

The claim that novel threats for copyright infringement in the digital networked environment made the use and legal protection of TPMs indispensable was unsubstantiated, as neither novel problems of inducing and enforcing copyright law appeared, nor were TPMs a suitable tool to deal with them. It appears that the legislature chose to refer to piracy that would devastate the interests of copyright holders and avoided to distinguish between large scale commercial reproductions and reproductions for private use, which was permitted at the time, to avoid the longstanding debate of home copying and, thus, regulate it indirectly.

Owners of copyright works had long claimed that private copying constituted infringement, while user groups and electronics manufacturers had long denied those claims. As mentioned above, in Europe, private copying was explicitly permitted in the majority of Member States, which was balanced by a royalty system to compensate copyright holders.[81] The debate around harmonisation of the levy schemes within the EU is complex and highly controversial.[82] In the US it was contested whether home taping for private use was an infringing activity since the enactment of the 1976 Copyright Act. The enactment of the DMCA was preceded by the Court of Appeals and Supreme Court decisions in the *Betamax* case, by repeated failed legislative attempts to resolve the issue of home taping,[83] by attempts by the recording industry to persuade the electronics industry voluntarily to install within their products devices, which would prevent unauthorized copying, by the rejection of an *a*

priori prevention system, i.e. the "copycode", and by a compromise reached in June 1991 among the recording industry, recording artists, songwriters, music publishers, the consumer electronics industry and consumer groups, regarding the home taping dispute, which was reflected in the adoption of the Audio Home Recording Act.[84]

So, instead of engaging in the debate regarding the legality of copying for non-profit purposes, copyright holders complained about the infringement of their rights by pirates. Reference to "piracy" could work for the benefit of copyright holders in two ways; firstly, it could gain the sympathy of the public, as copyright piracy is presented as the ethically equivalent to attacking ships on the high seas, kidnapping and murdering the people on them.[85] Secondly, the term "piracy" does not specify whether it refers to "copying unauthorised by the right holders" or "copying prohibited by law", thus creating confusion about whether the "pirate activities" actually infringe copyright law.[86] This may explain why the 1998 Green Paper specifically differentiates between piracy and home copying, whereas in the following legislative material the distinction is blurred.

The concerns hidden behind the claims of widespread, unprecedented infringement of copyright law and the inability of copyright holders to enforce their rights in the networked digital environment concealed the actual concerns of copyright holders, regarding the extent that not-for-profit reproduction would reach and the opportunity to take advantage of the potentials that the advent of technology was providing them, as copyright holders would be able for the first time to control private enjoyment of their works. The use of TPMs and the adoption of the anti-circumvention regulation was, thus, a matter of altering the existing *status quo*, rather than enforcing their copyrights in the digital networked environment. Thus, the question arises whether the advent of technology called for a change in the legal regime so as to restrict home copying.

3. Change in the nature of not-for-profit copying

In the legislative documents leading to the adoption of the Information Society Directive and the DMCA the argument was presented that due to the ease and speed of reproduction and dissemination of copyright works in the digital networked environment along with the optimisation of the quality of the copies made by the public, a single unauthorised uploading of a work in the Internet could have devastating effects for the market of the work, unlike most single reproductions and distributions in the analogue or print environment.[87] In the

Explanatory Memorandum of the Proposal of the Information Society Directive it was stated that "with the latest developments, users will now be able to record their own CDs in perfect quality or even to copy text, sound or films onto a blank CD an unlimited number of times. This will give copying for private purposes, currently allowed in the majority of Member States, a completely new dimension". [88] Likewise, in the House Report preceding the adoption of the DMCA it was stated that"[t]he digital environment now allows users of electronic media to send and retrieve perfect reproductions of copyrighted material easily and almost simultaneously, to or from locations around the world. With this evolution in technology the law must adapt in order to make digital networks safe places to disseminate and exploit copyrighted works."[89]

Up to the middle of the twentieth century the majority of copying of copyright works occurred in a relatively limited number of places, undertaken by a limited number of people predominantly for profit.[90] Large scale pirates would then disseminate the copies to end users through sophisticated distribution networks. [91] The introduction of the easy-to-use, inexpensive, coin-operated photocopiers in the 1960s provided the public, along with office workers, library staff, government employees and students, with the ability to make cheap and quick copies themselves. [92] Likewise, the availability in the market of consumer electronics of easy to operate, inexpensive magnetic tape reproduction equipment from 1964 and video recorders from the early 1980s enabled consumers to make copies of audio and visual works either for their personal use, or for use by family and friends.[93] The introduction of these technologies raised concerns on behalf of copyright holders and their supporters regarding the harm that the new technologies would have on authors' rights that initiated the home copying debate.

However, the legislature and the judiciary in the EU and US were reluctant to admit that such copying had a negative impact on the exploitation of copyright works. Indeed, there were many voices that argued that photocopying did not cause significant damage to the financial interests of copyright holders, as it was mostly excerpts from journals that were photocopied and the photocopying practices mainly substituted manual note taking, typing or handwriting a copy, instead of posing a threat to the market for copyright works.

For example, in 1965, Dan Lacy, Managing Director of the American Book Publishers Council, testified at a House of Representatives committee that "[m]ost of this photocopying, at least at present, probably consists of excerpts and probably mostly of journal articles. Most of it at present is probably undertaken in lieu of manual note taking,

typing, or handwriting a copy, and in lieu of library loan rather than in lieu of buying a copy".[94] According to a 1962 report "no significant damage [occurred] to the copyright holders in the scientific and technical fields although duplication of this material [was] widespread and [was] growing rapidly".[95] In 1967 another report, which examined the potential pernicious effects of modern, institutionalized photocopying of copyright works, particularly journal articles, characterised wholesale copying by libraries as "a non-violent form of civil disobedience" in the name of fair use.[96] In 1973 the issue of whether the making of unauthorised articles infringed the publishers' copyrights in journals was decided in *Williams & Willkins Company v the United States.*[97] The court held that "this record fails to show that plaintiff (or any other medical publisher) has been substantially harmed by the photocopying practices of NIH and NLM, it does show affirmatively that medical science will be hurt if such photocopying is stopped" and held that the specific photocopying practices of the involved agencies was not an unfair use of the copyright materials.

