Technological Measures for Protection of Copyright in the European Union, United States of America and Japan

By

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I. Introduction

Intellectual property laws had been mainly designed, until the year 1996, under the architecture of the traditional geographical world. The existence of a digital space implied not only the draft of new legal instruments, but adaptation of established legal concepts.

If the 1970s and 1980s were marked by important events, such as the opening of the network to the commerce, the video technology and the satellite broadcasting, the 1990s were definitely not less important to the history of the copyright world.

The results of the works started by the World Intellectual Property Organization, together with the Executive Committee of the Berne Union and the Intergovernmental Committee of the Universal Copyright Convention[1] were mainly felt with the coming into existence of the WIPO 1996 Treaties.[2]

Built under the scope of "introducing the first international copyright rules, tailor-made for the new environment created by digital technology"[3], they have been also denominated as the WIPO Internet Treaties.

Challenges had been mainly presented by the new possible forms of using a work in the digital environment as the new categories of works escaping the traditional legal concepts.

The parallel work of several international institutions also included the cooperation with the World Trade Organization,

[1] See MIHÁLY FICSOR, THE LAW OF COPYRIGHT AND THE INTERNET. THE 1996 WIPO TREATIES, THEIR INTERPRETATION AND IMPLEMENTATION, (University Press, 2002).
[2] World Intellectual Property Organization, Copyright Treaty (WCT) at http://www.wipo.int/treaties/en/ip/wct/trtdocs_wo033.html and World Intellectual Property Organization, Performances and Phonograms Treaty (WPPT) at http://www.wipo.int/treaties/en/ip/wppt/trtdocs_wo034.html
[3] JÖRG REINBOTHE & SILKE VON LEWINSKI, THE WIPO TREATIES 1996 – THE WIPO COPYRIGHT TREATY AND THE WIPO PERFORMANCES AND PHONOGRAMS TREATY, COMMENTARY AND LEGAL ANALYSIS, (2002).

which culminated on the Agreement on Trade-Related Aspects of Intellectual Property Rights-TRIPS, in 1994.[4]

Among the provisions of the WIPO Copyright Treaty (hereinafter WCT) and WIPO Performers and Phonograms Treaty (hereinafter WTT), those related to the employment of technical measures for the protection of authors rights' in the digital world are the most relevant for this work.

They can be found under article 11 of the WCT and article 18 of the WPPT. As the contents of both articles are generally the same, only the first one will be referred to. It demands contracting parties to provide adequate legal protection and effective legal remedies against the circumvention of effective technological measures, used by authors in connection with the exercise of their rights.

Differently of what is seen in the other provisions, this article is not limited to adapting established concepts to the network environment, but comprises a totally new right, regarding the enforcement of copyright in the network.[5]

The existence of an environment where reproduction of copyrighted works can be quickly done in industrial scale and with a high standard quality was the propeller for the new model law. Although the provision introduces a new legal content, it does aim to create new copyrights, but deal with enforceability of the already existing rights in the cyberspace.[6]

Before the internet boom and the new possibilities of managing copy rights through technical measures, authors and the copyright industries had already experienced the results of previous technologies. An example can be cited with the invention of the photocopying machine, which was deemed to

[4] World Trade Organization, Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS), at http://www.wto.org/english/tratop e/trips e/ t agm0 e.htm
[5] FICSOR, *supra* note 1, at 544.
[6] See Andrea Ottolia, *Preserving User's Rights in DRM: Dealing with "Juridical Particularism" in the Information Society* (2004).

be able to transform each man in a potential "publisher" and to terrify the publishing industry around the world. [7]

Briefly, the enforcement of exclusive rights in the cyberspace motivated rightholders' to apply technical measures for safeguarding their rights. The big controversy lays on the fact that copyright owners want their work to be in the digital networks and, at the same time, are afraid of it.[8]

Several examples of technological measures have already been developed. To cite some, the "Serial Copy Management System" is normally applied by the phonogram industry; the "Content Scramble System", controls and prevents reproduction of visual works; the "macrovision system", also used by Hollywood studios to avoid reproduction of videos and the "Digital Transmission Content Protection", proposed by a group of big companies to control digital video format. This last system encompasses four standards of measures of protection: a) copy-never; b) copy one-generation; c) copy no-more; and d) copy-freely.[9]

Also, among the existent solutions to audio data protection, "copy protection" ensures no additional reproduction takes place and can involve technical mechanisms classified in: a) analog physical media; b) analog ephemeral data; c) digital physical media and d) digital ephemeral data.[10]

[7] Gert Kolle, *Reprography and Copyright Law: A Comparative Law Study Concerning the Role of Copyright Law in the Age of Information* (1975) *available at* www.beckonline.de

[8] Dan L. Burk & Julie E. Cohen, *Fair Use Infrastructure for Copyright Management Systems*, Journal of Law & Technology, (2001) *available at* http://jolt.law.harvard.edu/articles/pdf/v15/15HarvJLTech041.pdf "For copyright owners, digital networks represent both a promise and a threat. Computer networks eliminate or minimize many of the costs associated with the publication and distribution of information products but also substantially eliminate the costs of making and distributing unauthorized copies."

[9] Patricia Akester, O Direito de Autor e os Desafios da Tecnologia Digital, at 144 (2004).

[10] See MICHAEL ARNOLD ET ALL., TECHNIQUES AND APPLICATION OF DIGITAL WATERMARKING AND CONTENT PROTECTION, (2003).

Besides, the "usage monitoring", the "distribution tracing" and the "usage control", can also be employed to elaborate digital rights management.[11]

These mechanisms generally imply that copying demands additional operations for those required for simple reproduction, use of devices which do not permit replication of protected works or recording, communication and storage of users conducts to be subsequently used by rights owners.

The scientific society and the industry of technological measures[12] have already understood that "although distributors and artists already recognize the advantage in making their material available on line, they will not go further into the online business until their content can be protected by technical and wide law regulations"

Had technological measures of protection sufficed to protect their, the international lobbying[13] to afford them extra legal protection would probably not have taken place.[14]

While passing domestic legislation, the governments of the USA, Japan and also the European Union, showed the concern to cover not only the act of circumvention itself, but also other acts capable of helping to prevent the spread of piracy in the cyberspace.

Provisions named as "anti-trafficking" or "anti- preparatory activities" where then introduced into domestic law of these three nations to assure piracy is being fought.

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[11] See also JUERGEN SEITZ, DIGITAL WATERMARKING FOR DIGITAL MEDIA, (2005).

[12] Digimarc Coorporation, *Digital Watermarking: Fostering and Enhancing Legitimate Peer-to- Peer*, (2006) *available at* http://www.digimarc.com/comm/docs/dmrc_wp_legitimate_p2p.pdf "(…) Successful commercial deployments of digital watermarking by the music, movie, broadcasting and advertising industries are already having a significant impact on reducing piracy in pre-release music and movies, and improving the ability to monitor, track and manage digital media (…) Digital watermarking opens the door to new and legitimate business models, new protection schemes and enhanced consumer experiences by providing additional related content in a 'connected media' fashion that truly enhances the entertainment experience."

[13] See Bernt Hugenholtz, *Why the Copyright Directive is unimportant, and Possibly Invalid*, (2000) *at* http://www.ivir.nl/publications/hugenholtz/opinion-EIPR.html

[14] See also Pamela Samuelson, *Intellectual Property and the Digital Economy: Why the Anti-Circumvention Regulations need to be revised* (1999) *available at* http://people.ischool.berkeley.edu/~pam/papers/Samuelson.pdf

The concept of "access" to a work and "use" of a work had to be introduced in order to fulfil the necessities of dealing with a new environment. The three jurisdictions refer to them at several different situations.

Despite a long round of international discussions followed by new rounds of national ones, the provisions related to the technical measures of protection of copyrights are still a complex subject matter. Several authors and students have already dedicated their time to research and write about them.

For those who are aware of the fact that changes on technology happens at the pace of the clock and law and law enforcement cannot stay behind them, the field is no doubt fascinating.

II. The European Directive 2001/29/EC on Copyright and Related Rights in the Information Society

A. Outline and Main Features

Although circumvention-means provisions can be found under the Council Directive on the legal protection of computer programs[15], this work will focus on the provisions of the European Commission Directive 2001/29/EC, on the harmonization of certain aspects of copyright and related rights in the information society, hereinafter referred as "the Directive" [16].

The Directive originally aimed to bring the copyright laws in line with the WIPO Internet Treaties, setting a common standard for ratification by the Member States and the European Community.

[15] Directive 91/250/EEC, on the legal protection of computer programs, entered into force on May, 14, 1991, *available at* http://europa.eu.int/eur-lex/lex/LexUriServ/LexUriServ.do?uri=CELEX:31991L0250:EN:HTML
[16] Directive 2001/29/EC, on the harmonisation of certain aspects of copyright and related rights in the information society, entered into force on June, 22, 2001, *available at* http://eur-lex.europa.eu/pri/en/oj/dat/2001/l_167/l_16720010622en00100019.pdf

Another goal of the European Legislator under the Directive was the harmonization of the right of reproduction and distribution, as well as the establishment of exemptions and limitations in European Copyright law[17].

Members States were given until 22 June 2002 to implement it into national law. Only Greece and Denmark met the deadline.

In a very similar approach to the US and the Japanese Legislators, the European Commission decided not to implement the WIPO treaties simply by transporting the provisions of the "Internet Treaties" into a Directive, but went further proposing a regulation of other several aspects of copyright and related rights in the information society.

Although comparable to the DMCA[18] and to the Copyright Act of Japan[19], the Directive comprises only fifteen articles for which reason recitals contain much more than a brief motivation or exposition of the legal situation. They supply a real guideline to the interpretation of the European legislator's intention and go further surveying express legal definitions to be observed by Member States.

It is clear that the digital environment conveyed new ways of business and consequently introduced new international business models. Among the aims of the Directive, the desire to place Europe among the top internet business position in the world is clear stated by Recital (2). The provision stresses the "need to creating a general and flexible framework at Community level in order to foster the development of the information society".

