

**COPYRIGHT AND ACCESS TO INFORMATION
IN THE DIGITAL ENVIRONMENT**

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TABLE OF CONTENTS

INTRODUCTION	3
1. FROM INTELLECTUAL PROPERTY TO INVESTMENT PROTECTION: THE CASE OF DATABASE PROTECTION	6
(a) Current situation and issues: the protection of databases by a <i>sui generis</i> right.....	6
(b) Discussion: protecting databases outside the scope of intellectual property.....	9
(c) Recommendations	9
2. THE FUTURE OF EXCEPTIONS OR EXEMPTIONS IN THE INFORMATION SOCIETY	10
(a) Current situation: exceptions to and limitations on copyright	10
(b) Issue: towards a reduction in the number of exemptions in the digital environment?	11
(c) Solution: exemptions as a fundamental principle of copyright.....	13
(d) Recommendations	17
3. THE USE OF CONTRACTS AND TECHNOLOGY IN THE PROTECTION OF COPYRIGHT	18
3.1 Contract and copyright	18
(a) Current situation and implications: the emergence of electronic licences	18
(b) Solution: the question of the status of exemptions.....	19
(c) Recommendations	20
3.2 Technology and copyright	21
(a) Current situation: technology in aid of copyright	21
(b) Issue: access to the work and enjoyment of exemptions within the framework of technical systems.....	25
(c) Solutions and discussion	25
(d) Recommendations	27
3.3 Legal protection of technological systems	27
(a) Current situation: Article 11 of the WIPO Treaty and national legislation....	27
(b) Issue: desirability of a third level of protection.....	29
(c) Discussion	30
(d) Recommendations	33
CONCLUSIONS	34
BIBLIOGRAPHY	36

INTRODUCTION

The information and communication society has gone through major and unexpected developments over the past decade, which raise new social, economic and legal issues. The impact of new technology on research, teaching, access to culture and to information, the transmission of knowledge - all key elements of UNESCO's mandate - is unprecedented.

One of the essential challenges presented by what has come to be referred to as the information society is that of building a balanced and coherent legal framework that takes account of the change in the economic and sociocultural model while at the same time safeguarding fundamental rights and freedoms in the digital world. Copyright is one of the stones in this edifice, and is probably one of the foundation stones. Content in the digital age will to a great extent be made up of works claiming copyright protection. However, the digitization and circulation of works over networks such as the Internet means that low-cost, high-quality copies can be made quickly, and these copies can also be sent to many other people around the world, irrespective of borders. Furthermore, digital works are easily altered, or even falsified, which means that there are many potential threats to the moral right of authors. Given these facts, it is not surprising that copyright is one of the first areas to have attracted the attention of the international community.

Both national and international legislative and technological initiatives were soon designed to reinforce copyright protection in this new environment.¹ As early as 1996, the international community was presented with two treaties signed under the aegis of WIPO, whose goal was to deal with the primary concerns of authors. National and regional legislators also passed laws to this effect.

Nevertheless, this reinforcement of copyright runs the risk of causing an unprecedented break in the balance inherent in all systems of intellectual property.² For copyright relies on balancing the interests of protecting created works and their creators and guaranteeing public interest and fundamental freedoms.³ This balance derives precisely from one of the basic principles of copyright, which is to promote progress in the arts and sciences and to spread culture. All copyright systems are generally based on the following foundations and goals, even if the relative importance of a given goal may vary in a given legal system:

- the necessity of remunerating creators: copyright is the indispensable remuneration for the creator's work, allowing her or him rightfully to enjoy the fruits of the labour that created the work;

¹ WIPO Copyright Treaty, WIPO Performances and Phonograms Treaties, signed in Geneva on 20 December 1996; Digital Millennium Copyright Act (United States), October 1998, Pub. L. No. 105-304, 112 Stat. 2860 (1998) (adding §§ 512 and 1201-1203 to the Copyright Act of 1976); Amended proposal for a European Parliament and Council Directive on the harmonization of certain aspects of copyright and related rights in the Information Society, COM (1999) 250 final of 21 May 1999; OJ 1999, C180/6.

² LEGAL ADVISORY BOARD, Replies to the Green Paper of the European Commission on Copyright and *Neighbouring Rights in the Information Society*, 1995.

³ HUGENHOLTZ, P.B., "Fierce creatures-Copyright exemptions: Towards extinction?", in *Rights, Limitations and Exceptions: Striking a Proper Balance*, IFLA/IMPRIMATUR Conference, Amsterdam 30-31 October 1997, available at <http://www.imprimatur.acls.co.uk/IMP_FTP/exptfonu.pdf>, pp. 5-6.

- encouraging creation: copyright in theory allows the production of works of added intellectual value to be furthered by giving creators the assurance that the goods they create are protected (thus ensuring profitability and therefore providing a stimulus for creative investment). In this way, the supply of this type of goods and their appropriate distribution is enhanced;
- copyright is an instrument of cultural policy that is also designed to support and regulate the spread and movement of ideas and of culture. So considered, authors' rights and the limitations on those rights are the two levers of this policy.

As a result, all copyright coverage grants a monopoly to the creator based on a compromise between creators' interests and "the interests of society at large, which demand the free movement of ideas, information and commercial exchange".⁴ Inherent therein is the idea of a social contract between the creator and society.⁵

Many copyright principles embody this concern for balance.⁶ Thus, both the length and the extent of copyright are limited. More fundamentally, the definition of the concept of a work that may be protected through the criterion of originality is an essential instrument in drawing a line between what is protected and what belongs to the public domain. The doctrine of the dichotomy between the idea and the expression of a work, only the latter being protectable, is also a result of this concern for balance. Finally, users are granted several exemptions which convey the need for preserving such essential values as freedom of expression, the right to privacy, access to information and to culture and the dissemination of knowledge through education, research and access to libraries.

This balance is nevertheless threatened by technological and legislative changes that have been enacted by the information society. Copyright is expanding, not only as regards the items protected but also as regards the area of protection. The period covered by copyright has recently been increased in many countries, notably in Europe and in the United States, from 50 to 70 years after the creator's death. Basic information, traditionally outside the scope of copyright, becomes indirectly covered by the *sui generis* right on databases.

Exceptions to and limitations on copyright, an essential means of striking the right balance, are liable to decrease, both through the effects of the law and through the growing use of contracts and of technology in applying copyright. Keeping a balance between copyright and access to information is, and will remain, a major challenge to the Information Society. The threats to the transfer of knowledge and access to informational and cultural content are considerable. UNESCO has a major role to play in this debate.

The issue of copyright in the information society is complex and has spawned an overabundance of legislation at both international and national levels. This study sets out to describe the main current developments in copyright and their implications for access to information in order to provide a tool for understanding what is essentially at stake and in what ways UNESCO might be usefully involved.

⁴ B. EDELMAN, *Une loi substantiellement internationale. La loi du 3 juillet 1985 sur le droit d'auteur et les droits voisins*, in *J.D.I.*, 1987, p. 571.

⁵ A. LUCAS and H.J. LUCAS, *Traité de la propriété littéraire et artistique*, Litec, 1994, p. 41.

⁶ HUGENHOLTZ, *op cit.*, p. 6.

Within this framework, the study foregrounds three main principles which, in keeping with the above-mentioned concern for balance, may serve as guidelines for States in adapting copyright to the digital age.

1. Copyright must not be an instrument for widening the gap between industrial and developing countries. Quite the contrary: the information society is an excellent opportunity for the latter, and the legal instruments governing that society, foremost among which is copyright, must take care not to deprive developing countries of the advantages of access to technology and information.
2. Access to information and knowledge are the two basic principles underlying the creation and development of the Information Society and of electronic networks. The digital age cannot deny its roots and must therefore continue to benefit education, research and the transmission of knowledge.
3. The protection of creators is crucial to the dissemination of knowledge and culture. Insofar as this protection is threatened on digital networks, it must be adequately taken into account. It is, however, right to take into account not only the legitimate interests of creators, artist-performers and producers, but also the interests of users and of society as a whole.

1. FROM INTELLECTUAL PROPERTY TO INVESTMENT PROTECTION: THE CASE OF DATABASE PROTECTION

(a) Current situation and issues: the protection of databases by a sui generis right

In recent years, new objects and subjects of rights have appeared in the area of intellectual property. From the rights recognized as pertaining to producers of phonograms and videographic recordings to the *sui generis* right on databases, new rights related to copyright have emerged. These new rights are evidence of a disturbing change in intellectual property rights which has gone from a system supposed to protect creative works to a system tending to protect investments. Thus, the producer of a phonogram or of a first print of a film has been given a right similar to copyright because of the investment she or he has put into producing or making the record or film. Radio stations have been granted similar rights because of the investment required by their broadcasts. And it is also the investment inherent in gathering information that has justified recognizing a right to intellectual property for the producers of databases.

This change contradicts the very foundations of intellectual property rights and particularly of copyright, which are designed to protect an intellectual work with a view to promoting progress in the arts and sciences.⁷ Similar rights and the *sui generis* right of the producer of databases stray from these foundations, because it is admitted outright that their reason for existing is the will to ensure a “return” on investments through a monopoly.⁸

In Europe, the creation of a new monopoly on databases relies on a 1996 European directive,⁹ whereby copyright protection, which covers the original architecture of the database, is supplemented by a protection of the content itself. Indeed, the *sui generis* right allows the database producer to prohibit retrieval and reutilization of material from it for a 15-year period. The only criterion for protection is the need for a substantial quantitative or qualitative investment in obtaining, checking or presenting the contents of the database.¹⁰ “The deployment of financial resources and/or the expending of time, effort and energy”¹¹ thus replaces, within the framework of the *sui generis* right, the criterion of originality implicit in copyright. Merely gathering information in one place is henceforth enough to make a database monopolizable by virtue of an intellectual property right. The substantial investment criterion will have to be determined by the courts and tribunals. In any case, it may include hiring staff to set up the database and to gather data.¹²

Furthermore, it will be noticed that this newly created right, which enables its holder to control and therefore prohibit access to information itself, has been granted virtually as a right in perpetuity, since the initial 15-year period of protection, starting from the date of

⁷ A. STROWEL, *Droit d'auteur et Copyright*, Bruylant, 1993, pp. 256 *et seq.*

⁸ M. BUYDENS, *La protection de la quasi-cr ation*, Bruylant, Brussels, 1993.

