

International copyright and the challenges of digital technology

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International Copyright and the Challenges of Digital Technology

By Patrícia Akester

A dissertation submitted in fulfilment of the
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Abstract

Digital technology is challenging traditional copyright principles. Despite suggestions from a number of commentators that copyright cannot survive the challenge, this thesis aims to demonstrate that copyright can evolve and adapt rather than face elimination. This hypothesis is tested and illustrated by means of an examination of law in conjunction with technology, and by means of concrete examples.

Analysis of the author's position in the face of digital technology requires firstly, an investigation of the way in which the existence and exercise of the author's copyright itself is affected by such technology, and secondly, an examination of how the author's standing in relation to dissemination of works generally is concerned (e.g. as regards freedom of speech). It is with the first of these aspects that this thesis is mainly concerned, although, for the sake of a more comprehensive view, some considerations on the second aspect are also advanced.

This thesis examines challenges raised in the copyright field by digital technology and the consequential problems in relation to classification of subject matter, identification of authors, fixation and reproduction, the criterion of originality, the meaning of publication, recognition of moral rights, recognition of economic rights, exceptions and limitations, liability of service providers, authenticity of works, infringement, feasibility of enforcement and conflict of laws. Broader issues relating to Government and private control of access to the new media are also analysed.

The analysis is focused on copyright subsistence as well as infringement. Furthermore, both the legal and the technological aspects are considered (with the aid of a comprehensive glossary of technological terms). The approach is one of law and technology in equal measure.

In the context of these problems there follows a critical examination and comparison of the main national systems, the main international instruments, and the main regional instruments. This systematic survey seeks to encapsulate the work of learned authors in a concise manner, leading to certain proposals. The approach is one of criticism and selection of feasible and practical solutions. Nearly all elements of the proposed solutions exist already, albeit in a fragmented way. These solutions are based on law and on technology, and are formulated to apply in both the analogue and digital worlds.

The thesis concludes that for an effective solution of the problems raised by digital technology, an international standard for copyright protection must be adopted, one apposite for the digital world. The thesis puts forward detailed suggestions towards the adoption of an **International Digital Copyright Protection System**, in the form of definitional, obligational, conflict of laws and technological proposals, whose common denominator is the will to find new answers for the digital challenges. The **definitional proposals** will clarify conceptual questions arising from the digital revolution. The **obligational proposals** will regulate the issue of exemptions from liability and duties of Internet service providers. The **conflict of laws proposals** will address the problems arising in connection with jurisdiction and applicable law on the

Internet. The **technological proposals** will give practical effect to the system by focusing on deterrence and tracing of copyright infringement.

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To Table of Abbreviations, at page 23, add:

Bus LR Business Law Review
Cardozo Arts & Entertainment L.J. Cardozo Arts and Entertainment Law Journal
Columbia Law Rev., Columbia Law Review
Comps. & Law, Computers and Law
Comm. L.J., Communications Law Journal
Copyright-Bulletin, UNESCO Copyright-Bulletin,
CW, Copyright World
E.B.L., Electronic Business Law
E.C.D.R., European Copyright and Design Reports
E.C.L.R., European Competition Law Review
Eu. L.F., European Legal Forum
Harvard Law Rev., Harvard Law Review
Houston Law Rev., Houston Law Review
I.P. & I.T. Law, Intellectual Property and Information Technology Law
I.R.L.C.T., International Review of Law Computers and Technology
J. Online, Journal Online
L.R. I Eq., The Law Reports, Equity
Mac. C.C., Mac Gillivray's Copyright Cases
Mich. Tel. Tech. L. Rev., Michigan Telecommunications and Technology Law Review
N. Carolina L. Rev., North Carolina Law Review
Nova L. Rev., Nova Law Review
N.Y.U.J. Int'l L. & Pol., New York University Journal of International Law and Politics
Tulane Law Rev., Tulane Law Review
Vanderbilt Law Rev., Vanderbilt Law Review
WL, Westlaw

To Footnote 494, at page 235, add:

See decision of the Munich regional court of appeals reported at [2001] ECDR 375.

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Table of Abbreviations

National laws

“French Code 1992” (Code of Intellectual Property Law, No. 92-597 of July 1 1992).

“German Law 1965” (Author’s Right Law, 1965).

“Portuguese Code 1985” (Code on Author’s Right and Connected Rights, 1985).

“United Kingdom 1988 Act” (Copyright Designs and Patents Act 1988).

“United States Copyright Act” (Copyright Act 1976).

International instruments

“Berne Convention”, “Berne”. Berne Convention for the Protection of Literary and Artistic Works, Paris text, 1971

“(Draft) Hague Convention”. (Draft) Hague Convention on Jurisdiction and the Effects of Judgements in Civil and Commercial Matters

“Phonograms Convention”. Convention for the Protection of Producers of Phonograms Against Unauthorised Duplication of their Phonograms, Geneva, 1971.

“Rome Convention”. Convention for the Protection of Performers, Producers of Phonograms and Broadcasting Organisations, Rome, 1961.

“TRIPS Agreement”. Agreement on Trade-related Aspects of Intellectual Property Rights, Marrakesh, 1994

“Universal Copyright Convention”. Universal Copyright Convention, Paris text, 1971.

“WIPO Copyright Treaty”. WIPO Copyright Treaty, Geneva, 1996.

“WIPO Performances and Phonograms Treaty”. WIPO Performances and Phonograms Treaty, Geneva, 1996.

Regional instruments

“Brussels Convention”. EC Convention on Jurisdiction and the Enforcement of Judgements in Civil and Commercial Matters, Brussels 1968

“Cartagena Decision 351”, “Decision 351”. Decision 351 on Author’s Right and Connected Rights of the Commission of the Cartagena Agreement, 1993.

“EC Treaty”. Treaty establishing the European Economic Community, formerly called “EEC Treaty” and renamed by the Maastricht Treaty, 1992.

“Lugano Convention”. Convention on Jurisdiction and the Enforcement of Judgements in Civil and Commercial Matters, Lugano, 1988.

“NAFTA Agreement”, “NAFTA”. North American Free Trade Agreement, 1992.

European Community Directives

“Computer Programs Directive”. Council Directive on the legal protection of computer programs (Dir. 91/250/EEC).

“Copyright/Information Society Directive”. Directive on the harmonisation of certain aspects of copyright and related rights in the information society (Dir. 2001/29/EC).

“Database directive”. Directive on the legal protection of databases (Dir. 96/9/EEC).

“Electronic Signatures Directive”. Directive on a Community framework for electronic signatures (Dir. 99/93/EC).

“Electronic Commerce Directive”. Directive on the harmonisation of certain legal aspects of electronic commerce in the internal market (Dir. 2000/31/EC)

“Rental/Lending and Related Rights Directive”. Council Directive on rental right and lending right and on certain rights related to copyright in the field of intellectual property (Dir. 92/100/EEC).

“Satellite Broadcasting and Cable Retransmission Directive”. Council Directive on the coordination of certain rules concerning copyright and rights related to copyright applicable to satellite broadcasting and cable retransmission (Dir. 93/83/EEC).

“Semiconductor Products Directive”. Council Directive on the legal protection of topographies of semiconductor products (Dir. 87/54/EEC).

“Term Directive”. Council Directive harmonising the term of protection of copyright and certain related rights (Dir. 93/98/EEC).

Other abbreviations

ALAI Association Littéraire et Artistique Internationale

AC Appeal Cases

All ER All England Law Reports

ALR Australian Law Reports

Ch Chancery Division

CL&P Computer Law & Practice

CL&SR The Computer Law and Security Report

EC European Community.

ECJ European Court of Justice.

EIPR European Intellectual Property Review

EMLR Entertainment and Media Law Review

F Supp Federal Reporter -Supplement

F2d Federal Reporter, 2nd Series

F3d Federal Reporter, 3rd Series

FSR Fleet Street Report

HL House of Lords

ICJ International Court of Justice

IIC International Review of Industrial Property and Copyright Law

IPR Intellectual Property Reports

KB King's Bench

MIP Managing Intellectual Property

OJ Official Journal of the European Communities

QB Queen's Bench

RIDA Revue International du Droit d' Auteur

RPC Reports of Patent, Design and Trade Mark Cases

S Ct Supreme Court

UNESCO United Nations Educational, Scientific and Cultural Organisation.

US United States Reports

USPQ United States Patent Quarterly

WIPO World Intellectual Property Organisation.

WIPO Glossary WIPO Glossary of Terms of the Law of Copyright and Neighbouring Rights, Geneva 1980.

WLR Weekly Law Reports

WTO World Trade Organisation.

Introductory

Jane Schurtz-Taylor¹ points out that the Internet “*is about spontaneous cooperation and collaboration between countries and cultures. It’s about freely sharing knowledge and information. Everyone can join in: there is no social discrimination based on age, skin, colour or sex.*”

Nevertheless, the digital environment also brings some dangers.² Information in digital form is intangible and can be copied indefinitely with no loss of quality. Works in digital form can be reproduced instantaneously, and unlike copying by traditional methods, with total accuracy and no effort. Information in digital form can be manipulated without restrictions. In the context of copyright, digital manipulation bears the risk of infringing moral rights as well as economic rights.

¹ J. Schurtz-Taylor, “The Internet Experience and Authors’ Rights” (1996) 24:2 International Journal of Legal Information 117.

² See *inter alia* N. Highman, “The New Challenges of Digitisation” (1993) 10 E.I.P.R. 355-359; E. Samuels, “Copyright Concerns on the Information Superhighway” (1994) Annual Survey of American Law 383-392; F.H. Cate, “Law in Cyberspace” (1996) 39:565 Howard Law Journal 565-57; J.C. Ginsburg, “Putting Cars on the Information Superhighway: Authors, Exploiters and Copyright in Cyberspace” in P.B. Hugenholtz (editor), *The Future of Copyright in a Digital Environment* (Kluwer, 1996) 189-219; A. Johnson-Laird, “The anatomy of the Internet meets the body of the law”, (1997) 22:3 University of Dayton Law Review 467-509; R.A. Kurz and C.M. Jimenez, “Copyrights On-Line” (1996) 39:2 Howard Law Journal 531-564; A. Mille, “Copyright in the Cyberspace Era” (1997) 10 E.I.P.R. 570-577.

With digital compression techniques, such as MP3 for audio and MPEG³ for video, copies can be made a lot smaller than the original digital size, and thus audio and video works in digital format do not take as much space to store and as long to be transferred across the Internet⁴ as formerly.

Furthermore, increases in the capacity of the Internet have made it easier to distribute works at high speed and with little cost. Any user equipped with a modem and an Internet connection can reproduce and distribute multiple, high-quality copies of audio and video works.

Digital technology⁵ also eases the retrieval of existing works across the Internet, by means of mechanisms such as the World Wide Web⁶ and search engines⁷ and allows their manipulation into new works.

³ For definition of *MP3* and *MPEG* see Appendix B – Technical Terms.

⁴ For a detailed description of the structure of the Internet see *inter alia* **Brookfield Communications, Inc. v. West Coast Entm't Corp.**, 174 F.3d 1036, 1044 (9th Cir. 1999). See also Appendix A – History and functioning of the Internet.

⁵ For definition of *digital technology* see Appendix B – Technical Terms.

⁶ For a definition of *World Wide Web* see Appendix B – Technical Terms.

⁷ For a definition of *search engine* see Appendix B – Technical Terms.

In addition, communicating copyright works and related subject matter on the Internet involves several acts of which the legal status is at present unclear, such as temporary storage and screen display.

In summary, digital technology increases the ability to copy works and related subject matter, the quality of the copies, the potential to manipulate and modify works and the speed with which copies can be delivered to the public. This creates serious legal problems and raises questions, some of which are as follows.

1. The classification of subject matter

- Are existing categories such as collections of works, databases and adaptations sufficient to cover the new types of digitised works?
- If not, should new categories of works and other protected material be recognised?

2. Identification of authorship

- How can authors be identified on the Internet?
- Will the digital world reduce or erase the role of publishers and distributors?
- Will the author have a more prominent role in the distribution of works and other protected material by distributing them himself on the Internet?

3. Fixation and reproduction in the digital context

- At what precise moment does digital activity constitute fixation?
- What is the status of temporary fixation? Does it amount to reproduction?

4. The criterion of originality

- What criteria should be used to ascertain whether a work created on-line is original?
- Do new originality requirements have to be introduced?

5. The meaning of publication

- What constitutes publication on the Internet?

6. Recognition of moral rights

How will it be possible:

- to enforce the author's decision of whether or not to divulge his work in the digital world?
- to assure that the method and conditions of disclosure will remain the ones the author chose?
- to ensure acknowledgement of authorship on the Internet?
- to prevent false imputation of works on the information superhighway?
- to maintain anonymity?
- to assure the integrity of works in the digital world?

7. Recognition of economic rights

- Can the reproduction, communication, adaptation and distribution rights be enforced in the digital world?
- What is the legal status of acts such as temporary storage and screen display?

- Should these acts be subject to exclusive rights, equitable remuneration, or free use?
- Is there any need for the recognition of new rights, or can existing rights be applied to the digital environment?

8. Exceptions and limitations

- Does digital technology disturb the balance between exclusive rights, on the one hand, and exceptions and limitations, on the other?
- What impact will digital technology have on traditional exceptions and limitations?
- What should be the liability of Internet service providers?

9. Authenticity: author's rights and public interest

- Is it possible to ensure the reliability of information obtained on the Internet?
- If so, how is this to be achieved?

10. The feasibility of enforcement

- Is it possible to control transmissions on the Internet in order to protect copyright?
- If so, how should that be balanced against fundamental rights (such as privacy and freedom of speech)?

11. Conflict of laws

With digital technology, national copyright markets give place to a single global market:

- Which court should have jurisdiction in a case emerging from the Internet?
- Which law should govern such case?

12. Economic and political Issues

- Which is the economic challenge that faces copyright?
- Will Governments attempt to control the content of material transmitted over the Internet, and if so how will this affect copyright?

13. The place of copyright in the legal order

The most apparent problem is whether digital technology has rendered copyright obsolete. Uncertainties emerge which put the system under strain.

- Will the copyright system adjust to the digital challenge or will it disappear?
- What adjustments could enable it to survive?

The research will be focused on the effects of developments in digital technology on these questions.

The analysis will be conducted within the legal framework provided by:

- The two main systems, that is, the common law copyright and the civil law author's right systems. In general the reference will be to the provisions of the laws of the United Kingdom , United States, France, Germany and Portugal;
- Seven international instruments - the Berne Convention for the Protection of Literary and Artistic Works, 1886-1971 ("Berne Convention"), the Universal Copyright Convention, 1952-1971 ("Universal Copyright Convention"), the Rome

Convention for the Protection of Performers, Producers of Phonograms and Broadcasting Organisations, 1961 (“Rome Convention”), the Agreement on Trade-related Aspects of Intellectual Property Rights, 1994 (“TRIPS Agreement”), the WIPO Copyright Treaty, 1996, (“WIPO Copyright Treaty”), the WIPO Performances and Phonograms Treaties, 1996 (“WIPO Performances and Phonograms Treaty”) and the proposed WIPO Database Treaty (“proposed WIPO Database Treaty”) and

- Regional instruments – The European Community Directives chiefly concerned with digital aspects, the North American Free Trade Agreement (“NAFTA Agreement”) and Decision 351 of the Cartagena Agreement on a Common Authors’ Rights and Connected Rights System (“Cartagena Decision 351”).

This work will be structured in three parts:

- Part I-Overview (Chapter I);
 - Part II-General Analysis (Chapters II-V); and
 - Part III-Proposals, Perspectives, Summary and Conclusions (Chapters VI-VIII).
-
- Chapter I is entitled “Background”. This chapter describes the principles of the main national systems and major differences between them; the background of the main national systems, main international instruments and main regional instruments; protection afforded by such instruments and digital challenges before them. Some shortcomings of national, international and regional instruments, from the perspective of the author and, at various points, from the point of view of the public interest will be outlined.

- Chapter II is entitled “Definitional questions in the digital context”. This chapter examines problems raised by digital technology regarding the classification of subject matter, the identification of authors, fixation, reproduction, the criterion of originality and the meaning of publication. It also presents some possible solutions to these questions.
- Chapter III is entitled “Problems affecting the scope of granted rights and liability of service providers”. This chapter investigates digital challenges concerning the recognition of moral rights (divulgence, identity and integrity), the recognition of economic rights (reproduction, communication, including *on-demand availability*, adaptation and distribution), exceptions and limitations and exemptions from liability of service providers. It presents some possible solutions to these questions.
- Chapter IV is entitled “Problems concerning authenticity, infringement and enforcement”. This chapter contemplates problems emerging in the digital context in connection with authenticity of works, infringement and the feasibility of enforcement. It presents some possible solutions to these questions.
- Chapter V is entitled “Conflict of laws”. This chapter reflects on the questions of jurisdiction and choice of applicable law in the digital context at national, international and regional levels. It presents some possible solutions to this question.
- Chapter VI is entitled “Proposed Digital Copyright Protection System”. A general hypothesis as to a global solution in the area is presented.

- Chapter VII is entitled “Perspectives for the third millennium”. This chapter considers the place of copyright in the legal order and explores economic and political perspectives for the third millennium.
- Chapter VIII is entitled “Summary and conclusions”. The thesis is summarised and some conclusions are drawn.
- Appendices A, B and C respectively cover the “History and operation of the Internet”, “Technical terms” (covering 86 terms) and a “Chart on Internet intermediaries”.

The work concludes with tables and selected bibliography.

Part I - Overview

Chapter I - Background

“The best of prophets of the future is the past.”

Lord Byron, Letter, Jan. 28, 1821

1.1 Introductory

This chapter outlines the principles of the main national systems and particular differences between such systems. This is followed by the examination of the background, protection afforded and digital aspects of main international and main regional instruments.

1.2 Main national systems

1.2.1 Principles of main national systems

The study will be conducted within the legal framework provided by the two main systems: the common law copyright system and the civil law author's right system.

The copyright system is characteristic of the common law system (applying in the United Kingdom, Commonwealth and United States). The civil law author's right system is characteristic of the civil law system (applying, principally, in Continental Europe, some African countries and Central and South America).⁸

⁸ W. R. Cornish ("The Notions of Work, Originality and Neighbouring Rights from the View Point of Common Law Traditions", in WIPO Symposium on the Future of Copyright and Neighbouring Rights, Paris, 1994) points out that within the common law system, one has to distinguish between the United Kingdom system and the United States system. The fact that the United Kingdom was a founding

Broadly speaking, the common law copyright system accentuates the protection of the work, in contrast to the civil law author's right system, which stresses the protection of the author.

There are other differences between the common law copyright system and the civil law author's right system, including those in relation to rules on originality, fixation, authorship and ownership, moral rights, transfer of rights and related rights.

Examples from the United Kingdom and the United States copyright laws and the French, German and, Portuguese author's right laws will illustrate these differences.

1.2.2 Major differences between main national systems

1.2.2.1 Originality

member of the Berne Convention in 1886 and of the Rome Convention in 1961, has lead to the acceptance of some features of the civil law system, such as the absence of formalities and the protection of moral rights. The United States, on the other hand, did not adhere to the Berne Convention until 1989, and has not yet adhered to the Rome Convention. Hence, although the roots are similar, the approaches of the United Kingdom and the United States differ considerably. Analogously, differences of approach can be found within the civil law system, in respect to originality, authorship and other matters.

Both the common law system and the civil law system require that a work be original, in order for it to be protected. However, the meaning of the word “original” varies.

In general, in the United Kingdom and most of Commonwealth countries, “original” means that the work should not be copied from another work, it should originate from the author and it should also involve the necessary investment of skill and labour.

In the United Kingdom, where copyright developed as a right of printers and publishers to prevent unauthorised reproduction of works⁹, a test used to ascertain whether a work is original is to ask whether sufficient *skill, labour and judgement* has been expended in creating the work.¹⁰ It is not sufficient, however, that skill and labour is merely expended in the process of copying a work which already exists.¹¹

⁹ For an analysis of the history of copyright law in Britain, see *inter alia* J. Feather, *Publishing, Piracy and Politics: An Historical Study of Copyright in Britain* (Mansell, 1994).

¹⁰ Copyright protection has been granted to compilations of information such as street directories (**Kelly v. Morris** (1866) L.R. I Eq. 697), a timetable index (**Blacklock v. Pearson** (1915) 2 Ch. 376), examination questions (**University of London Press v. University Tutorial Press** (1916) 2 Ch. 601), business catalogues (**Purefoy v. Sykes Boxall** (1955) 72 R.P.C. 89, C.A.), a service concerning racing information (**Partway Press v. Hague** (1957) R.P.C. 426), football fixture lists (**Football League v. Littlewoods** (1959) Ch. 637; **Ladbroke v. Wm. Hill** (1964) I W.L.R. 273, H.L.), and television programmes listings (**Independent Television Publications v. Time Out** (1984) F.S.R. 64). Conversely, copyright protection has been denied to a timetable (**Leslie v. Young** (1894) A.C. 335, H.L.; sentences (**Kirk v. Fleming** (1928-1935) Mac. C.C. 44); a diary (**Cramp v. Smythson** (1944) A.C. 329); and single words (**Exxon Corporation v. Exxon Insurance Consultants International Ltd**, 1982 Ch. 119; (1981) 3 All E.R. 241; (1982) R.P.C. 81, C.A.).

In the United States the standard of originality requires that the work owes its origin to the author¹² and previous cases referred to the skill, effort and time expended in the creation of the work.¹³ However, the United States Supreme Court has held that to qualify for copyright protection works must show a modicum of creativity.¹⁴

In civil law countries, the degree of creativity required to satisfy the threshold of originality has been said to be higher than in common law countries.

In France, the concept of author's rights finds its basis in rights of man introduced by the French Revolution, which were extended to creators' rights.¹⁵ Originality is the mark of the author's personality and does not require an aesthetic character. However, according to A. Lucas and R. Plaisant¹⁶, the traditional view of originality has been

¹¹ **Interlego AG v. Tyco Industries** (1989) 1 A.C. 217; (1988) 3 All E.R. 949; (1988) R.P.C. 343, PC.

¹² **Alfred Bell & Co. v. Catlada Fine Arts, Inc.** 191 F.2d 99, 102-103 (2d Cir. 1951).

¹³ The *sweat of the brow test* was applied in compilation cases such as **Schroeder v. William Morrow & Co.**, 566 F.2d 3 (7th Cir. 1977) and **Rand McNally & Co. v. Fleet Management Systems, Inc.**, 600 F. Supp. 933 (N.D. Ill. 1984) .

¹⁴ In **Feist Publications, Inc. v. Rural Telephone Service Co.** 499 U.S. 340 (1991), the court denied protection to a *White Pages* telephone directory. For a detailed analysis of United States copyright law see *inter alia* M.B. Nimmer, *Nimmer on copyright. A treatise of the law of literary, musical and artistic property and the protection of ideas* (Matthew Bender, 1997).

¹⁵ For a detailed analysis of French author's right law see, *inter alia*, H. Desbois, *Le droit d'auteur en France* (Daloz, 1978).

¹⁶ Nimmer & Geller, *International Copyright Law and Practice* (Matthew Bender, loose-leaf, 1988-), 20-21.

increasingly put into question, as illustrated in cases of utilitarian compilations and computer programs.¹⁷

In Germany, a work will receive protection provided it is a personal intellectual creation, not copied from other works, and exhibits a certain level of individuality and creativity. Nevertheless, the fact that the creativity threshold is relatively low enables the protection of *small change* and does not limit protection to works of high literary or artistic merit¹⁸.

In Portugal, a true creation is one which reflects the creative personality of the author. The premise is that a work is a personalised creation and will thus reflect the

¹⁷ See, for example, **Babolat Maillot Witt (Sté) v. Pachot** (Cass. ass. Plen. 7 March 1986, (1986) 129 R.I.D.A. 130), in which the court gave copyright protection to a computer program (before the EC Computer Programs Directive era). French author's right law has been quite influenced by the common law approach concerning the regulation of computer programs. According to Article L121-7 of the French Code of 1992, the author of a software program cannot prohibit its modification by the third party to which he has assigned his economic rights, unless prejudice is caused to his honour and reputation. Such author cannot exercise his right of withdrawal either.

¹⁸ German Law 1965, Article 2(2). For an analysis of German author's right law see *inter alia* Nimmer & Geller, *International Copyright Law and Practice*, (Matthew Bender, loose-leaf, 1988-) and S.M. Stewart, *International Copyright and Neighbouring Rights* (2ed, Butterworths, 1989).

personality of the author. As a consequence of the act of creation, which is always of a personal nature, the contribution of the author's spirit remains in his work.¹⁹

1.2.2.2 Fixation

In common law countries fixation is generally required for the subsistence of copyright in a work.²⁰

United Kingdom copyright law requires that a work must be recorded in some written or any other form for copyright to come to existence.²¹ It does not need to be recorded

¹⁹ It is interesting to note that the Portuguese Code 1985 establishes that if the alleged forger's personality and creativity are imprinted in an alleged forgery, such work will not be deemed an infringement (Article 196(4)(a) of the Portuguese Code 1985).

²⁰ In common law countries, copyright protection has traditionally required compliance with certain formalities, such as printing a copyright notice on the work. By contrast, in civil law countries, protection is independent of formalities. Such principle was inserted in the Berne Convention, by the Berlin Revision of 1908. Article 5(2) of the Berne Convention thus states that "*the enjoyment and exercise of these rights shall not be subject to any formality.*" The requirement of compliance with formalities was abolished by the United Kingdom in 1911 and by the United States in 1989, at which time these countries adhered to the Berne Convention. For an analysis of traditional formalities and resurfacing formalities see Y. Gendreau, "Intention and Copyright Law" in Pollaun-Duliam, F. (editor) *The Internet and Author's right* (Sweet & Maxwell, 1999) 1-22.

²¹ In *Merchandising Corp. of America v. Harpbond* (1983) F.S.R. 32 CA, face make-up did not fulfil the fixation requirement and in *Komesaroff v. Mickle* (1988) R.P.C. 204 a device for making *sand pictures* did not satisfy this prerequisite.

by the author or with the author's permission for copyright to be vested in the author.²²

In the United States, fixation is one of the fundamental criteria for copyright protection. As long as the work is fixed, the form, medium and manner of fixation are irrelevant.²³

In civil law countries the general rule is that author's right originates with the act of creation and fixation is not required (although the evidential significance of fixation cannot be forgotten).

In France fixation is required with regard to choreographic works, circus acts and feats and dumb show works.²⁴ In Germany fixation is not a prerequisite for author's right protection. In Portugal choreographic and pantomime works must be fixed in order to acquire protection.²⁵

1.2.2.3 Authorship and ownership

²² United Kingdom 1988 Act, Sections 3 and 178. In *Walter v. Lane* (1900) AC. 539 a reporter was deemed author of the record of a speech, having added literary effort to the expression of the speech in his recording of it.

²³ United States Copyright Act, Section 102.

²⁴ French Code 1992, Article L 112-2(2).

²⁵ Portuguese Code 1985, Article 2(1)(d).

In common law countries, both physical individuals and legal entities can be initial copyright owners. More often, the author will be a physical individual, but, in certain cases, legal entities are deemed first copyright owners. The general rule is that if a work is made by an employee, copyright will vest in the employer, subject to an agreement to the contrary.

In the United Kingdom the principle is that the author of a work is the person who creates it²⁶. The creator of a work is the first owner of any copyright in it.²⁷ However, an employer is the first owner of any copyright in the work made by an employee in the course of his employment, subject to any agreement to the contrary.²⁸

²⁶ United Kingdom 1988 Act, Section 9(1). According to s. 9(3) of the United Kingdom 1988 Act, in the case of a work which is computer-generated, the author of a work shall be the person by whom the arrangements necessary for the creation of the work are undertaken (see **Express Newspapers plc v. Liverpool Daily Post & Echo plc.** (1985) F.S.R. 306, in which a computer programmer was held to be the author of a literary work containing a series of numbers generated by the computer for a newspaper competition). For an analysis of the rise of the notion of authorship in Britain, see *inter alia* M. Rose, *Authors and Owners: The Invention of Copyright* (Harvard University Press, 1993).

²⁷ United Kingdom 1988 Act, Section 11(1).

²⁸ United Kingdom 1988 Act, Section 11(2). In verifying whether a work was created in the course of employment, courts give special attention to the scope of the job the employee is employed to perform and to the nature of the employment. In **Byrne v. Statist Co.** (1914) 1KB 622 copyright in a translation made by an employee for his employer, in his own time, for a separate fee, was held to not belong to the employer because he was not employed to make translations. Following the same line, in **Stephenson Jordan & Harrison Ltd v. MacDonald & Evans** (1952) R.P.C. 10, copyright in lectures given by an

In the United States, copyright ownership vests initially in the author of a work.²⁹ Notwithstanding, under the *work made for hire* rules, when the work is made by an employee, copyright vests in the employer, subject to any written agreement to the contrary. Under the same rule, copyright in certain categories of commissioned work vests in the commissioner, provided the parties enter into a written agreement according to which the work will be deemed a work made for hire.³⁰

In civil law countries, the principle is that legal entities may not be initially qualified as authors. The general rule is that copyright vests in the individual who creates the work, even if the work is made by an employee in the course of his employment.