[17] Michael Lehmann, *The EC Directive on the Harmonisation of Certain Aspects of Copyright and Related Rights in the Information Society – A Short Comment* (2003).
[18] Digital Millennium Copyright Act (DMCA), Public Law 105-304, passed on October, 28, 1998, *available at* http://www.copyright.gov/legislation/dmca.pdf
[19] Copyright Law of Japan, Law N. 48, promulgated on May 6, 1970, as amended by Law N. 77, of 15 June 1999. An unofficial English translation of the statute is available *at* http://www.cric.or.jp/cric_e/clj.html

The development of the information society propelled a quick multiplication of commercial relationships and consequently new kinds of offensive and illegal conducts capable of challenging the application of the established principles and laws.

The impossibility of simply transposing geographical jurisdiction and application of established legal systems to the field of the information society was also recognized by the Directive which demanded "adaptation" and "supplementation" of existent laws.

According to Recital (5), "while no new concepts for the protection of intellectual property are needed, the current law on copyright and related rights should be adapted and supplemented to respond adequately to economic realities such as new forms of exploitation."

The idea of tailoring a new branch of law and jurisdiction for exclusively dealing with conducts perpetrated within the information society was proved not to be accepted internationally. The Legislators in the European Union, in the US and Japan acted in very similar ways, adapting the new reality to the already existent copyright legal system.

B. Protection of Technological Measures and Rights-Management Information

Chapter III of the Directive covers Articles 6 and 7, and comprises the "protection of technological measures and rights-management information". The provisions are individually analyzed on the following lines.

1. Obligations as to Technological Measures

Contrary to what is primarily stated in the DMCA, Article 6 (1) of the Directive designs a general obligation against the circumvention of "any" technological protection, as it reads:

"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".

The main requirements for legal protection are designed to apply a) when technology is deemed to be "effective"; b) where the person concerned has "knowledge" or "reasonable grounds to know" the nature of the act is illegal; c) when "any" kind of technological measure protects a copyrighted work. (Remarks added by author)

Since the statute uses the term "any" technology, it has been understood as covering access and use controls.

a) Definition of Technological Measures

Following the interpretation of Article 6, technology has to be effective in order to be legally protected. Both answers to what is a technological measure of protection (hereinafter TMP) and what is an "effective" TMP are given at paragraph (3) of the same article.

According to it, TMP 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 authorized by the right holder (…)"

Further, "technological measures shall be deemed 'effective' where the use of a protected work or other subject-matter is controlled by the rightholders 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".

On the assessing of effectiveness of technology a difference between access control and protection process is inaugural on the statute.[20]

It is also worth to highlight that only access control and protected process of works which fall within the scope of copyright and related subject-matter are able to enjoy protection under the Directive[21].

The difficulties faced during the legislative process regarding access and use control are straightforwardly comprehensible.

In the context of the information society, nevertheless, as access and use very often overlap, it might happen that if an author does not control access, he might not be able to control further use.[22]

Contrary to the US and Japan, a definition to "circumvention" is absent in the Directive. Nevertheless, while determining which kinds of products and services shall be prohibited, the three jurisdictions apply a very similar test, as demonstrated below.

2. The Preparatory Activities

Article 6 (2) of the Directive is reserved to the so called anti-trafficking provisions. Pursuant to it:

> [M]ember 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:

[20] Article 6 (3).
[21] Recital (48) "(…) copyrights, rights related to copyright or the *sui generis* right in databases (…)"
[22] See 17 U.S.C. § 1201 (2) (A) to 'circumvent protection afforded by a technological measure' means avoiding, bypassing, removing, deactivating, or otherwise impairing a technological measure; See also Copyright Law of Japan, Article 30 (1) (ii) "circumvention means to enable to do acts prevented by technological protection measures or to stop causing obstruction of signals used for such measures, by removal or alteration of signals used for such measures."

(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.

Recital (48) states a clear position regarding standardization. No obligation exists in regard to "design devices, products, components or services to correspond to technological measures, so long as such device, product, component or service does not otherwise fall under the prohibition of Article 6."

Contrary to what is seen in the US jurisdiction, the Directive contains nothing similar to the so called Macrovision provision.[23]

It can be concluded that, however the WIPO Treaties legal requirements comprise "adequate" and "effective" legal protection and do not demand an anti-trafficking provision, Legislators in the three analyzed nations decided to insert this kind of content within their domestic systems, in order to afford a real anti-piracy result. [24]

According to some commentators:[25]

> [T]hree issues are crucial and have to be taken account of in the context of any provision on the protection of technological measures. The first one concerns the question as to whether protection of technological measures may be limited to protection against the acts of circumvention, or whether such protection would only be meaningful if it also extended to protection against devices and services which

[23] 17 U.S.C. §1201 (k).
[24] VESALA JUHA, TECHNOLOGICAL PROTECTION OF COPYRIGHT, PROTECTION AGAINST CIRCUMVENTION TOOLS UNDER THE EC AND US LAWS, at 27 (2004).
[25] JÖRG REINBOTHE & SILKE VON LEWINSKI, *supra* note 37 at 141.

form the basis for circumvention. It may be held that legal protection against circumvention is only meaningful and adequate if it also covers circumvention devices, the so called 'preparatory acts'. Consequently, though, Article 11 WCT explicitly requires protection and remedies 'against circumvention' only, it must be assessed whether the prohibition should extend to both devices and conduct."

The commercial purpose of the act of trafficking is also commonly stressed within the three nations. The Japanese statute uses the words "commercial" or "for profit making" purposes and together with the DMCA targets the same aims.

As stated by the general anti-circumvention provision of Article 6 (1), the act of trafficking of "any" product, device or component which allow circumvention is already enough to find an infringement.

That means, under the European Directive, trafficking on devices and products designed to circumvent both access and use control of a work is deemed to be illegal.

3. The Voluntary Measures

Article 1 of the Directive states it concerns the legal protection of copyright and related rights in the framework of the internal market, with particular emphasis on the information society.

The content of Commission's Green Paper on Copyright and Related Rights in the Information Society[26] considered how the information society ought to function, showing the importance of the information society for the European Community and which current issues relating to copyright and related rights should be looked at.

[26] European Commission Green Paper of 27 July 1995 on Copyright and Related Rights in the Information Society COM(95) 382 final, *available at* http://europa.eu/scadplus/leg/en/lvb/l24152.htm

The "voluntary measures" established by Article 6, paragraph 4 represent measures taken by the rightholders to protect their rights.

It states that in the absence of these measures, Member States shall ensure that rightholders make available to consumers the means of benefiting from exceptions and limitations.

This provision is deemed to be one of the most non clear in the statute. "What 'voluntary measures' does the Directive envisage: technical protection measures that automatically respond eligible users? And what kind of 'agreements between right holders and other parties' do the framers of the Directive have in mind: collective understandings between right holders and users?"[27]

The result of these unclear words is the variety of different implementations into Member States legal systems, the lower level of harmonization and the uncertainty for the interested business industry.[28]

4. Obligation Concerning Rights-Management Information

A definition of "rights-management information" (hereinafter RMI) is expressly given by the Directive.[29] According to it "any information provided by rightholders which identifies the work or other subject-matter referred in the Directive, the author of the work or any other rightholder, as any other information about the terms and conditions of use of the work or other subject-matter and any numbers or codes that represent such information."

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[27] Bernt Hugenholtz, *Why the Copyright Directive is unimportant, and Possibly Invalid*, at 501-502 (2000) *at* http://www.ivir.nl/publications/hugenholtz/opinion-EIPR.html

[28] Lucie Guibault et all., Institute for Information Law - University of Amsterdam, *Study on the Implementation and Effect in Member States' Laws of Directive 2001/29/EC, on the Harmonisation of Certain Aspects of Copyright and Related Rights in the Information Society*, (2007), *available at* http://www.ivir.nl/publications/guibault/Infosoc_report_2007.pdf

[29] Article 7(2).

Pursuant to Article 7(1), Member States shall provide for adequate legal protection against any person knowingly performing without authority acts directed to the RMI.

The following acts are target by article 7(1): (a) the removal or alteration of any electronic RMI; (b) the distribution, importation for distribution, broadcasting, communication or making available to the public of works or other subject-matter protected under this Directive and Directive 96/9/EC from which electronic RMI has been removed or altered without authority.

The provision initially states that a person should not unduly (without rightholder authorization) remove or alter a RMI. Besides that, the person is required to "know" that he has no authority to do so.

The article further states that "if such person knows, or has reasonable grounds to know, that by so doing he is inducing, enabling, facilitating or concealing an infringement of any copyright or any rights related to copyright as provided by law, or of the *sui generis* right"

Concerning the acts to be sanctioned, the "removal" or "alteration" of information itself are punish able and have to be related with "works" or "copies of works". Such "works" are all works protected by Article 2 of the Berne Convention together with the Articles 4 and 5 of the WCT.

The acts have to be performed "without authority" and that implies neither the author nor copyright owner have given the user a right. Nevertheless, the notion of "without authority" also implies authority given by "law", for example, when the work has already fallen in public domain.

5. Interaction Between TPM and RMI

Whereas the technological measures generally refer to technologies which control access to content or the use of content; digital rights management imply a system where these rights cannot be only controlled, but also managed in a way it requires interaction between parties.

"If the design and construction of DRM systems was solely a matter of choosing the right cryptographic techniques to apply we would be in great shape: simply choose the algorithms we want to use for encryption, key management, secret sharing, traitor tracing, etc., and we would go build the systems.[30]

If the digital watermark is the technical measure of protection, the digital water marking system implies more than simply applying a measure, but taking in consideration some policies behind its application, due to the fact it implies handling with public laws - meaning copyright laws.

