

TECHNOLOGY IN THE SERVICE OF LAW – EXAMPLE OF TECHNOLOGICAL PROTECTION MEASURES IN THE EUROPEAN UNION’S COPYRIGHT LAW

Abstract

In the information society, examples of copyright violation by the unlawful use of technology are so numerous, that in some European countries piracy issues and the concept of free software have become an integral part of official programs of certain political parties taking part in elections. The objective of this paper is just the opposite: to demonstrate that technology can also be in the service of law, especially since the development of the European Union law greatly accentuated – mainly because of the freedoms of movement in the Internal Market – the need for a European response to the challenges of copyright protection. The most important act the EU adopted in this field is the Directive 2001/29/EC of the European Parliament and of the Council on the harmonization of certain aspects of copyright and related rights in the information society, while the national legislation in the Member States, as well as the legal doctrine, often have divergent approaches. Based on a jurisprudential analysis and focused literature review, this paper examines the strengths and weaknesses of the EU law harmonization related to the technological protection measures.

Keywords: *copyright law, technological protection measures, information society, law harmonization, European Union*

1. Introduction

Of all the international conventions adopted with the objective to ensure the protection of various “property rights” in the broadest sense, the one concerning copyright exists already for a remarkably long time.² Accordingly, the *terminus technicus* “copyright and neighboring rights”

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² The Berne Convention for the Protection of Literary and Artistic Works was signed on September 9, 1886.

was introduced to designate prerogatives originally named “author’s rights in literary and artistic works” (copyright) and certain other rights that might arise due to the existence of these works (neighboring rights). However, there is no doubt that the Berne Convention for the Protection of Literary and Artistic Works (1886) was a remarkable success, so much so that its dispositions were reiterated in the Universal Declaration of Human Rights,³ the fact that proves the undeniable importance attributed to copyright: its protection has become a part of the corpus of fundamental human rights. Furthermore, the UNESCO (by its Universal Copyright Convention) as well as the World Trade Organization (through the Agreement on Trade-Related Aspects of Intellectual Property Rights) have contributed significantly to the internationalization of copyright protection. In 1996, under the auspices of the World Intellectual Property Organization (WIPO), an UN agency specialized in the protection and promotion of intellectual property, two important treaties were adopted: the WIPO Copyright Treaty and the WIPO Performances and Phonograms Treaty, both recognizing the importance and the relevance of the application of copyright in the digital environment, even before the substantial development of the Internet. The category of “literary and artistic works” evoked by the above-mentioned treaties also includes music, movies and computer programs, thus extending their scope and making these international conventions the reference starting point for the future expansion of a copyright protection system adapted to the digital environment. Consequently, headroom for further development of digital rights management (DRM) measures was unquestionably guaranteed of the international level. Nevertheless, numerous legal and technological obstacles remained untackled, leaving marge for different states and organizations to consider the transnational nature of the problem and, eventually, to adopt some harmonized legal solutions.

Numerous international legal instruments in the field of copyright protection have met various political or purely theoretical obstacles, reflecting divergent interests that were difficult to reconcile. One of the examples to illustrate these divergences is the fact that the United States – the country with a tradition of copyright protection⁴ that is, in many of its points, different from what is known as the “continental system” – acceded

³ Art. 27, para. 2 of the Universal Declaration of Human Rights states that “everyone has the right to the protection of the moral and material interests resulting from any scientific, literary or artistic production of which he is the author”.

⁴ Concerning the differences between the two systems of the legal protection of copyright and their impact on the effectiveness of DRM measures, see E. Dirrig, “Limites tenant à la nature des directives et cohérence de l’ordre juridique communautaire: un nœud gordien?”, commentaire de l’arrêt de la CJCE du 3 mars 2005 Procédure pénale c/ Silvio Berlusconi (aff. jt. C-387/02, C-391/02, C-403/02), *Revue trimestrielle de droit européen* 4-2005, 921-957.