⁹ Directive 96/9/EC of the European Parliament and of the Council of 11 March 1996 on the legal protection of databases, O.J. N L 77/20 March 1996.

¹⁰ Article 7,  1 of the Directive.

¹¹ Preambular paragraph 40 of the Directive.

¹² Civ. Brussels (cess.), 16 March 1999, J.T. 1999, p. 305.

production, is renewed each time a substantial change in the database is made. It is therefore enough to update the database regularly to get another 15-year extension.¹³

The United States is also discussing the possibility of enacting precisely such extravagant copyright protection.¹⁴ WIPO had to give up similar international protection at the 1996 Diplomatic Conference, notably because of opposition from developing countries.¹⁵

Passing a law to protect databases outside copyright, either by a *sui generis* right as in Europe or by any other mechanism designed to cover the contents in a database, has kindled much criticism. Two main kinds of reproach may be made regarding this new kind of intellectual property right: one may object, on the one hand, that the criterion for protection is an economic investment rather than an intellectual act and, on the other, that the right on databases allows for a de facto appropriation of informational content itself, which is liable to be an obstacle to the dissemination of, and access to, information.

These two consequences of database protection are harmful mainly to developing countries in the educational and scientific sectors, since in practice it entails setting up an economic barrier to all access to information.

1. Intellectual property as a mechanism for return on investment

Protecting products such as databases by an intellectual property right that is based only on the criterion of the investment required for their material production is contrary to the fundamental logic of intellectual property, whose conditions are normally based on qualitative factors such as *creation* and *originality* for copyright and *invention* and *innovation* for patent rights and for design and model rights. For a monopoly to be granted on the sole basis of an investment and economic risk-taking profoundly changes the balance between protection and public domain. As Pollaud-Dullian has written: “the notion of public domain is consubstantial with that of industrial and artistic property: only certain objects may, because they are original or new, be appropriated. This leaves a vast area of unprotected elements that are necessary to creators, inventors, scientists and industrialists. (...) the directive [on databases], while attempting to share out the recognition of rights in such a way as to take these interests into account, strays from these principles, and (...) undermines the very conception of industrial or artistic property by setting up a right that concerns (...) elements which cannot normally be

¹³ A. STROWEL, *La loi du 31 août 1998 concernant la protection juridique des bases de données*, J.T., 1999, p. 299.

¹⁴ The United States is discussing two instruments, one providing protection similar to the European *sui generis* right, the other applying the doctrine of misappropriation to the protection of database content. H.R. 354 “Collections of Information Antipiracy Act”; H.R. 1858 “Consumer and Investor Access to Information Act”. The two bills are being discussed by two different committees which do not at present seem ready to make any concessions.

¹⁵ Diplomatic Conference on Certain Copyright and Neighbouring Rights Questions, Geneva, 2-20 December 1996, analytical reviews (in plenary meetings) by the International Bureau, particularly Nos. 417, 426, 435, 461 and 465, as well as the African Group position.

covered either by copyright, in the absence of originality, or by an intellectual property right, in the absence of innovation.”¹⁶

Such a change in the idea of intellectual property “woven around the idea that it and the monopolies it thus grants are not trade-offs for enriching the collective cultural heritage, but a bonus that the law gives to companies which are able to make sizeable investments (which comes down to giving them a legal privilege as a reward for a de facto economic one)”¹⁷ is particularly disturbing for developing countries and companies in those countries which very often cannot afford to make such investments.

The granting of an exclusive right on investment such as the one achieved by this disturbing development in the concept of intellectual property cannot fail to strengthen the economic position of those who can already afford to invest.

2. Protecting databases: impeding access to information

The second argument used to counter the passage of this new *sui generis* right, both at European level and during the WIPO discussions, concerned the constitution of exclusive rights over information itself, which is in theory non-appropriable. In principle, the *sui generis* right does not cover an individual piece of information or datum whose retrieval or reutilization could be prohibited. The right covers, rather, the whole collection of data. Strowel and Triaille point out that “base content” covered by the *sui generis* right is “not the information itself, contained in the databases, but rather ‘the non-original form’ of the whole of the information, which, not being original, cannot be protected by copyright and at the same time needs to be protected from being unfairly used by a third party”.¹⁸

This *sui generis* right nevertheless amounts, in reality, to granting a monopoly over a simple collection of information, thus threatening public access to the information. The threat will be particularly real when the whole of the data can only take the shape that the producer of the database gives it. This will be true, for example, of public transport timetables, television programme schedules,¹⁹ tide charts, weather reports, etc. Accessing this data requires accessing the database proposed by those who collect the data. Giving the latter a legal monopoly over the base amounts to giving them a de facto monopoly over its content.

Setting up a monopoly over information through the *sui generis* right on databases not only jeopardizes access to information by developing countries, but also prevents the non-commercial sector from taking advantage of the free flow of information. The educational and scientific communities, whose work is inconceivable without the permanent use of available information, is particularly affected by this new right.

¹⁶ POLLAUD-DULLIAN, *Brèves remarques sur la directive du 11 mars 1996 concernant la protection juridique des bases de données*, *Dall. Aff.*, 1996, p. 539. See also LUCAS, A., *Droit d’auteur et numérique*, *Droit@Litec*, 1998, p. 46 No. 89: “We have contrived to reduce copyright to a mechanism for return on investment, at the risk of losing sight of the fact that, even if an objective approach is taken to originality, copyright implies a minimum of creativity”.

¹⁷ BUYDENS, “Le nouveau régime juridique des bases de données”, *op cit.* p. 9.

¹⁸ A. STROWEL and J.P. TRIAILLE, *Le droit d’auteur, du logiciel au multimédia*, Cahiers du CRID, N°11, Bruylant, 1997, p. 322. A. KOUMANTOS, “Databases in the Community Directive”, *R.I.D.A.*, January 1997, p. 118.

¹⁹ See the European Court opinion in the Magill case.

(b) Discussion: protecting databases outside the scope of intellectual property

Creating a new intellectual property right protecting databases is not only subject to criticism, it is also legally unnecessary. Producers of databases are not without legal means of sanctioning any appropriation of the work they put into gathering and organizing data. If the database displays originality in the choice and structure of the content, this will, of course be protected by copyright in accordance with the 1996 European Directive, the WIPO Copyright Treaty and the TRIPS agreements.

Furthermore, common law offers certain means of redress through law covering unfair competition. Using law pertaining to unfair competition as a system to protect databases was discussed when the 1996 European Directive was being drawn up. In fact, the original idea was to use the law on unfair competition to prohibit the appropriation of effort and investment made by the database producer. This solution is based on the theory of parasitic competition, which sees as unfair the fact that a competitor can save herself or himself the trouble of financial effort by slavishly copying other people's work and thus gain an illicit competitive advantage. The merit of this option is that it limits the possibilities of legal action to cases of slavish and systematic copying of the efforts of a producer of databases, and furthermore confers the right to take legal action only against competitors (as opposed to users). This system thus avoids the risk of a monopoly on information.

The creation of an intellectual property right protecting databases is not, therefore, a legal necessity.

(c) Recommendations

- 1. Intellectual property, and a fortiori literary and artistic property, protects work of a creative character. It is not intended to protect an investment.**
- 2. The protection of databases is adequately guaranteed by the set of rules governing copyright and unfair competition. The creation of a *sui generis* right, designed to limit, or resulting in the limitation of, access to information by third parties is contrary to the fundamental principles of intellectual property and violates the world community's right of access to information.**

2. THE FUTURE OF EXCEPTIONS OR EXEMPTIONS IN THE INFORMATION SOCIETY

(a) Current situation: exceptions to and limitations on copyright

Systems of copyright exemption differ according to legal frameworks. A closer look at them nevertheless allows us to deduce that they are generally of two kinds: they are said to be open when they provide for a general waiver applicable to many situations, patterned on the American concept of fair use. And they are said to be closed when they are made up of a list of narrowly defined circumstances in which authors' rights do not come into play. The latter system is found mainly in the legislation of continental Europe.²⁰

The American system of fair use is an example of an open system insofar as certain uses, normally raising a question of copyright, may be considered by the judge to fall within the framework of this general exemption, in view of the purpose and the nature of the use (notably if the use is of a non-commercial nature or for teaching purposes), the nature of the protected work, the quantity and substantial nature of the portion of the work used, and the effect of the use on the potential market or the effect of the use on the value of the protected work.²¹ This system allows a certain flexibility in the evaluation of copyright exemptions, although it does not guarantee that users of the works are legally safe or that the outcome of their using the works will be legally predictable.

On the other hand, in the European or European-style system of copyright, mainly laws of French and German origin, the exemptions consist of a precise and exhaustive list of acts which, in certain circumstances, circumvent the author's monopoly. The following exemptions are generally recognized:²²

- exemption for copying for personal or other private use;
- exemption for private communication, e.g. within the family;
- exemption for parody, pastiche or caricature;
- exemption for quotation;
- exemption for copying for scientific or teaching purposes;
- exemption for news reporting;
- exemption required by the needs of the administration of justice and public policy.

Next to these broad categories of exemption, we also find very specific cases regarding particular situations. For example, there is the Belgian exception which allows the

²⁰ P. SIRINELLI, *Exceptions et limites aux droit d'auteur et droits voisins*, Workshop on Implementation Issues of the WIPO Copyright Treaty (WCT) and the WIPO Performances and Phonograms Treaty (WPPT), Geneva, 6-7 December 1999.

²¹ Article 107 of the 1976 Copyright Act.

²² For a thorough description of exceptions in various countries, see *Les Frontières du droit d'auteur: ses limites et exceptions*, ALAI Study Days, 14-17 September 1998, Cambridge, Ed. Australian Copyright Council, 1999.

Cinémathèque Royale to make copies of films for purposes of restoration, or the German exception which exempts the communication of works during liturgical ceremonies.

(b) Issue: towards a reduction in the number of exemptions in the digital environment?