As regards audiovisual copying devices, the Commission argued in its 1988 Green Paper that ordinary sales of copyright works were not affected to a substantial extent by home copying. It noted that "[t]he extent to which the *decline in sales* of the vinyl disc and the absence of growth in the world sound recording market from 1981 to 1985 can be *attributed* to home copying is *far from clear*. Many factors other than home copying were certainty present which could account for the results. Even if it is accepted that home sound and video recording is an increasingly common practice, as the figures on sales of recording equipment and blank tape confirm, questions remain as to *whether the recordings made are of protected works* and, if so, whether they have a negative impact on the normal exploitation of those works. Since home copying is by its nature a private act, a clear picture is difficult to draw […] Since a *significant proportion of those who copy at home do so from sources they have already purchased*, it seems reasonable to expect that sales of pre-recorded material would not necessarily increase dramatically, even if home copying of recorded sources were totally prevented."[98]

In the US the Supreme Court based its holding in *Sony Betamax* on the District Court's findings that "time-shifting", namely the practice of recording a broadcasted programme to watch it once at a later time, actually enlarged the television viewing audience[99] and did not impair the commercial value of copyrights in the broadcasted programs, nor did it create any likelihood of future harm.[100]

Indeed, private copying did not have a significant negative effect on the markets for copyright works, as rightholders were compensated for the work or the broadcast of the work from which the copy was made and the unauthorised copies could be distributed only to a limited circle of people. Copying in the analogue off-line world was affordable but costly and sometimes time-consuming, the distribution of the unauthorised copies was subject to real world limitations and the distributor could not retain the unauthorised copy for her personal use. Even in the cases of taping from broadcasts and photocopying from libraries, the copiers were people that could legally access and read or watch the original works they copied, albeit with time and space limitations, thus questioning whether they would have purchased the work they copied.

The question subsequently arises whether there is a substantial prejudicial effect on the commercial exploitation of copyright works in the networked digital environment in comparison to the past. What changed with the advent of digitization and the Internet was that technology expanded the large scale of not-for-profit unauthorised reproduction and distribution of copyright works.

Instead of a user purchasing a copyright work, borrowing a book from the library or watching a TV broadcast and making copies for her personal use or for a circle of family and friends, the digital networked environment allows the perpetual reproduction of unauthorised copies of works to a significantly larger number of people. Moreover, file-sharing services have enlarged the number of consumers who can enjoy an unauthorised copy of a copyright work globally to people with no personal connection to each other. In contrast to circulation of unauthorised works off-line, the copyright holders do not receive any revenues not even for the copy from which the copy was made. Although large scale unauthorised reproduction and dissemination of copyright works can lead to increased revenues for authors of works, as it will be discussed bellow the business model of the exploitation of copyright works needs to change for authors to benefit from alternative sources of funding.[101] Indeed, even supporters of file-sharing do not contest that the advent of technology has allowed consumers to copy copyright works on an unprecedented scale at minimal cost thus disrupting some traditional business models in the creative industries.[102]

Hence, the internationalisation achieved via the Internet and the perfection in the quality of digital copies are crucial because they extend the circle of people who can enjoy an unauthorised reproduction of a work in comparison to the past. In the off-line, analogue world the deterioration in quality every time the work was copied resulted in limited number

of unauthorised copies made by an authorised work, which were only disseminated to a limited number of people, namely people whom the copier would know.

Furthermore, the "costless" reproduction achieved via the new technologies does lead to a market failure, as the consumer may get the work for free which is less than the copyright holder or the commercial pirate offers it for.[103] There is no need for inducement to engage in piracy, as the copyist-circulator does not act to gain profit. Moreover, there are greater difficulties of detection and infringement because the copiers are the consumers, who can be located everywhere and it is impossible to take legal action against every violator and ineffective to pursue selective enforcement. Private enforcement would be an inappropriate marketing strategy, since copyright owners would turn against their clients, while it raises many issues of privacy and due process.[104]

Whether copyright holders actually anticipated the development that the distribution and dissemination of works through the Internet would have, especially after the emergence of file sharing technologies, or whether they exaggerated these threats to promote their interests in the digital networked environment, we do not know. However, digital reproduction of works and their dissemination online lead to higher degree of substitutability with original copyright works in comparison to the past and can disrupt traditional business models in the content industries. The differences from private enjoyment of works in the past is that previously a person could loan, resell or make an unauthorised copy of work for a specific group of people inside a circle of family, friends or at least acquaintances, whereas via the Internet one can keep the copy of the work for her private enjoyment and disseminate to a huge circle of people unknown to her.

This however does not signify the end for copyright or authorship rights, as technology altered the market for copyright works and provided the potential for the creation of new models for the exploitation of copyright works. This has happened repeatedly in the past. Following the invention of the printing press, the development of player pianos[105] and perforated rolls of music,[106] the invention of photography and of the photocopier, the development of the technology that made it possible to retransmit television programs by cable or by microwave systems,[107] the development of the audio tape recorder and video tape recorder,[108] the law of copyright has developed in response to significant changes in technology.

In the 1920s music companies feared that the introduction of radio would undermine the market for records, whereas now the industry has come to see radio as an important tool

to promote songs and boost record sales.[109] In the case of photocopying, commentators had argued that it had opened up new secondary markets for works, such as photocopied tables of contents to be distributed by researchers[110] and it had enhanced the copyright holders' ability to price discriminate.[111] Likewise, the Commission anticipated in its 1988 Green Paper that "[t]he digital cassette recorder will undoubtedly open up new markets in the data storage and audio recording fields."[112] With regard to the VCR, after the movie studios' lost the battle against home taping in *Sony Betamax*, they realised that selling and renting videotapes and DVDs presented a major business opportunity.

In that regard, the networked digital environment constituted a whole new market by itself. According to the EU and US legislature, the further spread of technology, the emergence of new distribution channels, the dissemination of information through "on-demand" delivery services over interactive digital networks as well as the convergence of previously distinct categories of works and of the audio-visual, telecommunications and information technology sector led to creation of a new market for the exploitation of copyright works in the digital networked environment. TPMs and anti-circumvention offered new possibilities to copyright holders to alter the ways of exploitation of their works and establish new more profitable models to secure revenues.