In France, unless proved otherwise, authorship belongs to the person or persons under whose name the work is disclosed.³¹ In the case of collective works, however, a legal entity may be the author of the work.³² In the absence of proof to the contrary, the collective work shall belong to the person or legal entity that edited, published and disclosed the work under his direction and name.³³

employee and converted into a book was held to not belong to the employer because he was not employed to give lectures.

²⁹ United States Copyright Act, Section 201(a).

³⁰ United States Copyright Act, Section 201(b).

³¹ French Code 1992 Article L. 113-1.

³² French Code 1992 Article L.113-5.

³³ French Code 1992 Article L.113-9.

In Germany, the author is the creator of the work and work is defined as a personal intellectual creation.³⁴ Hence, author's right can only be initially vested in a natural person and not a legal person. Notwithstanding, a legal person may acquire exploitation rights by contractual means.

In Portugal, unless otherwise agreed, the author is the creator of the work.³⁵ Portuguese author's right law establishes a presumption that the author is the person mentioned as such in the work.³⁶ If a work is commissioned or created in the course of employment, the economic rights can be transferred to the commissioner or the employer by contractual means. In the absence of such agreement, the author is entitled to author's right.³⁷

1.2.2.4 Moral rights

Recognition of moral rights has been slow in the common law copyright system. In the civil law author's right system, in order to protect the bond between the work and the creator, as a general rule, the commercial exploitation of a work is submitted to the supremacy of moral rights.³⁸

³⁴ German Law 1965, Articles 2(2) and 7.

³⁵ Portuguese Code 1985, Article 27(1).

³⁶ Portuguese Code 1985, Article 27(2).

³⁷ Portuguese Code 1985, Article 11.

³⁸ See *inter alia* H. Desbois, "The moral right" (1958) 19 R.I.D.A. 121; H. Desbois, *Le droit d'auteur en France* (Daloz, 1978) 469-602; G. Dworkin, "Moral rights in English law – the shape of things to

In the United Kingdom, moral rights were introduced by the 1988 Act and encompass the identity right (also referred to as the attribution or paternity right), the integrity right, the right not have a work or a film falsely attributed to an author or a director, and the right to privacy of a person who commissions the taking of a photograph or the making of a video for private and domestic purposes.³⁹ These rights arise at the same time as copyright, endure for the same period and cannot be assigned.⁴⁰

Infringement of the identity right occurs only after assertion. The presence of many exceptions to the rights of identity and integrity diminishes their practical effect.⁴¹

The United States joined the Berne Union in 1989, in spite of the fact that moral rights were not established in the 1976 Act. Moral rights were expressly recognised, for the first time, with the enactment of the Visual Artists Rights Act 1990. The Visual

come” (1986) 11 E.I.P.R. 329; G. Dworkin, “Moral rights and the common law countries” (1994) Australian Intellectual Property Journal 5.

³⁹ United Kingdom 1988 Act, Sections 77-89.

⁴⁰ Moral rights cannot be assigned (United Kingdom 1988 Act, Section 94) but may be transferred on death (United Kingdom 1988 Act, Section 95). However, authors may consent to acts which would otherwise infringe their moral rights and may also waive moral rights, in connection to a specific work, to works generally, or to existing or future works (United Kingdom 1988 Act, Section 87).

⁴¹ The United Kingdom 1988 Act sets a list of works which are not covered by the rights of identity and integrity, such as computer programs and computer-generated works, works made for the purpose of reporting current events, and literary, dramatic or musical works made for the purpose of publication in periodicals and in collective works of reference, or made available with the author’s consent for such publications (United Kingdom 1988 Act, Sections 79 and 81).

Artists Rights Act 1990 provides authors of works of visual arts with the right of attribution, the right of integrity and the right to prevent false attribution.⁴²

In France, the moral right includes the right to respect of the author's name, quality and work. The right is personal, perpetual, inalienable, imprescriptible and non-transferable. The author also has the right to divulge his work and to determine the method of disclosure and the conditions thereof.⁴³ Specific rules apply to audio-visual works.⁴⁴

In Germany moral rights include the publication right, the right to recognition of authorship and the integrity right.⁴⁵ Co-authors exploit jointly the right of publication and exploitation and, in principle, may not prevent other co-authors from disseminating, exploiting or modifying the work.⁴⁶

In Portugal moral rights are independent of economic rights and subsist even after the transmission or termination of the latter. Moral rights incorporate the identity right

⁴² United States Copyright Act, Section 106A.

⁴³ French Code 1992, Articles L. 121-1 and L. 121-2.

⁴⁴ The law requires the unanimous agreement of the director, the co-authors and the producer for an audio-visual work to be completed and for the destruction of the master copy of this definite version. Notwithstanding, if one of the co-authors refuses or is unable to complete his contribution, he may not prevent the other co-authors from using his work (French Code 1992, Articles L. 121-4 and L. 121-6).

⁴⁵ German Law 1965, Articles 12-14.

⁴⁶ German Law 1965, Article 8(2).



and the right to assure the authenticity and integrity of the work. These rights are non-transferable, imprescriptible and non-waivable.⁴⁷ The author is also given a divulgation right and the right to withdraw works from circulation on moral grounds, as well as the right to modify works.⁴⁸

1.2.2.5 Transfer of rights

In common law countries, there are no restrictions on assignment of economic rights. The principle of freedom of contract applies in the realms of copyright. Copyright is not necessarily attached to the creator of the work.⁴⁹

In the United Kingdom copyright is transmissible by assignment, by testamentary disposition or by operation of law as personal or moveable property.⁵⁰

⁴⁷ Portuguese Code 1985, Articles 9(3) and 56.

⁴⁸ Portuguese Code 1985, Articles 58, 62 and 59.

⁴⁹ J. Black (“The Regulation of Copyright Contracts – A Comparative View” (December 1980) E.I.P.R. 386-392) points out that the application of the principle of freedom of contract in the copyright field, the disproportionate negotiation strength of publishers vis-à-vis authors, and the impossibility of determining the value of a work until it has been exploited, gives place, frequently, to the execution of copyright contracts which extremely favour publishers and disfavour authors.

⁵⁰ The principle is that an assignment must be in writing and signed by or on behalf of the assignor (United Kingdom 1988 Act, Section 90(3)). However, a verbal or unsigned assignment may still take effect in equity. In *Western Front Ltd v. Vestron Inc.* (1988) E.I.P.R. D-89, a verbal contract to assign was held to be effective.

An assignment may be made of future copyright.⁵¹ Moral rights may not be assigned although they may be waived.⁵²

In the United States, copyright ownership may be transferred in whole or in part.⁵³ Copyright ownership is different from ownership of any object in which the work is materialised.⁵⁴ The transfer of the economic rights does not affect ownership of the moral rights. Moral rights, in the limited areas in which they subsist, can be waived, but are not transferable.⁵⁵

In the author's right system, a different underlying rationale has given place to a different approach. The premise is that the author has the right to own the fruits of his creative work and therefore the principle is that author's right should remain the property of the creator.⁵⁶

⁵¹ The United Kingdom 1988 Act allows the assignment of future copyrights (United Kingdom 1988 Act, Section 91(1)). In this case, copyright ownership is transferred to the assignor as soon as it comes into existence.

⁵² United Kingdom 1988 Act, Sections 90(1), 91, 94 and 87.

⁵³ United States Copyright Act, Section 201.

⁵⁴ United States Copyright Act, Section 202.

⁵⁵ United States Copyright Act, Section 106A.

⁵⁶ Vincent Porter, in S. Frith (editor) *Music and Copyright* (Edinburgh University Press 1993) 27, states that in Continental European Countries author's right is seen "as a human right with almost mystical overtones."

In France the agreement of transfer of author's right is required to individualise each of the transferred rights and its scope, purpose, place and duration. Total transfer of future works is prohibited and will be null and void. The moral right is inalienable.⁵⁷

In Germany author's right is only transferable upon the death of the author. A total or partial transfer of economic or moral rights is prohibited between living persons. In spite of this, the author may grant exclusive world-wide rights for all kinds of uses and for the whole period of protection (echoing a total assignment). The grant of exploitation rights in respect of unknown means of utilisation has no legal effect, but an author can grant exploitation rights in future works. Furthermore, the author may waive moral right in favour of a third party.⁵⁸

In Portugal economic rights can be assigned or licensed, wholly or partially. Transfer of future works is limited to a period of ten years. Moral rights are inalienable and cannot be assigned or licensed.⁵⁹

1.2.2.6 Related rights

⁵⁷ French Code 1992 Articles L. 131-4, L. 131-1, L. 121-1. See *inter alia* on limitations to assignment of rights H. Desbois, *Le droit d'auteur en France* (Daloz, 1978) 634-660.

⁵⁸ German Law 1965, Articles 29, 32, 31(4) and 40(1).

⁵⁹ Portuguese Code 1985, Articles 40(b), 48(1), 56(2) and 42.

In the United Kingdom, independent copyright may subsist in sound recordings, films, broadcasts, cable programmes, and the typographical arrangement of published editions.⁶⁰ As to performers, Part II of the United Kingdom 1988 Act is devoted to the protection of rights in performances, providing protection for their most important economic interests.⁶¹

In the United States, protected works include literary works, musical works, dramatic works, pantomimes and choreographic works, pictorial, graphic and sculptural works, motion pictures and other audio-visual works, sound recordings and architectural works.⁶² Sound recordings are protected as works of authorship.⁶³ Performers are given civil rights, and criminal sanctions are also provided.⁶⁴

In the civil law author's right system a different legal regime is established for author's rights in original works on the one hand and related rights of performers,

⁶⁰ United Kingdom 1988 Act, Section 1(1). Therefore, in addition to authors, copyright may also subsist in entrepreneurs who invest in the exploitation of works.

⁶¹ Part II of the United Kingdom 1988 Act was updated to reflect the requirements of the EC Rental/Lending and Related Rights Directive. Performers were granted the rights of reproduction, distribution, rental and lending (which are called "property rights", United Kingdom 1988 Act, Sections 182A-182C) and the rights regarding consent for recording of live performance and for use, importing, possessing or dealing with illicit recordings (which are called "non-property rights", United Kingdom 1988 Act, Sections 182-194).

⁶² United States Copyright Act, Section 102.

⁶³ United States Copyright Act, Section 102 (a)(7).

⁶⁴ United States Copyright Act, Section 1011.

phonogram producers, broadcasting organisations, etc. on the other. Furthermore, author's rights are said to prevail over related rights.⁶⁵

French author's rights law protects certain related rights of performers, phonogram producers and videogram producers. These rights are not as extensive as author's rights and may not conflict with the latter.⁶⁶

In Germany related rights are awarded to performers, producers of sound recordings, broadcasting organisations and film producers and there is also protection in respect of non-original photographs that do not qualify for author's right protection. The level of protection afforded is lower than that granted to authors (for example, by means of a shorter term of protection).⁶⁷

The Portuguese law also protects the related rights of performers, record and film producers and broadcasters. Author's right always prevails over related rights that are subsidiary thereto.⁶⁸

⁶⁵ J.L. Tournier, in S. Frith (editor) *Music and Copyright* (Edinburgh University Press 1993) 27, submits that the only weapons which authors possess to protect their legitimate interests are the rights they draw from the law, since they have no actual means of opposing the use, the reproduction and thus the pirating of their work. He further states that owners of neighbouring rights, be they performers or producers, have the physical means of defending themselves.

⁶⁶ French Code 1992 Book II.

⁶⁷ German Law 1965, Part II, Article 82.

⁶⁸ Portuguese Code 1985, Título III.

1.2.3 Digital aspects

- The United Kingdom's 1988 Act covers electronic storage, but does not define temporary or transitory digital reproduction.⁶⁹ Neither the United States Copyright Act, nor the French, German and Portuguese author's right laws expressly deal with electronic storage.⁷⁰
- Article 6(1) of the German Law 1965 could be said to cover publication which takes place on-line, although not expressly.⁷¹ Neither the United States nor United Kingdom copyright laws, nor the French and Portuguese author's right laws deal with publication on the Internet.⁷²
- None of these five national laws expressly deals with dissemination of works on the Internet.⁷³

⁶⁹ United Kingdom 1988 Act, Section 17.

⁷⁰ See United States Copyright Act, Section 106(1) and US Digital Millennium Copyright Act, Section 202, French Code 1992, Article L 122-3, German Law 1965, Article 16, Portuguese Code 1985, Article 68(i).

⁷¹ According to Article 6(1) of the German Law 1965, "*a work shall be deemed published if, with the consent of the copyright owner, it has been made accessible to the public*". Since this broad provision does not establish any requirements as to the manner in which works are made accessible to the public, it could be said to cover both traditional and on-line publication.

⁷² See United States Copyright Act, Section 101, United Kingdom 1988 Act, Section 18, French Code 1992, Article L 132-1, Portuguese Code 1985, Article 6(1)-(2).

⁷³ This will change soon as a result of the implementation of the EC Copyright/Information Society Directive, which grants authors, performers, phonogram producers, broadcasting organisations and the

- The exceptions and limitations foreseen by these five national laws were not drafted with digital exploitation in mind.⁷⁴
- On the matter of liability of service providers, the United States took a leading role with the Digital Millennium Copyright Act⁷⁵. The EC Directive on Electronic Commerce has dealt expressly with liability of service providers. EC Member States have to implement the Directive before 17 January 2002.⁷⁶
- Regarding measures to assure authenticity of works in the digital world, such as encryption⁷⁷, the European Community adopted a Directive on Electronic Signatures on 30 November 1999, establishing a legal framework for digital signatures and certain certification services.⁷⁸ Furthermore, the European

producers of the fixation of films, the right to make available to the public, in the on-line environment, works and other protected subject matter (Directive 2001/29/EC, Article 3).

⁷⁴ See United States Copyright Act, Sections 107-112, United Kingdom 1988 Act, Sections 28-76, French Code 1992, Articles L 122-5, L 211-3, German Law 1965, Section IV, Portuguese Code 1985, Articles 75-81.

⁷⁵ The provisions of the US Digital Millennium Copyright Act on liability of service providers are considered in Chapter III – Problems affecting the scope of granted rights and liability of service providers, § 3.5 – Exemptions from liability of service providers.

⁷⁶ In Germany, the Law on the Use of Teleservices (TDG), which is Article 1 of the Information and Communication Services Act of 1997, was passed on liability of service providers. Section § 5 exempts service providers from liability in certain circumstances.

⁷⁷ For a definition of *encryption* see Appendix B – Technical Terms.

⁷⁸ See § 1.4.2.5 - Electronic Signatures Directive (Dir. 99/93/EC). See *inter alia* European Commission, *Green Paper on the Legal Protection of Encrypted Services in the Internal Market*, 6 March 1996, available at <http://europa.eu.int/en/record/green/gp004en.pdf>; European Commission, *Towards A*

Commission, through the Electronic Commerce Directive, has pointed out the importance of authorising unrestricted access to strong encryption⁷⁹ to promote the growth of e-commerce.⁸⁰ France,⁸¹ Germany,⁸² Portugal,⁸³ the United Kingdom⁸⁴ and the United States⁸⁵ have passed legislation on the subject.⁸⁶

European Framework for Digital Signatures And Encryption COM (97) 503, 10 October 1997, available at <http://www.ispo.cec.be/eif/policy/97503toc.html>; *The Copenhagen Hearing - European Expert Hearing on Digital Signatures and Encryption April 23 1998 - Theme paper* (1998), available at <http://www.fsk.dk/fsk/div/hearing/theme.html>; C. Kuner, "The Emerging European Legal Framework for Digital Signatures" (1998) 3:21 E.C.L.R. 712-716; C. Kuner, "The Electronic Signatures Directive and the Politics of E-Commerce in Europe" (1998) 3:46 E.C.L.R. 1378-1381; R. Julià-Barceló and T.C. Vinje, "Electronic commerce – Towards a European framework for digital signatures and encryption" (1998) 14:2 C.L. & S.R. 79; R. Julià-Barceló and T.C. Vinje, "Electronic signatures – Another step towards a European framework for electronic signatures: the Commission's Directive proposal" (1998) 14:5 C.L. & S.R. 303.

⁷⁹ *Strong encryption* consists of encryption which is considered unbreakable with currently technology.

⁸⁰ See § 1.4.2.6 - Electronic Commerce Directive (Dir. 2000/31/EC).

⁸¹ In France, Law No. 96-596 of 26 of July on the Regulation of Telecommunications controlled use and export of encryption. Act. n. 2000-230 of 13 March 2000 on electronic signatures adjusted the law on proof and evidence to electronic signatures. This law came into force on 1 April 2001 and implements the EC Directive on Electronic Signatures into French law.

⁸² In Germany, the Digital Signature Law was passed in Parliament on the 13 June 1997. The Digital Signature Law was Article 3 of the Information and Communications Services Act of 1997. A new Digital Signature Law came into force on 22 May 2001, replacing the 1997 Digital Signature Law and implementing the EC Directive on Electronic Signatures. The new law regulates the infrastructure for the use of electronic signatures and awards electronic signatures the same legal status as hand written signatures.

⁸³ In Portugal a resolution was adopted on the subject (Resolution of the Council of Ministers No. 94/00 regarding the National Initiative for Electronic Commerce), which recognised the importance of the implementation of legislation on digital signatures for the development of electronic commerce. The Digital Signature Law was officially published on 2 August 1999 (“Decreto-Lei 290-D/99”). This law deals with electronic documents, digital signatures and certification authorities and was based on the draft EC Directive on Electronic Signatures. A subsequent Decree Law No. 234/2000 appointed the entity which will accredit certification authorities.

⁸⁴ In the United Kingdom, on 25th May 2000 the “Electronic Communications Bill” came officially into force as an Act of Parliament. The “Electronic Communications Act of 2000” implemented some of the key requirements of the EC Electronic Signatures Directive. See “Explanatory Notes to the Electronic Communications Act of 2000” available at <http://www.hmsso.gov.uk/acts/en/2000en07.htm>. See *inter alia* H. Rowe, “The British Government’s Proposals for Secure Electronic Commerce” (1998) 14:5 C.L. & S.R. 314; Yaman Akdeniz, “UK Government Policy on Encryption” Web Journal of Current Legal Issues (Sep 1998) available at <http://webjcli.ncl.ac.uk/1997/issue1/akdeniz1.html>.

⁸⁵ In the United States most States have dealt with the subject of encryption. Initially, encryption was classified as munitions and regulated under the International Traffic in Arms Regulations. Subsequently, non-military encryption was brought under the umbrella of the Export Administration Regulations, and many restrictions were placed on the export of encryption technology from the United States. In January 2000, the United States Government published amendments to the Export Administration Regulations, which liberalised, to a certain extent, the rules regarding export of encryption technology. Furthermore, the United States’ Government has attempted to encourage the use of the *Clipper system*, which enables law enforcement agencies to decrypt information for the purposes of investigating crime. The policy has been one of allowing strong encryption but, simultaneously, enabling law enforcement authorities to have access to the content of encrypted messages (available at <http://www.bxa.doc.gov>). All States have adopted or are in the process of adopting legislation on digital signatures. See *inter alia* S. Landau, “Eavesdropping and Encryption: United States Policy in an

1.3 Main international instruments

1.3.1 Introductory

The relevant international instruments regulating the copyright and related rights field are:

- The Berne Convention for the Protection of Literary and Artistic Works, 1886-1971 (Berne Convention);
- The Universal Copyright Convention; 1952-1971 (Universal Copyright Convention);
- The International Convention for the Protection of Performers, Producers of Phonograms and Broadcasting Organisations, 1961 (Rome Convention);
- The Convention for the Protection of Producers of Phonograms Against Unauthorised Duplication of their Phonograms, 1971 (Phonograms Convention);
- The Agreement on Trade-Related Aspects of Intellectual property Rights, 1994 (TRIPS Agreement);
- The WIPO Copyright Treaty, 1996 (WIPO Copyright Treaty);

international Perspective” in Conference on *Impact of the Internet on Communications Policy*, Harvard University, 1997, available at <http://www.fsk.dk/fsk/publ/elcom/kap02.htm>.

⁸⁶ See *inter alia*, *Global Internet liberty campaign, Cryptography and liberty - an international survey of encryption policy*, 1998, available at <http://www.gilc.org/crypto/crypto-survey.html>. For a country by country analysis of encryption regulation see Chapter 5 of S. Baker and P.S. Hurst, *The Limits of Trust – Cryptography, Governments and Electronic Commerce* (Kluwer, 1998).

- The WIPO Performances and Phonograms Treaty, 1996 (WIPO Performances and Phonograms Treaty); and,
- The Proposed WIPO Database Treaty (proposed WIPO Database Treaty).

1.3.2 The Berne Convention, 1886-1971

1.3.2.1 Background

The Berne Convention was created in 1886. It is the fundamental instrument of international copyright law, owing its basic principles to the author's rights concept, in the sense that authors and their creations should be granted substantial protection.⁸⁷

⁸⁷ For a critical analysis of the Berne Convention see *inter alia* A. Bogsch, "The First Hundred Years of the Berne Convention" (1986) 22 Copyright 322-333; M. Stojanovic, "Quel avenir pour la Convention de Berne?" (1986) 130 R.I.D.A. 3-17; E. Ulmer, "One Hundred Years of the Berne Convention" (1986) 17:6 I.I.C. 707-715; S. Ricketson, "The shadow land of Berne: A survey of the hidden parts of the Berne Convention – Part I" (1988) 7 E.I.P.R. 197-202; S. Ricketson, "The shadow land of Berne: A survey of the hidden parts of the Berne Convention - Part II" (1988) 9 E.I.P.R. 267-274; S. Ricketson, "The shadow land of Berne: A survey of the hidden parts of the Berne Convention – Part III" (1989) 2 E.I.P.R. 58-65; P.E. Geller, "Can the GATT Incorporate Berne Whole?" (1990) 11 E.I.P.R. 423-428; A.D. Schuz, "An Overview of the Berne Convention – Generally and in relation to Computer Programs and Semiconductor Chips" (1993) 9:4 C.L. & P. 115-121; G.W.G. Karnell, "The Berne Convention Between Author's Rights and Copyright Economics – An International Dilemma" (1995) 26:2 I.I.C. 193-213. For a detailed study of the Berne Convention see *inter alia* C. Masouyé, *WIPO guide to the*

1.3.2.2 Protection afforded by the Convention

Four crucial principles are set out in Berne: minimum rights,⁸⁸ automatic protection⁸⁹, national treatment,⁹⁰ and independence of protection.⁹¹

Protection is independent of the mode and form of expression of the work.⁹²

Notwithstanding the work must be original, that is, an intellectual creation.⁹³ Fixation can be required as a condition of protection.⁹⁴

Berne Convention (English version by W. Wallace) (WIPO, 1978) and S. Ricketson, *The Berne Convention for the Protection of Literary and Artistic Works 1886-1986* (Kluwer, 1987).

⁸⁸ Member countries must grant authors “*the rights specially granted*” by the Convention (Berne Convention, Article 5(1)). See Berne Convention, Articles 6bis (moral rights), 8 (translation right), 9 (reproduction right), 11 (public communication right), 11bis (broadcasting and cable retransmission right), 12 (adaptation right), 14 (distribution of cinematographic works).

⁸⁹ Copyright protection is granted automatically upon the creation of the work and without the fulfilment of any formalities (Berne Convention, Article 5(2)).

⁹⁰ Member countries must give nationals of other member countries the same rights as enjoyed by its own nationals (Berne Convention, Article 5(3)).

⁹¹ Protection is independent of the existence of protection on the country of origin of the work (Berne Convention, Article 5(2)), subject to a few exceptions.

⁹² Berne Convention, Article 2(1).

⁹³ For example, the Berne Convention states that “*collections of literary or artistic works such as encyclopaedias and anthologies, which by reason of the selection and arrangement of their contents, constitute intellectual creations shall be protected as such, without prejudice to the copyright in each of the works forming part of the collections.*” (Berne Convention, Article 2(5)).

Moral rights encompass the right to claim authorship of the work and the right to object to any distortion or modification of the work.⁹⁵

Authors of literary and artistic works are given the rights of authorising the translation,⁹⁶ reproduction,⁹⁷ public communication,⁹⁸ broadcasting and cable retransmission,⁹⁹ adaptation, arrangements and other alterations of their works¹⁰⁰ and distribution of the cinematographic adaptation of their works.¹⁰¹ The owner of copyright in a cinematographic work is protected as the owner of copyright in an original work.¹⁰²

⁹⁴ Berne Convention, Article 2(2).

⁹⁵ Berne Convention, Article 6bis. The Rome Revision of 1928 inserted the moral right as well as the broadcasting right.

⁹⁶ Berne Convention, Article 8.

⁹⁷ Berne Convention, Article 9. The Stockholm Revision of 1967 established the reproduction right. The flexibility of the provisions of the Berne Convention allows its readjustment to new realities. It is illustrative that the Diplomatic Conference for the adoption of the WIPO Copyright Treaty adopted a statement which reiterates that Article 9 of the Berne Convention continues to apply in the digital environment (agreed statement concerning Article 1(4) of the WIPO Copyright Treaty).

⁹⁸ Berne Convention, Article 11.

⁹⁹ Berne Convention, Article 11bis.

¹⁰⁰ Berne Convention, Article 12.

¹⁰¹ Berne Convention, Article 14(1)(i).

¹⁰² Berne Convention, Article 14bis(1).

Authors of dramatic, dramatico-musical and musical works, enjoy the right to authorise the public performance of their works and any communication to the public of the performance of their works.¹⁰³

Berne further provides for the *droit de suite* (artist's resale right) for works of art and manuscripts.¹⁰⁴

The Convention allows for certain exceptions to author's rights.¹⁰⁵ It also allows for some limitations, in the form of statutory or compulsory licences.¹⁰⁶

The basic rule is that protection is granted for the life of the author plus fifty years after his death.¹⁰⁷

¹⁰³ Berne Convention, Article 11(1).

¹⁰⁴ Berne Convention, Article 14ter.

¹⁰⁵ According to Article 9(2) of the Berne Convention: "*exceptions and limitations regarding the reproduction right will only be allowed in certain cases and may not conflict with the normal exploitation of the author's work nor unreasonably hinder the legitimate interests of the author*". This test will be referred to as the *three step test*. The Convention only applies the test to the reproduction right. For other exceptions see Berne Convention, Articles 2bis(1) and (2) (certain speeches, certain uses of lectures and addresses); 10 (quotations, illustrations for teaching); 10bis (certain articles and broadcast works, works seen or heard in connection with current events); 11bis(3) (ephemeral recordings made by broadcasting organisations).

¹⁰⁶ Berne Convention, Articles 11bis(2) (broadcasting and related rights) and 13(1) (right of recording musical works and any words pertaining thereto).

¹⁰⁷ Berne Convention, Article 7(1).

There are very few enforcement measures.¹⁰⁸ Disputes regarding interpretation of provisions of the Berne Convention can be settled before the International Court of Justice, but the enforcement of the court's judgement against a country of the Union would depend on the goodwill of that country. There have in fact been no references to the court under the Convention.

1.3.2.3 Digital aspects

(i) General

The EC Green Paper points out that in an interactive environment it will be easy to modify and adapt existing works.¹⁰⁹ Thus, Berne's protection of moral rights has become particularly relevant in the digital environment.¹¹⁰

¹⁰⁸ Article 16 Berne Convention deals with the seizure of infringing works.

¹⁰⁹ European Commission, *Green Paper on Copyright and Related Rights in the Information Society*, July 1995, (COM (95) 382 final, available at <http://www2.echo.lu/legal/en/ipr.html>). See *inter alia* T. Hoeren, "The Green Paper on Copyright and Related Rights in the information society" (1995) 10 E.I.P.R. 511-514; L.A. Kurtz, "Copyright and the Internet – World without borders" (1996) 43:101 The Wayne Law Review 117-136; S. Fraser, "The Copyright Battle – Emerging International Rules and Roadblocks on the Global Information Infrastructure" (1997) 25 Journal of Computer & Information Law 783-795.

¹¹⁰ Berne Convention, Article 6bis.

New international instruments have emerged to serve the new needs, all taking advantage of the tried and tested solutions of the Berne Convention. Gunnar W.G. Karnell points out that through Article 9 of the TRIPS Agreement,¹¹¹ the Berne Convention:

“(...) will have become the law of the world of international trade for anything that belongs to copyright and related rights.”¹¹²

(ii) Shortcomings

Not surprisingly, its last revision having taken place in 1971, the Berne Convention does not specifically deal with problems in the digital context:¹¹³

1. **Computer programs and databases** - The Convention does not specifically protect computer programs or databases;
2. **Temporary and transitory digital reproduction** - The Convention defines neither temporary nor transitory digital reproduction;
3. **Internet publication** - The Convention does not deal with publication on the Internet;

¹¹¹ According to which the protection of author's rights is based on compulsory compliance with Articles 1 to 21 of the Berne Convention, excluding the provisions on moral rights.

¹¹² G.W.G. Karnell, "The Berne Convention Between Author's Rights and Copyright Economics – An International Dilemma" (1995) 26:2 I.I.C. 193-213.

¹¹³ These shortcomings will be referred to as the *Berne shortcomings*.

4. **Internet dissemination** - The Convention does not expressly deal with dissemination of works on the Internet;
5. **Exceptions and limitations** - Berne's exceptions and limitations were not drafted with digital exploitation in mind;
6. **Liability of service providers** - The Convention does not deal with liability of service providers;
7. **Authenticity** - The Convention does not establish measures to assure authenticity of works in the digital world, such as encryption;
8. **Prevention of infringement** - The Convention does not set forth measures to fight infringement in the digital environment, such as digital watermarks;
9. **Enforcement** - The Convention lacks an enforcement mechanism for ensuring compliance with its substantive provisions.