Adapting exemptions to the digital environment is an essential issue. Right-holders are demanding that their implications and scope be reconsidered so that the new digital society cannot jeopardize their prerogatives.

The 1996 WIPO Treaties recall in this connection the necessity of providing for a general limit to the number of exemptions granted by the national laws of the Contracting Parties. Article 10 of the Copyright Treaty imposes a limit on exemptions, both on copyright and related rights, and on special cases that do not conflict with a normal exploitation of the work or unreasonably prejudice the legitimate interests of the author. This is the principle of the three-step test already included in the Berne Convention and in the TRIPS (ADPIC) Agreement.²³ According to Article 10 of the Copyright Treaty: “Contracting parties may, in their national legislation, provide for limitations of or exceptions to the rights granted to authors of literary and artistic works under this Treaty in certain special cases that do not conflict with a normal exploitation of the work and do not unreasonably prejudice the legitimate interests of the author”.

This threefold condition, designed as the touchstone of the system of exceptions and “one of the foundations for future frameworks”²⁴ will thus serve as a guideline in evaluating copyright exemptions.

These three conditions or “steps” are as follows: first of all, only exceptions that are included in *special cases* are accepted. General exemptions are therefore prohibited, such as, for example, a general exception for private use.²⁵ However, fair use, while potentially a broad limitation,²⁶ does not seem to be prohibited by this provision.

The other two conditions (that there be no conflict with a normal exploitation of the work or prejudice to the author’s legitimate interests) must be considered within the context of each exception. If the contested exception enables a third party to exploit the work in such a way as to compete with the copyright holders, or if applying the exception affects the potential market for the work, it cannot be accepted.²⁷

The Agreed Statement accompanying the WIPO Copyright Treaty specifies that: “the provisions of Article 10 [the three-step test] permit Contracting Parties to carry forward and appropriately extend into the digital environment limitations and exceptions in their national laws which have been considered acceptable under the Berne Convention. Similarly, these

²³ Article 13 of the TRIPS Agreement: “Members shall confine limitations or exceptions to exclusive rights to certain special cases which do not conflict with a normal exploitation of the work and do not unreasonably prejudice the legitimate interests of the right-holder”.

²⁴ P. SIRINELLI, *op.cit.*, p. 6.

²⁵ S. RICKETSON, “International conventions and treaties”, in *Les Frontières du droit d’auteur: ses limites et exceptions*, ALAI Study Days, 14-17 September 1998, Cambridge, Ed. Australian Copyright Council, 1999, p. 10.

²⁶ Cf. the analyses of the principal commission during the WIPO Treaty negotiations.

²⁷ P. SIRINELLI, *op.cit.*, p. 46.

provisions should be understood to permit Contracting Parties to devise new exceptions and limitations that are appropriate in the digital network environment. It is also understood that Article 10(2) neither reduces nor extends the scope of applicability of the limitations and exceptions permitted by the Berne Convention”.

In spite of its ambiguous and complex articulation, the Statement confirms that the three-step test may not have the effect of either reducing or extending the list of exemptions in the digital environment. Thus, States may indisputably come up with new exceptions which would be acceptable in the Information Society.²⁸ Simultaneously, Article 10 itself necessitates a rereading, using the three-step test²⁹ as a yardstick, of the existing exemptions with a view to their transposition to the digital environment.³⁰

In any event, the current trend seems to be to reduce both the scope and the number of exceptions to copyright in the digital world. This was the idea behind the proposal in the European Directive on Copyright in the Information Society, which limits exceptions to a few narrowly and exhaustively defined cases in which provision is usually made for payment of fair remuneration to the author. Nevertheless, the ambitious plan for harmonization failed to meet its goal in that the latest version of the text, then at the stage of the common position,³¹ allows States to choose among a list of 22 exemptions (!). Even the private digital copy remains in this long list, in spite of the determination of copyright holders to eliminate this possibility of copying in the digital environment because of the ease of doing so and the high quality of the copy.

Reducing the scope of exemptions in the digital age is also the result of recent American case law limiting fair use in the light of the technological possibilities now open to the author.

We have seen that the benefit of fair use depends on how four factors are taken into account, and notably that of the influence of the contested use on the work's potential market. In the American Geophysical Affair,³² the judge ruled that the existence of the Copyright Clearance System, encompassing authors and publishers who electronically grant permission to make photocopies of articles taken from books or newspapers, constituted a market for photocopies of scientific articles, so that photocopies made by a company for its research department could no longer be considered as falling within the area of fair use. It may be feared that this case law rules out use for scientific or educational purposes, hitherto considered legitimate, on the sole pretext that signing licensing contracts for this kind of use is henceforth technologically and economically possible.

²⁸ A. FRANCON, “The Diplomatic Conference on Certain Copyright and Neighbouring Rights Questions”, RIDA, April 1997, pp. 36-39.

²⁹ P. SIRINELLI, *op.cit.*, p. 46.

³⁰ S. RICKETSON, *op.cit.*, p. 20.

³¹ The common position of 8 June 2000 is the latest version of the text of the European Directive. The text had not been published at the time of completing this report.

³² American Geophysical v. Princeton University Press, 60 F. 3d 913 (2d Cir. 1994), *cert. dismissed*, 116 S. Ct. 592 (1995). P. GOLDSTEIN, “Pre-empted State Doctrine, Involuntary Transfers and Compulsory Licenses: Testing the Limits of Copyright”, *UCLA Law Review* 1977, 24, p. 1139. PALLAS LOREN, L., “Redefining the market failure approach to fair use in an era of copyright permission systems”, *J.I.P.L.*, Vol. 5, 1999, available at <http://www.lawsch.uga.edu/~jipl/vol5/loren.html>.

One of the terms of the three-step test in the WIPO Treaties - i.e. the absence of conflict with the normal exploitation of the work - could well support such a ruling. This criterion is similar to one of the terms on which the concept of fair use is based, i.e. the influence of the use on the potential market of the work covered, or on its value. In the American Geophysical Affair, the disputed test ended with the rejection of the fair use argument because the application of this exception violated the normal exploitation of the work insofar as it was possible to negotiate the authorization by contractual and technological means.

As a result, the criterion of normal exploitation of the work as an absolute limit to the exception implies a decrease in exemptions in cases where technology makes it possible to negotiate the use previously authorized by claiming an exception, following the example of the above-mentioned American ruling. This legal trend, supported by the three-step test, is liable to bring about a sea-change in existing exemptions. Some authors³³ predict, for example, that as technological developments will permit an easy contractualization of relationships over the Internet, each use of the work could be negotiated and licensed. The need to specify exceptions in law thus becomes insignificant. Let us suppose that an author distributes her or his work over the Internet while at the same time contractually allowing quotation from it for scientific purposes for a small fee. If we take the American ruling to its logical conclusion, we could argue that because the author has created a potential market over the Internet for this type of use normally covered by an exception by making it easy to sign a contract for this purpose over the Internet, the appeal to fair use is ruled out. Likewise, can the legislation still include this kind of exception if the use of the contractual model becomes more widespread? Could such an exception, which would circumvent potential negotiation with the copyright holder, not be considered an infringement of the normal exploitation of the work?

(c) Solution: exemptions as a fundamental principle of copyright

Exemptions are key factors in striking the right balance between authorial and public interest under copyright systems. They take into account not only exceptions to rights but also, within the area of copyright, fundamental freedoms and major societal interests.³⁴ Freedom of expression, freedom of the press and the right to information underlie certain limitations on copyright. Thus, for example, exemptions concerning private use are designed to protect individual privacy, while exemptions for teaching and research purposes seek to guarantee the right of peoples to knowledge and education.

Several consequences will derive from this eminent justification for copyright exemptions:

³³ W. FISHER III, "Property and contract on the Internet", 1998, available at: <http://cyber.law.harvard.edu/ipcoop/98fish.html>. T. BELL, "Fair use v. fared use: The impact of automated rights management on copyright's fair use doctrine", 76 *N.C.L. Rev.* (1998), p. 101.

³⁴ LEGAL ADVISORY BOARD, Replies to the Green Paper of the European Commission on Copyright and Neighbouring Rights in the Information Society, 1995. P.B. HUGENHOLTZ, "Fierce creatures - Copyright exemptions: Towards extinction?", in *Rights, Limitations and Exceptions: Striking a Proper Balance*, IFLA/IMPRIMATUR Conference, Amsterdam, 30-31 October 1997, available at: <http://www.ivir.nl>

1. Exemptions must be maintained in the digital environment for the sake of the inherent balance of copyright

The issue of adapting exemptions to the digital environment can be solved only through a fresh analysis of the basis on which exemptions are granted. The doctrine³⁵ generally quotes two kinds of consideration to justify imposing a limitation on copyright: either the exception is required for practical or economic reasons, or it is justified by concerns of general interest or fundamental rights or freedoms. Here we use Hugenholtz's three-pronged distinction:³⁶

- First, some exemptions express through copyright the concern to guarantee fundamental freedoms,³⁷ such as freedom of expression, information, freedom of the press and the right to privacy. These exemptions are: parody, quotation, critical reviews, news reporting or, again, private use of the works. It goes without saying that the justification for these limitations does not change in the digital environment. Consequently, these exemptions must be protected and preserved.
- The second category of exemption is justified by requirements of public interest.³⁸ These are exemptions limited to education and libraries, archives and museums, the disabled and the needs of justice and the State. Here, too, the interests providing a basis for the exemptions continue to be found in the digital environment. This is particularly the case in the educational and scientific community in that an increasing number of works and items of information are available only on the Internet. So it is particularly important for researchers and students in the scientific community to enjoy the same opportunities in the digital environment and in the analogue world. Presumably, existing exemptions in favour of libraries, the scientific and educational communities ought to be maintained in the environment of electronic networks.

However, applying these exemptions is in some cases totally different and is thus liable to interfere in a new way with the normal exploitation of the work. The parties who benefit from these exemptions, such as libraries or the teaching profession, take on radically new roles in the Information Society.³⁹ A virtual library open to the global public 24 hours a day is essentially different from a physical institution whose users and opening hours are limited. The boundary between the publisher or distributor of information and works and the library of the future is tenuous. Likewise for institutions offering correspondence courses. Henceforth, even if one must support keeping exemptions already included in this framework, that will not obviate the need to think through the roles and function of libraries and education on the Internet. Thinking this issue through could also bring to light the need for new exemptions in order to preserve the fundamental value of access to culture and the transmission of knowledge.