4. Establishment of new models for the exploitation of works

In its 1995 Green Paper the Commission encouraged the production of new mechanisms, which would facilitate supervision of the use of protected works and supported the establishment of a "pay-per-use" model; it claimed that "[d]igital technology could make home copying into a fully-fledged form of exploitation.[...] Rights management should be rendered easier, allowing individual negotiation on the basis of exclusive rights to continue."[113] Likewise, according to the US House Report the DMCA "intended to ensure a thriving electronic marketplace for copyrighted works on the Internet" and addressed the problems "posed by possible circumvention of technologies [...] which will be used to protect works in the digital environment and to secure on-line licensing systems".[114]

Allegedly, the potentials of the new technology could be realised only if the authors of creative works were protected from the challenges that new technology posed, as otherwise they would not place their works on the Internet.[115] The Commission expected that "[w]ithout an adequate and effective copyright framework, content creation for the new

multimedia environment will be discouraged or defeated by piracy, penalizing authors, performers and producers of protected material."[116] According to the 1998 Senate Report "[c]reators and other owners of intellectual property [would] not [have been] willing to put their interests at risk if appropriate systems-both in the US and internationally- [were] not in place to permit them to set and enforce the terms and conditions under which their works [would be] made available in the NII environment".[117]

The situation was presented as if the then existing market players had to retain their *status quo* in the networked digital environment or else creativity and authorship would be hindered. However, this position ignored the new potentials that the advent of technology offered for new market players to enter into the market. As affordable copyright works can boost the market for electronics, such as e-book readers and mp3-players, companies like Amazon and Apple acted as intermediaries making copyright works available to the public.[118] Moreover, the wide availability of copyright works effectively for free may raise legitimate demand through positive demand-side externalities, sampling, and sharing. In any case, there are alternative ways to fund authors' creative efforts other than the sale of embodiments of their works. As music becomes available effectively for free, the interest in music groups is likely to increase, leading to a rise of the price of concerts, so that artists who earn income from concerts might not be hurt by a decline in music sales.[119] Similarly, authors may be able to substitute their income from books through speaking tours if many more readers are more familiar with their writings.[120] Indeed, studies conducted *a posteriori* support the contention that the advent of technology did not discourage the production of copyright works. The publication of new books rose by 66% over the 2002-2007 period, and worldwide feature film production increased by more than 30% from 2003 to 2009.[121]

Furthermore, the exploitation of the Internet as a means of dissemination of copyright works was not a choice that copyright holders had; instead it was the best way to promote their legitimate interests. Authors of creative works were offered the potential to use the advent of technology to lower the cost of production and dissemination of their works and exploit the markets in which they were active in order to drive out of the market large scale commercial pirates.[122] Moreover, as the traditional methods of exploitation of works were challenged by the change in nature of not-for-profit copying and dissemination of works, copyright holders had to resort to new models of exploitation of their works. Already in 1998 the Commission was expecting that the convergence of previously distinct categories of works and distribution methods as well as the dissemination of information through "on-

demand" delivery services over interactive digital networks would replace over time the traditional methods of exploitation of copyright works, like buying or renting physical copies of copyright works.[123] For these reasons, no incentive was needed for copyright holders to use the advent of technology to promote their works; on the contrary, the legislature should have focused its attention on the new models that fostered creativity and innovation and disseminated works and information to the public, even if that meant that the interests of established market actors would be hurt

5. Conclusion

Three main justifications can be traced in the legislative history of the acts that introduced the EU and US anti-circumvention norms. First, it has been claimed that the ease of copying and the new models of dissemination of copyright works and the difficulty in detection and enforcement of copyright law would facilitate the infringement of copyright. Secondly, the advent of technology was expected to alter copying for private purposes, which was allowed at the time in the US and in the majority of the EU Member States. Thirdly, it was claimed that the new technological achievements could potentially lead to new desired financial models for the exploitation of works. Hence, TPMs and anti-circumvention were presented as a means to protect authors, publishers and performers from allegedly novel threats, as a means to compensate them for the harm they would allegedly endure and finally as a means to encourage them to exploit the potential offered by the new technologies. In reality, though, TPMs and anti-circumvention were a means to establish new models for the exploitation of copyright works, as the traditional ways of exploitation of copyright works were challenged in the networked online environment.

Although the role of TPMs does not alter according to the subject matter they protect, the legislature relied on divergent justifications for the adoption of anti-circumvention norms in the EU Directives and the US Acts. The 1991 Software Directive, which was the first EU instrument to include an anti-circumvention provision, failed to provide any justifications regarding the need for legislation on the matter. At that time the protection of TPMs from circumvention was uncontroversial,[124] probably because legislature and commentators had not yet realised the wider implications of the use of TPMs exploitation of copyright works which were safeguarded by copyright. When enacting the Information Society Directive and the DMCA the legislature emphasized mainly the violation of the authors' interests and the

threats for authorship and creation and tried to justify resorting to means of exploitation of copyright works other than traditional copyright law as an equilibrium of justice that would be reached because of the harm that copyright holders had to endure because of the advent of technology. As mentioned above, though, the claims for easier copyright infringement though were not accurate. In reality, the various anti-circumvention provisions have as their common objective to safeguard a model of exploitation of works, despite the different articulation of the justifications of anti-circumvention in the different instruments.

ENDNOTES

[1] Directive 2009/24/EC of the European Parliament and the Council of 23 April 2009 on the Legal Protection of Computer Programs, O.J. L111, 16, 05/05/2009, which replaced Council Directive 91/250/EEC on the legal protection of computer programs, O.J. L 122, 17/05/1991, 14/05/1991.

[2] Directive 2001/29/EC of the European Parliament and of the Council of 22 May 2001 on the harmonisation of certain aspects of copyright and related rights in the information society, O.J. L167, 22/06/2001 (henceforth Information Society Directive).

[3] Although in the EU anti-circumvention is also regulated by the Conditional Access Directive, its examination falls outside the scope of this paper, as the protection from copyright infringement was not among the aims set by the legislature, as protects TPMs embedded by service providers to avoid the unauthorized reception of their conditional access services, regardless of whether they contain copyright works. Directive 98/84/EC of the European Parliament and of the Council of 20 November 1998 on the legal protection of services based on, or consisting of, conditional access, OJ L320, 28/11/1998.

[4] Pub. L. No. 105-304, 112 Stat. 2860, 28/10/1998.