1.3.3 The Universal Copyright Convention, 1952-1971

1.3.3.1 Background

The Universal Copyright Convention was drafted under the aegis of UNESCO, at a time when countries like the United States could not adhere to the Berne Convention, because their copyright laws did not comply with the Berne standards of protection.¹¹⁴

The Universal Copyright Convention was thus created to join countries under a lower common denominator of international copyright protection than the Berne Convention.

1.3.3.2 Protection afforded by the Convention

National treatment requires Contracting States to give nationals of other Contracting States the same rights as those enjoyed by its own nationals.¹¹⁵

The Universal Copyright Convention protects the rights of authors and other copyright proprietors in literary, scientific and artistic works.¹¹⁶

Formalities can be satisfied by placing on copies of the work the symbol © accompanied by the name of the copyright owner and the year of first publication.¹¹⁷

The Universal Copyright Convention has no provisions on moral rights. Authors are to be granted the economic rights of reproduction, public performance, broadcasting and translation.¹¹⁸

¹¹⁴ For example, whereas the Berne Convention did not allow any formalities as a condition of copyright protection, the United States copyright law required notices to be affixed to published copies.

¹¹⁵ Universal Copyright Convention, Article II.

¹¹⁶ Universal Copyright Convention, Article I.

¹¹⁷ Universal Copyright Convention, Article III.

¹¹⁸ Universal Copyright Convention, Articles IVbis(1) and V(1).

Contracting States may restrict these rights.¹¹⁹ Restrictions must not conflict with the spirit and provisions of the Universal Copyright Convention.

The term of protection of a work cannot be less than the life of the author and twenty-five years after his death.¹²⁰

1.3.3.3 Digital aspects

(i) General

There seem to be no provisions on the Universal Copyright Convention that could be regarded as specifically relevant in the digital area (e.g. protection of moral rights, computer programs).

(ii) Shortcomings

The Universal Copyright Convention presents the *Berne shortcomings* regarding computer programs and databases, temporary and transitory digital reproduction, Internet publication, Internet dissemination, liability of service providers, authenticity, prevention of infringement and enforcement.¹²¹

¹¹⁹ Universal Copyright Convention, Articles IVbis(2) and V(2).

¹²⁰ Universal Copyright Convention, Article IV.

¹²¹ See § 1.3.2.3 – Digital aspects (which deals with the digital shortcomings of the Berne Convention).

In addition to the *Berne shortcomings*, the Universal Copyright Convention does not provide for moral rights and is, in this aspect, *Berne-minus*.¹²²

1.3.4 The Rome Convention, 1961

1.3.4.1 Background

Films were protected under Berne as cinematographic works at an early stage, but before 1961 producers of sound recordings received no international protection against piracy. Performers had problems in the form of piracy of their recorded performances. In the 1920s broadcasters began public broadcasting. Thus, there were three interests, separate from those of authors, which needed protection at an international level. The three parties involved would have to reach a compromise, which took the form of the Rome Convention.¹²³

¹²² In the sense that its level of protection is lower than that of the Berne Convention.

¹²³ For a critical analysis of the Rome Convention see *inter alia* P. Masouyé, "The Rome Convention: Realities and Prospects" (1981) 21 Copyright 296-313; E. Thompson, "Twenty years of the Rome Convention: Some personal reflections" (October 1981) Copyright 270-273; A. Françon, "Should the Rome Convention on Neighbouring Rights be Revised?" (1991) 25:4 Copyright-Bulletin 20-24; A. Kerever, "Should the Rome Convention be Revised and if so, is it this the Right Moment?" (1991) 25:4 Copyright-Bulletin 5-16; V.B. Labra, "The Rome Convention: A Three-Cornered Marriage (a love triangle?)" (1991) 25:4 Copyright-Bulletin 17-19; R. Rembe, "Time for a Performer's Convention" (1991) 25:4 Copyright-Bulletin 25-31; I.D. Thomas, "Revision of the Rome Convention: Is it necessary and timely?" (1991) 25:4 Copyright-Bulletin 32-35; W. Rumphorst, "Neighbouring Rights Protection

1.3.4.2 Protection afforded by the Convention

The Rome Convention is based on the principle of national treatment, with minimum standards of protection.¹²⁴

Performers are not given an exclusive right, but merely the possibility of preventing certain acts: broadcasting and the communication to the public of their performances, fixation of their unfixed performances and reproduction of a fixed performance in certain cases.¹²⁵

Producers of phonograms are given the right to prohibit reproduction of their phonograms.¹²⁶

of Broadcasting Organisations” (1992) 10 E.I.P.R. 339-342; M. Burnett, “Thirty-four Years On: Time for Filling the Gaps in Broadcasters’ Protection” (1995) 2 Ent.L.R. 39-41.

¹²⁴ Foreign performers are to be treated as national performers concerning performances that take place or are broadcast or first recorded on the territory of a Contracting State, foreign producers of phonograms are to be granted the same treatment which is granted to national producers of phonograms regarding phonograms that are first recorded or first published in a Contracting State, and foreign broadcasting organisations are entitled to the same treatment as given to broadcast organisations which have their headquarters in a Contracting State regarding broadcasts that are transmitted from transmitters that are located in that country (Rome Convention, Article 2).

¹²⁵ Rome Convention, Article 7.

¹²⁶ Rome Convention, Article 10.

Broadcasting organisations have the right to authorise certain uses of their broadcasts (re-broadcasting, fixation, reproduction and communication to the public), but not cable distribution of broadcasts.¹²⁷

A single equitable remuneration has to be paid by broadcasters or other users of a phonogram to the performers, producers, or both, but this right can be restricted or waived by Member Countries.¹²⁸

The Rome Convention establishes possible exceptions for private use, reporting current events, ephemeral recordings and use for teaching and scientific purposes.¹²⁹

Protection lasts for a minimum period of twenty years computed from the year in which the fixation of the phonogram is made, or the performance or the broadcast takes place.

1.3.4.3 Digital aspects

(i) General

¹²⁷ Rome Convention, Article 13.

¹²⁸ Rome Convention, Articles 12 and 16.

¹²⁹ Rome Convention, Article 15.

The Rome Convention has not been revised since 1961. Thus, it does not protect the needs of performers, phonogram producers or broadcasters in the new digital environment.

Some of the provisions of the Rome Convention are reflected in specific provisions of the TRIPS Agreement.¹³⁰ To this extent this Convention may be of some relevance in the digital environment.

(ii) Shortcomings

The Rome Convention presents the *Berne shortcomings* regarding temporary and transitory digital reproduction, Internet publication, Internet dissemination, exceptions and limitations, liability of service providers, authenticity, prevention of infringement and enforcement.¹³¹

In addition to the *Berne shortcomings*, the Rome Convention does not give moral rights to performers, phonogram producers or broadcasters. Performers have achieved some protection of moral rights¹³², but no international instrument gives moral rights to phonogram producers or broadcasters. The same applies to the *sui generis* rights of

¹³⁰ Compare Article 14 of the TRIPS Agreement with Articles 7, 10, 13 and 15(1) of the Rome Convention. See *infra*.

¹³¹ See § 1.3.2.3 – Digital aspects (which deals with the digital shortcomings of the Berne Convention).

¹³² WIPO Performances and Phonograms Treaty, Article 5.

topographies of semiconductor products and database makers. However, it could be argued that these parties should be granted some form of moral rights to cover their identification and the integrity of their productions.

1.3.5 The TRIPS Agreement, 1994

1.3.5.1 Background

The TRIPS Agreement is part of the World Trade Organisation Agreement. It covers the intellectual property field.¹³³

1.3.5.2 Protection afforded by the Agreement

Three basic principles are set out in TRIPS: minimum standards of protection¹³⁴, national treatment¹³⁵ and most favoured nation treatment.¹³⁶

¹³³ For a critical analysis of the TRIPS Agreement see *inter alia* P.E. Geller, "Can the GATT Incorporate Berne Whole?" (1990) 11 E.I.P.R. 423-428; C.M. Correa, "TRIPS, Copyright and Related Rights" (1994) 25:4 I.I.C. 543-552; J. Worthy, "Intellectual Property Protection After GATT" (1994) 5 E.I.P.R. 195-198; S. Ricketson, "The Future of Traditional Intellectual Property Conventions in the Brave New World of Trade-Related Intellectual Property Rights" (1995) 26:6 I.I.C. 872-899; M.A. Hamilton, "TRIPS: imperialistic, outdated and overprotective" (May 1996) 29 Vanderbilt Journal of Transnational Law 613-634; M.D.H. Woodard, "TRIPS and NAFTA's Chapter 17" (1996) 31 Texas International Law Journal 269-285.

The protection of author's rights is based on imperative compliance with Articles 1 to 21 of the Berne Convention, excluding the provisions on moral rights.¹³⁷

Computer programs and databases are protected by copyright provided the relevant criteria are fulfilled.¹³⁸

The TRIPS Agreement introduces a rental right for the first time in an international agreement, though limited to computer programs, phonograms and cinematographic works.¹³⁹

Member States are allowed to establish exceptions to copyright, at the national level, subject to the *three step test*.¹⁴⁰ The Berne Convention only applies the test to the reproduction right, whereas the TRIPS Agreement applies the *three step test* to all rights granted to authors.

¹³⁴ Member States have the obligation of granting to nationals of other parties the rights set out in the TRIPS Agreement (TRIPS Agreement, Article 1(3)).

¹³⁵ Member States cannot provide to nationals of other parties a protection less favourable than the one they provide to their own nationals (TRIPS Agreement, Article 3(1)).

¹³⁶ Any privileges given to nationals of a Member State must be given to nationals of all Member States (TRIPS Agreement, Article 4 *supra*).

¹³⁷ TRIPS Agreement, Article 9(1).

¹³⁸ TRIPS Agreement, Article 10.

¹³⁹ TRIPS Agreement, Article 11.

¹⁴⁰ See Article 13 of the TRIPS Agreement and Article 9(2) of the Berne Convention.

An exhaustive list of exceptions and limitations, may be said to avoid the introduction of too wide exceptions and limitations in the digital area. However, a general clause incorporating the *three-step test*, whilst not providing a platform for a very high degree of world wide harmonisation, seems to be more suited, in view of its flexibility, to the fast pace of change that characterises the digital world.¹⁴¹

Performers are given the possibility of preventing the unauthorised fixation, reproduction, wireless broadcasting and communication to the public of their performances.¹⁴²

Producers of phonograms are given the right to prohibit reproduction of their phonograms.¹⁴³

Broadcasting organisations have the right to control the fixation, reproduction, wireless re-broadcasting and communication to the public of broadcasts.¹⁴⁴

¹⁴¹ The TRIPS Agreement provides for a general provision on limitations and exceptions. Conflicts may emerge since developed countries may take a more restricted view of the scope of fair use, whereas developing countries may take a broader view, namely to promote education and culture. However, it could be argued that the flexibility provided by a general provision on limitations and exceptions subject to the *three step test* may more suited to the rapid evolutionary pace of technology.

¹⁴² Article 14(1) of the TRIPS Agreement follows Article 7 of the Rome Convention.

¹⁴³ Article 14(2) of the TRIPS Agreement follows Article 10 of the Rome Convention.

¹⁴⁴ Article 14(3) of the TRIPS Agreement follows Article 13 of the Rome Convention.

Member States are allowed to provide for conditions, limitations, exceptions and reservations to the extent permitted by the Rome Convention.¹⁴⁵

The TRIPS Agreement establishes, for the first time at an international level, effective measures for enforcement of intellectual property rights.¹⁴⁶

1.3.5.3 Digital aspects

(i) General

The TRIPS Agreement introduces several innovations:

- It specifically protects computer programs and databases.¹⁴⁷ The express protection of databases is important since much information disseminated on the Internet is contained in on-line databases;
- It protects rental rights at least for computer programs, phonograms and cinematographic works;¹⁴⁸
- It introduces rental rights for sound recordings and a longer term of protection for sound recordings;¹⁴⁹

¹⁴⁵ See Article 14(6) of the TRIPS Agreement and Article 15(1) of the Rome Convention. These exceptions include private use, use of short excerpts related to current events, reporting and use for the purpose of teaching or scientific research.

¹⁴⁶ TRIPS Agreement, Articles 41 and 64.

¹⁴⁷ TRIPS Agreement, Article 10.

¹⁴⁸ TRIPS Agreement, Article 11.

- The TRIPS Agreement sets out effective measures for enforcement of intellectual property rights.¹⁵⁰ The dispute resolution procedures of the World Trade Organisation can be used to guarantee compliance with the substantive obligations of the TRIPS Agreement.¹⁵¹

(ii) Shortcomings

The TRIPS Agreement presents the *Berne shortcomings* regarding temporary and transitory digital reproduction, Internet publication, Internet dissemination, liability of service providers, authenticity and prevention of infringement.¹⁵²

In addition to the *Berne shortcomings*, the TRIPS Agreement does not protect moral rights. Considering the importance moral rights will acquire in the digital world, namely because of the ease with which existing works can be manipulated, this omission is particularly relevant.

¹⁴⁹ TRIPS Agreement, Article 14.

¹⁵⁰ TRIPS Agreement, Article 41.

¹⁵¹ TRIPS Agreement, Article 64. Almost 200 cases have been brought to the World Trade Organisation's system of settling disputes since its creation in January 1995 (the press release is available at <http://www.wto.org/wto/new/Press180.htm>).

¹⁵² See § 1.3.2.3 – Digital aspects (which deals with the digital shortcomings of the Berne Convention).

1.3.6 The WIPO Copyright Treaty, 1996

1.3.6.1 Background

As A. Bogsch has put it:

*“The economic, social and technological situations, the legal systems and their underlying ideologies, as well as the political positions and the policies of the governments of the countries change constantly. With changes, new questions emerge and existing solutions have to be re-examined”.*¹⁵³

At the WIPO Diplomatic Conference, of December 1996, two treaties were achieved: the WIPO Copyright Treaty and the WIPO Performances and Phonograms Treaty. The aim was to deal with copyright and with the rights of performers and producers of phonograms, particularly in the technological field. A treaty on the protection of databases was not achieved.¹⁵⁴

¹⁵³ A. Bogsch, “The First Hundred Years of the Berne Convention for the Protection of Literary and Artistic Works” 22 Copyright 327-328.

¹⁵⁴ For a critical analysis of both WIPO Treaties see *inter alia* C. Davies “WIPO Treaties – The New Framework for the Protection of Digital Works” (1997) 2:2 Communications Law 46-48; M. Fabiani, “The Geneva Diplomatic Conference on Copyright and the Rights of Performers and Phonogram Producers” (1997) 3 Ent.L.R. 98-102; J. Reinbothe, M. Prat and S. Lewinski “The New WIPO Treaties: A First Resume” (1997) 4 E.I.P.R. 171-176; H. Rosenblatt, “The WIPO Diplomatic Conference, The Birth of Two New Treaties” (1997) 13:5 C.L. & S.R. 307-311; P. Wand, “New Rules for our Global

1.3.6.2 Protection afforded by the Treaty

Contracting Parties have to comply with Articles 1 to 21 of the Berne Convention.¹⁵⁵

The WIPO Copyright Treaty incorporates the principles of minimum rights, national treatment, automatic protection and independence of protection and a means of identification of the country of origin of the work, as in the Berne Convention.¹⁵⁶

Computer programs are protected as literary works, along with databases.¹⁵⁷

Village” (1997) 5 Ent.L.R. 176-180; K. Weatherall, “An end to private communications in copyright? The expansion of rights to communicate works to the public: Part 1” (1999) 7 E.I.P.R. 342-349. For a critical analysis of WIPO Copyright Treaty see *inter alia* S. Fraser, “The Copyright Battle – Emerging International Rules and Roadblocks on the Global Information Infrastructure” (1997) 25 Journal of Computer & Information Law 773-783; A. Mason, “Developments in the Law of Copyright and Public Access to Information” (1997) 11 E.I.P.R. 636-643; T.C. Vinje “The New WIPO Copyright Treaty: A Happy Result in Geneva” (1997) 5 E.I.P.R. 230-236. For a critical analysis of the WIPO Performances and Phonograms Treaty see *inter alia* V.A. Espinel, “Harmony on the Internet: WPPT and United Kingdom Copyright Law” (1998) 1 Ent.L.R. 21-29.

¹⁵⁵ Therefore, the WIPO Copyright Treaty incorporates the obligations of the Berne Convention, (WIPO Copyright Treaty, Article 1(4)).

¹⁵⁶ These rules are contained in Article 5 of the Berne Convention, which Contracting Parties have to apply in respect of the protection conferred by the WIPO Copyright Treaty (WIPO Copyright Treaty, Article 3). For an analysis of Article 5 of the Berne Convention, see Chapter V – Conflict of laws, § 5.5.1 - The Berne Convention.

¹⁵⁷ WIPO Copyright Treaty, Articles 4-5.

No binding decision was made at the Conference on whether the reproduction right covers temporary copies¹⁵⁸.

Authors are given the right to authorise the distribution of copies of their works.¹⁵⁹

Under Berne such right is only recognised in respect of cinematographic works.

The WIPO Copyright Treaty also provides for a rental right, which does not include audio-visual works.¹⁶⁰ It goes beyond the TRIPS Agreement in granting such right to authors of works embodied in phonograms.¹⁶¹

¹⁵⁸ The proposed draft of Article 7 of the *Chairman's Basic Proposal for the WIPO Copyright Treaty* issued in August 1996 (available at http://www.wipo.org/eng/diploconf/4dc_all.htm) which would have deemed all digital or electronic copies, no matter how temporary or transient, to be reproduction was deleted. Instead an agreed statement was adopted according to which "*the reproduction right, as set out in Article 9 of the Berne Convention and the exceptions permitted thereunder fully apply in the digital environment, in particular to the use of works in digital form. It is understood that the storage of a protected work in digital form in an electronic medium constitutes a reproduction within the meaning of Article 9 of the Berne Convention*" (agreed statement concerning Article 1(4) of the WIPO Copyright Treaty).

¹⁵⁹ WIPO Copyright Treaty, Article 6.

¹⁶⁰ WIPO Copyright Treaty, Article 7. The European Community proposed a rental right for authors of all kinds of works, which was opposed by some developing countries.

¹⁶¹ WIPO Copyright Treaty, Article 7(1)(iii).

The WIPO Copyright Treaty extends the right of communication to the public to all authors of literary and artistic works.¹⁶² The right of communication to the public includes the *on-demand availability right*¹⁶³ (covering Internet dissemination).

The WIPO Copyright Treaty allows exceptions and limitations to rights granted to authors, subject to the *three step test*.¹⁶⁴ The agreed statement concerning Article 10, allows national laws to carry forward and appropriately extend into the digital environment exceptions and limitations considered acceptable under the Berne Convention.

The term of protection for photographic works is no longer subject to special rules.¹⁶⁵

The WIPO Copyright Treaty contains obligations regarding technological measures¹⁶⁶ and rights management information.¹⁶⁷

¹⁶² WIPO Copyright Treaty, Article 8. The Berne Convention does not extend the right of communication to the public to literary works, which omission is quite relevant due to the dissemination of literary works on the Internet.

¹⁶³ See J.A.L. Sterling, *World Copyright Law* (Sweet & Maxwell, 1998), 316-317, 569, 592-593.

¹⁶⁴ See Article 10 of the WIPO Copyright Treaty and Article 9(2) of the Berne Convention.

¹⁶⁵ WIPO Copyright Treaty, Article 9.

¹⁶⁶ According to Article 11 of the WIPO Copyright Treaty, “*Contracting Parties shall provide adequate legal protection and effective legal remedies against the circumvention of effective technological measures(...)*”

¹⁶⁷ According to Article 12 of the WIPO Copyright Treaty, “*Contracting Parties must provide legal remedies against any person knowingly performing any of the following acts knowing, or with respect*

Contracting Parties must also ensure the availability of enforcement procedures.¹⁶⁸

1.3.6.3 Digital aspects

(i) General

The WIPO Copyright Treaty specifically protects computer programs and databases.¹⁶⁹

In addition, because the Berne provisions on moral rights bind Contracting Parties, the WIPO Copyright Treaty protects the identity and integrity rights.¹⁷⁰

to civil remedies having reasonable grounds to know, that it will induce, enable, facilitate or conceal an infringement of any right covered by this Treaty or the Berne Convention:

(i) to remove or alter any electronic rights management information without authority;

(ii) to distribute, import for distribution, broadcast or communicate to the public, without authority, works or copies of works knowing that electronic rights management information has been removed or altered without authority.

(2) As used in this Article, "rights management information" means information which identifies the work, the author of the work, the owner of any right in the work, or information about the terms and conditions of use of the work, and any numbers or codes that represent such information, when any of these items of information is attached to a copy of a work or appears in connection with the communication of a work to the public."

¹⁶⁸ WIPO Copyright Treaty, Article 14.

¹⁶⁹ WIPO Copyright Treaty, Articles 4 and 5.

¹⁷⁰ Article 1(4) of the WIPO Copyright Treaty and Article 6bis of the Berne Convention.

Unlike previous international instruments, the WIPO Copyright Treaty expressly deals with some issues of the digital agenda:

- It introduces the *on-demand availability right*, to cover dissemination of works on the Internet;¹⁷¹
- It states that Contracting Parties must adopt remedies against devices created to overcome technical measures for protection of copyright or to remove, alter etc. rights management information;¹⁷²
- It adds that Contracting Parties must ensure that right holders are given access to measures to enforce their rights, although it lacks an enforcement mechanism like that of the TRIPS Agreement.¹⁷³

(ii) Shortcomings

The WIPO Copyright Treaty presents the *Berne shortcomings* regarding temporary and transitory digital reproduction, Internet publication, liability of service providers and enforcement.¹⁷⁴

1.3.7 The WIPO Performances and Phonograms Treaty, 1996

¹⁷¹ WIPO Copyright Treaty, Article 8.

¹⁷² WIPO Copyright Treaty, Articles 11-12.

¹⁷³ WIPO Copyright Treaty, Article 14.

¹⁷⁴ See § 1.3.2.3 – Digital aspects (which deals with the digital shortcomings of the Berne Convention).

1.3.7.1 Background

The WIPO Performances and Phonograms Treaty protects performers and producers of phonograms. The beneficiaries of the WIPO Performances and Phonograms Treaty had increasing needs which were not being catered for, namely because the Rome Convention does not attend the requirements of its beneficiaries in the new digital environment. The WIPO Performances and Phonograms Treaty came as an answer to such needs.

1.3.7.2 Protection afforded by the Treaty

Unlike the WIPO Copyright Treaty, the WIPO Performances and Phonograms Treaty does not provide for compliance with the corresponding Convention, i.e., the Rome Conventions in this case.¹⁷⁵

The WIPO Performances and Phonograms Treaty's basic principle is national treatment, which is limited to the rights granted by the Treaty, and to the equitable remuneration right.¹⁷⁶

¹⁷⁵ WIPO Performances and Phonograms Treaty, Article 1.

¹⁷⁶ Contracting Parties must accord to nationals of other Contracting Parties the same treatment it grants to its own nationals (WIPO Performances and Phonograms Treaty, Article 4).

The enjoyment of the rights granted by the Treaty is not dependent upon the compliance with any formalities.¹⁷⁷

For the first time, performers are given certain moral rights.¹⁷⁸

The WIPO Performances and Phonograms Treaty goes beyond the Rome Convention in several respects:

- Performers are granted the rights of reproduction, distribution, rental and making available to the public (*on-demand availability*) of their performances fixed in phonograms;¹⁷⁹
- Producers of phonograms are given the rights of reproduction, distribution, rental and making available to the public (*on-demand availability*) of their phonograms;¹⁸⁰ and,
- The right to remuneration for broadcasting and communication to the public is extended to both performers and phonogram producers.¹⁸¹

¹⁷⁷ WIPO Performances and Phonograms Treaty, Article 20.

¹⁷⁸ Performers are given the right to claim to be identified as the performer of his performance and to object to any distortion, mutilation or other modification of his performance that would be damaging to his reputation (WIPO Performances and Phonograms Treaty, Article 5).

¹⁷⁹ WIPO Performances and Phonograms Treaty, Articles 6-10.

¹⁸⁰ WIPO Performances and Phonograms Treaty, Articles 11-14.

¹⁸¹ WIPO Performances and Phonograms Treaty, Article 15.

No agreement was reached on the definition of electronic reproductions and exceptions thereto.¹⁸²

Exceptions and limitations on the rights of performers and producers of phonograms are subject to the *three step test*.¹⁸³ The WIPO Performances and Phonograms Treaty establishes a general rule and leaves this matter to national regulation. Under the agreed statement concerning Article 16, national lawmakers may extrapolate exceptions and limitations authorised under the Berne Convention into the digital environment.

The basic term of protection is extended to fifty years.¹⁸⁴

Like the WIPO Copyright Treaty, the WIPO Performances and Phonograms Treaty contains obligations regarding technological measures¹⁸⁵ and rights management information.¹⁸⁶

¹⁸² Instead and agreed statement was adopted, according to which “*the reproduction right, as set out in Articles 7 and 11, and the exceptions permitted thereunder through Article 16, fully apply in the digital environment, in particular to the use of performances and phonograms in digital form. It is understood that the storage of a protected performance or phonogram in digital form in an electronic medium constitutes a reproduction within the meaning of these Articles*” (agreed statement concerning Articles 7, 11 and 16 of the WIPO Performances and Phonograms Treaty).

¹⁸³ See Article 16 of the WIPO Performances and Phonograms Treaty and Article 9(2) of the Berne Convention.

¹⁸⁴ WIPO Performances and Phonograms Treaty, Article 17.

Finally, Contracting Parties must ensure the availability of enforcement procedures.¹⁸⁷

1.3.7.3 Digital aspects

(i) General

Unlike the Rome Convention, the WIPO Performances and Phonograms Treaty provides performers with limited moral rights of identity and integrity.¹⁸⁸ This results from a widespread recognition of an enhanced need for the protection of moral rights in the digital environment.

Like the WIPO Copyright Treaty, the WIPO Performances and Phonograms Treaty expressly deals with some of the digital problems:

- It protects on-line dissemination of works¹⁸⁹;
- It establishes that Contracting Parties must adopt remedies against devices created to defeat technical measures of protection of rights or to jeopardise rights management information¹⁹⁰;

¹⁸⁵ WIPO Performances and Phonograms Treaty, Articles 18-19.

¹⁸⁶ WIPO Performances and Phonograms Treaty, Article 19.

¹⁸⁷ WIPO Performances and Phonograms Treaty, Article 23.

¹⁸⁸ WIPO Performances and Phonograms Treaty, Article 5.

¹⁸⁹ WIPO Performances and Phonograms Treaty, Articles 10 and 14.

¹⁹⁰ WIPO Performances and Phonograms Treaty, Articles 18-19.

- It further establishes, that Contracting Parties must assure that enforcement measures are made available to right holders, although, like the WIPO Copyright Treaty, it lacks an enforcement mechanism like that of the TRIPS Agreement.¹⁹¹

(ii) Shortcomings

The WIPO Performances and Phonograms Treaty presents the *Berne shortcomings* regarding temporary and transitory digital reproduction, Internet publication, liability of service providers and enforcement.¹⁹²

1.3.8 The proposed WIPO Database Treaty

1.3.8.1 Background

In 1996, the European Community submitted a proposal dealing with the *sui generis* right for international harmonisation to the Committee of Experts.¹⁹³ This was followed by the submission of a proposal on the same subject by the United States.¹⁹⁴

¹⁹¹ WIPO Performances and Phonograms Treaty, Articles 23.

¹⁹² See § 1.3.2.3 – Digital aspects (which deals with the digital shortcomings of the Berne Convention).

¹⁹³ Document BCP/CE/VI/13.

¹⁹⁴ Document BCP CE/VII 2-INR/CE/VI 2.

The copyright protection of databases is assured as a result of the WIPO Copyright Treaty. The aim of the proposed WIPO Database Treaty is to give additional protection to databases, independently of the degree of originality involved in their compilation.

The proposed WIPO Database Treaty proved most controversial. It was not inserted on the agenda of the Diplomatic Conference in order to establish a third Treaty.¹⁹⁵

1.3.8.2 Protection afforded by the Treaty

Protection is given on the basis of national treatment. The proposed WIPO Database Treaty excludes the possibility of refusing protection on the basis of reciprocity.¹⁹⁶

Protection may not be subject to registration, notice or any other formality.¹⁹⁷

The proposed WIPO Database Treaty protects any database that represents a substantial investment, irrespectively of the form or medium in which the database is embodied and of copyright protection.¹⁹⁸

¹⁹⁵ See *inter alia*, M. Flint, "WIPO Diplomatic Conference - Berne Convention meets the new technologies" (1997) 66 C.W. 9-10; L.H. Greene and S.J. Rizzi, "United States: database protection developments: proposals stall in the United States and at WIPO." (1997) 68 C.W. 8, 10.

¹⁹⁶ Proposed WIPO Database Treaty, Article 7(1) and (3).

¹⁹⁷ Proposed WIPO Database Treaty, Article 9.

¹⁹⁸ Proposed WIPO Database Treaty, Article 1.