³⁵ P. SIRINELLI, *op. cit.*; A. LUCAS, *Droit d'auteur et numérique, op. cit.*, pp. 175 *et seq.*; SPOOR, J., "General aspects of exceptions and limitations: general report", in *Les Frontières du droit d'auteur: ses limites et exceptions*, ALAI Study Days, 14-17 September 1998, Cambridge, Ed. Australian Copyright Council, 1999, p. 33.

³⁶ HUGENHOLTZ, "Fierce creatures", *op. cit.*, pp. 10-11.

³⁷ L. GUIBAULT, "Limitations found outside copyright law", in *Les Frontières du droit d'auteur: ses limites et exceptions*, ALAI Study Days, *op. cit.*, p. 43.

³⁸ *Ibid*, p. 45.

³⁹ J. SPOOR, *op. cit.*, p. 40.

- Finally, some exemptions have been introduced into the legislative arsenal of copyright to compensate either for a market failure or for an inability on the part of authors effectively to control and prevent certain uses. This applies to private audiovisual copying and reprography. When devices for graphic, audio or audiovisual reproduction were developed, such as photocopiers, VCRs and tape recorders, the number of copies of works also skyrocketed. The author could not effectively control all such copies, particularly when the copy was made for private use. Given that impossibility, law-makers generally recognized the user's right to an exemption for private copying accompanied by payment of a fee to the author. This type of exception is thus a concession to the practical impossibility of enforcing copyright. Technological developments now mean that it is no longer an impossibility. Through technological mechanisms, the author can prevent others from making digital copies. As a result, a great deal of the justification for the exemption vanishes. Furthermore, these exemptions pertain neither to a fundamental freedom nor to a concern for public interest. Their existence is therefore directly threatened.

Maintaining the inherent balance of copyright argues at least for keeping existing exemptions. In certain cases, one might even argue that, given the extension of exclusive authorial rights, the scope of exemptions must be enlarged so as to redress the balance.⁴⁰ Rights and exceptions are in fact inextricably involved in striking that balance. Until now, law-makers have thought only of extending exclusive authorial rights. It is time to give equal consideration to the interests of users.

2. New limitations on copyright may be recognized on the basis of fundamental freedoms

It is generally accepted that, given their very nature, exemptions must be strictly interpreted, so that not only may new ones other than those stipulated by law not be recognized, but what these exemptions themselves actually cover is also to be narrowly interpreted. On the other hand, recognizing that these exemptions are an essential part of copyright, based on a balance between private and collective interests, ought to mean accepting that jurisprudence must be able to extend the list of what is covered by the exemptions included in the law when a situation arises which jeopardizes this balance between competing interests.

Some rulings have actually done so outright. The Supreme Court of the Netherlands considered that the logic of copyright itself entailed that the list of exemptions featured in copyright law could not be considered exhaustive.⁴¹ According to this ruling, exemptions included in the law are the result of a compromise between the author's legitimate interests on the one hand and the interests of third parties or of society on the other. It may be logically deduced from this that when the *ratio legis* that has justified exemptions is found in a similar situation (i.e. when the general interest or higher interest of a third party can only be preserved by limiting copyright) it must be accepted that the author's rights must give way to this general interest or third party interest in seeing the work reproduced and/or made available to others.

⁴⁰ LEGAL ADVISORY BOARD, Replies to Green Paper, *op. cit.*

⁴¹ *Dior v. Evora*, Hoge Raad, 20 October 1995, *N.J.*, 1996, N° 682.

It is interesting to note that this line of thinking is echoed in France, where copyright has always been subject to narrow interpretation. Thus, in a ruling on 23 February 1999,⁴² the Regional Court of Paris recognized the user's right to an exemption unprovided for by copyright law on the basis of the public's right to information as laid down in Article 10 of the European Convention on Human Rights. French television broadcast a programme on an Utrillo exhibition. Some of the artist's paintings were shown on the programme, but such reproductions are not allowed by French law. The conditions of the exemption for brief quotations were not considered to be met. Nevertheless, the judge held that, given the public's right to information, a programme showing a work by an artist, broadcast solely on a short news programme, will not infringe the intellectual property rights of others, for it will be justified by the right of television viewers to be quickly and appropriately informed about a cultural event relating to the work or its author that is currently in the news, and that it will not compete with the normal exploitation of the work.

Other European rulings⁴³ have struck a similar balance between copyright and fundamental freedoms, chiefly freedom of expression, in order to recognize the user's right to an exemption unforeseen by copyright law.

Does the position adopted by European courts tend towards implicit recognition of the fact that the legal list of copyright exemptions is not exhaustive? The assertion that further limitations on copyright may be allowed when the balance between the author's interests and those of the public so demands would mean a real swing in judicial doctrine towards a new balance in the realm of copyright.

3. The emergence of a market from technological development is not enough to set aside an exemption

We saw above that recent American case law and an overly narrow reading of the WIPO Treaties' "three-step test" could lead to the denial of an exemption where technology makes it possible for the contested use to be negotiated. In this opinion, the exemption is viewed as a mere concession by the author, who finds herself or himself practically unable to exercise a right (market failure). One theory justifies this disappearance of the exemption by citing the development of a suitable infrastructure for electronic commerce which could generally reduce the costs of granting licences.

Asserting that the exception to copyright is not based on market failure but is rather an essential part of the necessary compromise between private and public interests regarding copyright is an appropriate and obvious answer to this threat. Because limitations on exclusive rights represent society's interests as opposed to the author's, technological developments behind the emergence of new markets must have no bearing on such limitations.

As a result, both judge and law-maker, when they find an exemption to be appropriate or acceptable, must take into account the basic justifications for the exception and not merely

⁴² *Dalloz* 1999, 581, note Kereva, *R.I.D.A.*, April 2000, p. 374.

⁴³ Terroristenbild, Landgericht Berlin, 26 May 1977, *G.R.U.R.*, 1978, p. 108; P.B. HUGENHOLTZ, "Copyright and freedom of expression in Europe", to be published in ROCHELLE COOPER DREYFUS, HARRY FIRST & DIANE LEENHEER ZIMMERMAN (eds.), *Innovation policy in an information age*, Oxford: Oxford University Press, 2000.

the technological or economic possibility that the author has of granting her or his permission to use the work.

(d) Recommendations

1. *The importance of exemptions within the copyright system must be reasserted. Exemptions are an essential part of the necessary compromise between private and public interests regarding copyright and are an appropriate and obvious answer to this threat. So considered, they are not only exceptions to the rights but express the acknowledgement within the area of copyright of fundamental rights and freedoms and higher interests of the global community.*
2. *Exemptions must be maintained in the digital environment in order to preserve the fundamental balance enshrined in copyright.*
3. *Exemptions based on fundamental freedoms or on considerations of public interest must continue to exist in the Information Society, or even be adapted to that specific environment. Access to information, research and the transmission of knowledge and culture may justify the introduction of new exceptions to and limitations on copyright as well as the extension of existing exceptions.*
4. *Exemptions relating to education and research must be maintained in the digital environment. The role of education and libraries in the digital environment must be a subject of debate. If necessary, existing exceptions should be extended within the limits of the three-step test in order to allow correspondence courses and digital libraries to play a role in the Information Society.*
5. *The legislative list of exceptions to copyright may be supplemented by the decision of the courts on the basis of fundamental freedoms in special cases. Further limitations on copyright may be recognized when the balancing of the author's and public interests so demands. This recognition establishing a precedent must be made, however, with due regard for the 1996 WIPO Treaty's three-step test.*
6. *Enjoyment of exemptions cannot be denied on the pretext that a potential market, notably one that has been introduced through technology, could contractualize such enjoyment, particularly when the exemption is based on the exercise of fundamental rights such as freedom of expression or the right of access to information.*

3. THE USE OF CONTRACTS AND TECHNOLOGY IN THE PROTECTION OF COPYRIGHT

The information society forces industries to move quickly towards a distribution framework based on network communication which guarantees the security of their products. In addition to copyright, whose effectiveness is undermined on electronic networks, copyright holders and other distributors of works are starting to rely on at least two kinds of protection: contracts and technological devices.⁴⁴

The association of contracts and technology in the distribution of works is a serious threat to the institution of copyright itself. Some people predict that contract law, combined with technology, could make copyright law obsolete.⁴⁵

3.1 Contract and copyright

(a) Current situation and implications: the emergence of electronic licences

Because it is interactive, the Internet is especially adapted to licensing transactions between copyright holders, producers, intermediaries and end-users. Some distributors of works, such as software companies or database producers, have already been developing business models based on such licensing transactions with users for a number of years. This kind of model is coming to include works in their totality, in a context of convergence where every cultural product is now liable to be converted to and distributed in digital format.⁴⁶

In the physical world, it is in fact rather rare for an individual user to enter into the formal ties of a contract licence when she or he decides to use a work (of course, there are subscription contracts offered by producers, but the question of their acceptability by the user, and therefore of their validity, poses a problem). On the other hand, on digital networks, it is highly likely that electronic licences will become the rule. Whether it is a question of newspapers, music, information contained in a database, software or books, access to cultural content and information will be made with a mere click, which will simultaneously indicate consent to a licensing contract. There are mouse-click, click-through or click-wrap contracts.⁴⁷

These contracts are liable to upset the balance of copyright by getting around some of its rules, e.g. by forbidding the user's exercise of an exemption that is nevertheless recognized by law. The author of a software program could thus contractually prohibit someone from

⁴⁴ P.B. HUGENHOLTZ, "Copyright, contract and technology - What will remain of the public domain?", in *Le Droit d'auteur: un contrôle de l'accès aux oeuvres?*, Cahier du CRID N°18, Bruylant, 2000, forthcoming.