to the Berne Convention not earlier than in 1989, more than a century after its signature. Furthermore, the technical development of methods enabling the multiplication of data carriers containing material under copyright presented a growing challenge to the legitimate intention of offering the authors a protection of much broader scope. Simultaneously, the unprecedented expansion of the means of online communication⁵ of material under copyright which, by definition, knows no state borders, has necessarily imposed a radically international perspective to technical and legal efforts to assure the protection of human creativity.⁶ In other words, the digital rights protection system must be developed as rapidly as the technology enabling the communication of the material protected by such rights. Metaphorically, in this case technology is both the pyromaniac and the firefighter and, consequently, technology should be used to strengthen what was, at least potentially, weakened by it. The challenge is significant, because national legal systems have often been unable to offer solutions for such a radically international situation. Given the specificity of the European Union (EU) as a *sui generis* international organization, this paper intends to analyze its legal response to the challenge of copyright protection in the context of digital technologies, through the critical examination of the notion of technological measures for copyright protection (Chapter 2) and of the impact of the European harmonization in this field (Chapter 3). Therefore, the focus will be on the Directive 2001/29/EC of the European Parliament and of the Council on the harmonization of certain aspects of copyright and related rights in the information society.⁷ It is worth mentioning that the European Commission also adopted a Communication on Copyright in the Knowledge Economy;⁸ however, its scope, importance and legally binding character largely prevail in favor of the dedication to the Directive.

2. Technological measures and copyright protection: the search for a common concept

Technological measures that can be applied to protect legitimately acquired copyright or a related right are so numerous that each definition that claims to be exhaustive is doomed to failure. On the other hand, a general binary typology of digital rights management measures can be

⁵ See also R. Gavison, *Privacy and the Limits of Law*, Harvard University Press, 1999, 327.

⁶ See also M. Vivant, A. Maffre-Baugé, *Internet et propriété intellectuelle: le droit, l'information et les réseaux*, Institut français des relations internationales, Paris 2002, 51-58.

⁷ *Official Journal of the European Communities* of 22 June 2001, L 167, 10-19, hereinafter referred to as Directive.

⁸ Communication of the Commission of 19 October 2009, COM (2009) 532 final, http://ec.europa.eu/internal_market/copyright/docs/copyright-infso/20091019_532_en.pdf, 21.06.2015.

set up, given that “typically, a DRM system protects copyright by either encrypting information so that only authorized users can access it or marking the information with a digital watermark (or similar method) in a way that the content cannot be freely distributed, copied, shifted, printed, modified etc.”⁹ Moreover, the situation is further complicated by the fact that the real issue is the “legal protection of technological protection measures”¹⁰, a circumstance that made commentators analyze the scope and the meaning of the term “legal”¹¹ leaving little room for the question of a greater importance: what is the purpose of this legal protection? Without being exceptionally meticulous, one can spot two “layers” of protection: the works or other subject-matter are protected by technical measures which, themselves, benefit from a legal protection against circumvention. This seemingly tautological concept has its legal and practical reasons, given that between the two legal entities (works as object of the protection, on the one hand, and legal protection against circumvention, on the other), there is an entity of technological nature. The functioning of the whole – which is, logically, quite acceptable – largely depends on the technological measures, the central element that serves as an intermediary. In other words, the success of the legal instruments intended to assure the copyright protection in the information society crucially depends on the good understanding and proper application of the technological component and therefore its proper insertion into a complex. Moreover, the nature of legal protection is closely linked to the concrete type of technological measure.

Some technological protection measures have been developed and designed to fully meet the needs of associating a work to an author, others are related to private copying, remuneration schemes or, more generally, terms of use and safe digital transmission. In the same vein, some of those measures are specifically designed to respond to digital network threats against the circumvention of works, while others can be applied independently of the way of distribution, in order to restrict acts not authorized by the rightholders of any copyright. In any case, the development of technological measures is very rapid and highly unpredictable, given that “digital network technology expedites the reproduction, distribution

⁹ G. Mazziotti, *EU Digital Copyright Law and the End-User*, Springer-Verlag, Berlin Heidelberg 2008, 315.