The maker of the database is the first owner of the rights provided by the proposed WIPO Database Treaty.¹⁹⁹

The rights of extraction²⁰⁰ and utilisation²⁰¹ granted to the creator of the database follow the EC Database directive.²⁰²

Contracting Parties are allowed to provide for exceptions and limitations in their national legislation in compliance with the *three step test*.²⁰³

On the duration of the *sui generis* protection the proposed WIPO Database Treaty contains two alternative terms, twenty-five or fifteen years.²⁰⁴

¹⁹⁹ Proposed WIPO Database Treaty, Article 4.

²⁰⁰ The right of extraction covers the permanent or temporary transfer of all or a substantial part of the contents of a database to another medium, by any means or in any form (Proposed WIPO Database Treaty, Article 2(ii)).

²⁰¹ The right of utilisation is the right of making available to the public of all or a substantial part of the contents of a database, *inter alia*, by the distribution of copies (Proposed WIPO Database Treaty, Article 2(vi)). The right of distribution may be subject to national rules providing for exhaustion on a national basis, so that where a copy of the database has been sold or ownership has been otherwise transferred the rights of distribution will no longer be enforceable in respect of that copy (Proposed WIPO Database Treaty, Article 3(2)).

²⁰² See Articles 2 and 3 of the Proposed WIPO Database Treaty and Article 7 of the EC Database Directive. See *infra* § 1.4.2.4 – Database Directive (Dir. 96/9/EC).

²⁰³ See Article 5(1) of the proposed WIPO Database Treaty and Article 9(2) of the Berne Convention.

²⁰⁴ Proposed WIPO Database Treaty, Article 8.

The proposed WIPO Database Treaty follows the EC Database directive when it states that any substantial change to the database will qualify the resulting database for its own term of protection.²⁰⁵

The proposed WIPO Database Treaty prohibits the importation, manufacture and distribution of devices designed to overcome technical protection measures.²⁰⁶ This will be essential to control unauthorised reutilization of material, which is a major source of damage for database owners.

Unlike the WIPO Copyright Treaty and the WIPO Performances and Phonograms Treaty, the proposed WIPO Database Treaty does not establish obligations regarding rights management information.

The proposed WIPO Database Treaty contains similar provisions on the enforcement of rights to those in the other two treaties.²⁰⁷ A choice will be made between special provisions set out in an annex to the Treaty and Articles 41-61 of the TRIPS Agreement, which consists of the TRIPS mechanism to ensure compliance of States.

1.3.8.3 Digital aspects

²⁰⁵ See Proposed WIPO Database Treaty, Article 8(3) and EC Database Directive, Article 10(3).

²⁰⁶ Proposed WIPO Database Treaty, Article 10.

²⁰⁷ Proposed WIPO Database Treaty, Article 13.

(i) General

The proposed WIPO Database Treaty, expressly deals with some issues of the digital agenda:

- It protects databases independently of the degree of originality involved in their compilation, which will be relevant in view of the fact that much material disseminated on the Internet is contained in on-line databases;²⁰⁸
- It deals with the dissemination of information over the Internet, by establishing that the maker of a database has the right to make available to the public the contents of a database by any means, including on-line transmission;²⁰⁹
- It states that remedies have to be adopted against the importation, manufacture and distribution of devices created to overcome technical protection measures;²¹⁰
- It adds that Contracting Parties must also ensure the availability of enforcement procedures.²¹¹

(ii) Shortcomings

²⁰⁸ Proposed WIPO Database Treaty, Article 1.

²⁰⁹ Proposed WIPO Database Treaty, Article 2(vi).

²¹⁰ Proposed WIPO Database Treaty, Article 10.

²¹¹ Proposed WIPO Database Treaty, Article 13.

The WIPO Database Treaty presents the *Berne shortcomings* regarding temporary and transitory digital reproduction²¹², Internet publication, liability of service providers and authenticity.²¹³

In addition to the *Berne shortcomings*, like the EC Database directive, the proposed WIPO Database Treaty does not give the makers of databases any moral rights. Furthermore, from the perspective of the public interest, a substantial new investment in the database, which can result from the mere accumulation of addition, deletions or alterations, can virtually result in a perpetual right.²¹⁴

1.4 Main regional instruments

1.4.1 Introductory

In this area, the study will be conducted within the legal framework provided by the following regional instruments:

²¹² The WIPO Database Treaty refers to this right as *digital extraction right* (Proposed WIPO Database Treaty, Article 2(ii)).

²¹³ See § 1.3.2.3 – Digital aspects (which deals with the digital shortcomings of the Berne Convention).

²¹⁴ Proposed WIPO Database Treaty, Article 8(3). See J.H. Reichman and P. Samuelson, “Intellectual Property Rights in Data?” (1997) 50:51 *Vanderbilt Law Review* 51-166, containing a severe criticism of this consequence of the EC Database Directive.

- The relevant European Community's Directives on intellectual property matters in the field of copyright and other relevant fields;
- The North American Free Trade Agreement, 1992 (NAFTA); and
- Decision 351 of the Cartagena Agreement on a Common Authors' Rights and Connected Rights System, 1993 (Decision 351).

1.4.2 European Community's Directives on intellectual property matters

1.4.2.1 Introductory

The EC Green Paper recommends the implementation of coordinated action in some areas, including intellectual property, to elude obstacles to free trade and obstructions to the establishment of the single market.²¹⁵ However, the European Community's commitment in the copyright field only expanded with the Treaty of Maastricht, which brought culture within its competence.²¹⁶ In view of the differences between the copyright laws of the Member States it would presumably have been impracticable to enact a single Directive harmonising the entire copyright field.²¹⁷

²¹⁵ European Commission, *Green Paper on Copyright and the Challenge of Technology – Copyright issues requiring immediate action*, June 1988 (COM (88) 172 final).

²¹⁶ See Article 128 of the Treaty of Rome with wording resulting from Article G, paragraph d), section 37 of the Treaty of the European Union.

²¹⁷ For a description of European Community initiatives on harmonisation of intellectual property law, see P. Groves, T. Martino, C. Miskin and J. Richards, *Intellectual Property and the Internal Market of*

To date the following Directives have been adopted in the field of copyright and related rights and other relevant fields:

- Council Directive on the legal protection of topographies of semiconductor products (Dir. 87/54/EEC);
- Council Directive on the legal protection of computer programs (Dir. 91/250/EEC);
- Council Directive on rental right and lending right and on certain rights related to copyright in the field of intellectual property (Dir. 92/100/EEC);
- Council Directive on the coordination of certain rules concerning copyright and rights related to copyright applicable to satellite broadcasting and cable retransmission (Dir. 93/83/EEC);
- Council Directive on the term of protection of copyright and certain related rights (Dir. 93/98/EEC);
- Directive on the legal protection of databases (Dir. 96/9/EC);
- Directive on a Community framework for electronic signatures (Dir. 99/93/EC);
- Directive on the harmonisation of certain legal aspects of electronic commerce in the internal market (Dir. 2000/31/EC;) and

the European Community (Graham & Trotman/ Martinus Nijhoff, 1993) 1-16, 80-108, 131-132. For an analysis of the impact of European Community harmonisation measures, see *inter a ia* I. Govaere, *The Use and Abuse of Intellectual Property Rights in EC Law* (Sweet & Maxwell, 1996) 3.01-3.30. See also H. Jehoram, "Harmonising Intellectual Property within the European Community" (1992) 23:5 I.I.C. 622-629 and H. Jehoram, "The EC Copyright Directives, Economics and Authors' Rights" (1994) 25:6 I.I.C. 821-839.

- Directive on the harmonisation of certain aspects of copyright and related rights in the information society (Dir. 2001/29/EC).

In the following sections, the Directives chiefly concerned with digital aspects will be examined, that is:

- the Semiconductor Products Directive (Dir. 87/54/EEC);
- the Computer Programs Directive (Dir. 91/250/EEC);
- the Database directive (Dir. 96/9/EC);
- the Electronic Signatures Directive (Dir. 99/93/EC);
- the Electronic Commerce Directive (Dir. 2000/31/EC); and
- the Copyright/Information Society Directive (Dir. 2001/29/EC).

1.4.2.2 Semiconductor Products Directive (Dir. 87/54/EEC)

(i) Background

The United States Congress passed the Semiconductor Chip Protection Act 1984, which made protection of non-United States citizens conditional upon reciprocity. The European Community adopted the Semiconductor Products Directive partly to ensure that Member States had reciprocal protection.²¹⁸

²¹⁸ For a critical analysis of the Semiconductor Products Directive, see *inter alia*, C. Evans, “The legal protection of semiconductor products - the new EEC Directive (1987) 52 Comps. & Law 7-9; R.J. Hart, “Protection of semi-conductor product designs - the EEC Directive and the WIPO Draft Treaty” (1987)

(ii) Protection afforded by the Directive

The right to protection is given to citizens or residents of a Member State and to companies or other legal entities with a real and effective establishment in a Member State.²¹⁹ There have been several Council and Commission Decisions extending protection to citizens and legal entities from non-EC countries.²²⁰

The topography of a semiconductor product can only be protected provided it is the result of its creator's intellectual effort and is not commonplace in the semiconductor industry.²²¹

Member States may require registration as a condition of protection, as well as a formal indication consisting of a capital "T".²²²

The principle is that protection is conferred on the creator of the topography of a semiconductor product. Member States may provide that the employer/commissioner

3(5) C.L.& P. 164-166; A. P. Meijboom, "Recent developments regarding protection of topographies of semiconductor products" (1988) 4(2) C.L. & S.R. 10-11; P. Groves, "Chip protection in the USA and EEC" (1988) 9(1) Bus. L.R. 22-23; C.J. Milard, "Protection in EEC Member States of semiconductor product designs" (1989) 5(4) C.L.&P. 137-140.

²¹⁹ Council Directive 87/54/EEC, Article 3(3).

²²⁰ Allowed by Article 3(7) of Council Directive 87/54/EEC.

²²¹ Council Directive 87 54/EEC, Article 2(2).

²²² Council Directive 87 54/EEC, Articles 4(1)-(3) and 9.

is the first owner of the right created by the employee subject to an agreement to the contrary.²²³

The exclusive rights granted by the Semiconductor Products Directive include the rights to authorise the reproduction, commercial exploitation or importation for that purpose of the topography of a semiconductor product manufactured by using the topography.²²⁴

Where the topography of a semiconductor product is put on the market of a Member State by the right holder or with his consent, the exclusive rights on the topography are exhausted.²²⁵

The Directive sets out several exceptions to these exclusive rights.²²⁶

The term of protection lasts for ten years.²²⁷

(iii) Digital aspects

(a) General

²²³ Council Directive 87/54/EEC, Article 3(1) and (2).

²²⁴ Council Directive 87/54/EEC, Article 5(1).

²²⁵ Council Directive 87 54/EEC, Article 5(5).

²²⁶ Council Directive 87/54/EEC, Article 5(2), (3) and (6).

The Semiconductor Products Directive acknowledges the importance of semiconductor products for the development of the Community's hardware industry, the importance of topographies of semiconductor products for the development of such industry, the considerable investment needed for the development of the topographies and that they can be copied at the fraction of the price required for their development.²²⁸

Thus, a *sui generis* protection was granted to topographies of semiconductor products. With the accelerating growth of the computer industry and the present Internet phenomenon, the protection of the topography of semiconductor products has become even more relevant.²²⁹

(b) Shortcomings

The Semiconductor Products Directive presents the *Berne shortcomings* regarding temporary and transitory digital reproduction,²³⁰ Internet dissemination, exceptions

²²⁷ Council Directive 87/54/EEC, Article 7(3).

²²⁸ See Recitals 1 and 2 of Council Directive 87/54/EEC.

²²⁹ Topographies of semiconductor products are used to make chips or semiconductor products, which can be used, for instance, to control the keyboard, the mouse, the speakers, the screen and the hard disk of a personal computer.

²³⁰ Council Directive 87/54/EEC, Article 5(1).

and limitations, liability of service providers, authenticity, prevention of infringement and enforcement.²³¹

In addition to the *Berne shortcomings*, the Semiconductor Products Directive does not give the creators of topographies of semiconductor products any moral rights.

1.4.2.3 Computer Program Directive (Dir. 91/250/EEC)

(i) Background

For many years, experts discussed whether computer programs were covered by the Berne Convention.²³² As a result of their economic importance computer programs were dealt with under copyright in many jurisdictions. This trend has been reflected internationally and regionally.

Copyright was seen as the most appropriate form of protecting computer programs, namely because it does not require any formalities, which could hinder its rapid

²³¹ See § 1.3.2.3 – Digital aspects (which deals with the digital shortcomings of the Berne Convention).

²³² See S. Ricketson, *The Berne Convention for the Protection of Literary and Artistic Works 1886-1986* (Kluwer, 1987) 234-236, 895-901.

development. Additionally, it meant that computer programs could benefit from the protection granted by international instruments, such as Berne.²³³

(ii) Protection afforded by the Directive

The Computer Program Directive protects computer programs as literary works.²³⁴

The Directive does not protect the ideas and principles that underlie any element of a computer program, including those that underlie its interfaces.²³⁵

²³³ For a critical analysis of the Computer Program Directive see *inter alia* G. Smith, "EC Software Protection Directive – An Attempt to Understand Article 5(1)" (1990-91) 7 C.L. & S.R. 148-151; J. Worthy, "Europe Introduces New Copyright Rules for Software" (1990-91) 7 C.L. & S.R. 101-106; J.M.A. Berkvens and G.O.M. Alkemade, "Software Protection: Life After the Directive" (1991) 12 E.I.P.R. 476-481; T. Dreier, "The Council Directive of 14 May 1991 on the Legal Protection of Computer Programs" (1991) 9 E.I.P.R. 319-327; C.M. Correa, "Legal Protection and Innovation in the Software Industry" (1992) 17 World Competition 47-72; S. Chalton, "Implementation of the Software Directive in the United Kingdom: The Effects of the Copyright (Computer Programs) Regulations 1992" (1993) 4 E.I.P.R. 138-142; A.N. Dixon and L.C. Self, "Copyright Protection for the Information Superhighway" (1994) 11 E.I.P.R. 465-472; E.R. Kroker, "The Computer Directive and the Balance of Rights" (1997) 5 E.I.P.R. 247-250. See also S. Breyer, "The uneasy case for copyright: a study in copyright in books, photocopies and computer programs" (1970) 84 Harvard Law Rev. 281; M. Grewal, "Copyright protection of computer software (1996) 8 E.I.P.R. 454-458. For an analysis of the primary aspects of software copyright law (such as decompilation and error-correction,) see D. Bainbridge, *Software copyright law* (2ed, Butterworths, 1994).

²³⁴ Council Directive 91/250/EEC, Article 1.

²³⁵ Council Directive 91/250/EEC, Article 1(2).

The computer program is original provided it is the author's own intellectual creation.²³⁶

Protection is not dependent upon the compliance with any formal requirements.

The author of a computer program is the natural person who has created it, or the legal person designated by the laws of Member States as the right holder.²³⁷ Where an employee creates a computer program on the course of his duties, the economic rights will vest on the employer, unless otherwise agreed.²³⁸

The right holder is granted the rights of reproduction (including loading, displaying, running, transmitting or storing), translation, adaptation, arrangement and any other alteration of a computer program and distribution (including rental).²³⁹

The Directive sets out several exceptions, including for the purposes of error correction, making a back-up copy, observation, study, or testing of the program and decompilation for achieving interoperability.²⁴⁰

²³⁶ Council Directive 91/250/EEC, Article 1(3).

²³⁷ Council Directive 91/250/EEC, Article 2(1).

²³⁸ Council Directive 91/250/EEC, Article 2(3).

²³⁹ Council Directive 91/250/EEC, Article 4.

²⁴⁰ Council Directive 91/250/EEC, Article 5.

Copyright protection for computer programs runs for the life of the author plus seventy years after his death.²⁴¹

Infringement may lead to seizure of any infringing copies and other remedies.²⁴²

(iii) Digital aspects

(a) General

The Computer Program Directive reflects the recognition of the fundamental importance of software for the industrial development of the European Community, the considerable investment needed for the development of computer programs and that they can be copied at the fraction of the price required for their development²⁴³

By expressly protecting computer programs as literary works, the European Community set a trend that was subsequently followed by both TRIPS²⁴⁴ and the WIPO Copyright Treaty.²⁴⁵

²⁴¹ Council Directive 93/98/EEC, Article 1(1).

²⁴² Council Directive 91/250/EEC, Article 7.

²⁴³ See Recitals 2 and 3 of Council Directive 91/250/EEC.

²⁴⁴ TRIPS Agreement, Article 10(1).

²⁴⁵ WIPO Copyright Treaty, Article 4.

The initiative taken by the European Community was not one without faults. The Directive grants copyright protection to computer programs while reconciling various points of view. Thus, some of its provisions reflect the need to reach compromise solutions.²⁴⁶ As a whole the Directive seeks to establish a fair balance of rights between the original programmer and a later independent programmer. It allows the original programmer to exploit the innovation and it enables the subsequent independent programmer to achieve information necessary to develop a compatible program.

The appearance of the Internet lead to both an increase in purchases of personal computers and to the introduction of software specifically devoted to the Internet, such as the browser.²⁴⁷ Thus, the protection of software has become even more relevant.

(b) Shortcomings

²⁴⁶ Article 1(2) does not protect interfaces thus responding to the need to strengthen the protection of computer programs, without restricting access to underlying ideas and concepts. The provision on error correction in Article 5(1) tries to balance the interest of software suppliers in protecting their investment and the interest of users in open systems. Article 6 on reverse engineering protects investment and skills in programming, but also limits the rights of the programmer so as not to prevent independent production of compatible programs.

²⁴⁷ For a definition of *browser* see Appendix B – Technical Terms.

The Computer Programs Directive presents the *Berne shortcomings* regarding Internet dissemination,²⁴⁸ liability of service providers, authenticity, and prevention of infringement.²⁴⁹

In addition to the *Berne shortcomings*:

- The Computer Programs Directive does not give programmers any moral rights. Due the importance of moral rights in the digital era, this omission is one which needs further consideration, and
- From the perspective of the public interest, since reproduction includes any temporary reproduction²⁵⁰, acts taking place during the normal working of a program - such as running and displaying - can be said to require the right holder's authorisation. This can lead to an excessively broad right. Furthermore, such right will not necessarily be limited by Article 5(1)²⁵¹, since this provision may be contractually excluded.

1.4.2.4 Database Directive (Dir. 96/9/EC)

²⁴⁸ The Directive does not expressly deal with dissemination of computer programs on the Internet, because when it was adopted distribution usually took place on floppy discs and not over the Internet.

²⁴⁹ See § 1.3.2.3 – Digital aspects (which deals with the digital shortcomings of the Berne Convention).

²⁵⁰ Council Directive 91/250/EEC, Article 4(a).

²⁵¹ Article 5(1) of Council Directive 91/250/EEC sets out an exception to the restricted rights for the purposes of error correction

(i) Background

This Directive was adopted to implement a harmonised legal system to provide incentive for investment in databases. The Directive not only harmonises copyright protection of databases, but also creates a *sui generis* right for the protection of the latter. Its purpose is to give additional protection to databases, irrespective of the degree of originality involved in their compilation.²⁵²

(ii) Protection afforded by the Directive

Only original databases which, by reason of their selection or their arrangement, constitute the author's intellectual creation, will be granted copyright protection.²⁵³

The author of the database is the creator of the database, or, the legal person designated by the laws of the Member States as right holder. Where an employee in the course of his duties creates a database, the economic rights will vest on the latter, unless otherwise agreed.²⁵⁴

²⁵² For a critical analysis of the Database Directive see *inter alia* S. Beutler, "The Protection of Multimedia Products through the European Community's Directive on the Legal Protection of Databases" (1996) 8 Ent.L.R. 317-328; J.H. Reichman and P. Samuelson, "Intellectual Property Rights in Data?" (1997) 50:51 Vanderbilt Law Rev. 51-166.

²⁵³ Directive 96/9/EC, Article 3.

²⁵⁴ Directive 96/9/EC, Article 4(1)-(2).

The creator or right holder will have the exclusive rights to authorise the reproduction, translation, adaptation, arrangement or other alteration of the database, distribution to the public in any form, including rental and communication, display or performance of the database to the public. The distribution right covers on-line dissemination of the contents of a database, for the first time in a regional instrument.²⁵⁵

The lawful user of a database can perform any of the restricted acts in order to access the contents of the database or for normal use of such contents. Member States can provide for additional exceptions.²⁵⁶

Databases which do not fulfil the originality requirement are still protected by the *sui generis* right²⁵⁷, which consists of the right to prevent extraction and reutilization of the contents of the database.²⁵⁸

²⁵⁵ Directive 96/9/EC, Article 5.

²⁵⁶ According to Article 6 (exceptions to restricted acts) of Council Directive 96/9/EC “*in accordance with the Berne Convention for the protection of Literary and Artistic works this Article may not be interpreted in such a way as to allow its application to be used in a manner which unreasonably prejudices the rightholder’s legitimate interests or conflicts with normal exploitation of the database.*” See Article 9(2) of the Berne Convention.

²⁵⁷ Directive 96/9/EC, Article 7(4). The importance of this provision can be illustrated by a Spanish case which took place before implementation of the Directive in Spain, *Alava CCI v. LMA SL* (Chamber One of the Supreme Court, October 17, 1998, Editorial Aranzadi Law Reports N. 7468 pp 11807) where the claim that the defendant had copied information from the database of companies compiled by the plaintiff was dismissed by the Supreme Court, on the basis that the law protects works

The *sui generis* right belongs to the maker of the database.²⁵⁹

A lawful user of the database is allowed to extract and reutilise insubstantial parts of its contents for any purposes, provided these acts do not “*conflict with normal exploitation of the database or unreasonably prejudice the legitimate interests of the maker of the database*” and substantial parts of its contents for private purposes (of a non-electronic database), illustration for teaching or scientific research, public security and administrative or judicial procedures.²⁶⁰

which are creative and original which was not the case at issue, since the information contained in the database was already available in tax, employment and trade registers and in telephone directories.

²⁵⁸ Directive 96/9/EC, Article 7(1). In the **British Horseracing Board Limited , The Jockey Club and Weatherbys Group Limited v. William Hill Organization Limited** (2001) E.C.D.R. 20, the British Horseracing Board ran a computerised database comprising information concerning races. The British Horseracing Board claimed that William Hill, a bookmaker, had infringed its database right by extracting and/or reutilising a substantial part of the database, contrary to Art. 7(1) of the EC Database Directive and/or by repeated and systematic extraction or reutilisation of insubstantial parts of the contents of the database under Art. 7(5) of the same Directive (which was implemented in the UK by the Copyright and Rights in Databases Regulations 1997). The court held that the British Horseracing Board database was protected by database right and that by taking information from the database and loading it on its own computers, the defendant had performed an unauthorised extraction of a substantial part of the British Horseracing Board database and by making that information available on its website, the defendant had performed an unauthorised reutilisation of it. The defendant’s daily use of information taken from the British Horseracing Board database was deemed a repeated and systematic extraction and reutilisation of data.

²⁵⁹ Directive 96/9/EC, Article 7(1).

²⁶⁰ Directive 96/9/EC, Articles 8-9.

The term of copyright protection for databases is the same as that provided for literary works. The *sui generis* right exists for fifteen years but can be renewed for further fifteen-year periods where a substantial new investment in the database, “*including any substantial change resulting from the accumulation of successive additions, deletions or alterations*” has been carried out.²⁶¹

Member States must provide for remedies in respect of infringement of the exclusive rights established in this Directive.²⁶²

(iii) Digital aspects

(a) General

This Directive emerged from the recognition of the fundamental importance of databases for the development of the Community’s information market, the considerable investment needed for the development of databases and the fact that they can be copied at the fraction of the price required for their development.²⁶³

Since much material disseminated on the Internet is contained in on-line databases, the protection of databases will be relevant in the digital environment.

²⁶¹ Directive 96/9/EC, Article 10.

²⁶² Directive 96/9/EC, Article 12.

²⁶³ See Recitals 7-10 of Directive 96/9/EC.

(b) Shortcomings

The Database Directive presents the *Berne shortcomings* regarding temporary and transitory digital reproduction, liability of service providers, authenticity and prevention of infringement.²⁶⁴

In addition to the *Berne shortcomings*:

- Moral rights are left outside the scope of this Directive. Recital (28) of the Database Directive states that moral rights belong to the author and are to be exercised in accordance with the legislation of the Member States and the Berne Convention,
- From the point of view of the public interest, a substantial new investment in the database, which can result from the mere accumulation of additions, deletions or alterations, can virtually result in a perpetual right.²⁶⁵

1.4.2.5 Electronic Signatures Directive (Dir. 99/93/EC)

(i) Background

The Internet offers new business opportunities, new methods of reaching customers and new ways of doing business. In order to make the best use of these opportunities

²⁶⁴ See § 1.3.2.3 – Digital aspects (which deals with the digital shortcomings of the Berne Convention).

²⁶⁵ Directive 96/9/EC, Article 10(1)-(2).

confidence needs to be built regarding, particularly, the identity of the other party to on-line communications, the assurance that on-line communications have not been modified without authorisation, legal effects of electronic signatures and liability rules of certification service providers.

Throughout the European Community, Governments were beginning to legislate on this matter in a variety of ways. Divergent rules could have lead to uncertainty, inhibited e-commerce between parties located in different Member States, been detrimental to the development of e-commerce in the European Community and acted as a barrier to the free movement of goods and services in the single market.²⁶⁶

The objective of the Electronic Signatures Directive is to remove obstacles, particularly, concerning the legal recognition of electronic signatures and the free movement of certification services and products between the Member States.²⁶⁷

²⁶⁶ Directive 99/93/EC, Recitals 4 and 20.

²⁶⁷ See *inter alia* European Commission, *Green Paper on the Legal Protection of Encrypted Services in the Internal Market*, 6 March 1996, available at <http://europa.eu.int/en/record/green/gp004en.pdf>; European Commission, *Towards A European Framework for Digital Signatures And Encryption* COM (97) 503, 10 October 1997, available at <http://www.ispo.cec.be/eif/policy/97503toc.html>; *The Copenhagen Hearing - European Expert Hearing on Digital Signatures and Encryption April 23 1998 - Theme paper* (1998) available at <http://www.fsk.dk/fsk/div/hearing/theme.html>; C. Kuner, “The Emerging European Legal Framework for Digital Signatures” (1998) 3:21 E.C.L.R. 712-716; C. Kuner, “The Electronic Signatures Directive and the Politics of E-Commerce in Europe” (1998) 3:46 E.C.L.R. 1378-1381; R. Julià-Barceló and T.C. Vinje, “Electronic commerce – Towards a European framework for digital signatures and encryption” C.L. & S.R. (1998) 14:2 79; R. Julià-Barceló and T. C. Vinje,

The analysis of this Directive, which does not belong to the copyright field, is made necessary in the context of the technological proposals put forward in Chapter VI.

(ii) Protection afforded by the Directive

The Directive covers the legal recognition of electronic signatures and a legal framework for certification services.²⁶⁸

Electronic signatures allow the on-line recipient of electronic data to verify the origin of the data (authentication of data source) and to check that the data is complete and unchanged (integrity of data).²⁶⁹

Verification of the authenticity and integrity of data does not necessarily prove the identity of the signatory who creates the electronic signatures. Such information can be confirmed by trusted third-parties, the certification service providers.²⁷⁰

“Electronic signatures – Another step towards a European framework for electronic signatures: the Commission’s Directive proposal” (1998) 14:5 C.L. & S.R. 303.

²⁶⁸ Directive 99/93/EC, Article 1.

²⁶⁹ Directive 99/93/EC, Article 2(1): “*Electronic signature*” means data in electronic form which are attached to or logically associated with other electronic data and which serve as a method of authentication.”

²⁷⁰ Directive 99 93/EC, Article 2(11): “*Certification-service-provider*” means an entity or a legal or natural person who issues certificates or provides other services related to electronic signatures.”

Advanced electronic signatures²⁷¹ which are based on a qualified certificate²⁷² issued by a certification-service-provider and which are created by a secure-signature-creation device²⁷³ will be legally equivalent to a hand written signature and be admissible as evidence in legal proceedings.²⁷⁴

²⁷¹ Directive 99/93/EC, Article 2(2): “Advanced electronic signature” means an electronic signature which meets the following requirements: (a) it is uniquely linked to the signatory; (b) it is capable of identifying the signatory; (c) it is created using means that the signatory can maintain under his sole control; and (d) it is linked to the data to which it relates in such a manner that any subsequent change of the data is detectable.”

²⁷² Directive 99/93/EC, Article 2(9): “certificate” means an electronic attestation which links signature-verification data to a person and confirms the identity of that person.” According to Annex I, qualified certificates must contain: “(a) an indication that the certificate is issued as a qualified certificate; (b) the identification of the certification-service-provider and the State in which it is established; (c) the name of the signatory or a pseudonym, which shall be identified as such; (d) provision for a specific attribute of the signatory to be included if relevant, depending on the purpose for which the certificate is intended; (e) signature-verification data which correspond to signature-creation data under the control of the signatory; (f) an indication of the beginning and end of the period of validity of the certificate; (g) the identity code of the certificate; (h) the advanced electronic signature of the certification-service-provider issuing it; (i) limitations on the scope of use of the certificate, if applicable; and (j) limits on the value of transactions for which the certificate can be used, if applicable.”