⁴⁵ P. GOLDSTEIN, "Copyright and its substitutes", The Kastenmeier Lecture, *Wisconsin Law Review*, 1997, p. 865; ROBERT P. MERGES, "The end of friction? property rights and contract in the 'Newtonian' world of on-line commerce", 12 *Berkeley Technology Law Journal*, p. 118; L. LESSIG, "The zones of cyberspace", *Stanford Law Review*, 1996, p. 1408; J. REIDENBERG, "Lex Informatica: The formation of information policy rules through technology", 76 *Texas Law Review*, p. 553.

⁴⁶ S. PERLMUTTER, "Facts and functions of the new media situation", *General Report*, ALAI 2000, Nordic Study Days, Stockholm, 18-20 June 2000.

⁴⁷ P. BERNT HUGENHOLTZ, "Copyright and Technology", *op. cit.*; Bernardine Trompenaars, "Formation and Validity of On-Line Contracts", in P. Bernt Hugenholtz (ed.), *Copyright and Electronic Commerce*, Kluwer Law International, London/The Hague/Boston 2000.

making a backup copy, and the author of a scientific article could prohibit the use of quotes from or reviews of her or his work. Insofar as users generally have little negotiating clout within the framework of electronic contracts, the signing of which - in reality a mere click - conditions access to the work, the enforcement of exemptions provided for in law is not guaranteed.

(b) Solution: the question of the status of exemptions

This threat raises the basic issue of the status of exemptions. Are limitations on rights matters of public policy or compulsory? If so, the contract cannot admit of any waiver. Or are they simple options, auxiliary provisions that the wishes of the parties involved could exceed?

A legal provision is said to be *d'ordre public* (a matter of public policy, and hence mandatory) when it touches upon the essential interests of the State or the community in public law, or which, in private law, lays the legal foundations for the economic or moral order of society. The will of the contracting parties cannot set aside mandatory legal provisions. Any clause seeking to waive such provisions would be ruled null and void.

Compulsory provisions protect individual interests. A contract cannot circumvent these, either, but the person whose interest is thus protected could renounce them. On the other hand, many legal provisions are referred to as auxiliary to the extent that they merely set rules by default which are applied only in the absence of contractual clauses to the contrary. By definition, every contractual exception to this kind of rule is accepted.

The basic question of the status of exemptions is starting to be discussed in legal theory.⁴⁸ Whereas previously many copyright specialists looked upon exemptions as mere concessions granted by the author for certain uses,⁴⁹ an increasing number of demands are being heard that exemptions be regarded as legal rules in their own right⁵⁰ even, say some, as user's rights.

Law-makers have not yet ventured to rule definitively on the issue. European directives on software and on databases make certain exemptions compulsory, notably in the case of backup copies, decompilation and correction of programme errors, normal use of a database and retrieval of non-substantial excerpts from the base content. Any contract that disallows this is therefore void. Belgian law is, to our knowledge, the only national text to recognize all exceptions to copyright and neighbouring rights as compulsory.⁵¹

⁴⁸ L. GUIBAULT, *Document de discussion sur la question des exemptions et limitations au droit d'auteur et aux droits voisins à l'ère numérique*, Report for the Council of Europe Group of Specialists on the protection of right-holders in the media field, 1998. H. TROTTER, "Contracts, copyright and pre-emption in a digital world", 1 *Rich. J.L. & Tech.* 2 (1995), <<http://www.urich.edu/~jolt/vlil/hardy.html>>.

⁴⁹ A. LUCAS, *Droit d'auteur et numérique*, *op. cit.*, p. 171.

⁵⁰ HUGENHOLTZ, "Fierce creatures ...", *op. cit.*; PALLAS LOREN, *op. cit.*, p. 21; L. GUIBAULT, *op. cit.*; TH. VINJE, "Copyright Imperilled", *E.I.P.R.*, 1999/4, p. 197.

⁵¹ Article 23 bis of the Belgian law of 30 June 1994 on copyright and neighbouring rights. The Japanese and Mexican reports at the 1998 ALAI Study Days point out that exemptions cannot be circumvented by contract. But the reports do not say whether it is a matter of legislative, jurisprudential or doctrinal rule. H. SAITO, "Rapport national: Japon", in *Les Frontières du droit d'auteur: ses limites et exceptions*, ALAI Study Days, *op. cit.*, p. 297; "Rapport national: Mexique", *ibid.*, p. 302.

A debate on the status of exceptions/exemptions ought to get under way at both national and international levels. Belgian law notwithstanding, it seems to us that not all exceptions should be treated alike. If we return to the distinction we made above between different kinds of exemption, we can continue our thinking on the subject while recognizing a different fate for each kind:⁵²

- ***Exemptions conveying concern for certain fundamental freedoms through copyright.*** It was explained above that some exemptions are the result of fundamental freedoms, such as freedom of expression and information, freedom of the press and the right to privacy. This is notably true of exemptions for parody, quotation, criticism, news reports or private use (the right to privacy). Because of the *ordre public* nature of the freedoms on which the exemptions are based, those exemptions can also only pertain to *ordre public*. As a result, a contract may not prohibit a user from exercising her or his freedom of expression.
- ***Exemptions based on public interest:*** Exemptions confined to education and libraries, archives and museums, and the disabled, and exemptions required by justice and the State, safeguard public interests. Here, too, it strikes us as essential that private desires should not be able to take precedence over public interest. Nevertheless, copyright also stands for a key public interest as an instrument for the promotion and spread of culture. It is therefore indispensable to weigh competing interests between copyright and the interest underlying the disputed exemption in order to determine which takes precedence. This evaluation will not necessarily result in the same outcome from one State to another. As a result, it is impossible to make a definitive decision for or against a general solution regarding the status of public interest in this category of exemptions. It is, however, necessary to stress that the public interests of education and research deserve a special place in the context of the information and knowledge society.
- ***Exemptions for market failure:*** When an exemption is exclusively based on the practical impossibility of enforcing copyright, and does not otherwise infringe any fundamental freedom or public interest, such an exemption could possibly be granted auxiliary status by each State.

(c) **Recommendations**

1. ***States must decide on the issue of the status of exemptions. Exemptions that convey through copyright the concern to safeguard certain fundamental freedoms are, by their very nature, mandatory. As a result, a contract may not circumvent legally recognized exemptions. The status of exemptions based on public interest must be examined.***
2. ***Exemptions for research, education and the transmission of knowledge must, because of their central place in a democratic society, be recognized as mandatory.***

⁵² HUGENHOLTZ, P.B., "Adapting copyright to the information superhighway", in *The Future of Copyright in a Digital Environment*, Kluwer, 1996, p. 94. See also L. GUIBAULT, *op.cit.*

3.2 Technology and copyright

(a) Current situation: technology in aid of copyright

Contracts will not be enough to guarantee foolproof protection for works. Technological mechanisms, mainly based on cryptography, will progressively allow access and transmission of works to be secured and to supplement the legal protection provided by the law and the contract with efficient technological protection. The intention is to counter the threats of technology by using technology itself. This development is well illustrated by Charles Clark's henceforth famous phrase, "The answer to the machine is in the machine".⁵³

The technologies likely to be used by authors and other right-holders to protect their works and performances in the information society are extremely varied. Some have been specifically designed to answer the digital threat to copyright, while others have been developed to protect indiscriminately any kind of digital content, whether copyrighted or not.

It is difficult to draw up a specific list of technological devices either in current use or being developed, just as it is impossible to predict the future of these technologies in the area of protecting works under copyright.⁵⁴

It is possible, however, to sort technological devices for copyright and neighbouring rights protection into four broad categories according to the primary purposes of these devices. Thus, we may distinguish between measures that efficiently protect an act falling under the author's exclusive right, systems of conditional access, tools for marking and identification and electronic rights management systems.

1. Technological protection of copyright

These are technical tools which prohibit the performance of any act or use that is the exclusive right of the copyright holders, such as printing, transmission to the public, digital copies, modifying the work, etc. Anti-copying systems are above all those whose main function is to prevent the making of a copy of the protected work or object, either solely digital or any copy whether digital or analogue. For example, the dongle, mainly used in the software sector, generally consists of a piece of hardware,⁵⁵ a kind of key which plugs into the serial port of the computer. All software protected by this system then connects to this key to verify what the user's rights include. The dongle principle seems like a precursor of **smart cards**, which allow a greater amount of information to be stored. Smart cards may also contain prepaid payment units. Unlike dongles, whose use until now has been limited to expensive software programs, smart cards will no doubt be used more often for software as well as for other works available to the general public. These two technologies aim at both access to and control of uses, notably that of copying.

⁵³ C. CLARK, "The answer to the machine is in the machine", in *The Future of Copyright in a Digital Environment*, *op. cit.*, pp. 139-146.

⁵⁴ D. GERVAIS, *Electronic Rights Management and Digital Identities Systems*, WIPO Advisory Committee on Management of Copyright and Related Rights in Global Information Networks, First Session, Geneva, 14 and 15 December 1998.

⁵⁵ It may also involve inserting a disc into the computer when the user wants to use the software. The software will thus only work if the disc is in the user's possession.

The **Serial Copy Management System** is a system used mainly in the United States on audio-digital recording devices such as DAT and mini-discs. This technology enables the device to decode audio signals built into the hardware and to decode data regarding, among other things, its protection. The system allows one digital copy to be made from the original but prevents any further copying.

2. Systems of access

One of the major challenges of digital networks is to make access to protected information and content secure, both in order to ensure payment of a fee and to protect the copyright covering the work that has been thus “padlocked”. Many systems have accordingly been developed with a view to ensuring and securing access either to a work or a collection of works, or to a service including among other things the works under copyright. Deactivating the access control device is done either by payment or when other terms of permission agreed with the copyright holders have been met. The access device may control only initial access and subsequently leave the work free for any use, or it may check on the occasion of each new access to make sure that the terms have been respected. Access may also be easily differentiated according to type of user, which is a great advantage of these systems. For example, a university may have gained access by paying an annual blanket fee for a work or group of works for use by a certain number of students and for a one-year period. In that case, the system will verify the existence of the decoding key on university computers or the use of a contractually agreed password, or the student’s identity. On the other hand, the same technology may grant repeated access to an individual in exchange for renewed payment: in proportion to frequency of use, for example.