¹⁰ M. Herubel, F. Tarrier, *Mesures techniques de protection des œuvres et DRMS – première partie: un état des lieux, janvier 2003*, Rapport n° 2003-02-(I) du Ministère français de culture et de communication, étude établie par Philippe Chantepie, Chargé de mission à l’Inspection Générale de l’Administration des Affaires Culturelles, 47.

¹¹ One of the important questions is whether it is sufficient to confine to the criminal measures. It seems that the negative response, prompted by the position of the Committee on Crime in Cyberspace of the Council of Europe (CCCCoE), has not any chance of winning; see the CCCCoe’s Explanatory Report to the Convention on Cybercrime <http://conventions.coe.int/Treaty/EN/Reports/Html/185.htm>, 22.06.2015.

and making available of works by public users”.¹² Consequently, the legal protection of technological measures that “applies without prejudice to public policy”¹³ ought to be defined in the broadest possible way, simply because the speed of technological development exceeds the relatively slow legislative process in the EU. The definition given by Article 6, paragraph 3 of the Directive is, therefore, incomplete and general, but also widely applicable and reasonably adaptable:

“For the purposes of this Directive, the expression ‘technological measures’ means any technology, device or component that, in the normal course of its operation, is designed to prevent or restrict acts, in respect of works or other subject-matter, which are not authorized by the rightholder of any copyright or any right related to copyright as provided for by law.”

This definition intends to introduce a common harmonized EU approach aiming to respond to newly emerging forms of exploitation of works. In order to better seize its strengths and weaknesses, more attention should be paid to the following two elements: the legal nature of the enumeration of tools considered as technological measures and the compatibility of this definition with both concepts of interoperability and ideology of free software.

The European legislator, most probably in order to facilitate the reception of the definition of technological measures in the Member States’ national legal systems, has elegantly avoided the trap of an eventual *numerous clausus* definition, given that those measures can consist of “*any technology, device or component*” (Article 6, paragraph 3). On the other hand, one of the draft versions of the French law transposing the Directive,¹⁴ by the commendable desire of precision, introduced a confusing list of tools that could have included “*any technology, product, system, device, component, service or method*”.¹⁵ Even if this enumeration is only indicative, it does not contribute to the

¹² J.J. Hua, *Toward a More Balanced Approach: Rethinking and Readjusting Copyright Systems in the Digital Network Era*, Springer-Verlag, Berlin Heidelberg 2014, 61.

¹³ Recital 51 of the Directive.

¹⁴ According to Art. 288, para. 3 of the Treaty on the Functioning of the European Union, “a directive shall be binding, as to the result to be achieved, upon each Member State to which it is addressed, but shall leave to the national authorities the choice of form and methods”. Therefore, in this case the French legislator was entitled to give a more detailed definition of technological measure, as far the result defined by the Directive is fully taken into consideration.

¹⁵ T. Maillard, *La réception des mesures techniques de protection des œuvres en droit français: Commentaire du projet de loi relatif au droit d’auteur et aux droits voisins dans la société de l’information*, Légipresse 2004, n°208, II, 8-15.

effectiveness of the technological measures, simply because the crucial part of the definition given by the Directive is related to the purpose of those measures “*designed to prevent or restrict acts, in respect of works or other subject-matter, which are not authorized by the rightholder of any copyright or any right related to copyright*”. Therefore, as long as a measure aims to prevent the circumvention, it can legitimately be considered as a technological measure under the EU law, regardless of the level of precision of the national legislator concerning the indicative list of measures.

In the process of the transposition of the Directive, in some Member States the proponents of free software have suggested certain adjustments which might be considered as legitimate concerning the system interoperability requirements; namely, the proposition included the following provision: “*a protocol, format, encryption or scrambling method, cannot be, as such, considered as a technical measure within the meaning of this law*”.¹⁶ However, this provision, due to its limitative character and technical inventory of measures, can be abused in order to legitimize the eventual circumventions; moreover, its technicality makes it less adaptable to the rapid development of the digital environment. Finally, this proposition illustrates well the fact that every exhaustive – or even excessively detailed – definition of tools/methods considered (or not) as a technological measure may run against the legitimate interests of the copyright holders, but also bring some significant differences in intellectual property protection in different Member States and, consequently, hinder the free movement of goods or services within the EU.