²⁷³ Directive 99/93/EC, Article 2(6): “secure-signature-creation device” means a signature-creation device which meets the requirements laid down in Annex III.” According to Annex III, the requirements for secure signature-creation devices are as follows: “Secure signature-creation devices must, by appropriate technical and procedural means, ensure at the least that: (a) the secure signature-creation-data used for signature generation can practically occur only once, and that their secrecy is reasonably assured; (b) the signature-creation-data used for signature generation cannot, with

Certification authorities must fulfil certain criteria specified in the Electronic Commerce Directive.²⁷⁵ Member States will not require certification authorities to be

reasonable assurance, be derived and the signature is protected against forgery using currently available technology; (c) the signature-creation-data used for signature generation can be reliably protected by the legitimate signatory against the use of others.

2. Secure signature-creation devices must not alter the data to be signed or prevent such data from being presented to the signatory prior to the signature process.”

²⁷⁴ Directive 99/93/EC, Recitals 16 and 21 and Article 5.

²⁷⁵ According to Annex II of Directive 99/93/EC, certification-service-providers must: “(a) demonstrate the reliability necessary for providing certification services; (b) ensure the operation of a prompt and secure directory and a secure and immediate revocation service; (c) ensure that the date and time when a certificate is issued or revoked can be determined precisely; (d) verify, by appropriate means in accordance with national law, the identity and, if applicable, any specific attributes of the person to which a qualified certificate is issued; (e) employ personnel who possess the expert knowledge, experience, and qualifications necessary for the services provided, in particular competence at managerial level, expertise in electronic signature technology and familiarity with proper security procedures; they must also apply administrative and management procedures which are adequate and correspond to recognised standards; (f) use trustworthy systems and products which are protected against modification and ensure the technical and cryptographic security of the process supported by them; (g) take measures against forgery of certificates, and, in cases where the certification-service-provider generates signature-creation data, guarantee confidentiality during the process of generating such data; (h) maintain sufficient financial resources to operate in conformity with the requirements laid down in the Directive, in particular to bear the risk of liability for damages, for example, by obtaining appropriate insurance; (i) record all relevant information concerning a qualified certificate for an appropriate period of time, in particular for the purpose of providing evidence of certification for the purposes of legal proceedings. Such recording may be done electronically; (j) not store or copy signature-creation data of the person to whom the certification-service-provider provided key

registered but they can establish voluntary accreditation schemes.²⁷⁶ Each Member State will recognise the certification authorities of another Member State.²⁷⁷ Each Member State will also recognise a certification authority based outside of the European Community if it fulfils certain criteria.²⁷⁸

The person to whom the certificate is issued is entitled to rely upon the accuracy of the certificate. The certification authority can indicate limits on the use of the certificate. It can also indicate the value of transactions for which it is valid and restrict its financial liability to that limit.²⁷⁹

management services; (k) before entering into a contractual relationship with a person seeking a certificate to support his electronic signature inform that person by a durable means of communication of the precise terms and conditions regarding the use of the certificate, including any limitations on its use, the existence of a voluntary accreditation scheme and procedures for complaints and dispute settlement. Such information, which may be transmitted electronically, must be in writing and in readily understandable language. Relevant parts of this information must also be made available on request to third-parties relying on the certificate; (l) use trustworthy systems to store certificates in a verifiable form so that: only authorised persons can make entries and changes, information can be checked for authenticity, certificates are publicly available for retrieval in only those cases for which the certificate-holder's consent has been obtained, and any technical changes compromising these security requirements are apparent to the operator."

²⁷⁶ Directive 99/93/EC, Article 3.

²⁷⁷ Directive 99/93/EC, Article 4.

²⁷⁸ Directive 99/93/EC, Article 7.

²⁷⁹ Directive 99/93/EC, Article 6.

Certification Authorities are specifically subject to data protection requirements.²⁸⁰

(iii) Digital aspects

- The Electronic Signatures Directive will ensure that electronic signatures will be legally recognised in the same manner as hand-written signatures, which is a key element in an open but trustworthy system for electronic signatures;
- The legal recognition of electronic signatures is based upon objective criteria and not linked to any authorisation or accreditation of the service provider involved;
- Common requirements for certification service providers will support the cross-border recognition of signatures and certificates within the European Community;
- Cooperative mechanisms will support the cross-border recognition of signatures and certificates with third countries, which is important to the development of international electronic commerce;
- In order to support the rapid development of the market, certification service providers are allowed to offer their services without being required to obtain prior authorisation. As a means to gain the confidence of consumers, certification service providers, however, may wish to adhere to voluntary accreditation schemes aiming at providing enhanced levels of security;

²⁸⁰ Directive 99/93/EC, Article 8.

- Common liability rules will aid the trust building process for consumers and business who rely on certificates and service providers, and thus will promote the broad acceptance of electronic signatures;
- The Electronic Signatures Directive will encourage on-line contracting and communications in general, by enabling parties to verify the origin of data and its integrity in a legally harmonised environment.

1.4.2.6 Electronic Commerce Directive (Dir. 2000/31/EC)

(i) Background

In the last few years there has been an increase in the number of Internet users and a related expansion in the number of users who acquire products on the Internet (such as books via sites such as *Amazon.com*), obtain information on the Internet (via databases such as *Westlaw*), or even obtain medical advice on-line (via sites such as *NHS Direct*).

The Electronic Commerce Directive results from the recognition of the importance of electronic commerce for the economic growth of the Community, for the improvement of the competitiveness of European industry, for the increase of investment in innovation and for the creation of new jobs.²⁸¹ The Directive intends to

²⁸¹ For a definition of *electronic commerce* see Appendix B – Technical Terms. The importance of electronic commerce has also been recognised at an international level. The World Trade Organisation

eliminate the legal obstacles that may hamper the exercise of the freedom of establishment and the freedom to provide services.²⁸²

(ii) Protection afforded by the Directive

The Directive establishes limitations on the liability of service providers²⁸³, when they act as intermediaries, regarding illegal acts initiated by others.²⁸⁴

Director-general Mike Moore, in an E-Commerce Conference on 31 October 2000, cited the development potential of e-commerce for “*linking distant markets and creating new ones*”. He stressed that “*we at the World Trade Organisation aim to do our best to promote rather than hinder the development of the Internet*”, http://www.wto.org/english/news_e/spmm_e/spmm_.htm.

²⁸² See Directive 2000/31/EC, Recitals 2 and 4. For a critical analysis of the Electronic Commerce Directive see *inter alia* R. Julià-Barceló, “Liability For On-Line Intermediaries: A European Perspective” (1998) 12 E.I.P.R. 453-463; C. Kohler and K. Burmeister, “Copyright Liability on the Internet Today in Europe (Germany, France, Italy and the EC)” (1999) 10 E.I.P.R. 485-499; M. Yakobson, “Copyright liability of online service providers after the adoption of the E.C., Electronic Commerce Directive: a comparison to U.S. law” (2000) 11(7) Ent.L.R. 144-152; R. Chandrani, “Servicing the information society - ISP liability and the E-Commerce Directive” (2000) 130 Supp (E-commerce and domain names) E.B.L. 32-33; Harbottle and Lewis, “ISPs and copyright infringement” (2000) 13 Comm. L.J. 26-27. See also Hugenholtz, P.B., “Copyright and Electronic Commerce: An Introduction”, in P.B., Hugenholtz, (editor), *Copyright and Electronic Commerce – Legal Aspects of Electronic Copyright Management* (Kluwer, 2000), 1-45; K.J. Koelman, “Online Intermediary Liability” in Hugenholtz, P.B. (editor), *Copyright and Electronic Commerce – Legal Aspects of Electronic Copyright Management* (Kluwer, 2000) 7-57.

²⁸³ A service provider is “any natural or legal person providing an information society service.” An information society service is “any service normally provided for remuneration, at a distance, by

Service providers are exempted from liability regarding acts of transmission of information on the Internet where they play a passive role as a conduit of information for the recipients of the service.²⁸⁵ The mere conduit exemption only covers automatic, intermediate and transient storage, taking place during the transmission of the information in order to carry it out. The possibility of an action for injunctive relief is not excluded.

Provided certain conditions are met service providers will be exempted from liability arising from caching, which consists of the automatic temporary storage by the service

electronic means and at the individual request of a recipient of services". The definition only covers programmes received on-demand (Directive 2000/31/EC, Article 2).

²⁸⁴ In line with Section 202 of the US Digital Millennium Copyright Act of 1998, which exempts intermediaries, as mere conduits, from monetary damages and subjects them only to injunctive remedies if the infringement occurs on their networks. The Act also contains exemptions from liability for caching and for host service providers and location tool providers under certain circumstances. For definition of *host service providers* and *location tool providers* see Appendix B – Technical terms. See *inter alia* J. Band, "The Digital Millennium Copyright Act: A balanced result" (1999) 2 E.I.P.R. 92-94; J.E. Cohen, "WIPO Copyright Treaty implementation in the United States: Will fair use survive?" (1999) 5 E.I.P.R. 236-240; T. Vinje, "Copyright Imperilled" (1999) 4 E.I.P.R. 201-205.

²⁸⁵ Three requirements must be met for service providers to be exempted from liability: service providers may not be the ones who decide to carry out the transmission, they may not select the receivers of the transmission and they may neither select nor modify the information contained in the transmission (Directive 2000 31/EC, Article 12).

provider of copies of information transmitted by users over the Internet, in order to facilitate the access of subsequent users to such information.²⁸⁶

According to the hosting exemption, when service providers store information provided by users of the service and at their request (for example, for their own web site) service providers will only be liable for injunctive relief, unless they know that a user of their service is carrying out illegal activity.²⁸⁷

Member States must provide for effective resort to out of court dispute settlement, in particular by electronic means. This could become particularly useful for some disputes on the Internet.²⁸⁸

²⁸⁶ According to Article 13 of Directive 2000/31/EC the conditions to be met are the following: “(a) *the provider does not modify the information; (b) the provider complies with conditions on access to the information; (c) the provider complies with rules regarding the updating of the information, specified in a manner consistent with industrial standards; (d) the provider does not interfere with the technology, consistent with industrial standards, used to obtain data on the use of the information; and (e) the provider acts expeditiously to remove or to bar access to the information upon obtaining actual knowledge of one of the following: - the information at the initial source of the transmission has been removed from the network; - access to it has been barred; - a competent authority has ordered such removal or barring.*”

²⁸⁷ Directive 2000/31/EC, Article 14. Service providers will still benefit from this exemption if, after becoming aware of facts indicating illegal activity, they act expeditiously to remove or to disable access to the information. If a user of the service acts under the authority or the control of the provider the exemption does not apply.

²⁸⁸ Directive 2000/31/EC, Article 17.

Member States must ensure that legal remedies, such as applications for interim measures, are effectively available.²⁸⁹

(iii) Digital aspects

(a) General

The Electronic Commerce Directive expressly deals with liability of service providers, which was one of the issues of the copyright digital agenda:

- The Directive establishes *mere conduit*, *caching* and *hosting* exemptions on service providers' liability. It is understood that the implication is that in those circumstances there will be no copyright infringement on the part of service providers;²⁹⁰
- The Directive stimulates cooperation between authorities of the Member States and effective cross-border actions, thus strengthening enforcement mechanisms. The proposal also requires Member States to provide for efficient legal redress for the digital environment.²⁹¹

(b) Shortcomings

²⁸⁹ Directive 2000 31/EC, Article 18.

²⁹⁰ Directive 2000 31/EC, Articles 12-14.

²⁹¹ Directive 2000/31/EC, Articles 17-19.

- The Electronic Commerce Directive does not explain how one is to ascertain whether service providers know that a user of their service is undertaking illegal activity, which is the basis for the exemption connected with hosting;²⁹²
- It does not establish measures to fight infringement in connection with electronic out of court dispute settlement, which will be subject to hacking.²⁹³

1.4.2.7 Copyright/Information Society Directive (Dir. 2001/29/EC)

(i) Background

The Copyright/Information Society Directive updates the protection of copyright and related rights in line with the issues raised by the digital environment and obligations arisen from the WIPO Treaties, 1996.²⁹⁴

²⁹² Directive 2000/31/EC, Article 14.

²⁹³ Directive 2000/31/EC, Article 17.

²⁹⁴ For a critical analysis of the Copyright/Information Society Directive see *inter alia* G. Cornish, "Libraries and the Harmonisation of Copyright" (1998) 7 E.I.P.R. 241-243; M. Hart, "The Proposed Directive for Copyright in the Information Society: Nice Rights, Shame about the Exceptions" (1998) 13 E.I.P.R. 169-171; T. Hoeren and U. Decker, "Electronic Archives and the Press: Copyright Problems of Mass Media in the Digital Age" (1998) 7 E.I.P.R. 256-266; S. Lewinski, "A Successful Step towards Copyright and Related Rights in the Information Age: The New E.C. Proposal for a Harmonisation Directive" (1998) 4 E.I.P.R. 135-139; T. Heide, "The Berne *three step test* and the proposed Copyright Directive" (1999) 3 E.I.P.R. 105-109; T. Vinje, "Copyright Imperilled" (1999) 4 E.I.P.R. 206-207; Bainbridge, D., "Copyright in the information society" (2001) 6(4) I.P.&I.T. Law 2-7; R. Calleja, "Copyright Directive adopted - and about time too!" (2001) 3(5) E.B.L. 1-2; S. Augi,

It implements a harmonised legal frame, which is meant to encourage content creation in the multimedia environment for the success of the information society.²⁹⁵

(ii) Protection afforded by the Directive

Authors, performers, phonogram producers, film producers and broadcasters are provided with the same level of protection for their right of reproduction.²⁹⁶

Authors are given the right of communication to the public, including *on-demand availability right* provided for by Article 8 of the WIPO Copyright Treaty, and the distribution right.²⁹⁷

Performers and phonogram producers are also granted the *on-demand availability right* provided for by Articles 10 and 14 of the WIPO Performances and Phonograms Treaty.²⁹⁸ The Directive goes beyond the WIPO Performances and Phonograms Treaty by extending the right to film producers and broadcasting organisations.

“Copyright law: an emergent Community law subject” (2000/01) 6 Eu. L.F. 420-422. See § 1.3.6 – The WIPO Copyright Treaty and § 1.3.7 – The WIPO Performances and Phonograms Treaty.

²⁹⁵ *Recommendations to the European Council: Europe and the global information society*, prepared by M. Bangemann et al, Brussels, 1994, available at <http://www.ccg.uc.pt/wise/english/rd/prog/general/report.html>.

²⁹⁶ Directive 2001/29/EC, Article 2.

²⁹⁷ Directive 2001 29/EC, Articles 3(1) and 4(1).

²⁹⁸ Directive 2001/29/EC, Article 3(2).

Member States are allowed to provide for exceptions and limitations subject to the *three step test*.²⁹⁹

Certain technical acts of reproduction are exempted from the scope of the reproduction right where they have no separate economic significance.³⁰⁰ The Directive goes beyond the WIPO Treaties' duties in providing service and access providers with an exemption regarding incidental acts of reproduction.³⁰¹

Member States are allowed to establish certain restrictions to the reproduction right (reprography, reproduction for private use and non-commercial ends, reproduction carried out in establishments accessible to the public for non-commercial and non-economic purposes). Article 5, unlike Articles 10 of the WIPO Copyright Treaty and 16 of the WIPO Performances and Phonograms Treaty, does not establish a general rule, but an exhaustive list of exceptions and limitations, in order to avoid the introduction of too wide exceptions and limitations in the digital area (although a

²⁹⁹ See Article 5(5) of Directive 2000/31/EC and Article 9(2) of the Berne Convention.

³⁰⁰ Directive 2001/29/EC, Article 5(1).

³⁰¹ Since no binding decision was made at the 1996 Geneva Diplomatic Conference on whether the reproduction right covers temporary copies and the agreed statement concerning Article 1(4) of the WIPO Copyright Treaty reiterates that Article 9 of the Berne Convention applies in the digital environment, ultimately whether reproduction includes temporary copying depends on the interpretation of Article 9 of the Berne Convention by national and regional lawmakers.

general clause would more easily adapt to the fast pace of change of digital technology).³⁰²

Restrictions to the reproduction, communication to the public, including the *on-demand availability* rights may be established for traditionally accepted purposes (such as illustration for teaching or scientific research, use of excerpts in connection with the reporting of current events and quotations for criticism or review).³⁰³

Member States have to adopt remedies against devices designated to overcome technical protection measures and to interfere with rights management information.³⁰⁴

Member States must ensure the availability of enforcement procedures.³⁰⁵

(iii) Digital aspects

³⁰² Directive 2001/29/EC, Article 5(2).

³⁰³ Directive 2001/29/EC, Article 5(3). Note that according to Recital 40 of the Directive “*Member States may provide for an exception or limitation for the benefit of certain non-profit making establishments, such as publicly accessible libraries and equivalent institutions, as wells as archives. However, this should be limited to certain special cases covered by the reproduction right. Such an exception or limitation should not cover uses made in the context of on-line delivery of protected works or other subject matter.*”

³⁰⁴ Directive 2001/29/EC, Articles 6-7.

³⁰⁵ Directive 2001/29/EC, Article 8.

(a) General

Unlike previous Directives, the Copyright/Information Society Directive expressly deals with some issues of the digital agenda:

- The reproduction right is intended to cover all kinds of reproduction that may occur over the Internet, whether tangible or intangible, in material or immaterial form, off-line or on-line and, in whole or in part;³⁰⁶
- The *on-demand availability right* is intended to cover dissemination of works and related subject matter on the Internet.³⁰⁷ It goes beyond the WIPO Performances and Phonograms Treaty as it covers not only audio but also audio-visual material. This is relevant since not only audio but also audio-visual material can be obtained on-demand over the Internet;
- The provision on technological measures goes beyond the WIPO Treaties. Its scope of protection covers any activities designated to overcome technical protection measures, including preparatory activities that facilitate or enable the circumvention of such devices. It requires knowledge by the person liable for the circumvention, which implies that only activities and services whose purpose is to circumvent technological protection devices are covered by this provision. The provision covers not only infringement of author's rights and related rights, but also that of the *sui generis* right of database makers.³⁰⁸

³⁰⁶ Directive 2001/29/EC, Article 2.

³⁰⁷ Directive 2001/29/EC, Article 3

³⁰⁸ Directive 2001/29/EC, Article 6.

- Article 7 on rights management information is not as detailed as its counterparts in the WIPO Treaties, but its protection is extended to the *sui generis* right of database makers
- Member States have to provide for remedies in respect of infringement of the exclusive rights established in this Directive.³⁰⁹

(b) Shortcomings

The Copyright/Information Society presents the *Berne shortcomings* regarding temporary and transitory digital reproduction,³¹⁰ Internet publication and exceptions and limitations.³¹¹

In addition to the *Berne shortcomings* moral rights are left outside the scope of the Directive. It was thought that it was too soon to take a decision on this issue

1.4.3 The NAFTA Agreement, 1992

1.4.3.1 Background

³⁰⁹ Directive 2001/29/EC, Article 8.

³¹⁰ Article 2 of Directive 2000/31/EC sets out a detailed definition of reproduction, intended to cover digital reproduction. However, it defines neither temporary nor transitory digital reproduction.

³¹¹ See § 1.3.2.3 – Digital aspects (which deals with the digital shortcomings of the Berne Convention).

NAFTA's primary aim is to remove trading barriers between Canada, Mexico and the United States. It also has a chapter dedicated to intellectual property.³¹² The Agreement tries to achieve a balance between the protection and enforcement of intellectual property rights and the protection of free trade.³¹³

1.4.3.2 Protection afforded by the Agreement

NAFTA is based on the principle of national treatment and certain minimum rights.³¹⁴

The protected subject matter is listed in Article 2 of the Berne Convention, including any other original works within the meaning of that Convention.³¹⁵

³¹² NAFTA Agreement, Chapter 17, which encompasses Articles 1701-1721 and four annexes.

³¹³ NAFTA Agreement, Chapter 17, Article 1701(1). For a critical analysis of the NAFTA Agreement see *inter alia* H. Rangel-Ortiz, "Intellectual Property and NAFTA with Reference to TRIPS and the Mexican Law" (1996) 27:6 I.I.C. 770-790; M.D.H. Woodward, "TRIPS and NAFTA's Chapter 17" (1996) 31 Texas International Law Journal 269-285.

³¹⁴ Each Party must accord to nationals of another Party treatment no less favourable than it accords to its own regarding protection and enforcement of intellectual properties. In respect of secondary uses of sound recordings (use of performances is normally defined as either primary, the first recording or the first broadcast, or secondary, any further use). Parties may, however, limit rights of performers of other Parties to those rights its nationals are accorded in the territory of those Parties (NAFTA Agreement, Chapter 17, Article 1703(1)).

³¹⁵ NAFTA Agreement, Chapter 17, Article 1705(1).

NAFTA protects computer programs and compilations of data, where by reason of their selection or arrangement they constitute intellectual creations.³¹⁶

Protection is granted automatically and without the fulfilment of any formalities.³¹⁷

Authors are granted the rights provided for in the Berne Convention and also the rights to control the importation of a work, the first distribution of the original and each copy of the work , the communication of a work to the public and the commercial rental of a computer program.³¹⁸

On the matter of moral rights, Annex 1701(3) states that Article 6bis of the Berne Convention shall not be enforceable in the United States, in spite of the fact that the Berne Convention binds all NAFTA's Parties.

Exceptions and limitations on rights are to be subject to *three step test* and are to be regulated by national lawmakers.³¹⁹

³¹⁶ NAFTA Agreement, Chapter 17, Article 1705(1)(a)-(b).

³¹⁷ NAFTA Agreement, Chapter 17, Article 1703(2).

³¹⁸ These four rights not explicitly granted by the Berne Convention can be found in Article 1705(2)(a-d) Chapter 17 of the NAFTA Agreement.

³¹⁹ See Article 1705(5) Chapter 17 of the NAFTA Agreement and Article 9(2) of the Berne Convention.

Where the term of protection of a work, other than a photographic work or a work of applied art, is to be calculated on a basis other than the life of a natural person, the term shall not be less than fifty years.³²⁰

NAFTA gives producers of sound recordings the right to control reproduction, importation, first distribution and commercial rental of the copies.³²¹

Exceptions and limitations on rights of producers of sound recordings must be subject to the *three step test*.³²²

Sound recording must be protected for a minimum term of fifty years.³²³

1.4.3.3 Digital aspects

(i) General

- NAFTA expressly protects computer programs and databases.³²⁴

³²⁰ From the end of the calendar year of the first authorised publication of the work, or from the making of the work (NAFTA Agreement, Chapter 17, Article 1705(4)).

³²¹ NAFTA Agreement, Chapter 17, Article 1706(1).

³²² NAFTA Agreement, Chapter 17, Article 1706(3).

³²³ NAFTA Agreement, Chapter 17, Article 1706(2).

³²⁴ NAFTA Agreement, Chapter 17, Article 1705(1)(a) and (b).

- Parties have to provide adequate and effective protection and enforcement of intellectual property rights.³²⁵

(ii) Shortcomings

The NAFTA Agreement presents the *Berne shortcomings* regarding temporary and transitory digital reproduction, Internet publication, Internet dissemination, liability of service providers, authenticity, prevention of infringement and enforcement.³²⁶

1.4.4 Cartagena Decision 351, 1993

1.4.4.1 Background

Decision 351 on Author's Right and Connected Rights, is an Andean Community Directive implemented under the Cartagena Agreement, covering authors' rights and related rights.³²⁷

³²⁵ NAFTA, Chapter 17, Article 1701.

³²⁶ See § 1.3.2.3 – Digital aspects (which deals with the digital shortcomings of the Berne Convention).

³²⁷ See *inter alia* C.M. Correa, "Andean Group: new industrial property law in the Andean Group Countries" (1992) 14 E.I.P.R. D257 and R.A. Parilli, "Copyright and Andean Community Law" (1995) 166 R.I.D.A. 56-127.

1.4.4.2 Protection afforded by the Decision

Decision 351 establishes the principle of national treatment and certain minimum rights.³²⁸

Decision 351 protects computer programs in the same way as literary works and databases, where due to their selection or arrangement they constitute intellectual creations.³²⁹

Authors are granted the moral rights of disclosure (for unpublished works), identity and integrity. Moral rights are inalienable, non-seizable, imprescriptible and non-waivable.³³⁰

Decision 351 provides for the rights to control translation, arrangement, adaptation or any other transformation of the work, its communication to the public or reproduction, the distribution of copies and the importation of copies. The *droit de suite* is to be regulated by Member States.³³¹

³²⁸ Each Member State must grant nationals of other Member States a protection no less favourable than it grants to its own nationals regarding author's rights and related rights (Decision 351, Article 2).

³²⁹ Decision 351, Articles 23 and 28.

³³⁰ Decision 351, Articles 11-12.

³³¹ Decision 351, Articles 13 and 16.

Decision 351 includes some limitations to the exclusive rights, without prejudice to any other limitations set out in national laws of the Member States provided they are subject to the *three step test*. Additionally, the Decision establishes exceptions which are only applicable to computer programs.³³²

Decision 351 provides a minimum term of protection of life of the author plus fifty years.³³³

1.4.4.3 Digital aspects

(i) General

- Decision 351 protects moral rights of divulgation, identity and integrity.³³⁴
- It expressly protects computer programs and databases.³³⁵
- Decision 351 deals with dissemination of works and related subject matter on the Internet under the notion of communication to the public.³³⁶

³³² Decision 351, Articles 21-22 and 24-27.

³³³ Decision 351, Articles 18-20.

³³⁴ Decision 351, Articles 11-12.

³³⁵ Decision 351, Articles 23 and 28.

³³⁶ Decision 351, Article 15. J.A.L. Sterling (*World Copyright Law*, (Sweet & Maxwell, 1998), 604) points out that the Decision was “*the first international instrument to deal specifically with the copyright aspects of on-line communication*”.

- It lists some measures which Member States can provide for to ensure the enforcement of the rights granted by the Decision.³³⁷

(ii) Shortcomings

Decision 351 presents the *Berne shortcomings* regarding temporary and transitory digital reproduction, Internet publication, exceptions and limitations, liability of service providers, authenticity, prevention of infringement and enforcement.³³⁸

1.5 Summary of digital aspects in the national, international and regional context

The following shortcomings are common to the instruments considered above:

- There is no express definition of either temporary or transitory digital reproduction;
- There is no express definition of publication on the Internet;
- There are no international rules regarding liability of service providers;
- There are no specific international rules dealing with adoption of encryption, watermarking, etc. to fight digital piracy and no specific enforcement rules on this area.

³³⁷ Decision 351, Articles 56-57.

³³⁸ See § 1.3.2.3 – Digital aspects (which deals with the digital shortcomings of the Berne Convention).

Thus, much still remains to be achieved at a world wide level to face the combined effect of digitalisation, global networking and information delivery on demand.

Part II – General analysis

Chapter II - Definitional questions in the digital context

“The law hath not been dead, though it hath slept.”

Shakespeare, Measure for Measure Act II Sc. 2.

2.1 Introductory

Chapter II examines problems raised by digital technology regarding the classification of subject matter, the identification of authors, fixation, reproduction, the criterion of originality and the meaning of publication.

2.2 Classification of subject-matter³³⁹

³³⁹ See *inter alia*: M. Scott and J. Talbott, "Interactive multimedia: what is it, why is it important and what does one need to know about it?" (1993) 8 E.I.P.R. 284; P-Y Gautier, "Les oeuvres multimedia en droit français" (1994) 160 R.I.D.A. 91; F. Greguras, M. Egger and S. Wong, "Multimedia and the superhighway: rapid acceleration or foot on the brake?" (1994) 11 Computer Lawyer 12; M. Henry, *Publishing and multimedia law* (Butterworths, 1994); *Sirinelli Report on multimedia and new technologies*, France, Ministère de la culture et de la Francophonie, Paris, 1994; A. Christie, "Reconceptualising copyright in the digital era" (1995) 11 E.I.P.R. 522-532; G. Dworkin, "Understanding the new copyright environment: an assessment of the state of copyright law - from Whitford to multimedia" in E. Barendt (gen. editor) *The Yearbook of Media and Entertainment law 1995* (Clarendon Press, 1995) 161; R. Holleyman and J. Steinhardt, "Multimedia in the global information infrastructure", in WIPO Symposium on Copyright in the Global Information Infrastructure, Mexico city, 1995, 55; J. Cameron, "Approaches to the problems of multimedia" (1996) 3 E.I.P.R. 115; G. Vercken, *A practical guide to copyright for multimedia producers* (Commission of the European Communities, 1996); C. Garrigues, "Databases: a subject-matter for copyright or for a neighbouring right regime" (1997) 1 E.I.P.R. 3; A. Kerever, "La problemática de la adaptación del derecho de reproducción y del derecho de representación pública en el ámbito numérico de los multimedia" (1997) 31 Boletín de derecho de autor 4; A. Strowel and J-P Traille, *Le droit d'auteur, du logiciel au multimedia* (Bruylant, 1997).

2.2.1 Introductory

Today, all categories of works and other protected material can be stored in digital format³⁴⁰. The first problem which thus emerges is one of recognition of categories of traditional works in digital format. In some jurisdictions, such as the United Kingdom, in which copyright protection is awarded to pre-determined categories of works, this may lead to uncertainty as to which creations in digital format receive copyright protection. Furthermore, there are cases in which a creation in digital format could be classified under more than one type of work.