Technologies performing this role are many: cryptography, passwords, set-top boxes, black-boxes, digital signatures and digital envelope.⁵⁶ The **cryptography** process is well known. It may be defined, following the example of the French law on regulating telecommunications, as “the transformation with the help of secret conventions of clear information or signals into information or signals that are unintelligible to third parties, or to carry out the reverse procedure by the means designed for that purpose”.⁵⁷ In the digital world, coding and decoding are done by using algorithms of varying degrees of complexity.

Digital signatures are a particular application of cryptography used to certify and identify a document.⁵⁸ In the context of copyright protection, this technology is mainly used to secure transmissions of works over electronic networks and to prevent access to the work by unauthorized persons. The decoding key is provided after payment of the fee or fulfilment of other conditions for using the work.

The **digital envelope** or **digital container** is an application of cryptography through which a work is “inserted” into a digital envelope containing information regarding the work and its terms of use. Only after having satisfied these terms (such as payment of a fee, use of a password, etc.) does the envelope actually open and the user gain access to the work.

⁵⁶ Dongles and smart cards (see above) may also have an access control function.

⁵⁷ Law 90-1170 of 29 December 1990, O.J., 30 December 1990, p. 16439.

⁵⁸ J. HUBIN, Y. POULLET, in conjunction with B. LEJEUNE and P. VAN HOUTTE, *La sécurité informatique, entre technique et droit*, Cahier du CRID N° 14, Brussels, Story-Scientia, 1998.

3. Tools for marking and tattooing

Many techniques can be used to identify and mark works.⁵⁹ The techniques have various purposes: the main one is to serve as a visible or invisible means of inserting information about the work, whether it be the title of the work, the identity of its creator and the copyright holder, or the terms of use.

This function will be particularly protected under Article 12 of the WIPO Copyright Treaty, regarding the protection of information on rights management. Here, the concern is chiefly with watermarking or tattooing, which allows certain information to be discreetly inserted into the work's digital code. This marking is usually invisible and inaudible. The invisible inscription is made by using a steganographic technique, steganography being "the art and science of communicating so as to conceal the communication itself".⁶⁰ The use of invisible ink is one example of this ancient science that was borrowed by the analogue world. In a digital environment, watermarking alters certain "unnecessary"⁶¹ bits of an image or a sound. Using an appropriate software program, this digital code may be extracted and deciphered. The marking is generally indelible and is to be found, even after the work has been modified or broken up, in every part of the work.

However, other characteristics of these technologies provide copyright protection somewhat indirectly. First of all, marking is in certain cases perfectly visible; a "mark" is then clearly placed on the representation of the work, somewhat similarly to the way the term "SPECIMEN" is placed on non-circulating currency or other official papers. This practice, also called "fingerprinting", is widespread enough in photographic agencies which thus apply their name or logo to a copy of a photograph solely for promotional purposes, and hand over the photo without this marking only when payment of the required fee has been made. This is also the case in certain museums or online archives where reproductions of the collections bear the seal of the museum.⁶² This visible watermarking fulfils, in this case, a function of protection against copying in that this clearly apparent marking implies a lowering of the value of what is accessible free of charge on the networks.

Each separate copy of the work distributed to users may also incorporate a distinct digital serial number. In that case, a pirated copy later found on the market can reveal the original copy from which the counterfeit was made. By thus stamping each image, it is possible to trace unauthorized copies of the image back to the source by using a file repeating the serial numbers and the users to whom these stamped images have been licensed. Here the essential function of the protection technique is to provide proof of counterfeiting. Finally,

⁵⁹ S. DUSOLLIER, *Le droit d'auteur et son empreinte digitale*, Ubiquité, N° 2, May 1999, pp. 31-47.

⁶⁰ R. LEYMONERIE, *Cryptage et Droit d'auteur*, *Les Cahiers de la Propriété Intellectuelle*, 1998, Vol. 10, N°2, p. 423; see also D. GUINIER, *La stéganographie, De l'invisibilité des communications digitales à la protection du patrimoine multimédia*, *Expertises*, June 1998, pp. 186-190.

⁶¹ These bits are unnecessary in that the images and sounds include a large number of bits that may be deleted or altered without any noticeable consequence for the hearer or spectator. In the case of an audio recording, the digital line code for marking is incorporated into bits that remain inaudible to the human ear.

⁶² An example is the Vatican Library, whose rare documents have been digitized and made available to the public online, albeit covered by the Vatican seal, which prevents their being re-utilized for commercial purposes.

one last useful function of watermarking is for the purpose of authenticating the marked content, notably as a guarantee that the work is present in its entirety.

4. Electronic management systems

Electronic management tools are all technologies that ensure rights management over electronic networks by making it possible to license online utilization of works, and to monitor such use. These devices blend contractual and technological protection.⁶³

Other functions may also be included in these tools: distributing royalties, taking payment, sending bills, data-profiling users, etc. For example, **electronic agents** have recently appeared on the market.⁶⁴ Developed to perform many tasks on electronic networks, some of them are programmed to negotiate and sign electronic contracts.⁶⁵ This technology is also starting to be applied to copyright in that such contracting agents are sent out with the protected content on the Internet, both to display the terms and conditions of licensing and to receive and manage the agreement, i.e. the click, of the users. Other, more powerful, agents manage the distribution and use of the work completely and totally by electronic means, notably by incorporating a system of electronic payment, by renewing user permission, or by making a precise report on the use (which works were copied, printed, enlarged, downloaded? how many times?), both for purposes of billing that is appropriate and proportionate to the actual use and for later marketing (which user enjoys what kind of music?).

Another possibility is the distribution of royalties to authors and performers and other copyright-holders online via such agents. When these agents merely control the utilization of works and keep tabs on how frequently works or websites are consulted, or even draw up precise profiles of the users, the term often used is **metering systems**.

Finally, **Electronic Rights Management Systems** or **ERMS** are probably the protection measures that are most frequently spoken about, although one must be careful not to think of them as a specific kind of technology. The ERMS (also called **ECMS** for Electronic Copyright Management Systems) consist rather of a combination of many tools and technologies designed to play several roles.⁶⁶ Thus, a cryptography tool blocking access to the work may be associated with an anti-copying system prohibiting the reproduction of the work even by a legitimate user. The watermarking technique (see above) and a system of electronic licensing and payment may also be incorporated in the same computer program. Generally, the main function of the ERMS is to manage uses and licences for the works online. We therefore place them in the category of management tools.

⁶³ P.B. HUGENHOLTZ, "Copyright, contract and technology", *op. cit.*

⁶⁴ R. JULIA-BARCELO, "Electronic contracts: A new legal framework for electronic contracts: the EU electronic commerce proposal", *C.L.S.R.*, 06/1999, N°15/3, pp. 147-158.

⁶⁵ S. GAUTHRONET and F. NATHAN, "On-line services and data protection and the protection of privacy", A Study for the European Commission, DG XV, p. 31.

⁶⁶ M. LEDGER and J.P. TRIAILLE, *Dispositions contre le contournement des provisions techniques de protection*, in "Copyright in Cyberspace", ALAI Study Days, Amsterdam, June 1996, Ed. ALAI, 1997. GERVAIS, D., Electronic Rights Management and Digital Identifier Systems, Advisory Committee on Management of Copyright and Related Rights in Global Information Network, Geneva, 14-15 December 1998. VINJE, TH., "A brave new world of technical protection systems: will there still be room for copyright?", *E.I.P.R.*, 1996/8, p. 431.

(b) Issue: access to the work and enjoyment of exemptions within the framework of technical systems

Technical systems pay little attention to the limitations placed on copyright to ensure a certain balance between protection and the promotion of culture and knowledge. They are actually liable to padlock and to block access to works that are not, or are no longer, under copyright or to prevent the normal exercise of a legally recognized exception. In this case, the execution of copyright even goes beyond the existence and extent of the right.

This implies that users hoping to make a reproduction or a communication to the public, within the limitations on sole rights, could only do so by finding a way around the technological barrier. The user must thus display great ingenuity and technical skill in order to use a work in a way that would happen naturally in a traditional non-digital environment,⁶⁷ especially since the instruments potentially available for so doing would obviously be sanctioned by the provisions that we shall look at below.

We therefore think it indispensable to specify legally the limitations to technological protections, given their potential effect of appropriation of the public domain and of the restriction of access to information that they imply. Such an exercise must take place as soon as possible, to prevent an unlimited appropriation of things that are by their very nature or by law unappropriable. Let us take, for example, the case of the archives on witnesses to the Holocaust currently being put together by Spielberg. If he were to decide to padlock this mass of information by a technological protection system requiring payment of a fee, would not access to information, to history, and to the memory of our societies be endangered?

The problem is similar where observance of exceptions is concerned. If, owing to a technological protection, the user is no longer able to quote from a work, to make a copy for personal, educational or informative purposes, the effect of exceptions in the digital world now will become purely theoretical.

(c) Solutions and discussion

The legitimacy of the technological barrier to the public domain, or the prevention of enjoyment of a copyright exemption is one of the thorniest issues to have arisen from current developments. One can hardly cast doubt on the justifiability of resorting to technological measures to secure the transmission and distribution of digital content (for example, in the context of electronic commerce). Such technological security has, in any event, far more to do with protecting the service and benefits that the distributor of cultural content provides than with copyright protection.⁶⁸ However, this technological shield comes in addition to legal protection of copyright and even goes beyond it on a number of points. As a result, the complex balance achieved in copyright between protection and free use becomes quite precarious. This goes to show that, if copyright holders are right to use technology to secure their works, it is also right at the same time to provide legal correctives to its potential abuse.

⁶⁷ P. SAMUELSON, "The Copyright Grab", *Wired* 4.01 (1996); T. VINJE, "A brave new world of technical protection systems: will there still be room for copyright?", *E.I.P.R.*, 1996/8, p. 431; M. LEDGER and J.P. TRIAILLE, *op. cit.*; COHEN, J., "Some reflections on copyright management systems and laws designed to protect them", *Berk. T.L.J.*, Vol. 12, N° 1, 1997, p. 9.

⁶⁸ S. DUSOLLIER, *Incidences et réalités d'un droit de contrôler l'accès en droit européen*, in *Le Droit d'auteur: un contrôle de l'accès aux oeuvres?*, Cahier du CRID N°18, Bruylant, 2000, forthcoming.