"In order to solve intellectual property problems of the digital age, two basic procedures are used: 'buy and drop', linked to the destruction of various peer-to-peer solutions and 'subpoena and fear', as the creation of non- natural social fear by specific legislations."[31]

As it can be extracted from the author's opinion, the present stage of technology allows application of measures to strength the enforcement of laws.

The "artificial" or "technologically" created "fear", however, does not seem to be enough to block acts of circumvention of TPM and manipulation of RMI. Otherwise, laws would not have been enacted to protect them.

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[30] Brian A. Lamacchia, *Key Challenges in DRM: an Industry Perspective*, *in* DIGITAL RIGHTS MANAGEMENT, (Springer, Joan Feigenbaum ed., 2002).
[31] JUERGEN SEITZ, DIGITAL WATERMARKING FOR DIGITAL MEDIA at vi-viii (2005).

a) Reproduction right

In order to assess the legality of the application of technical measures to protect works in the digital environment, it is firstly necessary to establish which rights have been considered as exclusive by Article 2 of the Directive.

The discussions regarding the adaptation of the reproduction right to the digital world had to take into consideration several issues. Among them one has to be highlighted: the fact that the digital environment works based on "copying".

The internet as known by now, is not a physical and a static entity, but a network of networks which sets communications links and communication rules (known as 'protocols') allowing computer to exchange information with one another."[32]

The way computers do it, this exchanging of information, is generally done by reproduction. One machine "talks" to another, asking her if a copy of a certain data can be transmitted. When a website appears on the screen of a computer, for example, that's not the real built webpage but only a copy thereof. That's why millions of people can access the same web page at the same time, because copying is the basis of the "inter network".[33]

If laws establish any single act of reproduction has to be authorized when subject of exclusive rights, the whole function of the web would be in danger.

Aware of this fact, the European Legislator directly exempted some acts related to a technological process[34], but still left to Member States the obligation to provide the exclusive right to "authorize" or "prohibit", "direct" or "indirect", "temporary" or "permanent" reproduction, "by any means" and "in any form", "in whole" or "in part".

[32] See PATRICIA L. BELLIA, PAUL SCHIFF BERMAN & DAVID G. POST, CYBERLAW: PROBLEMS OF POLICY AND JURISPRUDENCE IN THE INFORMATION AGE, (3d ed. 2007) (2001).
[33] Michael Carroll, Class on Internet Law at the MIPLC LL.M. Program of 2006/2007 (July 16, 2007).
[34] Article 5(1).

That's for sure a European standard and Member States have to comply with it, compulsorily.

These rights can be only exercised in regarding the products of the work of authors, performers, phonogram producers, producers of first fixation film and broadcasting organizations.

This provision leads to the understanding that these persons are primarily allowed to apply technical measures of protection on their works, which fall within their exclusive rights in the internet. They should, however, respect the legal exceptions and limitations provided by the Directive and by Member States domestic laws.

According to Recital 22, the scope of the acts covered by the reproduction right should be defined by the Directive in a very broad way, in order to ensure legal certainty within the internal market.

These provisions have, nevertheless, been target of severe criticism by scholars: "Do we need the legislator to say that caching and browsing are allowed without authorization?"[35]

Although Article 5 lists only a few possible exceptions and limitations, questions regarding its exhaustiveness and compulsory nature cannot be clear cut answered.

b) Right of Communication and Making Available

Article 3 of the Directive comprises the exclusive authority that an author has, in regard to the communication of his work with the public.

The provision covers wire and wireless transmissions and includes the making available to the public of a work in such a way that members of the public may access them from a place and a time individually chosen by them.

[35] Hugenholtz, *supra* note 26 at 501-502

It is essentially based on Art. 8 of the WCT and Arts. 10 and 14 of the WPPT, harmonizing the traditional right of public communication[36] and has two mains purposes:

- It aims to complement the provisions of the Berne Convention[37] concerning the exclusive right of communication to the public and fill the gaps introduced by new technologies, such the original cable transmission of works other literary, dramatic, dramatico-musical and musical works;

- It lays a right of "making available" as part of a right to communicate with the public on the on line environment, still not covered by the TRIPS Agreement.[38]

Recital (23) seems to lay down some clarifications for the understanding of the article, stating that the Directive should harmonise further the author's right of communication to the public, which should be understood in a broad sense covering all communication to the public not present at the place where the communication originates.

It also states that this right should cover any such transmission or retransmission of a work to the public, by wire or wireless means, including broadcasting, but not any other acts.[39]

Commentators have questioned what "public communication" in the digital network means and what are the main features regarding on-line interactions.

Whereas watermarking and fingerprinting are considered as passive systems of control over a work, the access control through the identification of the user's IP reflects an interactive system.

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[36] See Lehmann, *supra* note 17

[37] Berne Convention for the Protection of Literary and Artistic Works, of September 9, 1886, as amended by the Paris Act of July 24, 1971 and September 28, 1979, http://www.wipo.int/treaties/en/ip/berne/trtdocs_wo001.html

[38] JÖRG REINBOTHE & SILKE VON LEWINSKI, THE WIPO TREATIES 1996 – THE WIPO COPYRIGHT TREATY AND THE WIPO PERFORMANCES AND PHONOGRAMS TREATY, COMMENTARY AND LEGAL ANALYSIS, at 104 (2002).

[39] Recital (23)

The notion of TPM is often used indiscriminately as a term for technologies covering a) mechanisms that control access to platforms where content can be obtained (as personal identification) and b) passive systems that are used to embed individual information about the work and the rights owner (as watermarking).[40]

A difference has to be made as to assess the right of using a TM to protect works falling within the scope of the exclusive rights of the persons mentioned at Article 2 of the Directive and their rights to adopt a digital management of their rights.

The management of the rights, as the term as such states, implies several acts and elements which TPMs are only a part thereof.

TPMs are "generally are designed to impede access or copying", whereas DRM systems "do not impede access or copying per se, but rather create an environment in which various types of use, including copying, are only practically possible in compliance with the contractual terms set by the rights holders."[41]

Whereas the act of reproduction can be easily prevented by a TPM, the right of communication and making a work available seem to demand a further analyzes of the digital rights management, which is not covered in this thesis.

6. Exceptions and Limitations

The Directive does not expressly provide any particular exception to the circumvention prohibition. In the other hand, it does provide an obligation to Member States to establish "appropriate measures" under Article 6(4).

The appropriate measures concern the assurance that beneficiaries of any legal exception must have the exercise of their rights assure by law, if the rightholder does not do so.

[40] Guibault et all., *supra* note 27 at 13
[41] *Id.*

Thereupon, the lack of any particular exception does not mean the inexistence of any exception at the European level. Among the recitals we can read that the technological protection should not hinder the research into cryptography[42] and decompilation or reverse engineering[43], specific allowed by the Directive 91/250/EC, on the legal protection of computer programs, not affected by the Directive.

Article 5(3) of the Directive outlines the exceptions and limitations which may be applied to both right of reproduction and right of communication to the public.

It is clear that the acts of reproduction which are transient or incidental and are part (integral or essential) of a technological process should be excepted when falling within the following conditions: (a) a transmission in a network between third parties by an intermediary, or (b) a lawful use.[44]

In order to be exempted from Article 2, the reproduction of a work or other subject-matter must also have "no independent economic significance".

Some Commentators stated that's the only mandatory European exception[45]. At Article 5(2), the Legislator outlines a bunch of acts that "may" be considered to be exceptions to the reproduction right of Article 2 by the Member States.

The list includes the case where reproduction of the work is done on paper or any similar medium; where reproduction in any medium is made by a natural person for private non commercial use (fair compensation might be established by Member States); where acts of reproduction are carried by publicly libraries, educational establishments, etc; in respect of preservation of ephemeral recordings of works made by

[42] Recital (48) of the Directive.
[43] Recital (50) of the Directive.
[44] Article 5(1) (a) and (b) of the Directive.
[45] Lehmann, *supra* note 17 at 525.

broadcasting organizations and in respect of reproductions of broadcasts made by social institutions for non commercial purposes.[46]

If the list is exhaustive or not cannot be yet clear cut affirmed. Also, if all listed hypotheses or only some of them shall be obligatorily transposed to domestic law is too a point of discussion.

A second list exempts cases from the reproduction right of Article 2 "and" from the right of communication to the public, of Article 3.

It lists fifteen exceptions which cover the purpose of teaching and illustrating education material, use by people with disabilities, quotation purposes, use for caricature and parody, among others.[47]

Article 5(4) allows Member States to implement further exceptions to the right of distribution, to the extent they are justified by the purpose of the authorized act of reproduction.

Article 5(5) finally states that all exceptions should be applied in observance of not conflicting with the normal exploitation of the work or other subject-matter and do not unreasonably prejudice the legitimate interests of the rightholder.

That's a clear reference to the Berne Convention three-step test, for the minimum harmonization of establishing exceptions to copyrights.

Article 9(2) of the Berne Convention reads:

"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

[46] Article(5)(2)(a)(b)(c)(d)(e) of the Directive.
[47] Article 5(3)(a)(b)(c)(d)(d)(e)(f)(g)(h)(i)(j)(k)(l)(m)(n)(o) of the Directive.

exploitation of the work and does not unreasonably prejudice the legitimate interests of the author."

As many exceptions are not deemed to be rights, but only author's exclusive rights[48], Member States had to take into account their already existent exceptions, the principles of the Berne Convention and the requirements of Article 6 (4).

According to one Commentator, "the optional provision related to private copying confirms that 'fair use by design' is the standard adopted by the European Union in the field of copyright exceptions."[49]

7. Sanctions and Remedies

The Directive further demand Member States to provide appropriate sanctions and remedies in respect of infringements of the rights and obligations set out.[50] It adds: "the sanctions provided shall be effective, proportionate and dissuasive".