[5] Although the 1988 Satellite Home Viewer Act, the 1984 Cable Communications Policy Act also contain anti-circumvention provisions that prohibit the manufacture of devices intended for unauthorised satellite and cable signal reception, their examination falls outside the scope of this paper, as the protection from copyright infringement was not among the aims set by the legislature, as they protect service providers from unauthorised reception of encrypted services regardless of whether they contain copyright works. See Satellite Home Viewer Act (1988) codified as 17 U.S.C. Section 119, which amended the Communication Act of 1934, c.652, Title VII, para. 605, 48 Stat. 1103, codified as 47 U.S.C. Section 605 and Cable Communications Policy Act of 1984, Pub. L. No. 98-549, 98 Stat. 2779, codified as amended in scattered sections of 47 U.S.C. , which created 47 U.S.C. Section 553.

[6] Green Paper on Copyright and the Challenge of Technology - Copyright Issues Requiring Immediate Action. COM (88) 172 final, 7 June 1988 (henceforth 1988 Green Paper), p. 181, para. 5.5.4.

[7] In the Explanatory Memorandum of the Initial Proposal the Commission noted that many programs were marketed with technical protection systems and concluded that "[i]f such systems are used by rightholders to protect their exclusive rights, it should not be legally possible to remove or circumvent such systems without the authorization of the right holder" without offering any justifications regarding the reasons why it should not be legally possible to circumvent them. Proposal for a Council Directive on the legal protection of computer programs, COM (88) 816 final, SYN 183, Submitted by the Commission on 5 January 1989, 89/C 91/05, p. 9 (henceforth Software Directive Initial Proposal).

[8] Software Directive Initial Proposal, p. 3-4.

[9] Ibid, compare p. 4 and p. 9.

[10] 1995 Green Paper, p.28.

[11] Proposal for a European Parliament and Council Directive on the harmonization of certain aspects of copyright and related rights in the Information Society, Explanatory Memorandum, COM(97) 628 final, Brussels, 10.12.1997 (henceforth InfoSoc Explanatory Memorandum), p.7

[12] Senate Rep. No. 105-190, 105th Cong., 2d Sess. (1998) (henceforth 1998 Senate Report), p.8.

[13] H. Rep. No. 105-551, 105th Cong., 2d Sess.(1998) (Part I) (henceforth 1998(a) House Report), p. 9. See also H Rep. No. 105-551,(Part 2) 105th Cong., 2d Sess. (1998) (henceforth 1998(b) House Report), p. 25 "In contrast to the analogue experience, digital technology enables pirates to reproduce and distribute perfect copies of works - virtually at no cost at all to the pirate"

[14] See above notes 6and 7.
[15] Software Directive Initial Proposal, p. 9
[16] Article 6 of the Software Directive Initial Proposal remained unchanged from the Compromise Amendment approved by European Parliament on 11 July 1990 and in the Amended Proposal submitted by the Commission (See Amended Proposal of the Commission, COM (90) 509 final published OH No. C. 320. 20. 12. 90.) After further debate between the delegations representing the Member States, the Council of Ministers was finally able to adopt a Common Position on December 13, 1990, incorporating many of the new amendments proposed. (See Text of the Council 14.12.90, 10652/1/90, p.182). The Common Position included a completely new Article 7, which replaced Article 6 of the Amended Proposal. This article, entitled "Special Measures of Protection", required Member States to provide remedies against acts which can broadly be called "secondary infringement", such as knowingly putting copies into circulation, and circulating any means the sole intended purpose of which is to defeat technical measures applied to protect against copying of a program. (See also T. Vinje, 'The History of the EC Software Directive' in M. Lehmand & C. Tapper (Eds.), *A Handbook of European Software Law*, (1993) Part I p. 76.) The Common Position was finally adopted verbatim as the final Directive. (See Communication from the Commission to the Parliament SEC (91) 87 final. SYN 183 of 18.1.91.)
[17] C. Tapper, "The Software Directive: The Perspective from the United Kingdom" in M. Lehmann & C. Tapper (eds.), *A Handbook of European Software Law*, Oxford (1993), p. 143, 159.
[18] M. Lehmann, "The EC Directive on the Protection of Programs" in M. Lehmann & C. Tapper (eds.), *A Handbook of European Software Law*, Oxford (1993), p. 163, 179.
[19] Indicatively see I. Alexander, "Criminalising Copyright: A Story of Pirates, Publishers and Pieces of Eight" 66(3) *Cambridge Law Journal 625* (2007); J. Hughes, "Copyright and Incomplete Historiographies: of Piracy, propertization and Thomas Jefferson" *79 Southern California Law Review* 993 (2009), 999.
[20] A. Johns, *The Nature of the Book: Print and Knowledge in the Making*, (1998), p. 32, 449,*454-456* arguing that in the pre-Statute of Anne period incidents of piracy seemed "to be commonplace and representative" and that from the 17th century Dutch *libraires* reprinted English books, a practice which flourished into the 18th century as book trade increased in sophistication and remained an issue well into the 19th also within the UK, as printers from Edinburgh and Dublin imported reprints into London even after the adoption of the Statute of Anne in 1710 Act. Johns further references Robert Darnton, *Business of Enlightenment*, 33 ff who argues that reprinting of a large work, such as an encyclopaedia, was immensely profitable in Continental Europe and often regarded as a prestigious national project.
[21] Johns, above note 20, p. 454.
[22] For evidence of the music publishers' concerns and details of litigation as published in the musical press, see J. Coover, *Music Publishing Copyright and Piracy in Victorian England* (1985), p. 13-24.
[23] For a discussion of music publishers' campaign for the introduction of criminal sanctions against pirates of sheet music see Alexander, above note 19.
[24] D. Krummel, "Printing and Publishing of Music, Part II: Publishing" under 4. The age of offset printing, 1860-1975, in Grove Music Online, http://www.grovemusic.com
[25] Sony v Universal Symposium (Panel 3): A New World Order?, 34 Sw. U. L. Rev.211,218(2004)
[26] M. Carrier, *Innovation for the 21st Century, Harnessing the power of Intellectual Property and Antirust law*, (Oxford 2009) p.107 citing John Philip Sousa, "The Menace of Mechanical Music", 8 *Appleton's Mag*., 278-284 (1906).
[27] W. Nasri, *Crisis in Copyright* (1976), p. 14.
[28]Intergovernmental Committee of the Rome Convention at its seventh ordinary session in Paris on 22 and 30 October 1979, DOC. ILO/UNESCO/WIPO/ICR.7/11, para 24.
[29] WIPO Forum on Piracy of Sound and Audio-Visual Recordings, Geneva, 25 to 27 March 1981. Geneva, WIPO, 1981 (No. 640). Furthermore, the Director General of UNESCO in his letter to Member States dated 14 October 1983 said that "the investigations of world communication problems has shown that, in recent years, the advent of new forms of printing and recording technology, in particular, has led in many regions to an extension of the practice of pirating works made available either in printed form (books, periodicals) or in form of sound and audio-visual recordings (discs, cassettes, films and radio and television programmes). See Ref. DG/O.1/286/290.
[30] Statement by Mr. Clive Bradley of the United Kingdom Publishers Association in the WIPO Worldwide Forum on the Piracy of Broadcasters and the Printed Word, Geneva, March 1983 (PF/11/S/2)
[31] Doc. No. CC-GP11 (84) 16.
[32] 1988 Green Paper, p. 20. See also Recommendation No. R. (88) 2 of the Committee of ministers to member states on measures to combat piracy in the field of copyright and neighbouring rights, adopted by the committee of ministers on 18 January 1988 at the 414th meeting of the Ministers' Deputies stating "aware that the