A first kind of corrective may be found in common law, and notably in the principle of abuse of right as well as in systems of consumer protection. The application of these institutions to copyright is still in its early stages,⁶⁹ but nothing prevents it from falling within its purview.

One solution would be to make a decision about the difficult, and still rather unusual, question of the status of exemptions that we spoke about earlier (if an exemption pertains to *ordre public*, any act making its exercise impossible is prohibited). This solution is, however, imperfect at best. Technology is indeed blind and reacts only to the demands of technological acts such as copying, printing, sending, reading or access. It cannot recognize the framework within which these acts are performed. The often subjective terms imposed for the exercise of an exception cannot be analysed or recognized by such technological measures. One example is the compulsory character granted by the European directive on databases to the exception allowing the legitimate user to perform the acts necessary for normal use. But how could the technological measure protecting the database determine what “normal” use is?

Likewise, an equally compulsory exemption is granted to the user of a protected database by a *sui generis* right which allows unsubstantial parts of it to be retrieved. The system protecting the base cannot, however, define what an “unsubstantial” part is, unless it has been programmed to do so by the copyright holder, which would take away part of the exemption’s purpose.

Another solution may be found in contractual relationships between copyright holders and users. The authors could thus find themselves constrained to provide certain kinds of users with a copy of the work without any technological protection, or a copy whose technological protection would take into account the kind of exemption to which that user was entitled. This solution would, however, concern only certain broad categories of users such as libraries, journalists, researchers and teachers, who benefit from specific exemptions. These various alternatives would penalize individual users, who would not be granted such an opportunity. The system of exemptions would then become nothing more than a matter of negotiating a contract between the copyright holders and certain users who might be dubbed collective users.

The proposed European directive imposes a particularly complex solution,⁷⁰ in that the Member States must actually take the necessary steps to ensure that copyright holders allow users to take advantage of the exemptions. The directive does not specify how this opportunity will be guaranteed, other than in the case of conventions agreed upon between copyright holders and certain users. It is hard to see how authors could agree to such an obligation. Nevertheless, this provision does not apply to works made available to the public over digital networks by contract, which considerably narrows its scope.

Nor does American law directly resolve the issue. Over a two-year period, the Library of Congress and the Register of Copyright will review the effects of technological measures on the exercise of fair use.⁷¹ However, the consequences of this review are rather insignificant, as it will be a matter of exempting certain categories of work from the legal

⁶⁹ L. GUIBAULT, “Limitations found outside copyright law,” *op. cit.*

⁷⁰ Article 6(4) of the common position of 8 June 2000.

⁷¹ J. GINSBURG, “News from US”, RIDA, January 1999; pp. 147 *et seq.*

protection of the technological measures that we shall examine below; but the legitimacy of the technological measures themselves will not be questioned.

This solution could nevertheless inspire the creation of an International Observatory to consider the effects of introducing technological measures into copyright protection on access to information and the public domain, as well as on the exercise of limitations on copyright. It is in fact difficult to determine at the present time what kinds of safeguards on the system are needed, as in practice these technologies are still not very widely used. It would be wiser to observe the consequences of these developments in an ongoing manner. Such an Observatory must necessarily be created at international level, because the distribution of the works and of protective technologies will be made on a worldwide scale. UNESCO seems to offer a particularly appropriate framework within which to set up such an Observatory.

(d) Recommendations

1. *The use of technological mechanisms to protect digital works is open to abuse, and the necessity of dealing with such abuse needs to be asserted. Placing technological locks on elements in the public domain fundamentally threatens access to those works and cannot, in principle, be accepted.*
2. *Reflection on the status of exemptions must examine the consequences of that status for the use of technological measures.*
3. *Technological measures are acceptable only insofar as they take into account and allow for the observance of certain exceptions to and limitations on copyright.*
4. *With the aim of fulfilling their basic role of spreading knowledge in the digital world, libraries and teaching institutions must benefit from copies of works unencumbered by technological protection preventing reasonable access to the legitimately acquired work.*
5. *An International Observatory to consider the effects of introducing technological measures into copyright protection on access to information and to the public domain, and on the exercise of limitations on copyright, could be set up under the aegis of UNESCO.*

3.3 Legal protection of technological systems

(a) Current situation: Article 11 of the WIPO Treaty and national legislation

The development of technological measures placed on works has brought about the birth of a new intellectual property right which protects this technology against illegitimate use, impairment or destruction. The goal of this legal provision is to compensate for the fallibility of the technology itself. Technological measures can in fact be neutralized, or “hacked”, and a market for illicit devices, like the pirate decoders which allow the decoding of certain private television channels, could grow.

At the 1996 Diplomatic Conference, WIPO member countries were unable to agree on a detailed system of protection for technological measures used to protect copyright and neighbouring rights. The text of the Treaty asks States to provide legal protection “against the circumvention of effective technological measures that are used by authors in connection with the exercise of their rights under this Treaty or the Berne Convention and that restrict acts, in respect of their works, which are not authorized by the authors concerned or permitted by law”. Article 11 of the WIPO Copyright Treaty and Article 18 of the WIPO Performances and Phonograms Treaty make no mention whatsoever of how such protection is to be set up,⁷² nor which specific acts ought to be prohibited. Total freedom is given to the States on this point, which implies that national provisions run the risk of being at odds with them, even if, upon inspection, the American and European models seem to have inspired other law-makers.⁷³

The Digital Millennium Copyright Act provides for a threefold coverage of technological measures.⁷⁴ First, neutralizing technological measures controlling access to a work is penalized. Second, marketing, manufacture and promotion of devices allowing such neutralization is prohibited. Finally, a similar prohibition covers devices allowing the neutralization of measures preventing the performance of certain acts that require the author’s permission (mainly anti-copying measures). The area of technologies concerned is thus very broad because it covers both mechanisms that protect copyright, such as the right to reproduce, to communicate or to distribute, and measures that control access to the work, a prerogative that is not specifically included in the author’s exclusive rights.

The proposed European Directive, currently at the common position stage, also aims both at the act of neutralization and at so-called preparatory activities, i.e. the manufacture and commercialization of illicit devices. The measures protected are defined as “any technique, device or element that, in a normal context of use, is designed to prevent or prohibit the violation of any copyright or neighbouring right such as defined by law or *sui generis* right”.

At first glance, this targets only the technical devices that prevent or limit the performance of acts over which the author has an exclusive monopoly, i.e. the right to reproduction or to communication, and also the author’s moral right.

On the other hand, it is specified, in accordance with the text of the WIPO Treaties, that only *effective* devices will be protected, this effectiveness being defined in such a way that it also covers the systems of access to the works. Indeed, “technological measures are said to be effective when the use of a work or that of another protected object is controlled by applying an access code or any other type of protective process which achieves this goal of protection operationally and reliably with the permission of the copyright holders”.

⁷² S. DUSOLLIER, “Electrifying the fence: the legal protection of technological measures for protecting copyright”, *E.I.P.R.*, 1999/6, pp. 285-297.

⁷³ For an analysis of American, European and Australian provisions, see S. DUSOLLIER and A. STROWEL, *La protection légale des systèmes techniques*, Workshop on Implementation Issues of the WIPO Copyright Treaty (WCT) and the WIPO Performances and Phonograms Treaty (WPPT), Geneva, 6-7 December 1999.

⁷⁴ J. GINSBURG, “News from US”, *R.I.D.A.*, January 1999; pp. 146 *et seq.*; P. SAMUELSON, “Intellectual property and the digital economy: why the anti-circumvention regulations need to be revised”, *Berk. Tech. L.J.*, 1999, vol. 14, p. 519.

Both access technologies and systems narrowly protecting exclusive rights are covered by this protection.

Australia and Japan have enacted similar protection for systems controlling access to works.⁷⁵

(b) Issue: desirability of a third level of protection

Legal protection of technological measures is sometimes presented as a third level of the protection of works. The first level or “layer” is copyright law which provides general protection. Technological measures can be compared to a second level of protection or a second “layer” in that they provide technical protection of the work (or control of access to the work). Finally, Article 11 of the WIPO Treaties cleared the way for a third level of protection, as it sets up protection of the technological measure: thus, the work is henceforth protected both by law and by technology, and the technology itself is protected as such by law.

As a result, the user who performs an act requiring permission from the author relating to a work protected by a technological system commits two offences: one against copyright, and the other against provisions regarding technological measures.

The consequences of this are sometimes absurd. Let us suppose that a user neutralizes the technological barrier that prevents digital copying of the work. As a result, she or he can be sued for copyright infringement. Why add an extra penalty for neutralizing the protective mechanism?

On the other hand, a user may neutralize the lock in order to perform an act of authorized copying, for example taking advantage of an exception, or to have access to the work without, once having accessed it, performing acts requiring permission from copyright holders. She or he can also neutralize the lock in order, for example, to access a work in the public domain or unprotected informational content. In so doing, the user commits no infringement of copyright but remains liable for the mere neutralization of the technological measure. Simple access, if it takes place as the result of having violated security measures, becomes illicit.

At first glance, copyright does not regulate access to information. In the analogue environment, access to the work by the public and its consultation require no permission from the author.⁷⁶ Reading a book, watching a film, attending a show, looking at works of art, does not generally involve any act covered by copyright. On the other hand, it goes without saying that the authorizations required for exploitation of the work, such as for a museum exhibition, printing a manuscript, distributing a film for cinema showing or putting on a play, have certainly been duly requested by the exploiter, upstream of the final use of the work.

The existence of such protection of access through technological measures is rife with consequences. For example, a video game could be sold on a CD-ROM incorporating a technological protection against access. The wholly legitimate purchaser of the game could

⁷⁵ See A. STROWEL and S. DUSOLLIER, *op. cit.*

⁷⁶ J. LITMAN, “The exclusive right to read”, *Cardozo Arts & Ent. L.J.* 1994, p. 42; S. DUSOLLIER, “*Incidences et réalités d’un droit d’accès ...*”, *op. cit.*

later find a technological barrier raised, either after several games or because she or he is not playing the game on a device of the same brand, or because the game upgrades have not been purchased. If players try to deactivate the technological protection, they are committing an offence.