Under paragraph (2) Member States shall also ensure that rightholders affected by infringing activities can bring an action for damages and/or apply for an injunction, as well as for the seizure of infringing material as devices, products or components referred in the anti-trafficking provisions of Art. 6(2)

Memorandum of a range of Member States show the implementation of this article regarding the RMI has reached a variety of possibilities. While the Austrian Governmental Bill explicitly provided for the civil remedies of injunction and

[48] See Alexandre Dias Pereira, *The Protection of Intellectual Property in the Legal framework of Electronic Commerce and the Information Society*, LXXVI, Boletim da Faculdade de Direito da Universidade de Coimbra, at 308 (2000) "…In fact private copying is not deemed to be a user's right. Accordingly, it is considered that when applying the exception on private copying, Member States shall take due account of technological and economic developments, in particular with respect to digital private copying and remuneration schemes, when effective technological measures are available, since such exceptions shall not inhibit the use of technological measures or their enforcement against circumvention."

[49] Sévérine Dusollier, *Exceptions and Technological Measures in the European Copyright Directive of 2001 – An Empty Promise* at 71 (2001).

[50] Article 8.

removal, the Greek Copyright Act makes applicable the civil sanctions that govern copyright infringements in general. [51]

In relation to TMP, again "a number of countries have basically chosen to apply the same kinds of sanctions as they apply to copyright infringement in general". Italy is an example applying its own solutions for rights management information and made applicable the criminal law sanctions existing for copyright infringement in general, together with an alternative of imposing an administrative penalty. Germany has also differentiated infringement to RMI and TMP, establishing different sanctions.[52]

III. The US American Digital Millennium Copyright Act

A. Outline and Main Features

The Digital Millennium Copyright Act ("DMCA") implemented the provisions of the WIPO treaties in the United States of America[53]. The implementation was one of the first to occur, taking place on October, 1998.

The legislative history justifies the circumvention-means prohibition on the need to provide meaningful protection and enforcement of the copyright owner's rights to control access to his or her work.[54]

Also, the rationale behind the Act aimed to encourage private investment and entrepreneurship, to urge governments to act with restraint in considering the regulations on the emerging digital economy, at federal, state and municipal levels, as well as

[51] Silke von Lewinski, *Rights Management Information and Technical Protection Measures as implemented in EC Member States*, at 845, (2004).
[52] *Id.*
[53] 17 U.S.C., Chapter 12.
[54] VESALA, *supra* note 24 at 20, Footnote 48.

to argue for international cooperation in adopting consistent policies to promote this commerce.[55]

The statute effectively provides content owners a new right of technological access, independent of any intellectual property right.[56]

Due to the fact that the WIPO Internet Treaties require only "adequate and effective legal protection", some Commentators have affirmed protection under US law would already have been provided under the doctrine of contributory infringement, which attributes copyright liability to providers of technical devices that lack a substantial non-infringing use, as seen at the Sony v. Universal Studios case.[57]

B. Protection of Technological Measures and Rights-Management Information

Before the introduction of the legal protection for technological measures (hereinafter "TM") and rights management information (hereinafter "RMI") within US law, the Clinton Administration had already stated the goal of only imposing "predictable, minimalist, consistent and simple" regulations on the promising digital economy.[58]

According to several commentators, the DMCA provisions on TM and RMI go against this former compromise of the Federal Administration, as discussed below.

1. Circumvention of Copyright Protection Systems

The statute introduced the anti circumvention provisions by adding chapter 12 to the Copyright Title of the U.S. Code, which comprises Sections 1201 and 1202.

[55] See Samuelson, *supra* note 17.
[56] See Dan L. Burk, *Legal and Technical Standards in Digital Rights Management Technology*, p. 35 (2004).
[57] Sony Corp. of America v. Universal City Studios, Inc, 464 U.S. 417 (1984).
[58] Samuelson, *supra* note 17.

a) Violations Regarding Circumvention of Technological Measures

Section 1201 (a) primarily stresses "access" control and demands the technological protection to be "effective" in order to be legally guarded.

Pursuant to it, no person shall circumvent a TM that effectively controls access to a work protected under the copyright laws.[59]

Differently of what can be seen in the European Directive, where "any" form of effective control to a copyrighted work is primarily target by the legislator; the DMCA does not expressly prohibit circumvention to use, but intends to prevent circumvention to access a work.

Next to the first general prohibition rule comes the first exception, which states the prohibition shall not apply to particular classes of works, as recommended by the Librarian of Congress.[60]

Within the first 2-year succeeding the enactment of the new chapter and during the 3-year period above mentioned, the Librarian of the Congress should make the determination, in a rule-making procedure for purposes of subparagraph (B) of whether persons who are users of a copyrighted work are, or are likely to be adversely affected by the prohibition in their ability to make non infringing uses.

Although the provision says "persons who are adversely affected", exceptions might target some "classes" of "works" but not classes of "users" or "copyright owners".

A whole group of facts has to be considered in order to motivate Librarian of Congress' rule making proceeding.[61] The

[59] 17 U.S.C. §1201 (a).
[60] 17 U.S.C. §1201 (a)(B)(C).
[61] 17 U.S.C. §1201 (a) (C)(i)(ii)(iii)(iv)(v).

exceptions, nevertheless, cannot be used as a defense in any action to enforce any provision of the title, other that this individual exception itself.[62]

In theory authorized access to a protected work would have to be obtained, where no authorization would be demanded for the acts of use, after legitimate access. In reality, as very few users have the knowledge to circumvent for the exercise of the right of private copying, or extracting parts for educational purposes, for example, they are left with empty hands as the statute prohibits "those who have such skills from assisting those who do not have".[63]

(1) The Anti-Trafficking Regarding Access Control

The second part of the Section is directed to the trafficking provisions[64] and focuses primarily the devices which allow circumvention of "access" to a work.

It prescribes that no person shall manufacture, import, offer to the public, provide, or otherwise traffic in any technology, product, service, device, component, or part thereof that, (a) is primarily designed or produced for the purpose of circumventing a TM that effectively controls access to work protected under the title; (b) has only limited commercial significant purpose or use other than to circumvent a TM that effectively controls "access" to work protected under the tile; or (c) is marketed by that person or another acting in concert with that person with that person's knowledge for use in circumventing a TM that effectively controls access to a work protected under the title.

It also demands that the commercial purpose of the device should be limited to the circumvention activity in order to be imposed liability and, that the person responsible for its

[62] 17 U.S.C. §1201 (a)(E).
[63] Burk, *supra* note 55, at 36 (2005).
[64] 17 U.S.C §1201 (a) (2) (A)(B)(C).

marketing, or anybody acting in concert with her, must have knowledge about the use of the device for the above mentioned purposes.

Courts have already applied legal tests while ruling cases where the anti-trafficking provisions were involved. In the Universal v. Reimerdes case[65], the posting of a DeCSS was considered to infringe the DMCA.

In the case, Defendants concededly offered and provided DeCSS to the public by making its download available on a website. As the DeCSS was unquestionably considered by the Court as a software and hence a "technology" within the meaning of the statute, it clearly means to circumvent a TM controlling access.

Secondly, the DeCSS was considered by the Court as created solely for the purpose of decrypting CSS and being that all it does, no doubts were found as to the satisfaction of the legal requirements of (a) being primarily designed for that; (b) having only limited commercial significant purpose or use other than and (c) being marketed by a person who knows the use is circumventing a TM protecting access to a work.

"The House Judiciary Committee Report notes that the illegitimate products under these standards 'would not include normal household devices such as videocassette recorders or personal computers, since such devices (…) have obvious and numerous commercially significant purposes other than circumventing such protections, and are not intentionally marketed to circumvent such protections."[66]

As already mentioned, the statute clearly omits a prohibition of circumvention for usage purpose. That is justified on legislator desire to provide a lawful user permission to perform these acts, for the exercise of fair use and legitimate rights and exceptions.

[65] Universal City Studios, Inc. v. Shawn C. Reimnerdes, 111 F. Supp. 2d 294 (S.D.N.Y. 2000).
[66] House of Representatives, *Report from the Committee on the Judiciary*, at p. 10 (1998), at VESSALA, TECHNOLOGICAL PROTECTION OF COPYRIGHT (2004).

However, the anti-trafficking provisions go further prohibiting also preparatory acts in regard of "copy" (or use) control.[67]

Whereas circumventing to copy, after legally accessing a work is found not to be illegal, supplying any means of doing so would fall into the scope of the relevant provision. That turns decisive that a user, when circumventing to make a legitimate use, has to so perform without receiving any kind of help from third parties.

(a) The Legal Definitions

Similarly to the European and the Japanese Acts, the US statute also outlines definitions. As a general matter, definitions are justified by the premature legal scenario on the field of technological measures for protection of copyright at the time the international treaties were designed.[68] This fact is ratified by the texts of the WIPO Internet Treaties which also supply positive definitions.

As used by the statute, "to circumvent a TM" means to descramble a scrambled work, to decrypt an encrypted work, or otherwise to avoid, bypass, remove, deactivate, or impair a technological measure, without the authority of the copyright owner.[69]

As highlighted by a Commentator the examples given by this provision are technically inconsistent.[70] First, the primary function of a DVD player it to descramble a scrambled content in order to play it. Second, the adoption of words like "bypass",

[67] 17 U.S.C. §1201 (b).
[68] Alexander Peukert, Lecture on the Technical Protection of Author's Rights Class at the MIPLC LL.M Program of 2006/2007 (July, 11, 2007).
[69] §1201 (a) (3)(A).
[70] Michael Carroll, Class on Internet Law at the MIPLC LL.M. Program of 2006/2007 (July 16, 2007)

"remove", "deactivate" or "impair" would not make several situations clear.[71]

A definition to effective TM is also supplied by the statute. Pursuant to it, a TM is deemed to effectively control access to a work if the measure, in the ordinary course of its operation, requires the application of information, or a process or a treatment, with the authority of the copyright owner, to gain access to the work.[72]

The requirement of effectiveness shall first consider the implementation of a TM. Although the application of access control by a pass-code or some similar process might show the aim of blocking unauthorized acts, it does not prove to be enough for enjoying legal protection. Second, however the TM has to be efficient to be protected[73], the level of efficiency cannot be as high as to demand it to be perfect or unbreakable to be untitled to legal protection. Otherwise, why would it need legal protection at all?[74]

The requirement regarding "the ordinary course of its operation" seems to focus the situation where the equipment is outside of its normal operation, denying access unduly.