phenomenon of piracy in the field of copyright and neighbouring rights, that is, the unauthorised duplication, distribution, or communication to the public of protected works, contributions or performances for commercial purposes, has become widespread".

[33] 1998(b) House Report, p.25.

[34] Substitutes are products that meet similar consumer demands. For two substitute goods a price decline in one leads to a decline in the demand of the other.

[35] InfoSoc Explanatory Memorandum, p. 11; NII Report, p. 10-11; B. Lehman, "Intellectual Property and the National and Global Information Infrastructures" in P.B. Hugenholtz (ed.), *The Future of Copyright in a Digital Environment* (1996), p. 103, 104.

[36] "Publishers only spend about 3.50$ to print and distribute a hardcover. Hardcovers are sold on a returnable basis, so the costs of retailer returns of unsold stock adds about another dollar or so to the price of each book, depending on how they are accounted for.[…]But those expenses do not change much in the digital world (royalties) nor does the need for editing or marketing" R. Levine, *Free Ride; How the Internet is Destroying the Culture Business and How the Culture Business Can Fight Back*, The Bodley Head, London, (2011), p. 166.

[37] The calculation is based on publishers' costs for hardcover books as reported in K. Auletta, "Publish or Perish. Can the iPas topple the Kindle, and save the book business?", The New Yorker, (April 26, 2010) available at: http://www.newyorker.com/reporting/2010/04/26/100426fa_fact_auletta.

"On a new, twenty-six-dollar hardcover, the publisher typically receives thirteen dollars. Authors are paid royalties at a rate of about fifteen per cent of the cover price; this accounts for $3.90. Perhaps $1.80 goes to the costs of paper, printing, and binding, a dollar to marketing, and $1.70 to distribution. The remaining $4.60 must pay for rent, editors, a sales force, and any write-offs of unearned author advances. Bookstores return about thirty-five per cent of the hardcovers they buy, and publishers write off the cost of producing those books."

[38] Ibid "Burdened with rent and electricity and other costs, bricks-and-mortar stores are unlikely to offer prices that can compete with those of online venders."

[39] Ibid citing editor and publisher Jason Epstein: "When I went to work for Random House, ten editors ran it.[…] We didn't need eighteen layers of executives. Digitization makes that possible again, and inevitable."

[40] 1998 Green Paper, p. 85, para 2.9.7.

[41] For efforts of copyright owners to use technology, perhaps backed by legal requirements, to "plug the analogue hole" and prevent such copying of copyrighted works" see Motion Picture Association of America, Content Protection Status Report, p. 9 available at http://judiciary.senate.gov/special/content_protection.pdf

[42] As the Second Circuit noted in *Corley*, a user could play a film on a CSS-protected DVD and "record portions of the video images and sounds […] by pointing a camera, a camcorder, or microphone at a monitor, as it displays the DVD movie. *Universal City Studios, Inc. v Corley*, 273 F. 3d 429 (2d Cir. 2001)

[43] The NII Report predicted that the "the difficulty of detection and enforcement will cause copyright holders to look to technology, as well as the law, for protection of their works". NII Report, p. 230. According to the Initial Proposal of the Software Directive "the ease with which unauthorized copies of programs can be transferred electronically from one host computer to another, across national borders and without trace" prompted Union action in order to ensure that copyright holders "bring successful actions against infringers". Software Directive Initial Proposal, Article 6(1). See also the InfoSoc Explanatory Memorandum (p.7) stating that "as regards the new network environment, unauthorised postings of computer programs, phonograms, photographs, videoclips, or bootleg recordings of live concerts on websites even now make copyright material unlawfully available to millions of consumers throughout the world".

[44] By that time computer programs were protected under copyright law in France, Germany, Spain, the UK, Denmark, Italy, the Netherlands, Portugal and Ireland.

[45] Explanatory Memorandum of the Software Directive Initial Proposal, p. 4, paras. 3.6 and 3.7., where it is also claimed that "[p]rotection by copyright allows a clear balance to be achieved between too little protection and over-protection".

[46] Alexander, above note 19, p. 637 with further reference to Parliamentary Papers (1904) LXXIX, p. 25.

[47] Ibid. with further reference to MPA Minute Book, 5 April 1906.

[48] Indicatively see G. Davies, *Piracy of Phonograms*, A study requested by the Commission of the European Communities (1986), p. 100.

[49] Ibid. p.32

[50] Ibid.

[51] For the history of copyright's internationalisation see C. Seville, *The Internationalisation of Copyright Law* (2006).

[52] Ibid, p. 41-42.

[53] 1988 Green Paper, p. 20.