This extension of the author's monopoly over access to the work cannot fail to seem surprising. We can only wonder about the real reason for protecting such measures. Is it actually copyright whose exercise and effectiveness are thus strengthened? Or is not the real purpose to protect the investment made in developing and using technological devices?

Is it not rather for the simple distribution of content, possibly protected by copyright, and its remuneration that the protection is mainly designed? In the example of the video game, it may be accepted that the distributor or manufacturer contractually imposes terms of acquisition of the product, such as a limited price for a certain number of uses or the obligation to play the game on a certain piece of equipment. This being said, these terms placed on the purchase and use of works do not fall within the domain of copyright. The video game fan who wants to access the game in order to use it performs no act covered by copyright, unless, of course, she or he makes a temporary copy, which would generally be covered by an exception. If the simple fact of crossing the barrier is prohibited, whether the acts performed later are legal or not, is it not essentially the barrier itself which is being protected? To quote Y. Gendreau: "The change has taken place quickly. It is also paradoxical: although it is not yet known just what acts are covered by the right of reproduction, within the context of copyright exorbitant systems of traditional copyright are being constructed to monitor those acts."⁷⁷

(c) Discussion

Each level of protection of works ought to reflect the essential balance between monopoly and access to information. That balance, present in copyright, must also be carried over to technological measures and to the latter's legal protection.

By and large, it seems to us that the consequences of the intervention of technology in the distribution of works remain uncertain. Before the market has even developed efficient and widely used systems, those systems are already protected. Is this not premature? Ought one not first to let the market develop before answering a need for protection that may not exist? The technology still seems to be at too embryonic a stage to require protection quite so soon.

Common law furthermore allows for reasonable protection of the technological measures through legislation on computer crime or unfair competition, or the protection of systems of conditional access to audiovisual services. This common law responds adequately to the demand of the WIPO Treaties for effective legal protection. WIPO also confirms⁷⁸ that Article 11 of the Treaty does not oblige Member States to set up specific legal protection if the existing legislative framework reasonably satisfies the need for protection.⁷⁹

⁷⁷ Y. GENDREAU, "The Reproduction Right and the Internet," RIDA, January 1999, p. 54.

⁷⁸ Kurt Kemper, remarks at the Workshop on implementation issues of the WIPO Copyright Treaty (WCT) and the WIPO Performances and Phonograms Treaty (WPPT), 6-7 December 1999, Geneva.

⁷⁹ Cf. A. LUCAS, *Droit d'auteur et numérique*, op. cit. pp. 273 et seq.

The question must here be approached differently for the two branches of protection that States generally grant to technological measures under copyright: on the one hand, the act of neutralization; on the other, preparatory activities such as manufacturing and distributing products or services that make neutralization possible.

1. The desirability of prohibiting neutralization

Technological measures to protect works have generally sought to dissuade users from performing illicit acts. Normal users will not attempt to break through the technological protection, mainly because the fact of the lock itself dissuades them from violating the work.

If the technological protection is removed, the user may have to answer for an act of copyright infringement. This sanction strikes us as adequate. Tacking on an ad hoc sanction adds nothing, and indeed would be a mechanism for the protection of investment, which cannot, in our opinion, be justified under the heading of intellectual property.

The ambiguity maintained by legislation on the issue of neutralizing technological measures for the sole purpose of making a reproduction covered by a copyright exception raises questions about its actual relevance. The question of exceptions interfering with, and placing limitations on, copyright, and of the legal protection of technological measures, is one of the most complex in this field. We saw earlier that a technological measure can strongly inhibit a user's ability to perform acts that a legal exception allows. The user may then be tempted to unlock the work in order to take normal advantage of the exemption to which she or he has a right.

The user who does so will be liable to prosecution, even though she or he has performed no act covered by copyright. The WIPO Treaties seem to limit the sanction to cases where a violation of copyright is performed after deactivating a technological barrier, but national laws are less clear on this point.

We have also seen that the protection of these technologies generally covers access systems. States or regional bodies, such as the European Union, have as a rule introduced or passed laws aimed not only at the technologies protecting copyright proper, but also technologies bearing on and controlling access to the works. This is apparent in the American and Australian laws, and is also clear in the definition of technological measures repeated in the European proposal. As a result, the technological locking of access to a work is protected to the extent that circumventing it is prohibited, which sets up a de facto protection of access to the work, control over which would thus become a prerogative of the copyright holder but without this having been foreseen by the law. It is true that the large majority of the technological systems currently in use for protecting works are cryptography-based measures, whose main purpose is to prevent unauthorized access to encoded contents. Merely accessing a work by removing a technological barrier, however, even though no act covered by copyright were to be performed once inside, would be an offence.

Concern to protect technologies relating to access is perfectly understandable. However, it is more a question of protection of access to the service providing the works, and especially protection of the service's remuneration. It is thus more a matter of preoccupation with the exploiter or the distributor of the works than a direct protection of the copyright holders. The interest protected through the legal sanction of technological measures is tied to the

distribution of works over networks and to the security of electronic commerce. That interest undoubtedly deserves protection, such as, for example, that provided by the European directive on conditional access, which sanctions only preparatory activities, i.e. manufacturing and distributing devices that make it possible to neutralize access systems. But it must be recognized that such protection cannot be justified by considerations of intellectual property. Here it is a matter of protecting access to a service, whether it includes protected works or not. This displacement of the basis for technological and legal protection ought at least to be the subject of further debate, for there is a risk that copyright law could be turned into a general law on computer security.⁸⁰

These two points adequately demonstrate that making the circumvention of technological measures an illicit act under copyright would be tantamount to setting up a new protection for a simple technological barrier, without considering the legitimacy itself of the acts performed by the user once the barrier has been unlocked.

2. The desirability of making preparatory activities illegal

Techniques used to protect works on electronic networks are no different from other security mechanisms relating to other types of content. For example, cryptography will serve as much to protect works as to protect television broadcasts or the forwarding of financial or personal data. As a result, the provisions supposed to neutralize them will also do so indiscriminately.

Given this fact, protection for general technologies of access to digital content could be more useful than a specific protection for copyright. This protection actually exists in some countries in the legislation on audiovisual products (provisions regarding conditional access) or in computer crime law. Protecting conditional access seems to us adequately to fulfil the need for protection requested by WIPO.

Furthermore, the issue of public access to certain content has always been central to audiovisual law, from which provisions regarding conditional access derive. For example, under a European directive on conditional access, the possibility was mentioned of obliging service providers to guarantee free access to certain events said to be of major importance to society, following the example of what the “Television Without Frontiers” directive calls for, notably regarding sporting events. It is difficult to think in such terms within the framework of copyright, which tends to defend itself with exceptions laid down by law to ensure access to information.

(d) Recommendations

1. ***Protection of technological measures must be sought in common law, and not in copyright.***
2. ***The act of neutralizing technological measures cannot be sanctioned by copyright. Sanctions relating to the violation of copyright are enough in this case to sanction the user if necessary.***

⁸⁰ P. SAMUELSON, “Intellectual property and the digital economy: why the anti-circumvention regulations need to be revised”, *Berk. Tech. L.J.*, 1999, vol. 14, p. 519.

3. *Prohibiting the manufacture and marketing of devices designed to neutralize technological measures is a means of protection belonging to computer security. Sanction for such activities must be sought in computer crime law or audiovisual law, particularly as regards conditional access systems.*
4. *Any legal protection regime for technological measures must be carried out with due regard for access to information and to the public domain, and must permit the legitimate exercise of copyright exemptions.*

CONCLUSIONS

As early as 1994, the authors of the “A Magna Carta for the Knowledge Age”⁸¹ conceived of two possible models of development: the first, known as the “cyberspace” model, corresponded to the wishes of the protagonists who started the Internet. It was about the free circulation of information and free expression. The second, called the “Information Superhighways” model, envisaged the development of tools to control access to information. Thus, technology fluctuates between two worlds: that of freedom and that of property.

Of course, the former model is mainly Utopian and misunderstands the very principle of literary and artistic property. Technical protections that are added to an unprecedented extension both in the content and in the items protected by intellectual property rights lend credence to the idea that the market has undeniably preferred the latter approach.

Our statement, in answer to the aforementioned developments, seeks to (re)establish the balance between, on the one hand, the fair and legitimate claim to protecting the legitimate interests of authors and producers of content and, on the other, the need to safeguard the interests of each individual and of the public in general in benefiting from technological progress which offers a unique opportunity to allow everyone better access to the common heritage of humanity.

This is the sense in which we clearly plead for a return to the kind of balance that is the very essence of copyright. “All the copyright, and nothing but the copyright”, as we might put it.

That phrase means:

- That it is *important* that the domain of protection of intellectual property rights be confined to “creations” or to “technological innovations” but exclude the investments made and the technological measures introduced for their protection. Any other solution would be prejudicial to developing countries and to the non-commercial sector, particularly to libraries and institutions of learning;
- That it is *useful* to reassert the principles underlying exceptions to intellectual property rights, to reconsider the current list using these principles as a yardstick, or even to add new exceptions, and finally to safeguard their compulsory character. It is particularly important for UNESCO that exceptions for scientific, educational and journalistic purposes be maintained;
- That it is *indispensable* to safeguard the universal right to access to the “informational public domain” which brings together the information essential for the citizen of a modern democratic society (statistical, regulatory, environmental and safety-related information) and which each State must control without risk of confiscation of that control by private companies;

⁸¹ “Cyberspace and the American dream: a Magna Carta for the Knowledge Age,” *Infoways*, 1995, p. 2. Cf. the conclusions reached by C. LAMOULINE and Y. POULLET, *Des autoroutes de l'information à la démocratie électronique*, Report prepared for the Council of Europe, October 1995, Bruylant, Nemesis, Brussels, 1996, pp. 75 *et seq.*

- Finally, that, considering the development of technological measures of protection, it is urgent to recall that the intellectual property right is not designed to legitimize measures of control over access; that, if these must be protected by common law, proper protection must be found, independent of copyright, in the regulation of product distribution, i.e. the service of providing conditional access to those products, which will thus no longer be able to jeopardize the desired balance between the interests of the copyright holders and societal or public interests - a balance that is at the very heart of intellectual property rights.

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