These problems, known as "playability problems"[75], imply that a skilled user might act fixing them without being deemed a violator.

Further definitions are supplied specifically to the interpretation of the acts of trafficking on devices[76] that effectively protects a right of a copyright owner as seen below.

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[71] Id. Cf. As an example given by the lecturer: "Where a password is demanded to get access to a work and the user seats hours trying to guess it, is he using a technology to bypass access? If he succeeds, does the action fall within the scope of this provision?"
[72] §1201 (a)(3)(B).
[73] Dan L. Burk, Class on Technical Protection of Author's Rights at the MIPLC LL.M Program of 2006/2007 (July, 02, 2007) "Discussion regarding the use of the word 'effectively' raises the possibility of application of non effective protection tools and can even lead to the conclusion that once the protection has been hacked is ought not to be considered effective".
[74] VESSALA, *supra* note 24, at 24 (2004).
[75] *Id.*

(2) The Anti-Trafficking Provisions Regarding Additional Violations

The intention of the legislator is primarily directed to controlling "access" of protected works. The trafficking provision above mentioned is, however, further repeated on the body of the statute, using the same language and comprising the same requirements.[77]

They are, although, directed to acts aiming to circumvent a technological measure which effectively protects "a right of a copyright owner" and the statute brings these provisions under the denomination "Additional violations".

Pursuant to them no person shall manufacture, import, offer to the public, provide, or otherwise traffic in any technology, product, service, device, component, or part thereof, that is primarily designed or produced for the purpose of circumventing protection afforded by a technological measure that effectively protects a right (or a portion thereof) of a copyright owner.

The limited commercially significant purpose or use other than to circumvent requirement is also repeated by this part of the statute.

Effectiveness of technology must also be present to enjoy legal protection, together with a third requirement related to the marketing by a person aware of the infringing nature afforded by the device.

(a) The Legal Definitions

Definitions are differently shaped by the Legislator regarding the control of a copyright owner right.

[76] The term device as used here should imply technology, product, service, component or part thereof, according to §1201 (b) (1).
[77] §1201 (b) (1) (A), (B) and (C)

To circumvent protection afforded by a technological measure controlling a copyright right means avoiding, bypassing, removing, deactivating, or otherwise impairing a technological measure.

Whereas a technological measure effectively protects a right of a copyright owner if the measure, "in the ordinary course of its operation, prevents, restricts, or otherwise limits the exercise of a right of a copyright owner".

(3) Exceptions and Limitations

Even though a list of exceptions regarding possible results fostering the development of commerce in the area and affecting users' capability of making legitimate uses can be edited once every three years by the Librarian of Congress, the Legislator included a list of other exceptions.

Exceptions and limitations to the prohibition of circumvention of technological measures for protection were hence designed by the Legislator in a variety of opportunities.

(a) Non-profit Libraries, Archives and Educational Institutions

Pursuant to §1201 (d), exception for non-profit libraries, archives and educational institutions are outlined. An institution meeting this profile has to "gain access" to a commercially exploited copyrighted work, solely, in order to make a good faith use.

A good faith use is also determined by the statute as the making of a copy of an acquired work has to take place for the sole purpose of engaging in conduct permitted under the title and shall not be considered as violation of subsection (a)(1)(A).

As included as an exception rule in the statute, the making of a copy by these institutions might not be considered as a right, but an authorization under an exception.

Some further requirements directed to the use of the acquired copy are also provided: the institution beneficiary of the exception shall not retain the copy "longer than necessary to make such good faith determination"; it also might not use the copy for any other purpose.

A last statement requires the exemption shall only apply with respect to a work when an identical copy of that work is not reasonably available in another form.

(b) Reverse Engineering

As the development of new technologies is intrinsically related with engineering and interoperability[78], the US Congress decided to include a safe harbour provision to assure reverse engineering was not included among the prohibitions of the DMCA.

A person who has lawfully obtained the right to use a copy of a computer program may circumvent a technological measure that effectively controls access to a particular portion of that program for the sole purpose of identifying and analyzing those elements of the program that are necessary to achieve interoperability of an independently created computer program with other programs, and that have not previously been other exceptions and limitations. [79]

Exceptions to the trafficking provision are found under a much narrower scope than those necessary for the exercise of fair use. The statute does not prohibit trafficking when connected also with the purpose of law enforcement, reverse engineering, encryption research, and security testing activities.[80]

[78] See Karl H. Pilny, *Legal Aspects of Interfaces and Reverse Engineering – Protection in Germany, the United States and Japan* at 196 (1992) "As a result of the increasing globalization of communication systems, rapid development in the fields of hardware and software and higher user demands, the term 'compatibility' and 'interoperability' are becoming more and more significant."
[79] 17 U.S.C. §1201 (f).
[80] §1201 (g) (4), (j) (4) and (e).

Due to the pioneer implementation of the statute in the US an abundance of business and cases in the relevant area have proved to help interpretation of circumvention of access and use control, as well as what effective measures of protection should be considered to be and how limitations and exceptions should be exercised.

Sufficient case law on the field had also already proved to US law operators how the adaptation and supplementation of traditional laws to applicability in the digital world is often a very complex task.

> [P]rofessor Lessig suggests the line that the line between "technical questions" – questions about "code" and "architecture" – and "legal" questions in cyberspace may be a fuzzy one and that cyberspace lawyers will therefore need to be at least somewhat conversant with the underlying technologies involved.[81]

Some US Commentators arrived at the conclusion that the anti-circumvention provisions of the Digital Millennium Copyright Act ("DMCA") are the result of a battle between Hollywood and the Silicon Valley[82] and the existent exceptions are far from being considered enough.

(c) Saving Clauses and the Doctrine of Fair Use

The section further contains general provisions known as "saving clauses", which states: "nothing shall affect the

[81] BELLIA AT ALL., *supra* note 31 at 13

[82] See Pamela Samuelson, *Intellectual Property and the Digital Economy: Why the Anti-circumvention Regulations Need to be Revised*, at 4 (1999) "It would oversimplify the facts - although not by much - to say that the battle in Congress over the anti-circumvention provisions of the DMCA was a battle between Hollywood and Silicon Valley. Hollywood and its allies sought the strongest possible ban both on the act of circumventing a technical protection system used by copyright owners to protect their works and on technologies having circumvention-enabling uses. Silicon Valley firms and their allies opposed this broad legislation because of deleterious effects it would have on their ability to engage in lawful reverse engineering, computer security testing, and encryption research. (…) Yet, by colorful use of high rhetoric and forceful lobbying, Hollywood and its allies were successful in persuading Congress to adopt the broad anti-circumvention legislation they favored, even if it is now subject to some specific exceptions that respond to some concerns raised by Silicon Valley firms and their allies in the legislative process.

applicability of fair use defense"[83] and "nothing shall enlarge or diminish vicarious or contributory infringement"[84]

The decision to highlight the applicability of the traditional doctrine of fair use, or fair dealing, shows the intention of the US Legislator to assure the new rules will have also to be adapt to the traditional general exceptions.

The doctrine confers the judiciary the possibility of ruling case by case individually as exceptions can be grounded in the applicability of broad legal principles such as when copying refers to research, teaching, journalism, criticism, parody, among other activities.[85]

Its application has traditionally demanded a four steps test comprising the following questions: a) what kind of work? b) how much did a consumer pay? c) what's its purpose? and d) what is the impact of its use on the market?

The fact that Rappers were making new versions of songs, for instance, was already interpreted by US courts as fair use of a work. Because the US do not define specific circumstances for exception, but rather outlines a general "fair use" applicable doctrine.[86]

According to some opinions, the doctrine has been weakened to a "safe harbour" common law principle with the edition of the DMCA since it reverses the traditional presumption of fairness that attaches to non commercial uses.[87]

Because the American Act creates autonomous infringement for circumventing even where no infringement to a copyright is found, the potential to convert copyright into an absolute right usurps its spirit and harm copyright itself.

[83] 17 U.S.C. §1201 (c) (1)
[84] 17 U.S.C. §1201 (c) (2)
[85] Carlos M. Correa, *Fair Use in the Digital Era* at 575 (2002) *available at* http://rsw.beck.de
[86] Burk, *supra* note 71
[87] *Id.* At 582

As added by a Commentator[88], "copyright was never a bar for diffusion of information. Those technological measures have the tendency to overstate copyright protection, to overturn protection, and a system of property may generally ruin in the future."

(4) Remedies and Standing

According to §1204 (a), criminal offenses and penalties should apply to any person who violates section 1201 or 1202 of the act.

It demands the violation has to be wilfully and for the purposes of commercial advantage or private financial gain. Fines and imprisonment can be alternatively or cumulatively imposed.

Limitations to the applicability of the penalties to libraries, archives, educational institutions and public broadcasting industries are also outlined.

Section 1205 delineates a "saving clause" which states nothing should abrogate, diminish, weaken or provide a means of defense any Federal or State law that prevents the violation of the piracy of an individual in connection with the individual's use of the Internet.

IV. Protection under the Japanese System

The Japanese Legal System encompasses two different statutes regarding the technical measures of protection: the Copyright Law[89] and the Unfair Competition Prevention Law[90].

[88] Michael Lehmann, Class on Theory of Property Rights - Computers and the Law at the MIPLC LL.M Program of 2006/2007 (January, 19, 2007).

[89] Law n. 48, promulgated on May 6, 1970, as amended by Law n. 77, of 15, June 1999. Translation by Yukifusa OYAMA et al., Information Center (CRIC), October, 2006, available at http://www.cric.or.jp/cric_e/clj/index.html

[90] Law n. 47, promulgated on May 19, 1993.

The application of one or another varies according to the content of the protected work and the nature of the infringing results.