[54] 1988 Green Paper, p. 87. See also Davies, above note 48, p. 30, where she argues "[o]f all the pirate products sold on home markets in the EEC, a very large proportion is imported".
[55] Ibid, p. 21.
[56] Piracy has been on the agenda of the Executive Committee of the Berne Convention, the Intergovenrmental Committees of the Universal Copyright Convention and of the Rome Convention (seventh ordinary session October 1979) and was the subject of a WIPO Worldwide Forum on Piracy of Sound and Audio-Visual recordings organised in Geneva in 25 to 27 March 1981.. Geneva, WIPO, 1981 (No. 640) the WIPO Worldwide Forum on the Piracy of Broadcasters and the Printed Word, Geneva, March 1983 (PF/11/S/2).
[57] Indicatively see Davies, above note 48, p.101.
[58] In the 1988 Green Paper piracy is defined as "the unauthorized reproduction of works protected by copyright or allied rights for commercial purposes as well as all subsequent commercial dealing in such reproductions", p.18, para. 2.1.1.
[59] For the debate regarding the use of the word "piracy" to describe any unlicensed activity see in favour Hughes, above note 19, p. 1069 ff; contra J. Litman, *Digital Copyright*, (2001) p. 85-86.
[60] 1998(b) House Report, p.9, 10, 25, stating "The digital environment now allows users of electronic media to send and retrieve perfect reproductions of copyrighted material easily and nearly instantaneously, to or from locations around the world."
[61] For a discussion of private copying from a worldwide perspective in the analogue world see G. Davies & M. Hung, *Music and Video Private Copying, An International Survey of the Problem and the Law* (1993); J. Spoor, W. Cornish and P. Nolan, *Copies in Copyright* (1980).
[62] According to Article 9(2) of the Berne Convention "it shall be a matter for legislation in the countries of the Union to permit the reproduction of such works in certain special cases, provided that such reproduction does not conflict with a normal exploitation of the work and does not unreasonably prejudice the legitimate interests of the author."
[63] Article 42 of Austrian Federal Act on Copyright in Works of Literature and Art and on Related Rights provided for a royalty on blank tapes for private use and permitted the reproduction of isolated copies of a work for personal use. It also permitted reproduction of works for a third person, but the reproduction of cinematographic works must have been gratis and the reproduction of works of literature and music must have been made by longhand or typewriter. Federal Law on Copyright in Works of Literature and Art on Related Rights of 1936 as amended by Law 1980, No. 321 of 2 July 1980.
[64] Law on Copyright of 22 March 1886. The law provided a royalty on both recording media and equipment.
[65] The making of an individual copy of a disseminated work for private use is permitted under Danish law, with the restriction that such a copy, once made, may not lawfully be used for any other purposes. Article 11 of Act 158 on Copyright and Literary and Artistic works of 31 May 1961 as amended on 21 March 1975 (Act 174), 8 June 1977 (Act 240), 21 May 1985 and 14 May 1992 (Act 338). Denmark introduced provisions for a royalty on private copying in its Law 338 of 14 May 1992, which amended the 1961 Copyright law.
[66] Article 11 of the Finnish Copyright Statute provided that anyone could reproduce in a few copies, a disseminated work for his private use and such copies may not be used for other purposed. Article 26(a) established a royalty on blank audio and video tapes or any other media suitable for recording. Law 404 of 8 June 1984 as amended by law 442 of 8 June 1984 law 34 of 11 January 1991.
[67] The making of copies and reproductions of works which were strictly reserved for the private use of the copyists and not intended for collective use was permitted under Article 41 of French Law on Literary and Artistic Property (Law no. 57-298 of 11 March 1957 as amended by Law no. 85-860 of 3 July 1985, official journal of 4 July 1985, p. 7489). According to Article 31 right owners were entitled to receive a royalty for private copying.
[68] In Germany the making of single copies of a work for personal use is permitted regardless of whether the copy is made by the user or by a third party. However if the work is reproduced in a sound or visual recording, the copying is only permitted if the third party makes the copy gratuitously. Such a copy may not be distributed nor be used for any sort of public performance. See Article 53 of the German copyright law on copyright and related rights of 9 September1965, as amended by law no.33 of 27 June 1985/ Bundesgesetzblatt no. 33 of 27 June 1985, page 1137.The Federal Republic of Germany was the first country to enact and enforce provisions relating to a royalty for private copying in 1965. Article 54 of the German Copyright law provided that where the nature of a work made it probable that it would be reproduced by the recording of broadcasts on video or audio recording media or by the transfer from one audio or video recording medium to another, the author of the work was entitled to payment of equitable remuneration, which was due on appliances and recording media.
[69] Article 18(1) of the Greek law on Intellectual Property, Neighbouring Rights and Cultural Issues permitted the reproduction of published works for private use without the permission of without remuneration. Law

2121/1993, published in FEK A' 25/4-3-1993. Article 18(3) provided for a royalty for private copying imposed on audio and visual recording devices, photocopying machines and computers.

[70] In Italy the reproduction of individual works for the personal use of readers was permitted if the copying was done by hand or by a non-commercial medium of reproduction. See Article 68 of Law for the Protection of Copyright and Other Rights Connected with the Exercise thereof, No. 633 of 22 April 1941, as amended bylaw 406 of 29 July 1981. Law No.93 of 5 February 1992 entitled Measures in Favour of the Phonographic Industry' Gazzetta Ufficiale on 15 February 1992 provided for the imposition of a royalty on private copying on blank audio and video tapes and audio recording equipment.

[71] Article 16(b) of the Dutch Copyright law provided for the making of a limited number of copies of protected works for the sole purpose of the personal practice, study or use of the person who makes the copies or who orders them to be made. Dutch Copyright Law of 23 September 1912 as amended (several times since its enactment) by Law of 30 May 1990 amending Copyright Statute of 1912, Statute Book 199, Volume 305. Article 16(c) provided that authors or their assignees were entitled to receive compensation when their works were reproduced on a recording medium for private use or study. The remuneration was due on blank tapes.

[72] Article 81(b) of the Portuguese Code of Copyright and Related Rights permitted the reproduction of works without authorisation of the right owner when this was exclusively for private use and provided that it did not harm the normal exploitation of the work nor caused unjustified prejudice to the authors' legitimate interests and provided that the reproduction was not used for any purposes of public communication or commercialisation. Law 45/85 if 17 September 1985 as amended by Law 114/91 of 3 September 1991, published in Diario da Republica, 1 Serie.A, No,. 202.3.9.1991. Article 82 provided for a private copying royalty on the sale of hardware used to fix and reproduce works and on blank tapes.

[73] According to Article 31 of Spanish IP Law published works could be reproduced without authorisation when reproduction was made for private use of the copiers and the copy was not used for either collective or gainful purposes. Ley de Propriedad Intelectual No. 22/87 of 11 November 1987, Boletin Official del Estado no. 27 of 17 November 1987 as amended by Ley 20/1992 of July 7, published in Boletin Official del Estado No. 168 of 14 July 1987. Article 25(1) provided for a personal use royalty.