In this context, multimedia will be used as a test case. Classic distinctions between categories of works are difficult to maintain, since works can easily be combined with other works, creating multimedia works that obscure the boundaries between different types of works.³⁴¹ Multimedia works are quite often functional and utilitarian and challenge conventional categorisation. The problem is how this reality should be incorporated into the law.

2.2.2 Defining “multimedia”

According to the European Commission it is generally accepted that *multimedia*:

³⁴⁰ For a definition of *digital format* see Appendix B - Technical Terms.

³⁴¹ Multimedia works include video games, computer games, interactive television, on-line databases, etc.

*“(...) is a digital medium combining sound, image and text, in fact data of every kind and involving a certain amount of interactivity, a software application allowing navigation, to a varying extent between the various types of data.”*³⁴²

However, the term *multimedia* is not a static term. Because it is connected to technology it evolves quite rapidly according to the fast pace of technological progress. Furthermore, it tends to be an ambiguous term, as it is able to cover many works under its umbrella. However, several features seem to characterise multimedia works.

Multimedia works combine in a single medium text, audio and video, allowing for the exploitation of existing works or new works in different formats. Secondly, the information contained in multimedia works has to be stored in a digital format.³⁴³

Multimedia works combine in a single medium different kinds of works, which become part of a single unit once they are converted into a digital format. In addition,

³⁴² G. Vercken, *A practical guide to copyright for multimedia producers* (Commission of the European Communities, 1996) 13.

³⁴³ For a definition of *digital format* see Appendix B - Technical Terms.

multimedia works are interactive³⁴⁴, allowing the user to control the presentation of the media³⁴⁵.

2.2.3 Possible solutions

2.2.3.1 General categories of works

Mihály Ficsor proposed an umbrella type provision for a Berne protocol which would leave the legal qualification to legislation. According to this solution, any right foreseen in Berne would be extended to any multimedia work which presents characteristics of the categories for which the right was created.³⁴⁶

This solution would allow these categories to be referred to in general terms and avoiding their definition.

This policy would be in line with the United States Copyright Act, according to which copyright protection subsists in “*original works of authorship fixed in any tangible*

³⁴⁴ For a definition of *interactivity* see Appendix B - Technical Terms.

³⁴⁵ DVDs, for example, give users several possibilities in terms of interactivity: for example, the user can choose the language of the subtitles, the user may even be given the option to select the ending to a film, and the user can stop watching the film and turn to the making of the film section of the DVD.

³⁴⁶ M. Ficsor, “International Harmonisation of Copyright and Neighbouring Rights”, in WIPO Symposium on Copyright in the Global Information Infrastructure, Mexico City, 1995, 376-377.

*medium of expression, now known or later developed, from which they can be perceived, reproduced or otherwise communicated, either directly or with the aid of a machine or device.*³⁴⁷ According to the Lehman Report, the list of categories of works presented in Section 102 is *“illustrative rather than inclusive.”*³⁴⁸ Therefore, works which do not fit those categories, but which comply with the originality and fixation requirements, may still receive copyright protection.

This approach has also been followed by the EC Computer Programs Directive, which avoided any definition of computer programs, which would easily become outdated.³⁴⁹

However, this system would probably not be accepted by countries like the United Kingdom, in which copyright protects specifically pre-defined categories of works.

2.2.3.2 One category covering all types of works

A possible solution could be to waive the traditional categories of works and to award the same kind of protection to all types of works, in view of the fact that all works can be converted into a single digital format. Nevertheless, this solution would not take

³⁴⁷ United States Copyright Act, Section 102(a).

³⁴⁸ US Lehman Report (*Intellectual Property and the National Information Infrastructure*, Report of the Working Group on Intellectual Property Rights, Lehman, B.A. and the Information Infrastructure Task Force, Office of Legislative and International Affairs, United States Patent and Trade Mark Office 1995) 42.

³⁴⁹ See Chapter I - Background, § 1.4.2.3 - Computer Programs Directive (Dir. 91/250/EEC).

into consideration the differences in nature between works and would require a complete redraft of the copyright system.

2.2.3.3 A new category

Another solution would lie in the creation of a new category of copyright works, based on the acknowledgement of the fact that multimedia works require a tailor-made approach. Notwithstanding, this solution would require the design of a new system of protection, one which has not been tried and tested, and which, therefore, would provide little guarantees of working in practice.

2.2.3.4 Dividing the multimedia work into parts

Yet another solution consists of dividing the multimedia work into different parts and protecting the latter according to their distinct features.³⁵⁰ However, this solution dismisses the fact that the desirability of the multimedia work results from the combination and interactivity of different works. Furthermore, this would mean that the different components of a multimedia work would be under different systems of protection, which would not be practical for dealing commercially with the multimedia work.

³⁵⁰ Pierre Sirinelli, "Le Multimédia" in P. Gavalda and N. Piakowski (editors), *Droit de l'audiovisuel* (Lamy 1995) 522.

2.2.3.5 Combination of copyright and *sui generis* protection

Yet another solution would be to recognise the fact that, multimedia works, like databases, represent a great investment which requires protection even in the absence of the traditional threshold of originality. Therefore, multimedia works could be qualified as databases and placed under a system combining copyright protection and *sui generis* protection, in line the EC Database directive, which established the traditional copyright protection system for original compilations of data and a system of *sui generis* protection for non-original compilations of data.³⁵¹

According to this solution, multimedia works which are “*the author’s own intellectual creation*”³⁵², would be protected by copyright. Non-original multimedia works, that is, multimedia works which have not been methodically selected or arranged would still be protected by the *suis generis* right.³⁵³

³⁵¹ See Chapter I - Background, § 1.4.2.4 – Database Directive (Dir. 96/9/EEC). See I. Stamatoudi (*Copyright and Multimedia Works: A Comparative Analysis* (Cambridge University Press, 2001) 249-256) who looks at the protection of multimedia products under database law.

³⁵² EC Database Directive, Article 3(1).

³⁵³ EC Database Directive, Article 7.

2.3 Identification of authors³⁵⁴

2.3.1 Introductory

Today, any end user equipped with a personal computer and an Internet connection can manipulate works and other protected subject matter and then make them globally accessible on the Internet. Thus, there is little assurance regarding the reliability of information available on-line. There may be inaccuracy in attribution of authorship, which may harm the author's moral right of identity and the public interest in knowing who the author is.³⁵⁵

2.3.2 Possible solution

The solution may reside in the use of the new control mechanisms, such as encryption, granted to authors by new technology.

³⁵⁴ See Chapter I - Background, § 1.2.2.3 – Authorship and ownership.

³⁵⁵ This issue is studied in Chapter IV – Problems concerning authenticity, infringement and enforcement, § 4.2 – Problems concerning authenticity. Other questions emerge in connection with the issue of authorship. For analysis of whether the digital world will reduce or erase the role of publishers and distributors and whether the author will have a more prominent place in the distribution of works and other protected material by distributing them himself on the Internet, see Chapter III – Problems affecting the scope of granted rights and liability of service providers, § 3.3.5.1 - Decrease of distributors' traditional role, where these issues are considered.

2.4 Fixation³⁵⁶

2.4.1 Introductory

Traditionally, fixation is defined as *“capturing a work in some form of enduring physical expression, be it writing, printing, photography, sound or visual recording, carving, engraving, building, graphic representation or any other appropriate method allowing subsequent identification and reproduction of the author’s creation.”*³⁵⁷

Fixation used to stand for a stable and permanent form. Nevertheless, digital technology has rendered this notion obsolete. Today works can be created without being fixed in a permanent form. Intangibility and transitory nature are common features of works which are placed on the Internet.

A work is sufficiently fixed when, for example, it is downloaded on to a floppy disc or when a copy of the document is printed. Clearly, at any of these points the information can be captured in some form of enduring physical expression.

According to the Lehman Report:

³⁵⁶ See Chapter I – Background, § 1.2.2.2 – Fixation.

³⁵⁷ WIPO Glossary, 116.

*“While a transmission may result in a fixation, a work is not fixed by virtue of the transmission alone. Therefore, live transmissions via the NII [National Information Infrastructure] will not meet the fixation requirement, and will be unprotected by the Copyright Act, unless the work is being fixed at the same time as it is being transmitted.”*³⁵⁸

With analogue technology, information had to be stored in a material support, such as paper, floppy discs, CD-ROMs or DVDs. Today, distribution of digitised material on the Internet has become a common practice. Information can be accessed and retrieved on-demand,³⁵⁹ interactively³⁶⁰ and independently of any material support. In view of this dematerialisation of information the concept of *fixation* of information on a stable material support seems difficult to sustain as a prerequisite for the qualification of a creation as a copyright work.

2.4.2 Possible solutions

³⁵⁸ US Lehman Report (*Intellectual Property and the National Information Infrastructure*, Report of the Working Group on Intellectual Property Rights, Lehman, B.A. and the Information Infrastructure Task Force, Office of Legislative and International Affairs, United States Patent and Trade Mark Office, 1995) 27.

³⁵⁹ The user may choose the time and the place in which to access the information.

³⁶⁰ The user can manipulate the information, which means that the information does not have a stable and permanent form.

2.4.2.1 The position of the civil law author's right system

It seems that this tendency of dematerialization of information can only accelerate in this age of digital networks and information delivery on-demand. Furthermore, the time in which the work is fixed may be reduced to a fraction of a second, when, for example, the work is stored in *Random Access Memory* (RAM)³⁶¹. If the concept of fixation is to be so limited, the emerging question is whether such concept still serves a useful purpose.

In civil law countries the general rule is that author's right originates with the act of creation and fixation is not required.³⁶² A possible solution is for the copyright system to follow the general rule of the civil law countries and abandon the need to meet the *fixation* requirement before awarding protection to works.

2.4.2.2 The position of the common law copyright system

In common law countries fixation is generally required for the subsistence of copyright in a work.³⁶³ Another possible solution is for the copyright system to follow the general rule of the common law countries and establish the fixation requirement in the digital world.

³⁶¹ For a definition of *Random Access Memory* (RAM) see Appendix B – Technical Terms.

³⁶² See Chapter I – Background, § 1.2.2.2 – Fixation.

³⁶³ See Chapter I – Background, § 1.2.2.2 – Fixation.

2.4.2.3 The solution of the Berne Convention

Yet another solution is to maintain the *status quo* provided by the Berne Convention³⁶⁴, allowing national lawmakers to decide whether works can be protected independently of fixation.

2.5 Reproduction

2.5.1 Introductory

The agreed statement concerning Article 1(4), adopted under the aegis of the WIPO Copyright Treaty clarified that digital reproduction is covered by Article 9(1) of the Berne Convention.³⁶⁵ However, the agreed statement did not clarify the boundaries of

³⁶⁴ Berne Convention, Article 2(2).

³⁶⁵ The words *in any manner or form* of Article 9(1) of the Berne Convention seemed to cover all methods of reproduction, including reproduction of a work in digital form. The agreed statement confirmed this: “*The reproduction right, as set out in Article 9 of the Berne Convention and the exceptions permitted thereunder fully apply in the digital environment, in particular to the use of works in digital form*”.

the reproduction right in connection with temporary copying.³⁶⁶ Since the WIPO Treaties achieved no binding decision on whether the reproduction right covers temporary copies, ultimately, whether or not temporary copying into *Random Access Memory* (RAM),³⁶⁷ is a reproduction depends on the interpretation of Article 9 of the Berne Convention by national lawmakers. Thus, the question is whether transitory storage qualifies as reproduction within the meaning of Article 9(1) of the Berne Convention.

Screen display, for instance, involves acts of temporary reproduction of the work, unless the user is equipped with a dumb terminal, which does not have memory capacity.³⁶⁸ If the user is equipped with a personal computer, which has memory capacity, the work will be temporarily stored in RAM. RAM storage can last for less than a second or for as long as the power is on, but once the computer is switched off

³⁶⁶ The right of reproduction in draft Article 7 of the *Chairman's Basic Proposal for the WIPO Copyright Treaty* issued in August 1996 (available at http://www.wipo.org/eng/diploconf/4dc_all.htm) would have deemed digital copies, independently of their temporary or transient nature, as reproductions. If this draft had been inserted in the WIPO Copyright Treaty, making copies in RAM in the course of browsing a work on a screen would have amounted to copyright infringement, unless authorised by the author or by law. However, the right of reproduction in draft Article 7 was deleted. Instead, the agreed statement concerning Article 1(4) was adopted.

³⁶⁷ For a definition of *Random Access Memory* (RAM) see Appendix B – Technical Terms.

³⁶⁸ For a definition of *dumb terminal* see Appendix B – Technical Terms.

all storage in RAM will disappear.³⁶⁹ The case law in this area remains contradictory.³⁷⁰

³⁶⁹ According to the US Lehman Report, “works are not sufficiently fixed if they are “purely evanescent or transient” in nature, “such as those projected briefly on a screen, shown electronically on a television or cathode ray tube, or captured momentarily in the memory of a computer”. The Report notes, however, that “electronic network transmissions from one computer to another, such as e-mail, may only reside on each computer in RAM, but that has been found to be sufficient fixation.” (*Intellectual Property and the National Information Infrastructure*, Report of the Working Group on Intellectual Property Rights, Lehman, B.A. and the Information Infrastructure Task Force, Office of Legislative and International Affairs, United States Patent and Trade Mark Office, 1995, 28). See **Advanced Computer Services of Michigan Inc. v. MAI Systems Corp.** (845 F.Supp. 356, 363 (E.D. Va. 1994)), in which it the court, relying on **MAI Systems Corp. v. Peak Computer Inc.**, 991 F.2d 511 (9th Cir. 1993), concluded that a program stored only in RAM is sufficiently fixed. The court held that a computer program, “in the form of electrical impulses in RAM, is adequately “fixed” to qualify as a “copy” for purposes of the Act” because “once a software program is loaded into a computer’s RAM, useful representations of the program’s information or intelligence can be displayed on a video screen or printed out on paper.” See also **Intellectual Reserve, Inc. v. Utah Lighthouse Ministry, Inc.** (75 F.Supp. 2d 1290 (D. Utah, Dec. 6, 1999)), where the plaintiff, a corporation who owned the copyright and other intellectual property assets used by *The Church of Jesus Christ of Latter-day Saints* brought suit for copyright infringement against the operators of a web site who had placed parts of the *Church Handbook of Instructions: Book 1, Stake Presidencies and Bishoprics* in their web site, without reproducing the copyright notice. The court stated that “central to this inquiry is whether the persons browsing are merely viewing the Handbook (which is not a copyright infringement), or whether they are making a copy of the Handbook (which is a copyright infringement)”. The court held that by viewing a web page containing infringing material through a browser, the user is himself infringing the copyright in the underlying work. “When a person browses a web site, and by so doing displays the Handbook, a copy of the Handbook is made in the computer’s random access memory (RAM), to

2.5.2 Possible solutions

2.5.2.1 Protection of all acts of reproduction

An option would be to equate temporary storage to reproduction. However, in the physical world, the acts of reading and viewing are gratuitously accessible to the public. If temporary storage is equated to reproduction, viewing a work on screen for a few seconds, which necessarily implies storage of the work in *Random Access Memory* (RAM)³⁷¹, for a few seconds, will be a restricted act.

The copyright system has tried to achieve a balance between interests of authors in obtaining a fair return for their creative work and public interest in access to

permit viewing of the material. And in making a copy, even a temporary one, the person who browsed infringes the copyright.”

³⁷⁰ See *TriadSystems Corp. v. South-eastern Express Co.* (31 USPQ.2d 1239 (ND Cal. 1994)), where the court rejected the defendant’s argument that the RAM embodiments did not last long enough to be fixed, saying that “*the copyright law is not so much concerned with the temporal “duration” of a copy as it is with what that copy does, and what it is capable of doing while it exists. Transitory duration is a relative term that must be interpreted and applied in context.*” The court held that regardless of how long a work is materialised in RAM in a particular computer, “*an ephemeral RAM copy of [plaintiff’s] operating system software is the functional equivalent of a longer lasting copy in other computer systems. As a result, the kind of temporal distinction [defendant] is attempting to draw is not probative of the fixation question.*” The court thus deemed the duration prerequisite to be irrelevant.

³⁷¹ For a definition of *Random Access Memory* (RAM) see Appendix B – Technical Terms.

information. Qualification of acts, such as screen display, as reproduction, may jeopardise that balance of interests by transforming acts such as private viewing on screen into restricted acts.

If screen display is qualified as reproduction users may need permission to browse on the Internet as they browse in a bookshop in the physical world and public access to information could be restricted.

2.5.2.2 Exemption of technical acts of reproduction

Another possible solution could be to follow in this respect the EC Copyright/Information Society Directive³⁷², which tries to solve the problem regarding the status of temporary copies which are part of a technical procedure.

Article 2 of the EC Copyright/Information Society Directive sets out a very broad protection of the reproduction right qualified by four elements:

- The first element (*direct/indirect*) means that reproduction can be performed directly onto the same medium or onto a different medium³⁷³;
- The second element (*temporary/permanent*) covers all kinds of reproduction that may take place over the Internet, whether tangible or intangible;

³⁷² See Chapter I - Background, § 1.4.2.7 - Copyright/Information Society Directive (Dir. 2001/29/EC)

³⁷³ In line with Article 10 of the Rome Convention and with Article 7 of the EC Rental Right Directive.

- The third element (*in any means and in any form*) clarifies that reproduction may occur on-line or off-line, in material or immaterial form;
- The fourth element (*in whole or in part*) establishes the irrelevance of quantitative assessments to ascertain that an unauthorised reproduction was carried out.

Article 2 of the EC Copyright/Information Society Directive thus covers temporary copies.³⁷⁴ Nevertheless, to keep the balance of interests, Article 5 of the Copyright/Information Society Directive then provides for an exception for temporary acts of reproduction which are part of a technological process for the purpose of enabling use of a work or other subject matter, provided they lack independent economic significance³⁷⁵. The principle is that certain technical acts of reproduction should be exempted from the scope of the reproduction right because they have no separate economic significance.

³⁷⁴ However, Article 2 of Directive 2000/31/EC does not define temporary or transitory digital reproduction.

³⁷⁵ EC Copyright/Information Society Directive, Article 5(1). If this exception were not compulsory some Member States may have required the economically insignificant acts of reproduction to be authorised by the right holder.

2.6 The criterion of originality³⁷⁶

2.6.1 Introductory

Originality is still the essence of copyright³⁷⁷. However, the drafters of the Berne Convention did not define *originality*. Furthermore, copyright has been stretched to cover a variety of works of a functional and utilitarian nature, such as computer programs and databases, which may only entail a low degree of originality. These works are informative, educational or merely useful, rather than the expression of the

³⁷⁶ See *inter alia*: J. Keustermans, "The intellectual effort requirement in chip protection laws compared to the originality requirement in copyright law" in W. Korthals Altes, E., Dommering, B., Hugenholtz, and J. Kabel, (editors), *Information law towards the 21st century* (Kluwer, 1992) 309; P. Cerina, "The originality requirement in the protection of databases in Europe and the United States" (1993) 24 I.I.C. 579; S. Chalton, "The Criterion of originality for copyright in computer programs and databases: a galloping trojan horse" (1993) 9 C.L. & S.R. 167; A. Narayanan, "Standards of protection for databases in the European Community and the United States: Feist and the myth of creative originality" (1993-1994) 27 The George Washington Journal of International Law and Economics 457.

³⁷⁷ The importance of originality was reiterated in **ProCD, Inc. v. Zeidenberg** (908 F. Supp. 640 (WD.Wis. 1996)), where a software producer filed a suit against users who had copied telephone listings stored on software and had made such listings available on the Internet for commercial purposes. The District Court held that the defendants did not violate the plaintiff's copyright by so doing. The District Court, relying on **Feist Publications, Inc. v. Rural Telephone Service Co.** 499 U.S. 340 (1991), held that the directory listings were merely: "(...) *a collection of facts arranged in a commonplace, non-original fashion and that the listings themselves were not copyrightable. (...) Without originality, time and effort do not factor into the copyright equation*".

personality of their authors. The originality of these works often lies in their selection, structure and arrangement. The significance of these new works lies in their commercial value and not so much in their originality. The emerging questions are: What criteria should be used to ascertain whether a work created on-line is original? Do new originality requirements have to be introduced?

2.6.2 Possible solutions

2.6.2.1 The notion of originality of the common law copyright system

In the copyright system, as applied in the UK and many Commonwealth countries, a work will receive copyright protection provided it is not copied and originates from the author. The fundamental test is whether *skill, labour and judgement* have been invested in its creation. Therefore, more works may be protected under this system than under the Continental author's rights system.³⁷⁸

In the common law jurisdictions often the standard of originality required for copyright protection has been lowered so as to protect works which would have been more appropriately protected by unfair competition laws where copying of such works would provide the infringer with an unfair advantage.³⁷⁹

³⁷⁸ See Chapter I - Background, § 1.2.2.1 – Originality.

³⁷⁹ S. Ricketson, *The Berne Convention for the Protection of Literary and Artistic Works 1886-1986* (Kluwer, 1987) 900-901.

Because of the ample notion of originality of the common law system, this system can more easily protect the new digital works.

2.6.2.2 The notion of originality of the civil law author's right system

The Continental system has had more difficulties in protecting the new digital works, because of its stricter originality threshold, according to which the work is the expression of the personality of their author.³⁸⁰

2.6.2.3 The common denominator between the two systems

The copyright system has been influenced by the philosophy of the author's right system. In the United Kingdom, the protection of databases as copyright works required a higher degree of originality than the traditional one. To receive protection, databases have to be "*the author's own intellectual creation*".³⁸¹ In the United States, in **Feist Publications, Inc. v. Rural Telephone Service Co.**, it was held that the white pages of a telephone directory did not have a *modicum of creativity*, necessary to be entitled to copyright protection³⁸².

³⁸⁰ See Chapter I - Background, § 1.2.2.1 – Originality.

³⁸¹ EC Database Directive, Article 3(1).

³⁸² **Feist Publications, Inc. v. Rural Telephone Service Co.** 499 U.S. 340 (1991).

On the other hand, the Continental system has been influenced by the common law system standpoint. This was triggered by the European Community legislative reply to the arrival of new digital works, which incorporated computer programs and databases into the scope of copyright.³⁸³

Therefore, the criterion of originality has been made higher in the common law system and lowered in the Continental system in order to protect the new digital works.

Computer programs and databases will be protected provided they are the “*author’s own intellectual creation*”.³⁸⁴ Thus, the notion of “intellectual creation”, has become a common denominator between the two systems.

2.7 The meaning of publication³⁸⁵

2.7.1 Introductory

³⁸³ See Chapter I - Background, § 1.4.2.3 – Computer Programs (91/250/EEC) and § 1.4.2.4 – Database Directive (Dir. 96/9/EC).

³⁸⁴ EC Computer Programs Directive, Article 1(3) and EC Database Directive, Article 3(1).

³⁸⁵ See *inter alia*: C. Clark, “The copyright environment for the publisher in the digital world” in WIPO Symposium on the Future of Copyright and Neighbouring Rights, Paris, 1994; C. Clark, “Publishers and publishing in the digital era” in WIPO Symposium on Copyright in the Global Information Infrastructure, Mexico City, 1995, 342.

Traditionally, *publication* is defined as “*meaning any work made accessible to the public*”.³⁸⁶ In a more restricted legal sense, however, a published work generally means “*a work made available to the public through reproduction and distribution of copies thereof. More detailed conditions to be fulfilled in respect of a work before it can be regarded as a published work are provided in international conventions and in some national laws; for example, publication conforming with the Universal Copyright Convention is subject to distribution to the public of copies from which the work can be read or otherwise visually perceived.*”³⁸⁷

Today works are regularly placed on the Internet enabling users to have access to them at a time and place individually chosen by them. With the advent of digital technology, the emerging question is what constitutes publication on the Internet. The definition of publication in the digital environment will have important consequences on both the *term of protection* and the concept of *country of origin*.

2.7.2 Term of protection

According to Article 7(8) of the Berne Convention, the term of protection is governed by the legislation of the country where protection is claimed. However, unless otherwise established by the legislation of the country where protection is sought, the term of protection, shall not exceed that granted in the country of origin.

³⁸⁶ WIPO Glossary, 207.

2.7.3 Country of origin

The general rule is that the establishment of the country of origin is based on the notions of nationality or publication.³⁸⁸

2.7.3.1 The concept of “published works”

The expression “published works” means in the Berne Convention “*works published with the consent of their authors, whatever may be the means of manufacture of the*

³⁸⁷ WIPO Glossary, 207.

³⁸⁸ Berne Convention, Article 5(4). The Berne Convention has four connecting factors for eligibility of protection:

- Nationality or habitual residence (Berne Convention, Article 3(1)(a) and (2));
- First publication (Berne Convention, Article 3(1)(b));
- Headquarters or habitual residence of the maker of a cinematographic work (Berne Convention, Article 4(a));
- Headquarters or habitual residence of authors of works of architecture or of other artistic works incorporated in a building or in another structure (Berne Convention, Article 4(b)).

The Berne Convention also contains rules establishing which connection factor will take priority. This is relevant in cases in which more than one connection factor can apply. According to Article 5(4), if the work was first published in a country of the Union, the country of first publication will be the country of origin of the work (regardless of the fact that the author of the work may be a national of another country of the Union). For an analysis of Berne’s notion of country of origin, see Chapter V – Conflict of laws, § 5.5.1 - The Berne Convention.

*copies, provided that the availability of such copies has been such as to justify the reasonable requirements of the public, having regard to the nature of the work.*³⁸⁹

2.7.3.2 The availability requirement

Is the availability requirement fulfilled in the digital world? According to Article 3(3) of the Berne Convention, a work has to fulfil several conditions to be classified as a published work. The availability requirement means that the number of distributed copies - the availability of such copies - has to fulfil the reasonable requirements of the public, having regard to the nature of the work.

The Internet is an international network of computers that stretches around the globe.³⁹⁰ It uses telephone lines, optic cables, radio waves and satellite signals to link millions of computers. It allows people everywhere to divulge information by sharing files and information using e-mail³⁹¹, the World Wide Web³⁹² and newsgroups.³⁹³ Thus, the availability of information, delivered on an on-demand basis, seems to justify the reasonable requirements of the public.

³⁸⁹ Berne Convention, Article 3(3).

³⁹⁰ See Appendix A – History and operation of the Internet.

³⁹¹ For a definition of *e-mail* see Appendix B – Technical Terms.

³⁹² For a definition of *World Wide Web* see Appendix B – Technical Terms.

³⁹³ For a definition of *newsgroups* see Appendix B – Technical Terms.

2.7.3.3 Possible solution

Once established that the availability requirement seems to be fulfilled in the digital context, it remains that to avoid legal uncertainty the definition of on-line publication should be clarified at an international level. A possible solution could be:

- to regard the act of placing works on the Internet, by authors or with their consent, as an act of publication (from which the date of publication can be ascertained);
- to equate the country of publication to the country where the server, to which the work is uploaded, is located, and
- if the work is simultaneously uploaded to several web sites, located in different countries, to treat this case as one of simultaneous publication.³⁹⁴

2.8 Proposed solutions

At an international level the problems raised in the digital context regarding classification of subject matter, identification of authors, fixation, reproduction, criterion of originality and the meaning of publication, are not expressly covered by any legal provision and are thus subject to a certain amount of legal uncertainty.

³⁹⁴ See Articles 3(4) and 5(4)(b) of the Berne Convention. In the case of works published simultaneously in a country outside the Berne Union and in a country of the Union, the latter country shall be deemed the country of origin of the works.

The proposals which are put forward by this thesis are analysed in Chapter VI - International Digital Copyright Protection System.³⁹⁵

³⁹⁵ For suggested proposals see Chapter VI - International Digital Copyright Protection System, § 6.3 - Definitional proposals, § 6.4 - Obligational proposals, § 6.5 - Conflict of laws proposals and § 6.6 - Technological proposals.

**Chapter III - Problems affecting the scope of granted rights and liability
of service providers**

*“Art is a human activity having for its purpose the transmission to others of the
highest feelings to which men have risen”*

Tolstoy, What is Art? Chap. viii

3.1 Introductory

Chapter III investigates digital challenges concerning the recognition of moral rights (divulgence, identity and integrity), the recognition of economic rights (reproduction, communication, including *on-demand availability*, adaptation and distribution), exceptions and limitations, and exemptions from liability of service providers.

3.2 Problems of scope of moral rights³⁹⁶

3.2.1 Introductory

The EC Green Paper points out that in an interactive environment it will be easy to modify and adapt existing works.³⁹⁷ Therefore, author's moral rights, including the

³⁹⁶ *Moral rights* arise automatically with the creation of the work and in general cannot be assigned. They allow the author to control the uses made of the work irrespective of assignment of economic rights. Their aim is to ensure the respect for the author's personality as expressed in the work. See Chapter I - Background, § 1.2.2.4 – Moral rights.