Generally, the Copyright Act protects copyrighted content and technical measures controlling its "use". As "access" to copyrighted content is not deemed to be "use" of it, the Japanese Legislator sought protection against circumvention of "access" under the Unfair Competition Laws, as will be further discussed.

The Unfair Competition Act focuses on the trafficking of circumvention devices and its effects in the market. As it will be further observed, under this statute the circumvention of "access" to a work can be stopped, as far as it constitutes an unfair act of competition, disregarding the nature of the work - copyrighted or not.

A. The Copyright Law of Japan

The Copyright Law of Japan ("CLJ") was revised on 1999 in order to comply with the WIPO treaties. Its first chapter contains General Provisions and conveys legal definitions for technical measures of protection ("TMP") and digital rights management ("DRM"), inserted by the amendment as items (xx) and (xxi) of Article 2.

Among the acts to be considered infringements, a new paragraph was also introduced by the amendment, stating a number of acts which should be regarded as infringements on moral rights of authors, copyright, moral rights of performers or neighboring rights, relating to rights management information.[91]

Before stepping into the analysis of the acts of infringement and other detailed issues, an important peculiarity of Japanese Copyright Law has to be highlighted, as to allow further understanding of the domestication procedure of the WIPO

[91] Chapter VII – Infringements, Article 113 (3)

treaties. “Copyright” and “Right of Authorizing Publication” are considered separated rights.

Chapter II of the Copyright Act (Rights of Authors), should be understood as comprising: (1) a right of reproduction (article 21); (2) right of performance (article 22); right of screen presentation (article 22-2); right of public transmission (article 23); right of recitation (article 24); right of exhibition (article 25); right of distribution (article 26); right of ownership transfer (article 26-2); right of rental (article 26-3); rights of translation and adaptation (article 27).

On the other hand, under Chapter III (Right of Publication), articles 79 to 88 establish a right of publication, which might be exclusively decided by the holder of the reproduction right mentioned at Article 21. [92]

Thus, Copyright and Right of Publication are different rights under Japanese Copyright, which were also differentiated during the implementation of the new provisions.

1. Definitions

a) Technological Protection Measures

According to the statutory definition of Article 2, (xx):

“Technological protection measures” means measures to prevent or deter such acts as constitutes infringements on moral rights of authors or copyright, mentioned in Article 17, paragraph (1) or moral rights of performers mentioned in Articles 89, paragraph (1) or neighboring rights mentioned in Article 89, paragraph (6) (hereinafter in this item referred to as “copyright, etc.”) (“deter” means to deter such acts as constitute infringements on copyright, etc. by causing considerable obstruction to the results of such acts, the same shall apply in Article 30, paragraph (1),

[92] Judge Shogo Nishida, Internship Research, *IP Protection in Japan through Criminal Justice and Administrative (Customs) Procedure*, (2007).

item (ii) by electronic or magnetic means or by other means not perceivable by human perception (…), excluding such measures as used not at the will of the owner of the copyright, etc. (…)"

In order to be protected under the Copyright Act, a TMP must be a measure to prevent or deter (by electronic magnetic means) such acts as constitute infringements on: (i) moral rights of authors or (ii) copyright, (iii) moral rights of performers or (iv) neighboring rights.

Opposite to some Civil Law jurisdictions, where the moral rights are deemed to be inseparable from author's economical rights – monistic system, Japanese Copyright Law expressly separates Copyright and Moral Rights – dualistic system. This separation is constantly used by the legislator when mentioning the protected rights in the statute.

Neighboring rights are defined as rights of performers, producers of phonograms, broadcasting organizations and wire diffusion organizations[93]; they enjoy a protection of 50 (fifty) years.[94]

From the words of the Legislator, it's accurate to conclude that, among the holders of neighboring rights, only the performers, as natural persons, can enjoy statutory protection of their moral rights.

The justification for the differentiation might lay on the fact that, either a legal person does not enjoy moral rights under Japanese Law as a general rule, either on the decision of not conferring statutory protection to legal person's moral rights, the Japanese legislator did not intend to immediately recognize it.[95]

The concerning of the Japanese Legislator while stressing the four different categories of rights to which protection is

[93] CLJ, Art. 89 – Art. 100*quater*.
[94] CLJ, Art. 101.
[95] Although the Unfair Competition Prevention Act, Article 2(1)(xiv) defines the "acts injurious to business reputation" of legal persons, a statutory legal person's moral right does not seem to exist under Japanese Law.

conferred certainly demonstrates his desire to limit their applicability and, at the same time, to assure no doubt is left regarding which rights and right holders should enjoy protection under the new legal provisions.

For the benefit of a fluent reading, moral rights of authors, copyright, moral rights of performers or neighboring rights, will be hereinafter referred to as "copyright, etc."

The terms found in continuation of the reading of Article 2 (xx) are "deter" and "prevent". An explanation is again statutorily provided to "deter", which means "to deter such acts as constitute infringements on copyright, etc. by causing considerable obstruction to the results of such acts". A definition to the term "prevent" is not supplied by the statute. Commentators points out "the term 'prevent', in this relation, means to 'stop' such acts that constitute an infringement on copyright".[96]

A further requirement is the "will" of the copyright holder as to the use of a TPM. Measures which are not used at the will of the owner of the copyright, etc. are expressly excluded from the definition of TPM.

b) Rights Management Information

According to Article 2, (xxi), "rights management information" means information containing moral rights or copyrights, etc. which falls within any of the situations referred as in (a) (b) and (c), meaning:

(a) information which specifies works, etc., ownership of copyright, etc. and other matters specified by Cabinet Order;

(b) information related to manners and conditions of the exploitation in case where the exploitation of works, etc. is authorized;

[96] Guibault et all., *supra* note 27, at 87

(c) information which enables to specify matters mentioned in (a) or (b) above in comparison with other information.

The article further requires that information is "recorded in a memory or transmitted by electromagnetic means together with works, performances, phonograms, or sounds or images of broadcasts or wire diffusions, excluding such information as not used for knowing how works, etc. are exploited, for conducting business relating to the authorization to exploit works, etc. and for the management of copyright, etc. by computer."

2. Infringement of Rights Management Information – Article 113 (3)

Under the acts to be considered infringement, a new paragraph was accordingly introduced stating that a list of acts should be considered to constitute infringements on copyright, etc. "*relating to rights management information"* concerned:[97]

(i) the intentional addition of false information as rights management information;

(ii) the intentional removal or alteration of rights management information excluding the case where such act is conditional upon technology involved in the conversion of recording or transmission systems or other cases where it is deemed unavoidable in the light of the purpose and the manner of exploiting works or performances, etc;

(iii) the distribution, importation for distribution or possession for distribution of copies of works or performances, etc. by a person who knows that any act mentioned in the preceding two items has been done concerning such works or performances, etc. or the

[97] CLJ, Article 113, Paragraph (3).

public transmission or making transmittable of such works or performances, etc. by such person.

As stated by the title, infringements under this provision regard the manipulation of the digital rights management and not the circumvention of a TPM.

The first requirement to be highlighted is the "intention" to add false information or to remove or alter existent information regarding the copyrights management. An exception is found in relation to the removal or alteration when those acts are deemed to be unavoidable.

The last paragraph covers the trafficking on altered copies and also requires that the person performing any of the trafficking acts objectively "knows" she's dealing altered copies. We should note the statute demands actual and not potential knowledge.

Also, when compared with the provisions regarding TPM, no commercial use or profiting purposes requirement is found. The legislator stresses the intention as the most important requirement under these provisions.

3. Presumed Damages

Very similar to the US copyright statutory damages[98] provisions, the Japanese Copyright Law also provides "presumed" damages. Under Article 114, infringement of rights management is found when infringer has transferred the ownership of objects made by such act of infringement or has made the public transmission constituting such infringement;

By multiplying the number of objects so transferred or the number of copies made of works or performances by the amount of profit per unit, the presumed damages are found.

[98] U.S.C.A. §504 (c).

Also bad faith and gross negligence can raise the amount of damages – again similar to the US statute approach under the court finding that infringement was committed "wilfully".[99]

These provisions, nevertheless, are only applicable for damages resulting from any of the acts of manipulating DRM and not to cases related to the circumvention of TPM.

The circumvention of a TPM is punishable under the penal provisions of the CLJ and damages can be recovered under the Unfair Competition Prevention Act, as will be discussed below.

4. Penal Punishments Against Circumvention of Technological Protection Measures – Article 120*bis*

a) Anti-Trafficking Tools

In Chapter VIII, the last chapter of the statute, Article 120*bis* was added to afford penal provisions to the new acts of infringements. Imprisonment not longer than three years, a fine, or both, shall take place where:

(i) "a person transfers to the public (…) a device having a principal function for the circumvention of the technological protection measure (…) or copies of a program having a principal function for circumvention of technological protection measures, or transmits publicly or makes transmittable such program;"

This paragraph touches upon the trafficking provisions. It implies the transference of the ownership or lending to the public, as well as the manufacture, import or possess for said transference.

Regarding the object, it demands it should be a device or such a set of parts of a device, as well as a copy of a program, establishing in parallel that its main function is circumvention.

[99] 17 U.S.C. §504 (c) (2).

The final part of the provisions states "or transmits publicly or makes transmittable such program", stressing the same treatment it should be given to a device, part of a device or copy of a circumventing program.

b) Anti-Circumvention for Business and Profit Making Purposes - The Absence of a general obligation of non circumventing TPM

It is further punishable[100]: a) any person who, as a business, circumvents technological protection measures in response to a request for the public and (b) any person who, for profiting making purposes, does an act considered to constitute an infringement on moral rights of author, copyright, moral rights of performers or neighboring rights under the provisions of Article 113, paragraph (3);

The statute brings a general provision against the manipulation of DRM, without distinguishing purpose, but stressing the requirement of knowledge.