3. Copyright protection measures and the information society: the limitations of a harmonized response

The unprecedentedly rapid expansion of information and communication technologies (ICT) over the last two decades has deeply influenced the very concept of intellectual property protection, and, more specifically, copyright protection, given that the “*technological development has multiplied and diversified the vectors for creation, production and exploitation*”¹⁷ of copyright works. In this context, the emerging “*information society*” is a new, complex reality, and it was necessary to adapt the legislative solutions on the national, the European and the international level to the challenges it poses. Within the European Union, it was the Lisbon European Council held in March 2000 that officially started the process of transition to a “*competitive, dynamic and knowledge-based*

¹⁶ *Ibid.*

¹⁷ Recital 5 of the Directive.

economy”.¹⁸ At the same time, longstanding legal concepts, especially that of the property, had to undergo a profound change, similar to the transformation that occurred when – starting from the Paris Convention for the Protection of Industrial Property – non-material, intangible rights were recognized as property-rights. From the sociological and legal point of view, the possibility of giving substantially the same legal protection to material and intangible forms of property was a small revolution¹⁹ in itself and an enormous breakthrough on the international level, especially for the late 19th century, when both the Berne²⁰ and the Paris Conventions were adopted. It seems, however, that the revolution happening these days is even more profound, with the current development of digital network technology which has imposed a new set of legal, economic, sociological, political and even philosophical questions.

The radical simplification of the forms of distribution of pirated or counterfeited works somewhat compromised the sacrosanct act of intellectual creation, “giving the impression that the value of author’s rights had disappeared in the digital environment”.²¹ Moreover, the phenomenon of the information society accentuated the confrontation of the competing interests of producers and users, a conflict that often takes the form of a clash between two irreconcilable socio-political conceptions. This confrontation can be illustrated by the juxtaposition of recitals 10 and 14 of the Directive:

“If authors or performers are to continue their creative and artistic work, they have to receive an appropriate reward for the use of their work, as must producers in order to be able to finance this work [...] Adequate legal protection of intellectual property rights is necessary in order to guarantee the availability of such a reward and provide the opportunity for satisfactory returns on this investment.”

However, at the same time it is necessary to

“promote learning and culture by protecting works and other subject-matter while permitting exceptions or limitations in the public interest for the purpose of education and teaching.”

¹⁸ Lisbon European Council Presidency Conclusions, points 8-11, http://www.europarl.europa.eu/summits/lis1_en.htm, 29.06.2015.

¹⁹ The recital 9 *in fine* of the Directive corroborates this assessment, claiming that the “intellectual property has therefore been recognized as an integral part of property”.

²⁰ See also the introduction.

²¹ J-B. Soufron, *Les limites de la protection technique des données numériques – la directive 2001/29/CE du Parlement Européen et du Conseil du 22 mai 2001 sur l’harmonisation de certains aspects du droit d’auteur dans la société de l’information*, University of Strasbourg 2002, 1.

As this example shows, technological measures for copyright protection in the information society should simultaneously reward authors and producers, but also allow free access for some, vaguely defined, categories of users. The balance between those two sets of interests is very difficult to find, and the Directive 2001/29/EC was the European Union's answer. However, as a form of *sui generis* political organization governed by the principles of specialty and subsidiarity and whose legislative efforts are marked by a pragmatic and economy-based oriented approach, the EU could not handle all the issues of copyright protection, especially by means of a directive. There is also the issue of the Union's legislative competence in this field, which was found in the establishment of "an internal market for new products and services" (Article 14 of the TEEC²² and recitals 1 and 2 of the Directive), while the "harmonization will help to implement the four freedoms of the internal market and relates to compliance with the fundamental principles of law and especially of property" (Article 95 of the TEEC and recital 3 of the Directive). Despite its fairly general nature, the Directive 2001/29/EC truly represents an important breakthrough, "the most important measure ever to be adopted by Europe in the copyright field",²³ an act that "brings European copyright rules into the digital age".²⁴ There is no doubt that the adoption of this piece of EU legislation was a big step for the harmonization of Member States' national legal systems. However, a more detailed analysis of the Directive's provisions will show some considerable limitations of this harmonization.