³⁹⁷ See European Commission, *Green Paper on Copyright and Related Rights in the Information Society*, July 1995, (COM (95) 382 final, available at <http://www2.echo.lu/legal/en/ipr.html>).

right to object to any unauthorised modification of his works and to be identified as author, will be vital.³⁹⁸

Some digital challenges regarding the rights of divulgation, identity and integrity will now be considered.³⁹⁹

³⁹⁸ Nevertheless, the draft EC Copyright/Information Society Directive did not recommend any action on the matter of moral rights. It merely stated that: “*With respect to some of the issues, market developments need to be further studied before a policy decision on their follow-up can be taken. This is in particular true with respect to the issue of moral rights protection in the Information Society context where an initiative for harmonisation could be prepared as soon as the need occurs.*” (see European Commission, draft EC Copyright/Information Society Directive, COM (97) 628 final 97/0359 (COD) 9 available at <http://europa.eu.int/comm/dg15/en/intprop/intprop/1100.htm>). Although the European Commission, in the Green Paper recognised the importance of moral rights in the digital environment, it has not yet come forward with any proposal to ensure their protection (see *Green Paper on Copyright and Related Rights in the Information Society*, July 1995, (COM (95) 382 final, available at <http://www2.echo.lu/legal/en/ipr.html>). The EC Copyright/Information Society Directive states in its recital (19) that moral rights should be exercised in accordance to the legislation of Member States and the Berne Convention, the WIPO Copyright Treaty and the WIPO Performances and Phonograms Treaty. “*Such moral rights remain outside the scope of this Directive.*”

³⁹⁹ See *inter alia*: M.A. Lemley, “Rights of Attribution and Integrity in On-Line Communications” (1995) J. Online Art.2 available at <http://ifla.inist.fr/ifla/documents/infopol/copyright/lemm1.htm>; A. Taebi, “Impact of information superhighway on non-economic rights” (1995) 11 C.L. & S.R. 327–328; J. Schurtz-Taylor, “The Internet Experience and Author’s Rights – An overview of some of the present and future problems in the digital information society” (1996) 24:2 International Journal of Legal Information 125-129; M. Holderness, “Moral Rights and Authors’ Rights: The Keys to the Information Age” (1998) 1 The Journal of Information Law and Technology, available at

3.2.2 Right of divulgation⁴⁰⁰

3.2.2.1 Unauthorised dissemination

In the digital environment, it is more difficult for the author to enforce the decision of whether or not to divulge his work. This is because works can easily be placed on the Internet without the agreement of the author.

Example: A is a PhD student who wants to publish a paper she has just written. A e-mails her paper to B, who is in the writing-up stage of his PhD and has published several papers, for purposes of friendly analysis and criticism. B e-mails A's paper to C, for further analysis and C then places the paper on a newsgroup⁴⁰¹ without A's consent.

Example: D, a famous painter, is working on a new painting. A reporter went to D's studio to interview him. Without D's permission the reporter took a photograph of D's

http://elj.warwick.ac.uk/jilt/infosoc/98_1hold/; A. Françon, "Protection of Artists' Moral Rights on the Internet" in Pollaun-Duliam, F. (editor) *The Internet and Author's right* (Sweet & Maxwell, 1999) 73-86; G. Lea, "Moral Rights and the Internet: Some thoughts from a Common law Perspective" in Pollaun-Duliam, F. (editor) *The Internet and Author's right* (Sweet & Maxwell, 1999) 87-104.

⁴⁰⁰ The *divulgation right* is the author's right to decide whether to make his work available to the public and to choose the methods of disclosure.

⁴⁰¹ For a definition of *newsgroup* see Appendix B – Technical terms.

painting and sold it to E who has made the image of the unfinished painting available on the Internet.

3.2.3 Right of integrity⁴⁰²

3.2.3.1 Manipulation

Even if the work is disseminated with the author's agreement, there is no guarantee that the method and conditions of disclosure will remain the ones the author chose, since technology enhances the power of end users. Users can easily manipulate, disclose and distribute works in a format not selected by their creators.

(i) Alteration of structure of work

Example: Without F's authorisation some web sites on the Internet have made available incomplete versions of her book, which only focus on its most controversial passages. They give an inaccurate image of F's original work, endangering her reputation.

(ii) Combination of works

Example: A logo, which is a combination of elements from Rembrandt's *The Nightwatch* and G's most recent painting, was developed for the purpose of inclusion in a web page. This was done without G's authorisation and was a clear manipulation of G's work along with an out of copyright Rembrandt.

(iii) Creation of inferior version

Example: H is a popular singer. Without his consent, a modified and poor quality version by I of H's latest song may be found on the Internet. Members of the public are given the impression that H is the author of this version.

(iv) Distortion of work

Example: Without J's authorisation his photograph was appropriated and digitised by an artist. The print was obtained from books so the quality is inferior. The artist cropped the image to show certain details, inserted a background of flames in the photograph, coloured it (the original photograph was black and white) and then placed it on the Internet.

(v) Alteration of perspective

⁴⁰² The *integrity right* generally prevents any distortion, mutilation or other modification of a work, which endanger the author's legitimate interests in the work, his honour or his reputation.

Example: K's painting is, without his authorisation, now available on the Internet. It can be found in an art site containing a three-dimensional gallery, which includes his painting. It has flat pictures on the wall, but as the corner is turned the perspective changes and the user feels as if he is in a virtual gallery.⁴⁰³ As the perspective changes, the shape of the pictures changes.

3.2.3.2 Ease and speed of manipulation in cyberspace

Works could be manipulated before the advent of digital technology. However, manipulation of works was not as easy, as fast and as unrestricted as it is today. Before digital technology, only a film studio would, in general, have the tools to edit a film and a recording studio the tools to edit a song. Today anyone equipped with a personal computer and an Internet connection can edit a film they made with a digital video camera, or a song they recorded with a sound card.⁴⁰⁴ The same holds true for any material they may find on-line.

Manipulation of information became *easier and faster* because of the introduction of the personal computer, which is by nature a tool for manipulating digital data. Manipulation became *unrestricted* because anyone who has access to a personal computer can manipulate digital data, whereas tools for manipulating analogue data were expensive, complex and difficult to use.

⁴⁰³ For a definition of *virtual reality* see Appendix B - Technical Terms.

⁴⁰⁴ For a definition of *sound card* see Appendix B - Technical Terms.

The problem is that digital alteration can jeopardise the integrity of the work. It easily amounts to a distortion or other modification of a work, which may endanger the author's legitimate interests in the work, his honour or his reputation.

3.2.4 Right of identity⁴⁰⁵

3.2.4.1 Unauthorised incorporation in other works

Works are often used on the Internet in the creation of other works, without any acknowledgement of authorship in the pre-existing work.

Example: L writes a paper entitled *The Government, the Information Society and Free Speech*; this is published in *Wired*, a magazine which is available on-line. M, a reader of *Wired*, reads L's article and introduces a verbatim copy of it in a paper that he is writing on *The Government and the Information Society*. M then publishes his paper in another on-line magazine, without any acknowledgement of L's work.

⁴⁰⁵ The *identity right* entitles the author to demand that his name appear on all copies of the work and whenever the work is performed or to demand that his name not be mentioned, that is to remain anonymous. It also includes the right not to have another's work falsely attributed to another person as author.

3.2.4.2 False claim of authorship

A second problem created by the advent of digital technology concerns the easiness by which works are falsely attributed on the Internet. Any end user can simply get hold of a work placed on the Internet and disseminate it under another name, perhaps after manipulating the work.

Example: N writes a software program, places it on her web page and allows users to download it without charge. Without her authorisation O downloads N's software program and places it on the Internet under P's name.

3.2.4.3 Violation of anonymity

A third issue concerns the pursuit of anonymity. At the present moment, anonymity may be maintained in the digital world as in the physical world. However, authors who disseminate their works on the Internet may soon lose the ability to remain anonymous. Microsoft Corporation is enhancing many new Internet products to add automatically a digital signature to documents. The loss of anonymity results from the automatic addition of that signature. The implication is that a user cannot choose to leave a document unsigned, unless the user has the technological skill to avoid the insertion of such digital signature or to proceed to its removal. Thus, whether they want it or not, authors will be easily traceable in the digital context.

According to the Lehman Report⁴⁰⁶, the public should be protected from false information about who created the work, who owns rights in it and what uses may be authorised by the right holder. The desire for anonymity will be, however, sacrificed.

3.3 Problems of scope of economic rights

3.3.1 Introductory

Economic rights⁴⁰⁷ are at risk due to the challenges set by digital technology. Equipped with a personal computer and an Internet connection, any end user can illegally reproduce, communicate, adapt and distribute works and their contents.

⁴⁰⁶ The US Lehman Report defines copyright management information, as *“the name and other identifying information of the author of a work, the name and other identifying information of the right holder, terms and conditions for uses of the work and such other information as the Register of Copyrights may prescribe by Regulation”* (*Intellectual Property and the National Information Infrastructure*, Report of the Working Group on Intellectual Property Rights, Lehman, B.A. and the Information Infrastructure Task Force, Office of Legislative and International Affairs, United States Patent and Trade Mark Office, 1995, 235-236).

⁴⁰⁷ The WIPO Glossary defines these rights as *“forming the pecuniary components of copyright, as distinguished from moral rights. They imply as a rule that within the limitations set by the copyright law the owner of the copyright may make all public use of the work conditional on payment of remuneration”* (WIPO Glossary, 95).

Some digital challenges regarding the rights of reproduction, communication, adaptation and distribution will now be considered.⁴⁰⁸

3.3.2 Right of reproduction⁴⁰⁹

3.3.2.1 Lack of clarity regarding acts of temporary storage

There has been no clarification, at an international level, of the boundaries of the reproduction right in connection with temporary copying.⁴¹⁰

⁴⁰⁸ See *inter alia*: M. Ficsor, “Towards a Global Solution” in P.B. Hugenholtz (editor), *The Future of Copyright in a Digital Environment* (Kluwer, 1996) 111-137; J.C. Ginsberg, “Putting Cars on the Information Superhighway: Authors, Exploiters and Copyright in Cyberspace” in P.B. Hugenholtz (editor), *The Future of Copyright in a Digital Environment* (Kluwer, 1996) 189-219; P.B. Hugenholtz, “Adapting Copyright to the Information Superhighway” in P.B. Hugenholtz (editor) *The Future of Copyright in a Digital Environment* (Kluwer, 1996) 81-101; J.H. Spoor, “The Copyright Approach to Copying on the Internet: (Over)stretching the reproduction right?” in P.B. Hugenholtz (editor), *The Future of Copyright in a Digital Environment* (Kluwer, 1996) 67-79.

⁴⁰⁹ *Reproduction is the “making of one or more copies of a work or of a substantial part of it in any material form, including sound and visual recording. The most common kind of reproduction is printing an edition of the work. The right of reproduction is one of the most important components of copyright”* (WIPO Glossary, 223).

⁴¹⁰ This issue is analysed in detail in Chapter II - Definitional questions in the digital context, § 2.5 - Reproduction.

3.3.2.2 Ease and accessibility of copying

With traditional copying methods (such as photocopying machines, tape recorders and video recorders) reproduction takes time, costs money (at least the cost of paper, cassettes or videotapes) and usually the quality of the copies is inferior to the quality of the original.⁴¹¹

With digital technology, these disincentives to copying no longer exist. Digitisation increases the ease and speed with which works and related subject matter can be copied, the quality of the copies and the swiftness with which copies can be distributed to the public. Copying can be effected by a few keystrokes. The quality of copies is so high that there is often no discernible difference between original and copy. Copies can be distributed to the public in seconds.

Example: Q wrote a biography about a famous and controversial politician. Q's book became very popular. Recently Q found out that there were web sites on the Internet reproducing material from her book without her permission. Any end user can download the digitised book and print it out or read it on screen. Due to the popularity of Q's book, the economic rights involved are very valuable. Thus, Q is losing royalties because of these web sites.

⁴¹¹ For a comparison of legislation in various countries on traditional methods of private copying, see G. Davies and M. Hung, *Music and video private copying, an international survey of the problem* (Sweet & Maxwell, 1993).

Example: R's latest song can be illegally downloaded from several web sites located in several countries. Some of these web sites request the user to upload a certain number of copies of other songs before proceeding to the download. Other sites, however, do not make the download dependent on any previous upload of material.

Example: S took a photograph in the Gulf War; this was published in a newspaper. Subsequently, without his permission, his photograph was digitised and made available on the Internet in a web page dedicated to war news.

In conclusion, copying has been made so easy and accessible to any end user, that works and other protected subject matter require more protection from unauthorised copying.

3.3.3 Right of communication to the public, including on-demand availability⁴¹²

⁴¹² *Communication to the public* consists of “making a work, performance, phonogram or broadcast perceptible in any appropriate manner to persons in general, that is, not restricted to individuals belonging to private groups. This notion is broader than publication and also covers, among other forms uses such as public performance, broadcasting, communication to the public by wire, or direct communication to the public of the reception of a broadcast” (WIPO Glossary, 42).

In the digital environment information is stored in computers throughout the world and is available to the public for retrieval. This capacity of the Internet for two-way communication makes it different from traditional broadcasting or cable networks.⁴¹³

On the Internet, the receiver of data may be a supplier of data, an interactive reader of a document can also be their author and an interactive viewer of images can also be their creator. Users are able to download and upload information. Furthermore, because of the interactivity of some of the products available on the Internet, a reader may be given the option of choosing the course of events of an interactive book he reads on the Internet, and, a viewer of images may also create pictures within an

⁴¹³ An important issue during the discussion that led to the WIPO Treaties in Geneva, 1996, was defining the nature of dissemination of a work in digital format. Article 8 WIPO Copyright Treaty elected a broad definition of communication to the public for protecting copyright on the Internet. Within the scope of this broad communication right, one finds a right of authorising on-demand transmissions. The wording of Articles 8 WIPO Copyright Treaty and 10 and 14 of the WIPO Performances and Phonograms Treaty - Article 14 of the WIPO Performances and Phonograms Treaty grants producers of phonograms the *on-demand availability right* - is intended to cover interactive on-demand services. It addresses individual access to material available on the Internet by uploading or downloading. The *individually chosen* criterion seems to exclude any form of traditional broadcasting, such as near-on demand, where the user only has access to a pre-determined programme which is broadcast to the public irrespective of the user's individual choice. See Chapter I - Background, § 1.3.6 – The WIPO Copyright Treaty, 1996 and § 1.3.7 – The WIPO Performances and Phonograms Treaty, 1996.

interactive program.⁴¹⁴ Passive viewers (of television, for example) have become active users, able to edit information found on the Internet which is placed there either by themselves or by others.

Example: T reads a novel on the Internet using a program that allows him to choose how the course of some of the events progress, by selecting one of the given options.

The *on-demand availability right* will involve at least two digital challenges: (i) from the perspective of the right holders, a challenge regarding control of this right; (ii) from the perspective of the public, a challenge regarding public access to works and related subject matter on networks.

3.3.3.1 Control of the *on demand availability right*

The first problem is one of control of the right. The Internet is filled with works and related subject matter which have been made available to the public not by the right holders but by users.

Example: Students enrolled with a political science course were asked to do a paper about a political figure of their choice. While researching at the university library, U,

⁴¹⁴ The emerging question is whether they have copyright in the manipulated work. It seems that will only happen provided the resulting work complies with the prerequisites of originality and fixation (in the countries where fixation is required for copyright protection).

one of the students, came across an interesting book. Thinking that it would be essential for her paper, U borrowed the book, took it to the student computer lab and scanned it onto a personal computer.⁴¹⁵ Subsequently, wanting to help other fellow students, U made the scanned book available on the Internet.

3.3.3.2 Public access to information

The second problem is one of public access to information over networks. The broad scope of the exclusive right set by the WIPO Treaties may have an adverse impact on libraries and academia. This is because making a work available on-demand, even if its availability is restricted to a closed network (such as a college or a public library network, as opposed to the Internet as a whole) will constitute an infringement of the *on-demand availability right*.

Example: A university library has been told by students that it is difficult to obtain materials because of the large number of students enrolled. They suggest that the library scan several journal articles onto the university network. However, this would infringe the *on-demand availability right* of the right holders.

Example: V is a professor who teaches an art course in which she occasionally uses musical and artistic works which the University has been licensed to use. V would like to digitise these materials and place them onto the university network in order to

⁴¹⁵ For a definition of *scanning* see Appendix B – Technical Terms.

prevent their loss or deterioration, keep them organised, show them in class by use of a single piece of equipment and facilitate students' access to the material. However, this would also infringe the *on-demand availability right* of the right holders.

3.3.4 Right of adaptation⁴¹⁶

3.3.4.1 Ease and speed of manipulation

The expense, time and effort required to manipulate a work with traditional technology formerly discouraged many potential copyright infringers. Even if they were willing to go to the trouble of altering the work, it was difficult to disseminate the altered work to the public at large.

Because of the introduction of the personal computer, which is by nature a tool for manipulating digital data, alteration of works became easier, faster and within reach of any user equipped with a personal computer.

⁴¹⁶ *Adaptation* is generally understood as the “*modification of a pre-existing work from one genre of work to another, such as cinematographic adaptations of novels or musical works. Adaptation may also consist in altering the work within the same genre to make it suitable for different conditions of exploitation, such as rewriting a novel for a juvenile edition. Adaptation also involves altering the composition of the work, unlike translation, which transforms only the form of the expression thereof. Adaptation of another’s work protected by copyright law is subject to the authorisation of the owner of the copyright in the work*” (WIPO Glossary, 3).

Technical difficulties no longer discourage people from appropriating and *improving*, or even fundamentally altering a work, whether text, music, film or photograph. Once changes have been made, the mutilated work can be sent out to millions of people with a few keystrokes.

Example: W's book has been rewritten for a children's edition without her authorisation and then published on the Internet.

Example: Without his permission, X's new song has been transformed into a jingle. This jingle appears on the Internet to advertise a company that provides financial services.

Example: Y is a fan of Jodie Foster, the film star. In a magazine, Y finds a photograph of Jodie Foster with her boyfriend, which he scans onto his personal computer. Using a software program Y then zooms in on the image of Jodie Foster and excludes from it the image of her boyfriend. Then Y publishes the manipulated photo on the Jodie Foster web site, which is a celebrity fan club web site.

Example: Z goes to an art gallery and photographs a painting by AA with a digital camera. Without AA's authorisation Z subsequently downloads the image from the camera to his hard disk and extracts a character from the painting. Subsequently, Z makes the character available on his web page giving life to the help icon.

3.3.5 Right of distribution⁴¹⁷

3.3.5.1 Decrease of distributors' traditional role

Before digital technology, distributors had a prominent role because users merely consumed products exclusively distributed by intermediaries.

The first problem faced by distributors in the digital world is the loss of their predominance: equipped with a personal computer and an Internet connection users can distribute and trigger distribution of any material they either find on-line or they digitise and then release on the Internet.

Example: BB, a photographer, decides to disclose her work not in an art gallery but on the Internet. BB creates a web page to display her portfolio and gets many comments from viewers, fellow photographers and critics. Thus, the normal distribution chain is short-circuited.

⁴¹⁷ *Distribution* is defined as “offering copies of a work to the general public or any section thereof, mainly through appropriate commercial channels” (WIPO Glossary, 83). Under Article 14(1)(i) of the Berne Convention, only owners of copyright in cinematographic works enjoy the distribution right. Article 6(1) of the WIPO Copyright Treaty extends the distribution right to all authors. The WIPO Performances and Phonograms Treaty also goes beyond the Rome Convention by granting performers and producers of phonograms the distribution right (see Articles 8 and 12 of the WIPO Performances and Phonograms Treaty).

Example: CC wants to create a web page containing all his favourite pieces of culture: the first paragraph of a literature classic, the theme to a jazz song and an animated introduction from a well known cartoon series. CC scans the first paragraph of a literature classic, copies the theme to the jazz song from his CD-ROM and copies the animated introduction from a well-known cartoon series to his personal computer. Having digitised the information CC then publishes it on his web page for the world to access.

3.3.5.2 Speed and low cost of digital distribution

The second problem of traditional distribution is that digital transmission of works is fast and cheap, when compared to distribution by traditional means. Because of the speed and cost factors, traditional distribution, in these respects, cannot compete with digital dissemination of works.

3.3.5.3 Control of the distribution right

Another problem is one of control. Even if the initial distribution of copies is legal, it is virtually impossible to control their redistribution. Because information is no longer tied to tangible goods (like books, cassettes, or videotapes) it becomes much more difficult to control its flow.

3.4 Problems of exceptions and limitations

3.4.1 Introductory

This section will focus on the effect of digital technology on exceptions and limitations to author's rights.⁴¹⁸

3.4.2 Balance of interests

Copyright is sometimes described as a monopoly given to authors in the name of public interest. It is also in the name of public interest that some exceptions and limitations are imposed to copyright.⁴¹⁹ To stimulate creativity, economic and moral

⁴¹⁸ *Exceptions and limitations on copyright "consist of provisions in copyright laws restricting the exclusive right of the author with regard to the exploitation of their work. The main forms of such limitations are cases of free use, compulsory licences and statutory licences"* (WIPO Glossary, 144).

⁴¹⁹ The Berne Convention sets forth some exceptions and limitations to copyright. The exceptions allowed by Berne Convention include free use of political speeches, speeches delivered in the course of legal proceedings and lectures and addresses; use only for the purposes of private study and research; reproduction for personal or private purpose; use of short excerpts by way of quotation or illustration for teaching; and, use in connection with the reporting of current events (see Articles 2bis(1) and (2), 9(2) 10(1)-(2), Article 10bis (1)-(2) of the Berne Convention). The Berne Convention also allows for limitations to copyright in the fields of the reproduction right, the broadcasting right and the cable transmission right. Limitations are characterised by the possibility of use of a work without the

rights are given to authors. However, to assure public access to works copyright has to be subject to a number of restrictions.

Exceptions and limitations to copyright, help keep the balance between the public interest in rewarding creators and stimulating future creative efforts, and the public interest in access to information and culture.⁴²⁰

Even before digital technology, because of the tension between interests of authors on the one hand, and interests of the public, on the other, this balance was difficult to

authorisation of the author, subject to certain conditions such as the payment of equitable remuneration. Limitations may take the form of statutory or compulsory licences. In the first case, the remuneration is predetermined by law. In the second case, remuneration is negotiated with the right holder (see Articles 11bis(2), Article 13(1) of the Berne Convention and Chapter I – Background, § 1.3.2 - The Berne Convention, 1886-1971).

⁴²⁰ For an analysis of the concept of public interest in the history of copyright, in the United Kingdom, the United States, France and Germany, see G. Davies, *Copyright and the public interest* (I.I.C. Studies, 1994).

maintain.⁴²¹ With digital technology, this balance is under strain, creating problems for both authors and the public.⁴²²

⁴²¹ See *inter alia* P. Deely, "Copyright, limitation on exclusive rights: fair use" (1976) 13 Houston Law Rev. 1041; S. Ljungman, "The functions of copyright in the present day society" (1976) 88 R.I.D.A. 51; J.E. Oakes, "Copyright and the first amendment: where lies the public interest?" (1984) 59 Tulane Law Rev. 135; L.R. Patterson, "Free speech, copyright and fair use" (1987) 40 Vanderbilt Law Rev. 1; J. Griffiths, "Holding back the tide - a review of recent developments in copyright law in the United Kingdom", (1999) 13:3 I.R.L.C.T. 283.

⁴²² See *inter alia* P. Samuelson, "Legally Speaking: The NII Intellectual Property Report" (1994) available at <http://www.nlc-bnc.ca/ifla/documents/infopol/copyright/samp1.html>; P. Samuelson, "Copyright, Digital Data and Fair Use in Digital Networked Environments" (1994) available at <http://www.droit.unmontreal.ca/crdp/en...chnologie/conferences/as/samuelson.html>; D.L. Zimmerman, "Copyright in Cyberspace: Don't throw out the public interest with the bath water" (1994) Annual Survey of American Law 403-413; J. Litman, "Revising Copyright Law" (1996) 75 Oregon Law Review 19-48; R. Stallman, "Reevaluating Copyright: The Public Must Prevail" (1996) 75 Oregon Law Review 291-297; J. Schurtz-Taylor, "The Internet Experience and Author's Rights - An overview of some of the present and future problems in the digital information society" (1996) 24:2 International Journal of Legal Information 129-133; T.C. Vinje, "A Brave New World of Technical Protection Systems: Will there still be room for copyright?" (1996) 8 E.I.P.R. 431-440; J. Litman, "Reforming information law in copyright's image" (1997) 22:3 University of Dayton Law Review 587-619; A. Mason, "Developments in the law of copyright and public access to information" (1997) 11 E.I.P.R. 636; H. Brett and B. Goodger, "Libraries in the Internet and the Electronic Age" (1997) 13 E.I.P.R. 38-41; P. Samuelson, "The Copyright Grab" (1998) available at <http://www.wired.com/wired/4.01/features/white.paper.html>; T. Vinje, "Copyright Imperilled" (1999) 4 E.I.P.R. 192-207. See also *Realizing the Information Future – The Internet and Beyond*, NRENAISSANCE Committee, Computer Science and Telecommunications Board, Commission on

From the perspective of authors and publishers, the problem is that the type of copying made possible by digital technology has put restrictions to copyright under strain. Any user equipped with a personal computer and an Internet connection can reproduce, communicate, adapt and distribute works, almost instantaneously. Thus, when restrictions to copyright laid down in law before the advent of digital technology, are extrapolated and applied in the digital context, resulting uses can amount to an abnormal exploitation of the work and can unreasonably prejudice the interests of authors.

3.4.3 Public access to information

From the perspective of the public, the problem is that the concerns resulting from the vulnerability of digitised works may lead to a system of overprotection. It is illustrative of this trend the fact that the EC Green Paper⁴²³ and the United States Lehman Report⁴²⁴ supported very strong protection for right holders.⁴²⁵

Physical Sciences, Mathematics and Applications, National Research Council, National Academy Press, Washington D.C., 1994, 148-160.

⁴²³ See European Commission, *Green Paper on Copyright and Related Rights in the Information Society*, July 1995, (COM (95) 382 final, available at <http://www2.echo.lu/legal/en/ipr.html>).

⁴²⁴ See the US Lehman Report, *Intellectual Property and the National Information Infrastructure*, Report of the Working Group on Intellectual Property Rights, Lehman, B.A. and the Information Infrastructure Task Force, Office of Legislative and International Affairs, United States Patent and Trade Mark Office, 1995, 211-235.

Jaap H. Spoor points out that even applying the existing copyright rules to the Internet can result in an unintended expansion of the copyright monopoly.⁴²⁶ Due to technological reasons, it is impossible to see, hear, read, listen to or view a work over the Internet without making at least one copy of it.⁴²⁷

⁴²⁵ Both the EC Green Paper and the US Lehman Report (*supra op. cit.* at pages 64-67) advocated a broad interpretation of the concept of *reproduction*, according to which any seeing, hearing, reading, listening or viewing of material over the Internet would require the authorisation of the right holder. On the other hand, neither the European Community nor the United States assured opportunities for public access to information in the digital world via libraries. See *inter alia* J. Litman, "The exclusive right to read" (1994) 13 *Cardozo Arts & Entertainment L.J.* 29 also available at <http://www.msen.com/~litman/read.htm>; P. Samuelson, "Legally Speaking: The NII Intellectual Property Report" (1994) available at <http://www.nlc-bnc.ca/ifla/documents/infopol/copyright/samp1.html>; T. Hoeren, "The Green Paper on Copyright and Related Rights in the information society" (1995) 10 *E.I.P.R.* 511-514; L.A. Kurtz, "Copyright and the National Information Infrastructure in the United States" (1996) 3 *E.I.P.R.* 120-126; L.A. Kurtz, "Copyright and the Internet – World without borders" (1996) 43:101 *The Wayne Law Review* 117-136; S. Fraser, "The Copyright Battle – Emerging International Rules and Roadblocks on the Global Information Infrastructure" (1997) 25 *Journal of Computer & Information Law* 783-795; J. Litman, "Copyright Noncompliance (or why we can't "Just say yes" to licensing)" (1997) 29 *N.Y.U.J. INT'L L. & POL.* 237 available at <http://www.msen.com/~litman/no.htm>; J. Litman, "New Copyright Paradigms" (1997) available at <http://www.msen.com/litman~/paradigm.htm>; P. Samuelson, "The Copyright Grab" (1998) available at <http://www.wired.com/wired/4.01/features/white.paper.html>.

⁴²⁶ J.H. Spoor, "The Economic Rights Involved - General report", in Study Days organised by ALAI on *Copyright in Cyberspace*, Amsterdam 1996 (Cramwinckel, 1997), 41-53.

⁴²⁷ For one to read or view a digital work or to listen to it, the digital work must be displayed or performed, within the definition of some laws (see, for example, Section 101 of the United States Copyright Act).

Example: DD teaches a course on History of Art. **DD** scans some of the images of artworks from a book on modern Italian painting and sculpture on to the college network. Unless a statutory exception applies, each time her students see or view one of the scanned images on the college PCs, there will be copyright infringement.

Exceptions and limitations that exist in order to protect free flow of cultural, academic and educational information should be preserved as much as possible in a digital environment. However, because of the vulnerability of digitised works many authors may not be willing to follow this path.

Example: An art gallery is developing a web site of contemporary and modern art intended to help people understand the work and to provide access to works which people would not otherwise see, such as those works in the print archives. Each image in the catalogue will have scholarly information and will be usable by the public, curators, researchers and teachers. In addition each image on the site will have a link to the picture library (which sells transparencies), a link to a shop (which sells posters, prints, mugs, etc), links to specific exhibitions and links to sponsors of the gallery. Several questions arise in connection with licensing. Should there be a blanket license? Should there be free or fair use? Where does commercial become non-commercial? The art gallery needs to digitise thousands of images, not only images in the main collection, but also images in store (prints, ceramics and artefacts of various kinds). For nearly every one of them, the art gallery needs to clear permission. Artists may want all digital usage to be referred back to them for permission. They may not want collecting societies to license it automatically, because it is not a well enough established medium for reproduction.