Opposite to that, non general anti circumvention of TPM can be found within the Japanese legal provisions. The requirement for finding an infringement in the case of circumvention of a TPM is that the act is done for "business" or "profit making purpose".

These provisions lay among the main differences of the Japanese system, when compared to the US and the EU statutes. Because no general prohibition against circumvention of TPM was drafted by the Legislator, very few exceptions had to be drafted, either in the Copyright and Unfair Competition Act.

5. Exceptions and Limitations – Article 30 and Reproduction for Private use

Article 30 of the CLJ reads:

[100] Article 120*bis*, (ii) (iii).

(1) “It shall be permissible for a user to reproduce by himself a work forming the subject matter of copyright for the purpose of his personal use, family use or other similar uses within a limited circle, except in the case: (…)”

Similar to the European Union and North American Copyright Laws, Japanese Law also provide for a private use exception.

The requirement that reproduction has to be carried out by the user is also present among the provisions of the DMCA, where circumvention for use purposes is legal if done without help from third parties.[101] A definition of what should be considered private use is also surveyed, reducing the possibilities of further misinterpretations.

Exceptions to the general exception of private use are also expressed in items (i) and (ii):

“(i) where such reproduction is made by means of automatic reproducing machines (an "automatic reproduction machine" means a machine having reproduction functions and in which all or the main parts of its reproducing devices are automatic), placed for the use by the public;

(ii) where such reproduction is made by a person who knows that such reproduction becomes possible by the circumvention of technological protection measures or it ceases to cause obstruction, by such circumvention, to the results of acts deterred by such measures.”

As it can be noted, the CLJ does not prohibit the act of circumvention itself under a general provision. Although, under (ii) (1) Article 30, an express prohibition to the private copy is stated if it is the case that the user knows the exercise of his legitimate private copying right would become possible only because an act of circumvention has been performed.

[101] 17 U.S.C §1201 (a) (2) (A)(B)(C) and (b) (1) (A)(B)(C).

The provision does not specifically prohibit the act of circumventing to watch the content for example, but does prohibit the circumvention to copy the content. It targets the use control of the copyright and not the mere access to a copyrighted work, which might fall under the scope of the Unfair Competition Prevent Law, as will be seen below.

B. The Japanese Unfair Competition Prevention Law

1. Outline and Amendments

> [W]ith the Showa Era (…) a movement to enact this law began. As international transactions grew, criticism abroad grew concerning imitations of foreign products by Japanese companies. Complaints about Japanese products similarly being imitated by overseas companies also were pointed out. Moreover, with the *Daigakuyu* case (decision of the Supreme Court of November 28, 1925), "infringement" as a prerequisite to the judgment of an unlawful act (Article 709 of the Civil Code) was replaced by "illegality." Furthermore, in 1934, the London conference for revising the Paris Convention for the Protection of Industrial Property was convened, making it necessary for Japan to enact an unfair competition prevention law in order to accede to the revised Hague Convention. It was due to these factors, domestic and foreign, that the Unfair Competition Prevention Law was finally legislated in 1934. [102]

Several amendments to the Unfair Competition Prevention Act (UCPA) were enacted: 1938, 1950, 1953, 1965, 1975, 1990 and 1993.

[102] Japan Patent Office, Asia-Pacific Industrial Property Center, JIII, *Outline and Practices of Japanese Unfair Competition Prevention Law*, (2003), available at: http://www.apic.jiii.or.jp/p_f/text/text/2-10.pdf

In October 1999, the new provisions regarding trafficking on technical restrictions means were added to the UCPA.[103]

As some commentators have affirmed, the WIPO requirements had already been fulfilled by the amendments on the Copyright Act.[104]

Hence, the amendment to the UCPA did not aim compliance with the WIPO requirements, but aimed to prevent existent endangers in the market resulting from the new technologies controlling access and copy controls on the internet.

The special provisions under the Unfair Competition Law were also based on a special feature of Japanese Copyright Law, meaning, the fact that Japanese legislator understood a prohibition on the circumvention of a technology controlling "access" to a copyrighted work is not covered by any exclusive copyrights and could not be compatible to state among the provisions of the Copyright Act.

2. Definitions and Scope

Article 2 (1) (x), states:

"it is an act of unfair competition to convey, deliver, exhibit for the purpose of conveying, delivering, exporting or importing equipment (including devices that assembles such equipment) that only have the function of preventing the effect of a technical restrictions and making it possible to view and listen to images and sounds, execute programs, or record images, sounds or programs that are restricted by the technical restriction means that are used in business (…)[105]

Similarly to the Copyright Act, the UCPA does not draft any general provision against the act of circumvention, but against the trafficking on circumventing tools.

[103] Article 2(1)(x)(xi).
[104] *Id.*.
[105] Guibault et all., *supra* note 27, at 88, note 329.

The word "equipment" is used instead of the "device" as seen on the Copyright Act provisions. The "only function" provision is also reinforcing the nature that the equipment is designed for circumventing purposes.

Although technical control is not defined as aiming "access" or "use" purposes, examples of acts are supplied in the body of the statute: "view", "listen", "execute" and "record").

According to official documents, Article 2 (1) (x) covers copy control and, under (xi), access control technologies.[106]

Pursuant to Article 2 (1) (x):

> "The act of other people of assigning, delivering, displaying for the purpose of assigning or delivering, exporting or importing devices, in order to prevent others than specific people from playing vision and audio or executing programs, or recording vision, audio or programs, to others than such specific people, that only have a function to enable people to play vision or audio, to execute of programs, or to record of vision, audio or programs that are restricted by means of technical restriction means commercially used (including those incorporating such devices), or recording media or memory devices that record a program that only has the above function (including those combined with other programs), or the act of providing such program through electric telecommunication circuit."

According to the opinion of some Commentators "it's probably more accurate to say that item (x) protects technical restrictions measures regulating access and use by 'specified individuals'

[106] Japan Patent Office, Asia-Pacific Industrial Property Center, JIII, *Outline and Practices of Japanese Unfair Competition Prevention Law*, (2003), available at: http://www.apic.jiii.or.jp/p_f/text/text/2-10.pdf

(...); whereas item (xi) protects technical restriction measures 'excluding unauthorized persons from access."[107]

3. Limitations

The UCPA aims to prevent transactions that might endanger fair competition.

An interesting comment clarifies the issue[108]:

> [I] am impressed by the many exemptions listed by the DMCA and the long and winding legislation road to the final rule for access control exemptions (…). The JAUCL, on the other hand, only exempts circumvention for the purpose of testing and researching encryption system. We do not have an extensive list of exemptions or limitations. No library exemptions. Why not? An explanation will be given by the fact that the JAUCL does not prohibit from circumventing act itself. For instance, when a database user could not retrieve a document due to error of the authentication control, he may freely circumvent the access control, if he manages to, even without exemption provision.

Because it is designed under business and trading environment, the circumvention for scientific purposes, testing and researching in technical measures, cannot fall within its scope of prohibition.

[107] See Guibault et all., *supra* note 27.
[108] Naoki Koizumi, *The new or Evolving "Access Right"*, Panel Session 1.D.1, 2001 Congress of the Association Littéraire et Artistique Internationale, Adjuncts and Alternatives to Copyright, (2001), at http://www.alai-usa.org/2001_conference/1_program_en.htm

V. Main Differences and Similarities

In the European Union, the Directive has entered into force in 2001, but until 2006 Member States like Spain and France haven't completed the process of its implementation.[109]

A long debate about the definition of private copy, the limitations for other purposes and the adaptation of the right of reproduction and communication to the public in the digital environment was witnessed in those and in some others EU jurisdictions.[110]

The Japanese Copyright Council is currently discussing expansion of the CLJ definition of technological protection measures, in order to include also "access" controls and have the increasing technical merger of copy and access controls as the main background for the discussions.[111]

At the same time, two bills have been introduced in the US House of Representatives aiming the revision of the DMCA, the "Digital Choice and Freedom Act of 2002" (DCA) and the "Digital Media Consumer's Rights Act" (DMCRA).[112]

Legal and social arguments for and against the domestic laws herein analyzed can be observed in the three jurisdictions.

While the US reforms target the "fair use" and the permission to circumvent and make private uses, Japan's legislative body seems to be more concerned about the necessity (or not) of including "access control" within the copyright statute.

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[109] Alberto Escudero Pascual, *La nuena Ley de Propriedad Intelectual y las "medidas tecnológicas de protección"*, Royal Institute of Technology, Stockholm (2003), available at: http://www.it46.se/docs/articles/escuderoa-lpi-spanish-eucd.pdf

[110] Guibault et all., *supra* note 27 at 165.

[111] *Id.* at 119-121.

[112] See Nancy Kilson *at all*., *Legislators Take Aim at the Recent Expansions of Copyright Owners' Rights in the Internet Age*, (2002) *available at*: http://rsw.beck.de

In Japan, it has been concluded it is still too early to expand the current provisions and further discussion was still needed until a final conclusion can be reached in the year 2007.[113]

In the European Union several commentators have pointed that, due to the fact that legislation is still young, the legal certainty of the new system "will remain a 'work in progress' to be tested by reality for some time".[114]

Despite of the fact that the actual level of harmonization on the exceptions and limitations haven't reached a satisfactory level of result, they are still considered consistent with international norms.[115]

As the Directive has left plenty room for Member States on the implementation of the exceptions and the sanctions and remedies, further revisions could include a list of clearly mandatory exceptions.[116]

Among the EU jurisdictions current issues, the situation I Sweden is no doubt worth to be highlighted. There, the creation of a political party called the "Pirate Party" shows the concern and strength of privacy rights activists and their dissatisfaction with the US copyright industries towards their policy of file sharing in the network.[117]

Alternatives to the court procedures can be found among the laws of the three jurisdictions as follows:

- Recital (46) asserts the Commission should undertake a study to consider new legal ways of settling disputes as regards to mediation.