Apart from Chapters I (Objective and scope) and IV (Common provisions) of the Directive, which are general in nature, the rest of its provisions could be grouped in two blocks: the first, which defines the prerogatives of the rightholders and certain exceptions in favor of the users, and the second, which concerns the protection of technological measures and rights-management information. In order to describe some crucial characteristics of the EU's harmonized response to copyright protection measures in the information society, the focus will now be on the critical analysis of Article 6 of the Directive, excluding, of course, the question of the definition of technological measures (Article 6, paragraph 3) already analyzed in the previous chapter of this paper.

Article 6, paragraph 2 of the Directive is a good example of an exhaustive harmonization; given the precision of its provisions, while transposing them, national legislators were indirectly obliged to adopt

²² Consolidated version of the Treaty Establishing the European Community, *Official Journal of the European Communities* C 325, 33-184.

²³ European Commission, Press Release Database, http://europa.eu/rapid/press-release_IP-01-528_en.htm, 09.07.2015.

²⁴ *Ibid.*

effective and detailed implementation measures. Consequently, Member States are compelled to “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”²⁵ which circumvent or could contribute to the circumvention of technological measures for copyright protection. In a context characterized by rapid technological development, an exhaustive list of malicious actions against which legal protection should be provided, combined with a high precision in defining potential risks related to circumvention, carries a risk of making these provisions of the Directive obsolete and inapplicable. Without going into the numerous legal and technical details, it seems that the crucial intention of the European legislator is to eliminate those “devices, products or components” that have as their unique or principal purpose to enable or to facilitate the circumvention of technological measures considered as effective. However, this intention clearly reveals one of the standpoints of this paper: the extent to which it is difficult to achieve harmony (or at least to assure coexistence) between law and technology. Two concrete examples can be given: 1) how we will know if a technology is mainly designed for the purpose of facilitating the circumvention of a certain technological measure? And what if it is designed to achieve a perfectly legitimate goal, but its usage can allow certain manipulations? 2) What to do with technology that is conceived exclusively for legitimate purposes, but some of its elements could be used to facilitate the circumvention of a certain technological measure? The fact that judges from 28 largely different legal systems will be expected to provide answers to these questions may cause serious concern. It is unnecessary to emphasize the importance of the preliminary rulings of the Court of Justice of the European Union (CJEU) concerning the interpretation of Article 6, paragraph 2 of the Directive. Unfortunately, until the end of June 2015, the CJEU mentioned Article 6, paragraph 2 in only one of its judgements (*Nintendo Co. Ltd and Others*),²⁶ emphasizing that “legal protection against acts not authorized by the rightholder of any copyright must respect the principle of proportionality, in accordance with Article 6(2) of Directive 2001/29, interpreted in the light of recital 48 thereof, and should not prohibit devices or activities which have a commercially significant purpose or use other than to circumvent the technical protection”.²⁷ This judgement is of great importance, but it still does not fully answer to the questions

²⁵ Art. 6, para. 2 of the Directive.

²⁶ Judgement of the CJEU of 23 January 2014 in case C-355/12 *Nintendo Co. Ltd and Others v PC Box Srl and 9Net Srl*. The case C-458/13 *Andreas Grund v Nintendo Co. Ltd. and Nintendo of America Inc.* was removed from the register of the Court by the Order of the President of the Court of 7 May 2014.

²⁷ Judgement of the CJEU of 23 January 2014 in case C-355/12 *Nintendo Co. Ltd and Others v PC Box Srl and 9Net Srl*, para. 30.

mentioned above. Moreover, the Court itself recognized that “the concept of ‘effective technological measures’ is defined broadly”²⁸ but does not offer more details regarding the nature of the circumvention.