[74] The 1960 Swedish Copyright law as amended up to 1986 permitted the making of not-for-profit private copies of published works for personal use only. Law 729 of 30 December 1960 on Copyright in Literary and Artistic Works. The Law Concerning the Tax on Certain Cassette Tapes of June 24 1982 provided for a tax on blank audio cassettes and blank and pre-recorded video cassettes. Swedish Code of Statutes SFS 1982: 691, Amendment of 25 March 1984.

[75] For a discussion of blank levy legislation in European Member States see: J. Reinbothe, "Compensation for Private Taping Under Sec. 53(5) of the German Copyright Act", 12 *Int'L Rev. Indus. Prop. & Copyright L.* 35 (1981); A. Lucas, "Copyright and the New Technologies in French Law", 2 *E.I.P.R.* 42 (1987).

[76] "The music industry has long been fearful of the negative effect home taping of its products would have on the growth of the industry."; "The copyright law implications of private audio recording for non-commercial use have been the subject of longstanding debate". 1998 Senate Report, p. 33 and 51.

[77] Sound Recordings Act of 1971, Pub. L. No. 92-140, 85 Stat. 391 (1971), codified as 17 U,S,C, para 101-102(a)(7), 106(1), 106 (3)-(4), 116, 401-02, 412, 501-04 (Supp. IV 1980).

[78] "Specifically, it is not the intention of the Committee to restrain the home recording, from broadcast or from tapes or records, of recorded performances, where home recording is for the private use and with no purpose of reproducing or otherwise capitalizing commercially on it" H.R. REP. No. 487, 92d Cong. 1st Sess. 7.

[79] *Universal City Studios Inc. v. Sony Corporation of America*, 464 US, 417 (1984).

[80] The Audio Home Recording Act of 1992 (AHRA) added chapter 10, entitled "Digital Audio Recording Devices and Media," to title 17. Pub. L. No. 102-563, 106 Stat. 4237.

[81] Today almost all EU Member States, except Cyprus, Ireland, Luxembourg, Malta and the UK, have adopted systems of fair compensations for private uses of copyright works based on a private copying levy.

[82] At an EU level, the Council published a Recommendation in favour of the introduction of authors' rights to remuneration for sound and audiovisual private copying of their works. The Commission seemed ambivalent in its 1988 Green Paper but in the 1991 follow up to the Green Paper the Commission argued in favour of a new legislation on home copying at the EU level. (Follow up to Green Paper: Working Program of the Commission in the field of Copyright and Neighbouring Rights, COM (90) 584 final, p. 11-12). At the same time the Commission announced its intention to present a proposal for a Directive on private copying in which it intended to propose a limited harmonization of the levy schemes, but this attempt failed due to its complexity. For a discussion on the underlying issues regarding the adoption of a Directive on home copying as well as an analysis of the Draft Directive which was never published see L.R. Stasio, 'Remuneration for Home Copying: A Controversial Directive Remains Elusive', 19 *B. C. Int'l & Comp. L. Rev*. 233(1996). Today Member States may provide for a private copying exception according to art. 5(2)(b) Information Society Directive, provided that

rightholders receive a "fair compensation", as it has been interpreted by the CJEU in Case C-467/08, *Padawan SL v SGAE*, [2010] ECR-I 000.

[83] In 1981 Senator DeConcini introduced legislation as a response to the Court of Appeals Decision in the *Betamax* case to ensure that consumers had the right to tape copyright material for their own use. In 1983 Senator Mathias introduced legislation to create a royalty system for home taping. In 1987 Senator Gore and representative Waxman introduced bill S.506 and H.R. 1384 respectively, which required digital audio recording equipment to contain a copyguard system prior to distribution in the US. In April 1990 Senator DeConsini introduced a bill to require the installation of the Serial Copy Management System in all digital audio tape recorders imported onto or manufactured in the US. 1998 Senate Report, p.30-31.

[84] The AHRA provided for a right for consumers to make analogue or digital audio recordings of music for their private, non commercial use, it introduced a royalty payment system that provided compensation for the digital home recordings of copyright protected music and it required the obligatory incorporation to Digital Audio Tape recorders of a TPM, named Serial Copy Management System, that prohibited the digital serial copying of copyright music and prohibited the circumvention of this TPM.

[85] R. Posner, "Misappropriation: A Dirge", 40 *Hous. L. Rev*. 621 (2003), 622.

[86] For an investigation of the piracy narrative at the international level see D. Halbert, "Intellectual Property Piracy: The Narrative Construction of Deviance", 10 *International Journal for the Semiotics of Law* 55 (1997), 57.

[87] InfoSoc Explanatory Memorandum, p. 11; NII Report, p. 11; Lehman, above note 35, p. 103, 104.

[88] InfoSoc Explanatory Memorandum, p. 5, para 4.

[89] 1998(b) House Report, p. 9.

[90] J. Litman, *Digital Copyright*, (2001) ("Our copyright laws have, until now, focused primarily on the relationships among those who write works of authorship and disseminate those works to the public."); J. C. Ginsburg, "Putting Cars on the "Information Superhighway": Authors, Exploiters, and Copyright in Cyberspace", 95 *Colum.L. Rev.* 1466, 1488 (1995); T. Wu, "When Code isn't law", 89 *Va. L. Rev*. 679, 713-14 ("Copyright owners have traditionally avoided targeting end users of copyrighted works.[..] One is pressed to find any example of copyright law being enforced against individuals for home copying (as opposed to commercial activity) prior to 1990.")

[91] See above section 2.3

[92] For the history of photocopying see: L. G. Wisemand, *Making Copies: The Impact of Photocopying on Copyright Law in Australia*, Thesis submitted for the degree of Doctor of Philosophy at the University of Queensland, TC Beirne School of Law (January 2009), p. 10-15; M. Sawyer, "The Photocopying Machine: How did it begin?", *72 Law Library Journal* 91, (1979), 98.

[93] Davies & Hung, above note 61, p.1ff.

[94] Hearings before Subcommittee No. 3, Committee on the Judiciary, H. of Reps., 89th Cong., 1st Sess., on H.R. 4347, H.R. 5680, "Copyright Law Revision," Part 1, p. 120.