- Pursuant to Articles 105 and followings of the Japanese Copyright Act, with the aim of resolving disputes concerning

[113] Guibault et all., *supra* note 27.
[114] Lewinski, *supra* note 50.
[115] Guibault et all., *supra* note 27.
[116] Id. at 175.
[117] Andreas Johnsen *at all* (2007), *Good Copy Bad Copy*, *available at* http://www.goodcopybadcopy.net/

the rights provided for in the Act through mediation, the Agency for Cultural Affairs will provide conciliators for resolution of copyright disputes.

- The DMCA, on the other hand, establishes a full hand of possibilities for parties to claiming for the application of mediation through the Royalty Judges. Their competences are established by Chapter 8 of the Act, at sections §§801-805. By definition, the term adjudication as used by the sections does not include mediation and the work of the "judges" are much more related to the establishment of royalties rates, as to other subject-matter related to copyright infringements and interpretations of the Register of Copyrights.

The issues with "rights control" and "access control" seem to carry the major differences among the three jurisdictions:

When asked about the existence of an "access" control rights and its nature under Japanese Law, one Commentator stated that "yes, Japanese Law protects access control against circumvention, and 'no', the result is not a new access copyright".[118]

The reason for that lays on the facts that the JUCPL only restricts trafficking activities, leaving circumvention itself and manufacture of circumventing devices outside its scope.

Regarding the UCPA, the Japanese Legislator considered creating exceptions parallel to the JCA. The scarcity of exceptions has been, however, considered as a positive point of the Japanese statute, which decided to approach the WIPO provisions of circumvention under a two fold basis.

[118] Koizumi, *supra* note 107.

To a jurisdiction proud of having technology as the fuel for its economy[119], the new rules have proved to be able to balance interests with a relative satisfaction of all involved parties.

At one side, rightholders were given effective legal protection to the technology protecting the use of their copyright. In the other hand, end user's were not harmed with the diminishment of the legitimate exercise of the exceptions they traditionally benefit from, due to the absence of a general prohibition of the circumvention to get access to works.

In the United States, the questions whether copyright law still have any importance in a world dominated by contracts and technological protection measures have been raised with an appreciable high frequency. Several associations of consumers and other professionals have being leading social movements against some provisions of the DMCA, considered to be abusive and harmful for user.

Indeed the strong measures taken by the DMCA as the use of copyright law to prohibit circumvention, even though no copy right is harmed, seemed to have caused the highest number of concerns and dissatisfactions.

The age of the Act and the abundance of case law in the field also place US jurisdiction as a paradigm of possible future problems to be faced locally by other nations, apart from the sociological and cultural differences.

A common question has been posed by scholars under the field in analyzes: "If copyright owner can directly impose any kind of restrictions upon end-users of their works, what would be the remaining function of copyright?"[120]

[119] Guntram Rahn, *The Role of Industrial Property in Economic Development: The Japanese Experience*, (1983).
[120] Jacques 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*, (2003) available at http://www.westlaw.com

A variety of aspects have to be analyzed in order to achieve a reasonable answer to the question. Under a "juridical particularism" drafted by some commentators[121] DRM systems are "enforcement systems" and may enforce both rules arising from legislation and contracts and/or rules unilaterally imposed on the user.[122]

The problem detected by many authors resides on the fact that contracts raised within the digital environment normally do not reflect the true will of the parties, nor are adapted according to user's choices, as they are normally by the "click" and "buy" clauses commonly seen in the Internet.

VI. Current Issues and Future Expectations

The fact that the internet allows a single user to be a recorder of his songs, a publisher of his own books and a director of his own movies implies a deep transformation of the traditional scenario.

Where unauthorized use of copyrighted works are not more restricted to the "the streets" but spread around a "non physical world", "piracy" gains new faces and is no longer represented by the traditional example of the "street vendors".

"Piracy" cannot be visually seen and the possible information about profile of "pirates" might be found with the help of technicians through the identification of his Internet Protocol.

But, as access to internt can be done by any machine, a user can seat comfortably while using his own computer or one of the millions of the available "cybercafés" around the world.

Identifying the nature of potential pirate acts in network proved to be a much more complex task not only due to its physical architecture, but also to the variable faces of acts, as to affirm

[121] Andrea Ottolia, *preserving Users' Rights in DRM: Dealing with "Juridical Particularism" in the Information Society*, (2004).
[122] Id.

"whether a use serves the purpose of private enjoyment, is for education or teaching purposes, or whether is serves commercial purposes." [123]

Pirates from today might still be leaving with their parents. They might still go to schools and universities; they might have very good job positions; they might "surf on the web" with purposes of either accessing private information or research for educational or informational purposes; they might use the web to simply enjoy listening, watching or using any creative content, why or without authorization.

Due to the fact that even the international legislation is still young to clear cut analyzed, the legal certainty of the new system, as already affirmed[124], "will remain a 'work in progress' to be tested by reality for some time".

It is incontestable that "piracy", or unauthorized reproduction of works, has spread in the digital context and motivated a new international model law. "Pirates", or unauthorized users, cannot be easily found on the streets selling unauthorized physical copies of copyrighted works as it used to happen before the Internet boom in the middle of the 1990's.

Today, the numbers of people in Europe, US or Japan, who might have already had any contact with some illegal form of reproduction or use of a protected work on the web has been drastically increased.

These facts have demanded society to adopt, together with the new laws, some new concepts of "piracy". The current understanding of copyright industries shows that the unauthorized acts of "end users" are not the most important part of the action and the analyzed statutes aimed targeting the acts

[123] Thomas Dreier, *Copyright in the Age of Digital Technology*, (1993).
[124] Lewinski, *supra* note 50, at 849.

of commercial exploitation and performance of circumventions for profit making purposes.

As discussed on the thesis, these measures have indeed affected some established rights and exceptions of users, potentially in the three jurisdictions.

The peculiarities of the DMCA while adopting copyright laws to protect content which is not deemed to be part of copyright, harms not only witnessed at the level of user's rights, but reaches the entire concept and history of Copyright itself.

In a variety of jurisdictions, a parallel measure to the legal and technological enforcement of rights has proved to be able to cause among the best effects in terms of efficiency: the "educational measures".

Campaigns launched by the copyright industries induce "good citizens" not to download films in internet or show employees of studios saying "food is being taken from their mouths", as part of the attempt to public expose the effects caused by the damages to the copyright industries.

The idea of allying educational and cultural campaigns or actions to enhance enforcement of copyrights shall with no doubt be a very good way of enhancing law enforcement.

That's because, if end users are more aware of the fact that works are creations of an author's mind and its' use without remuneration impossibilities his living; they can choose to remunerate, reducing the demand for application of legal and technical protections.

It seems that legitimate users should be called to participate of the process of fighting "piracy" in a "participative way", instead of in a "prohibitive" one. It is a natural characteristic of the human being the fair and aversion to be oppressed by systems, being it a political or a technological system.

The flow of goods, services, persons and information is based on the existence of a democratic society and can only be enhanced therein.

VII. Conclusion

Already in earlier times, it was recognized that the existing laws should be reviewed in order to be able to deal with the new technology.[125]

The rapid growth of the internet and the current situation with the massive reproduction of works in the digital environment could not demand a different result.

Music, books, images, video films and other creative contents turned out to be part of a new world where assets are intangible and their tangible management alone does not seem to suffice to enforce the protection conferred by laws.

The present work has showed how the European Union, the United States of America and Japan have dealt with the implementation of the provisions of the WIPO Internet Treaties regarding the technological measures for protection of copyrights in the digital form.

Mainly focusing to bring the statutes and legal doctrines applied individually, the work could not escape assessing some content on digital rights management, as intrinsically related to technical protection measures.

Although juridical and philosophical theories had dealt with the subject matter and still do it, the enormous losses of copyright industry seemed to have been the main propeller for the edition

[125] Kolle, *supra* note 7 at 385 "The copyright aspects of reprographic reproduction can be correctly appreciated only if one has clear picture of their economic significance and possible effects."

of new laws statutes. Losses with internet piracy are estimated, in the US market, as US$6 billions, a year.[126]

Copyright industries recognize piracy will never be stopped, but they really intend to make it "as difficult and tedious as possible" and "make people conscious there are consequences if they are caught".[127]

It is undeniable behaviour is the key aspect for life in society. As laws and other several phenomena have traditional managed to influence and regulate behaviours, the existence of a space where laws, at least the legal ones, do not seem to be easily applicable, cause people to behave differently in the on line and in the off line spaces.

Copyright laws have traditionally counted not only with legal instruments to proportionate its enforcement but also, and very often, on the concepts related to one's culture and history, to respect for one's creativity and admiration for one's arts.

Apart from the legal discussions on the relevant field, some more decades for experiencing the new implemented laws are still part of the efforts to finding a new balance of interests in a democratic society.

The digitalisation of works and behaviours moves away people from people and approximate people from machines. The consequences of that changing now call for "translation" of copyright law enforcement to the Internet.

Economical, philosophical and sociological concepts are constantly challenging the legislative processes and judiciary activity. Therefore, how well or badly have current laws been designed will always remain a matter for the future.

[126] Johnsen *at all*, *supra* note 116.
[127] *Id.*

Abstract

The present work aims to outline the background of technological evolutions and the necessities of either adapting existing laws, or promulgating new ones.

The digital environment has brought new ways of dissemination of works, together with new business models. The traditional concepts of copyright, although maintained and adapted by the WIPO Treaties and by domestic jurisdictions analyzed, are now forced to coexist with new rules regarding its enforcement.

Since technological measures for protection of works on the digital environment are able to protect not only “copyrighted works”, but also any form of digital works, a comparison between the current legal situation in the European Union, United States and Japan surveys an enriched handful of opportunities to discuss and analyzes the main involved issues on this field.

Keywords: Intellectual Property. Copyright Protection. Technological Measures. Digital Environment. Japan. United States of America. European Union.

Pledge of Honesty

On my honour, I submit this work in good faith; I declare on oath that I have neither given nor received improper aid in its completion.

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Ana Carolina da Motta Perin