The relatively terse wording of Article 6, paragraph 1 has fortunately avoided the enumeration, even indicative, of the possible forms of circumvention of technological measures, but it implicitly refers to paragraph 3 *in fine*, requiring the effectiveness of those measures. Furthermore, it is necessary that the circumvention is carried out by the person “in the knowledge, or with reasonable grounds to know”²⁹ that the technological measure has the protection objective. In spite of the broad definition of the concept of effectiveness, it remains highly dependent on technological development and its adaptation to the needs of copyright protection. As regards the requirement related to the awareness of the measure’s objective, although perfectly understandable, it may cause interpretation problems for national courts. Moreover, this provision, as many others, does not contain any additional specification related to digital networks, leaving once again some room for divergent interpretations by the Member States’ judicial authorities.³⁰ In its judgement of 5 March 2015 in case *Copydan Båndkopi v Nokia Danmark A/S* (C-463/12), the CJEU only stated that “the implementation of technological measures under Article 6 of Directive 2001/29/EC for devices used to reproduce protected works, such as DVDs, CDs, MP3 players and computers, can have no effect on the fair compensation payable in respect of reproductions made for private use by means of such devices”.³¹ Fighting piracy and assuring effective copyright protection in the information society will certainly necessitate much closer cooperation between the Member States, as well as further efforts in the harmonization of legislation.

4. Conclusion

No exhaustive law harmonization, on the international or the European Union level, of all provisions related to copyright in the information society and, more specifically, technological protection measures is either necessary or desirable. Within the EU, different legal traditions in Member States can be respected and maintained, but only

²⁸ *Ibid.*, para. 27.

²⁹ Art. 6, par. 1 of the Directive.

³⁰ Recital 59 of the Directive states that “in the digital environment, in particular, the services of intermediaries may increasingly be used by third parties for infringing activities. In many cases such intermediaries are best placed to bring such infringing activities to an end.” However, in the further text there are no specific provisions related to the digital environment.

³¹ Judgement of the CJEU of 5 March 2015 in case C-463/12 *Copydan Båndkopi v Nokia Danmark A/S*, para. 76.

as long as they do not hinder the functioning of the Internal Market. The means of online communication of material under copyright can make it accessible worldwide (and, consequently, in all the Member States), while the free circulation of goods and services within the EU necessitates legislative consistency and a harmonized legal framework on copyright and related rights. On the other hand, the dynamic technological development also requires an adaptable legal protection of technological measures. Therefore, increased legal certainty and rigorous system for the protection of copyright often does not fully rhyme with adaptability imposed by technology. Similarly, the legitimate intention of the European legislation to take into account the competing interests of both producers and users is ethically sensitive and demands an equilibristic approach. The Directive 2001/29/EC was a significant step in harmonizing copyright protection within the EU. However, the digital age and the creativity of counterfeiters and pirates will permanently demand additional legislative and jurisprudential efforts of both EU and national institutions.

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ТЕХНОЛОГИЈА У СЛУЖБИ ПРАВА – ПРИМЕР ТЕХНИЧКИХ МЕРА ЗАШТИТЕ АУТОРСКИХ ПРАВА У ЕВРОПСКОЈ УНИЈИ

Резиме

У савременом информационом друштву, бројни су примери кршења ауторских права уз помоћ различитих технолошких средстава. Ова појава је раширена у тој мери да у појединим европским државама пиратерија и тзв. концепт „слободног софтвера“ фигуришу у програмима неких политичких партија које учествују на изборима. Међутим, циљ овог рада је управо обратан: намера је да се покаже да технологија такође може бити у служби права, тим пре имајући у виду да је стварање Европске (заједнице) уније, *sui generis* међународне организације, пре свега због постојања различитих видова слободе кретања на заједничком/унутрашњем тржишту,

додатно појачало потребу изналажења заједничког европског концепта заштите ауторских права. Најбитнији акт усвојен у овој области је Директива 2001/29 Европског парламента и Савета о усклађивању одређених аспеката ауторских и сродних права у информационом друштву. Намера овог чланка је да представи и анализира предности и слабости система заштите ауторских права путем техничких мера предвиђених у овом акту.

Кључне речи: право и технологија, ауторско право, информационо друштво, техничке мере заштите, Европска унија