[95] George Fry & Associates, *Survey of Copyrighted Material Reproduction Practices in Scientific and Technical Fields*, 1962.

[96] J. Sophar & B. Heilprin, The determination of legal facts and economic guideposts with respect to the dissemination of scientific and educational information as it is affected by copyright. A status report by Gerald J. Sophar, principal investigator, and Laurence B. Heilprin, co-investigator, Committee to Investigate Copyright Problems Affecting Communication in Science and Education Washington U.S. Office of Education, Bureau of Research (1967), p.24.

[97] *Williams & Willkins Company v the United States*, 487 F.2d 1345 (1973).

[98] 1988 Green Paper, p. 113 (emphasis added)

[99] "Moreover, the court found that the purpose of [time shifting] served the public interest in increasing access to television programming". *Sony Betamax*, above note 79, p.425.

[100] "Sony's survey indicated that over 80% of the interviewees watched at least as much television as they had before owning a Betamax. Respondents offered no evidence of decreased television viewing by Betamax owners". *Sony Betamax*, above note 79, p.424.

[101] File-sharing, for example, has influenced the markets for concerts, electronics and communication infrastructure. (See F. Oberholzer-Gee & K. Strumpf, "File-Sharing and Copyright", Harvard Business School Working Paper 09-132, available at: http://www.hbs.edu/research/pdf/09-132.pdf)

[102] Indicatively see Oberholzer-Gee & Strumpf, supra note 101, p. 1,2.

[103] Still, as mentioned above, unauthorised reproductions of works and originals are not perfect substitutes, and thus, copyright holders can compete with free, if they alter their business model to make their offering more attractive. See D. J. Bryce, J. F. Dyer & N. W. Hatch, "Competing Against Free", *Harvard Business Review, The Magazine*, (June 2011). There have been successful business models that are built on offering free content,

such as bottled water or bundled public domain materials. See C. Anderson, *Free: The Future of A Radical Price*, (Hyperion, 2009), P. Yu, "P2P and the Future of Private Copying", 76 *U. Colo. Rev*. 653, 716(2005).

[104] There is a rich literature detailing the difficulties of suits against individuals as well as the backlash effect that such enforcement efforts can have. Indicatively see B. Depoorter, A. Van Hiel, S. Vanneste, "Copyright Backlash", 84 *S. Cal. L. Rev*. 1251, K. Groennings, "Costs and Benefits of the Recording Industry's Litigation Against Individuals", 20 *Berkeley Tech. L. J*. 571, (2005), M. A. Lemley, R. A. Reese, "Reducing Digital Copyright Infringement Without Restricting Innovation", 56 *Stan. L. Rev*. 1345.

[105] *Sony v. Universal Symposium (Panel 3): A New World Order?* 34 *Sw. U.L. Rev.* 211, 218 (2004)

[106] Indicatively see the issues that arose in *White-Smith Music Publishing Co. v. Apollo Co.*, 209 U.S. 1 (1908) and the enactment of the U.S. Copyright Act of 1909.

[107] Indicatively see *Fortnightly Corp. v. United Artists Television, Inc.*, 392 U.S. 390 (1968); *Teleprompter Corp. v. Columbia Broadcasting System, Inc., 415 U.S 394* (1974); *Eastern Microwave, Inc. v. Doubleday Sports, Inc.*, 691 F.2d 125, 129 (CA2 1982) and the enactment of the provisions set forth in 17 U.S.C. § 111(d)(2)(B) and § 111(d)(5) (1982 ed.).

[108] See Public Law 98-450, 98 Stat. 1727.

[109] R. H. Coase, "Payola in Radio and Television Broadcasting", 22(2) *Journal of Law & Economics* 269 (1979).

[110] L. Weinberg, "The Photocopying Revolution and the Copyright Crisis" 38 *The Public Interest* 99 (1975), arguing that "the new markets encouraged the shopping of copies rather than the original work".

[111] J. Liebowitz, "Copyright law, Photocopying, and Price Discrimination" Research In Law And Economics (1986); J. Liebowitz, "Copyright and Indirect Appropriability: Photocopying of Journals'" 93 *Journal of Political Economy 945 (1985).*

[112] 1988 Green Paper, p. 118

[113] 1995 Green Paper, p.28.

[114] 1998(a) House Report, p. 10.

[115] InfoSoc Explanatory Memorandum, p.6-7, 1998 Senate Report, p. 2, 9-10, 65-66.

[116] InfoSoc Explanatory Memorandum, p. 7.

[117] 1998 Senate Report, p. 66. See also p. 65: "We must make sure that our copyright laws protect the intellectual property rights of creative works available online in ways that promote the use of the Internet, both by content providers and users. The future growth of computer networks like the Internet and of digital, electronic communications requires it. Otherwise, owners of intellectual property will be unwilling to put their material online. If there is no content worth reading online, the growth of this medium will be stifled, and public accessibility will be retarded."

[118] For example, Amazon's encore program publishes books by self-published authors whose work attracts good reviews on Amazon.com, offering royalties up to 70% to authors who sold electronic rights directly to Amazon, provided they agreed to prices of between $2.99 and $9.99.See http://phx.corporate-ir.net/phoenix.zhtml?ID=1287891&p=irol-newsArticle&c=176060&highlight=

[119] A. Krueger, "The Economics of Real Superstars: The Market for Concerts in the Material World", *Journal of Labor Economics* 23(1), p. 1 (2007), J. H. Mortimer, C. Nosko & A. Sorensen, "Supply Responses to Digital Distribution: Recorded Music and Live Performances", NBER Working Paper No. w16507. Available at SSRN: http://ssrn.com/abstract=1699607.

[120] Oberholzer-Gee & Strumpf, supra note 101, p. 5.

[121] Ibid, p.1-2.

[122] See above under 2.1

[123] InfoSoc Explanatory Memorandum, p.6. See also P. B. Hugenholtz, above note 8, p.85

[124] See J. Verstrynge, 'Protecting Intellectual Property Rights within the New Pan-European Framework: Computer Software' in Lehmand & Tapper (Eds.) *A Handbook of European Software Law,* (1993), Part I, p. 10, who after a thorough analysis of Articles 1, 2, 4 and 5 stated that the remaining Articles of the Directive were "for the most part uncontroversial".