A conflict arises since, on the one hand, exceptions and limitations must not be such as to hinder the author's will to create and, on the other hand, exceptions and limitations should not be erased from the law, in order to maintain a certain degree of free flow of information on the Internet. The challenge is to maintain an appropriate copyright balance in a digital world. If the scope of rights is extended, the scope of exceptions and limitations should also be expanded, in order to regain the necessary balance.

According to the Australian report, *Highways to Change: Copyright in the new communications environment*:

*"The challenge for copyright law in the new environment is to demonstrate that it can continue to effectively provide just and acceptable balance between the valid interests of intellectual property rights owners and the public interest in fair and reasonable access to a wide range of information."*⁴²⁸

3.5 Exemptions from liability of service providers

3.5.1 Introductory

⁴²⁸ *Highways to Change – Copyright in the new communications environment*, Report of the Copyright Convergence Group, 1994, available at <http://www.austlii.edu.au/au/other/media/>.

Frequently cyberspace infringers are either non-identifiable or cannot afford to pay compensation when taken to court, whereas service providers are identifiable and normally have the necessary funds to cover liability. Hence, it is far easier to place liability on the latter. This section will be focused on exemptions from liability of service providers.⁴²⁹

3.5.2 Some case law examples

In the United States, service providers⁴³⁰ and bulletin board service operators⁴³¹ have been held liable for direct, contributory or vicarious copyright infringement in cases where their users have been permitted to upload or download copyright works.

⁴²⁹ See *inter alia* S. Fraser, "The Copyright Battle – Emerging International Rules and Roadblocks on the Global Information Infrastructure" (1997) 25 *Journal of Computer & Information Law* 795-805; R. Julià-Barceló, "Liability For On-Line Intermediaries: A European Perspective" (1998) 12 *E.I.P.R.* 453-463; F. Macmillan and M. Blakeney, "The Internet and Communication Carriers' Copyright Liability" (1998) 2 *E.I.P.R.* 52-61; C. Kohler and K. Burmeister, "Copyright Liability on the Internet Today in Europe (Germany, France, Italy and the EC)" (1999) 10 *E.I.P.R.* 485-499; M. Schaeffer, C. Rasch and T. Braun, "Liability of On-Line Service and Access Providers for Copyright Infringing Third Party Contents" (1999) 4 *E.I.P.R.* 208-211; S. Ulrich, "Responsibility of Internet Providers – A comparative legal study with recommendations for future legal policy" (1999) 15:5 *C.L. & S.R.* 291-310.

⁴³⁰ See Appendix C – Chart on Internet intermediaries.

⁴³¹ For definition of *bulletin board service* see Appendix B – Technical terms.

In **Sega Enterprises Ltd. V. Maphia**,⁴³² a video game manufacturer brought an action against an electronic bulletin board service operator for copyright infringement, trademark infringement, trade name infringement and unfair competition. The court found that the users who downloaded or uploaded unauthorised games to the bulletin board directly infringed copyright, that the operator knew that his users were copying games, that the operator facilitated the infringing conduct and that the operator actively solicited users to upload unauthorised games. The court held that the operator was liable for wilful contributory infringement of copyright as it had knowledge of the activity and failed to take steps to prevent it. The court awarded a permanent injunction.

In **Playboy Enterprises Inc v Russ Hardenburgh**,⁴³³ a magazine publisher brought a copyright and trademark infringement action against an operator of a bulletin board service on which adult photographs were posted. The plaintiff alleged that the defendant company's service encouraged subscribers to upload unauthorised copies of photographs from a Playboy Magazine, which were then made available to paying customers of the service. Finding that there was an element of direct action or participation in the infringing act, the court held that the operator's president and sole shareholder was liable for direct copyright infringement. The operators were held liable for contributory copyright infringement.

⁴³² **Sega Enterprises Ltd. v. Maphia** 948 F.Supp. 923 (N.D. Cal. 1996).

⁴³³ **Playboy Enterprises, Inc. v Russ Hardenburgh, Inc.** 982 F.Supp. 503 (N.D. Ohio 1997).

In **Playboy Enterprises, Inc. v Webbworld Inc.**,⁴³⁴ a magazine publisher brought an action against a web site provider which sold adult photographs obtained from newsgroups for copyright and trademark infringement and for unfair competition under the Lanham Act and unfair competition claims under Texas law. The court found that the provider had wilfully infringed the publisher's copyright, namely by allowing paying subscribers to view works online, in violation of the plaintiff's display right. The court did not believe that the provider was a mere conduit between its subscribers and newsgroups, since while the provider claimed that it had no control over information retrieved by its software, it had the power to choose its newsgroup sources. The court held that two of the provider's three principals were vicariously liable for copyright infringement, since they had benefited financially and had the right to supervise the activity. The provider and two principals were permanently enjoined from infringing the publisher's copyright images.

In **A & M Records, Inc. v. Napster, Inc.**, record companies and music publishers brought a copyright infringement action against *Napster*, an Internet company that facilitated the upload and download of MP3⁴³⁵ files by its users. *Napster* allowed its users to make MP3 files stored on their own personal computers available for copying by other *Napster* users, who were able to search and download MP3 files stored on other users' computers. This process was carried out by use of *Napster's MusicShare* software, gratuitously available on the *Napster's* web site. The trial court granted a

⁴³⁴ **Playboy Enterprises, Inc. v Webbworld Inc.** 991 F Supp 543 (N.D. Texas 1997).

⁴³⁵ For a definition of *MP3* see Appendix B – Technical terms.

preliminary injunction in favour of the plaintiffs.⁴³⁶ On appeal,⁴³⁷ the court agreed that *Napster* users infringed at least the rights of reproduction and distribution of the copyright holders. The uploading of file names to the search index for other users to copy infringed the distribution right, and the downloading of files containing copyright material infringed the reproduction right. The Court of Appeals held that *Napster* had materially contributed to direct infringement.⁴³⁸ In addition, *Napster*'s failure to police their site combined with the financial benefits gained from it led to the imposition of vicarious liability.⁴³⁹ The court further held that the defendant was not entitled to "safe harbour" under the Digital Millennium Copyright Act. The Court of Appeals stated that a preliminary injunction against *Napster*'s participation in copyright infringement was required, but found the District Court's injunction overbroad. On 5 March 2001, Judge Patel issued a revised injunction consistent with the decision by the Court of Appeals.⁴⁴⁰

⁴³⁶ *A & M Records, Inc. v. Napster, Inc.* 114 F.Supp. 2ed 896 (N.D. Cal. 2000).

⁴³⁷ *A & M Records, Inc. v. Napster, Inc.* 239 F.Supp. 3ed 1004 (9th Cir. 2001).

⁴³⁸ "One who, with knowledge of the infringing activity, induces, causes or materially contributes to the infringing conduct of another, may be held liable as a "contributory" infringer" (*A & M Records, Inc. v. Napster, Inc.* 239 F.Supp. 3ed 1019 (9th Cir. 2001)).

⁴³⁹ "In the context of copyright law, vicarious liability extends beyond an employer/employee relationship to cases in which a defendant "has the right and ability to supervise the infringing activity and also has a direct financial interest in such activities" (*A & M Records, Inc. v. Napster, Inc.* 239 F.Supp. 3ed 1022 (9th Cir. 2001)).

⁴⁴⁰ *Napster* was enjoined from executing or facilitating "copying, downloading, uploading, transmitting, or distributing copyrighted sound recording". The burden of ensuring that those unauthorised acts do not occur on the system was shared between the parties. The court ordered the

3.5.3 The EC Electronic Commerce Directive

The EC Electronic Commerce Directive attempted to eliminate legal uncertainty as to liability of service provider and to harmonise the different approaches taken by member states towards service providers.⁴⁴¹

The Directive introduces exemptions from liability for those who essentially play a passive role in transmitting and storing information.⁴⁴² The EC Electronic Commerce Directive sets out certain exemptions regarding:

- *Mere conduits*, that is, those intermediaries who simply transmit information on behalf of the sender or provide the sender with access to a network;

plaintiffs to provide notice to Napster of their sound recordings “*by providing for each work: (A) the title of the work; (B) the name of the featured recording artist performing the work (“artists’ name”); (C) the name(s) of one or more files available on the Napster system containing such work; and (D) a certification that plaintiffs own or control the rights allegedly infringed.*” Both parties were ordered to “*use reasonable measures in identifying variations of the filename(s), or of the spelling of the titles or artists’ names, of the works identified by plaintiffs.*” Napster was imposed the duty of “*of policing the system within the limits of the system.*” The court further held that once Napster *receives reasonable knowledge* of the existence of specific infringing files containing sound recordings, it must, within three business days, prevent such files from being included in the Napster index. **A & M Records, Inc. v. Napster, Inc.** 2001 WL 227083 (N.D.Cal., 2001).

⁴⁴¹ The harmonisation of exemptions is significant, in view of the differing approaches of the member states towards intermediaries. Some member states, such as Sweden, had introduced legislation under which service providers were required to monitor content on their servers.

⁴⁴² See Chapter I – Background, § 1.4.2.6 - Electronic Commerce Directive (Dir. 2000/31/EC).

- Those responsible for *caching*, that is, service providers who automatically or temporarily store information to facilitate its access by subsequent users; and
- *Hosts*, that is, those who merely store information at the request of a third party, such as a bulletin board service or a web page owner.

Provided certain requirements are met, the Directive exempts service providers from liability for damages and apparently criminal prosecution, although they may still be subject to prohibitory injunctions.

3.5.4 Section 202 of the US Digital Millennium Copyright Act (incorporated in Section 512 of US Copyright Act)

In the United States, similar legislative action was taken by means of the Digital Millennium Copyright Act. The latter defines *service providers* as those that “*offering the transmission, routing or providing of connections for digital online communications between or among points specified by a user of material of the user’s choosing*” which has not been modified as to context.⁴⁴³ The US Digital Millennium Copyright Act exempts them from vicarious (but not direct) liability for copyright infringements provided certain requirements are met.

⁴⁴³ Section 512 (k) (1) of the United States Copyright Act.

3.5.5 Common points between the EC Electronic Commerce Directive and Section 202 of the US Digital Millennium Copyright Act

The following exemptions form a common denominator between the EC Electronic Commerce Directive and Section 202 of the US Digital Millennium Copyright Act:

- Article 12 of the EC Electronic Commerce Directive and Section 512 (a) of the United States Copyright Act establish limitations on the liability of service providers, when they merely transmit or host third party infringing material. Intermediaries are exempted, as mere conduits;
- Article 13 of the EC Electronic Commerce Directive and Section 512 (b) of the United States Copyright Act set out exemptions from liability for caching, when service providers automatically and temporarily store copies of the information that is conveyed over the Internet and transmitted by users in order to facilitate the access of subsequent users to such information;
- Article 14 of the EC Electronic Commerce Directive and Section 512 (c) (1) of the United States Copyright Act further contain exemptions from liability for hosting, when service providers store information provided by users of the service and at their request. It results from the American and European initiatives, that service providers will not benefit from caching or hosting exemptions, unless they act expeditiously to remove or disable access to illegal information, upon gaining

*knowledge that a user of their service has been carrying out illegal activity or awareness of facts indicating illegal activity*⁴⁴⁴.

The US Digital Millennium Copyright Act sets out an additional exemption regarding liability arising from the provider referring or linking users to an on-line location containing infringing material or activity, by using information location tools.⁴⁴⁵ This exemption is justified by the fact that providers of these tools, which are required for the functioning of the Internet and the World Wide Web,⁴⁴⁶ cannot control the information that is conveyed on the Internet.

3.5.6 Conclusion

Both the EC Electronic Commerce Directive and Section 202 of the US Digital Millennium Copyright Act have set an example that could be followed at an international level, since in the absence of global harmonisation, service providers might place their businesses in the country with the least protective system.

⁴⁴⁴ See Article 14 of the EC Electronic Commerce Directive and Section 512(c)(1) of the United States Copyright Act.

⁴⁴⁵ See Section 512 (d) of the United States Copyright Act.

⁴⁴⁶ For a definition of *World Wide Web* see Appendix B – Technical Terms.

3.6 Proposed solutions

The following problems have been identified:

- On the matter of divulgation: unauthorised dissemination; manipulation;
- On the matter of identity: unauthorised incorporation in other works; false claim of authorship; violation of anonymity;
- On the matter of integrity: manipulation;
- On the matter of reproduction: lack of clarity regarding acts of temporary storage and screen display; ease and accessibility of copying;
- On the matter of communication, including on-demand availability: control of the *on-demand availability right*; public access to information.
- On the matter of adaptation: ease and speed of manipulation;
- On the matter of distribution: decrease of distributors' role; speed and low cost of digital distribution; control of the distribution right;
- On the matter of limitations and exceptions: balance of interests; public access to information;
- On the matter of liability of service providers: legal uncertainty because of the absence of world wide harmonised rules.

The solutions put forward by this thesis can be found in Chapter VI - International Digital Copyright Protection System.⁴⁴⁷

⁴⁴⁷ For suggested proposals see Chapter VI - International Digital Copyright Protection System, § 6.3 - Definitional proposals, § 6.4 - Obligational proposals, § 6.5 - Conflict of laws proposals and § 6.6 - Technological proposals.

**Chapter IV - Problems concerning authenticity, infringement and
enforcement**

“What constitutes a state?

(...) Men who their duties know,

But know their rights, and knowing, dare maintain.

(...) And sovereign law, that state’s collected will,

O’er thrones and globes elate,

Sits empress, crowning good, repressing ill.”

Sir William Jones, Ode in Imitation of Alcæus.

4.1 Introductory

Chapter IV contemplates problems emerging in the digital context in connection with authenticity of works, infringement and the feasibility of enforcement.

4.2 Problems concerning authenticity

4.2.1 Author's rights and public interest

The discussion on authenticity focuses on the accuracy of reproduction of the presented material as compared with the initial source. There may be inaccuracy in attribution of authorship or content, which may harm the author's moral right of identity, the public interest in knowing who the author is and the public interest in accurate information.⁴⁴⁸

4.2.2 Inaccuracy in attribution of authorship or content

⁴⁴⁸ See *Realizing the Information Future – The Internet and Beyond*, NRENAISSANCE Committee, Computer Science and Telecommunications Board, Commission on Physical Sciences, Mathematics and Applications, National Research Council, National Academy Press, Washington D.C., 1994, 160-165.

The issue of authenticity is centred on the reliability of information obtained on the Internet. Information available on the Internet is often of varying quality with little assurance regarding its true origin. The question is whether one can rely on the accuracy of works and related subject matter available on the Internet. The issue of reliability concerns both authorship and the work itself. One has to ask whether the apparent author of the work is its true creator and, secondly, whether the work has been subject to manipulation.

4.2.2.1 False claim of authorship

Example: A publishes a novel on the Internet. Without her consent, B publishes a verbatim copy of the novel on his web page, claiming to be its author.

4.2.2.2 Attribution of structurally altered work

Example: C publishes a novel on the Internet. D reads C's novel, does not like the sad ending and without her authorisation decides to change it into a happy ending. D then publishes the modified novel on the Internet under C's name.

4.2.2.3 Distortion of work

Example: E's painting entitled *Portrait of a Woman* has been used without his authorisation on the Internet in an advertisement. The image was distorted and the woman has a moustache on. E is concerned because the public will not know whether the image was his original work, who made the additions or why they made them.

Example: An art student digitised F's new painting, manipulated it, printed it out as a photographic quality print about ten feet by ten feet, exhibited it in an art gallery and also made it available on the Internet. When the work of this art student is reproduced in small size on the Internet, there is so much similarity between F's work and the work of the art student that the public will not notice that it is not a work by F.

This is the moral right aspect. However, there is the public interest as well. Inaccuracy in attribution of authorship or content may be contrary to the public interest in knowing who the author is and in accurate information.

4.2.3 Public interest in knowing author's identity and in accurate information

The development of digital technology caused a shift from a society based on physical assets to an information society where intellectual property is a major asset. In the information society, the Internet is constantly used to exchange information with different degrees of economic relevance.

Thus, the economic relevance varies where G sends H an e-mail expressing his views about a football match, where I, an employee of the headquarters of a bank in America, sends J, who works with a branch of that bank in the United Kingdom, business plans and strategies for the year 2000 and where K does some Internet shopping and downloads his credit card details in order to pay the bill.

Once information is modified, subsequent users who rely on the information may be affected. Reliability of transmitted information is crucial for the information society as a whole. Ideally everyone should be able to rely on images and information obtained on the Internet.

4.2.3.1 Attribution of unauthorised political content

Example: L took a black and white photograph in Bosnia of some children. The photograph was published in a newspaper and without her consent was manipulated by a member of the public and made available on the Internet. In order to look more aggressive, a wall was put behind the children with graffiti on it saying: “*Soldiers get out*”. This raises, among other matters, questions of distortion of information as well as of the work.

4.2.3.2 Attribution of unauthorised legal content

Example: M works with a law firm located in the United Kingdom. N, a client with that firm, lives in Honolulu and asks M to draft a legal opinion regarding a tax law issue. N wants to know which is the best way of avoiding heavy taxation on certain revenues. M drafts the legal opinion and sends it to N by e-mail. Before N receives M’s e-mail, O, a hacker, gets hold of that e-mail and without any authorisation changes its contents. N, unaware that M’s legal opinion has been tampered, takes a decision based on it and, consequently, his revenues are heavily taxed.

4.2.3.3 Attribution of unauthorised religious content

Example: A Roman Catholic author who is against birth control paints a picture of a happy family consisting of a father, a mother and eight children, called *The Blessings of Family Life*. **P**, who is for birth control, sees a photograph of the painting in a magazine and without the author's consent, scans it on to his personal computer and changes the picture, so that the husband and the wife now look unhappy and the title is now *If Only We Had Known*. **P** then makes the changed picture available on the Internet.

4.2.3.4 Attribution of unauthorised medical content

Example: **Q**, a researcher, after analysing a new chemical product for a manufacturer of chemical products found that the product was not safe. **Q** sent the report to the company via the Internet. A hacker got hold of the e-mail with the report and, without any authorisation, changed it, and then published the report on the Internet, saying that the product was safe.

This is an area where the interest in protecting author's moral rights and the general public interest overlap.

4.3 Problems concerning infringement⁴⁴⁹

With the advent of digital technology, moral and economic rights became exposed to new and easier ways of perpetrating copyright infringement, such as the following.⁴⁵⁰

4.3.1 Linking⁴⁵¹

An important issue is whether providing hypertext links from one web site to another infringes the copyright in the second site. Linking to a third party site could involve, amongst other things, reproduction of the material on that site and therefore, potentially, copyright infringement. It remains to be settled by case law whether explicit authorisation is necessary to link to another site.

⁴⁴⁹ The WIPO Glossary defines *copyright infringement* as “any unauthorised use of a work protected by copyright where authorisation of the use is required by law. Infringement of copyright traditionally consists of the unauthorised use itself (e.g. exhibition, reproduction, performance, broadcasting, other communication to the public of the work without permission, unauthorised distribution, exportation, importation of copies thereof, plagiarism, derivative use without the author’s consent, etc.), In countries protecting moral rights, infringement of copyright may also consist of distortion of the work, omission of the mention of authorship, etc.” (WIPO Glossary, 131).

⁴⁵⁰ For a theoretical and practical analysis of digital infringement of moral rights (divulcation, identity and integrity) and economic rights (reproduction, communication, including on-demand availability, adaptation and distribution) see Chapter III - Problems affecting the scope of granted rights and exemptions from liability of service providers.

⁴⁵¹ For a definition of *linking* see Appendix B – Technical terms.

In the United Kingdom, in **Shetland Times v. Wills**⁴⁵², the plaintiff filed a suit against the publisher of *The Shetland News*, whose web site included hyperlinked headlines of *The Shetland Times*, which gave access to the stories on *The Shetland Times* web site. Since readers got access to the stories of *The Shetland Times* without accessing the front page of its web site, the *Shetland Times* was not able to sell much advertising space on that front page. *The Shetland Times* obtained its interim interdict (the Scottish equivalent of an interlocutory injunction) for copyright infringement. Lord Hamilton's decision was based on the finding that the newspaper headlines were protected by copyright and that there was arguably copyright infringement when the headlines were electronically copied or incorporated in a cable programme. Subsequently the two publishers settled their dispute⁴⁵³: *The Shetland News* was granted permission to link to *The Shetland Times*' headlines, but must label individual articles as "A *Shetland Times* Story" and feature a button with *The Shetland Times*' logo that links to the newspaper's home page.

In the United States, in **Bernstein v. JC Penney**,⁴⁵⁴ a professional photographer who had taken some photos of the actress Elizabeth Taylor, filed a suit for copyright infringement. The plaintiff alleged that users who visited *J.C. Penney*'s web site could, through a series of links, reach a Swedish university web site that had published two photos of Elizabeth Taylor in infringement of his copyright. Since there was no

⁴⁵² **Shetland Times v. Wills** Scotland Court of Session 1997, F.S.R 604 (1997).

⁴⁵³ See the settlement details at <http://www.news.cnet.com/news/0-1005-200-323939.html>.

⁴⁵⁴ **Bernstein v. JC Penney, Inc.** 50 U.S.P.Q.2d 1063 (C.D. Cal. 1998).

act of direct infringement in the United States, no significant participation in the infringement on the defendant's part and substantial non infringing uses for the hyperlinking technology which connected the defendants with the direct infringers, the court dismissed the photographer's complaint without comment.

In the United States, in **Ticketmaster Corp. v. Tickets.com, Inc.**,⁴⁵⁵ the plaintiff, the operator of a web site which offered tickets for sale to various entertainment events, filed a suit for copyright infringement against a competitor who linked to the *Ticketmaster's* site to enable its visitors to buy tickets to certain events. The court dismissed the plaintiff's contention that linking constituted copyright violation, because there was no literal copying of the web site.

In the United States, in **Universal City Studios, Inc. v. Reimerdes et al**⁴⁵⁶, the plaintiff, the film studio, brought an action under the US Digital Millennium Copyright Act to enjoin the defendants from providing a computer program on their web sites that permitted users to decrypt and copy the plaintiffs' films from DVDs. The court issued a preliminary injunction which prevented the defendants from distributing software that enabled copying of films stored on DVDs. The defendants then provided links to other sites offering the software and urged visitors to download it. The court held linking and encouragement to download to be unlawful, since the

⁴⁵⁵ **Ticketmaster Corp. v. Tickets.com, Inc.**, 2000 US Dist. Lexis 12987 (C.D. Cal. 2000).

⁴⁵⁶ **Universal City Studios, Inc. v. Reimerdes et al** 82 F. Supp. 2d 211, 2000 U.S. Dist. Lexis 906 (S.D.N.Y. 2000).

Digital Millennium Copyright Act prohibits circumvention of electronic copyright protections.

Two European courts have recently reached different decisions on the issue of *deep linking*, which consists of linking to an internal page of a website rather than its home page. A key problem with deep linking is that the user does not see the advertising on the home page.

In Germany, in **StepStone v. UK OfiR**,⁴⁵⁷ a United Kingdom online recruitment company filed a suit against a Danish competitor that owns online recruitment portals⁴⁵⁸ in the UK, Germany, Denmark and France, alleging that *OfiR* had deep-linked from their web site into the web site of *StepStone*. The court granted an injunction to *Stepstone* preventing *OfiR* from deep linking into the *Stepstone* web site.

By contrast, in the Netherlands, in **PCM v. Kranten.com**,⁴⁵⁹ a newspaper publisher filed a suit against an on-line news service that had linked to headlines of eight major newspapers web sites in the Netherlands, six of which were owned by *PCM*. The District Court in Rotterdam did not grant an injunction to *PCM*.

⁴⁵⁷ **StepStone v. UK OfiR** Financial Times, Jan 18, 2001.

⁴⁵⁸ For a definition of *portal* see Appendix B – Technical terms.

⁴⁵⁹ **PCM v. Kranten.com** Financial Times, 22 August 2000.

4.3.2 Framing⁴⁶⁰

A related issue is whether framing third party pages, which may give the impression that the framed content is that of the original site owner, infringes copyright.

In **Washington Post v. The Total News**,⁴⁶¹ the plaintiff, a newspaper publisher, brought a suit against the defendant for misappropriation, trademark dilution and infringement, wilful copyright violations and other related tortuous acts. The *Washington Post* claimed that the defendants' *parasitic* web site was designed to display material of the *Washington Post* and other plaintiffs inserted within a frame on the screen. These third party pages with their own advertising banners were altered to fit the size of the frame and to be viewed in parallel with the competing *Total News* logo and advertising banners. The parties settled the case before the court could rule on the merits of the claims. The defendants undertook, in particular, to cease the practice of framing the plaintiffs' web sites. In addition, the settlement provided that the defendants are allowed to link from The *Total News* web site to the *Washington Post* web site, provided *Total News* does not link in any manner that will be "*likely to imply affiliation with the plaintiffs, cause confusion or "dilute" the plaintiffs' trade marks.*" Furthermore, the plaintiff has the faculty to withdraw authorisation to link.⁴⁶²

⁴⁶⁰ For a definition of *framing* see Appendix B – Technical terms.

⁴⁶¹ **Washington Post v. The Total News** No. 97 Civ. 1190 (PKL) (S.D.N.Y. 1997).

⁴⁶² See the settlement details at <http://www.bna.com/e-law/cases/total-set.htm>.

4.3.3 Unauthorised placement of material on a web site

In **Religious Technology Center v. Netcom On-Line Communication Services, Inc.**,⁴⁶³ the plaintiff brought a suit against an operator of a computer bulletin board service and Internet access provider for copyright infringement. A subscriber of the service, Denis Ehrlich, without authorisation, had placed works by L. Ron Hubbard, founder of the *Church of Scientology*, on the bulletin board operated by the defendants. The court held that allegations that the operator of the bulletin board service had not assisted the copyright holders in stopping the posting of infringing material and had continued to publish such material after being told that such actions constituted infringement were sufficient to raise the issue of contributory infringement on the part of the operator.

4.3.4 Applicable law and jurisdiction

Another issue is what law or laws should be applicable when digitised works cross borders and in which jurisdiction copyright owners whose rights have been infringed on the Internet should take legal action.⁴⁶⁴

⁴⁶³ **Religious Technology Center v. Netcom On-Line Communication Services, Inc.** 907 F.Supp. 1361 (N.D.Cal. 1995).

⁴⁶⁴ For a study of these topics see Chapter V - Conflict of laws.

4.4 Problems concerning enforcement

The new forms of infringement of copyright create new challenges to copyright enforcement, such as the following.⁴⁶⁵

4.4.1 Infringement without trace

The Internet brings many difficulties to tracing copyright infringement, because cyberspace infringers are virtually unidentifiable. On the Internet, acts of reproduction, communication, adaptation and distribution of works can be triggered from anywhere in the world. In addition, servers can be located anywhere in the world.

The matter is further complicated by service providers' role in tracing copyright infringement. It is common practice for service providers to provide customers with access to the Internet (provided customers give them their name and address), supply the servers where data is stored and keep records of all calls made through their systems. Therefore, service providers hold data which should enable law enforcement authorities to find out where and when copyright infringement took place.

However, problems emerge in tracing the origin of the unauthorised act due to:

⁴⁶⁵ See *inter alia* P. Samuelson, "On Author's rights in Cyberspace - Questioning the need for new international rules on author's rights in cyberspace" (1996) available at <http://www.gally.firstmonday.dk/issues/issue4/samuelson>.

- the burden, from the perspective of service providers, of keeping call logs;⁴⁶⁶
- the potential lack of validity of customer information collected by service providers, and
- the potential insufficient security of their systems.

4.4.1.1 The burden of keeping call logs

A combination of systems used by service providers allows for identification of copyright infringers to be made:

- a Network Access Server, which is a device customers dial into in order to gain access to the network, and
- an Authentication Server, which is the computer that authenticates users' details (user name and password) and keeps call logs.

The Network Access Server sends the customer's name, password, IP address⁴⁶⁷ and telephone number to the Authentication Server for verification. If the verification succeeds the Authentication Server stores this information in a call log, which includes the time at which the address was allocated. Subsequently, the Network Access Server sends a signal to the Authentication Server to indicate that the user has disconnected, which information is also stored in the log.

⁴⁶⁶ For a definition of *call log* see Appendix B – Technical terms.

⁴⁶⁷ For a definition of *IP address* see Appendix B – Technical terms.

This combination of information is stored in a call log, so that an Internet address can be mapped to a telephone number. This data should enable law enforcement authorities to find out where and when copyright infringement took place.

However, a service provider will normally have several Access Servers and it may have more than one Authentication Server. The number of call logs is enormous and it is thus costly to keep such large amount of data for too long a time. Therefore, service providers will not keep such data unless they are obliged to do so.

Another problem lies in the advent of pre-paid mobile phones with Internet capability, which can be used to access the Internet. Pre-paid mobile phones can be bought of the shelf and used without any identification. In view of this, the mobile phone number of a certain user cannot be mapped to his name and address and does not enable law enforcement agencies to trace the user or even owner of the equipment.

4.4.1.2 Potential lack of validity of customer information

Service providers are subject to special obligations which include the duty of identification of copyright infringers upon request of law enforcement authorities⁴⁶⁸. For this duty to have some practical effect service providers would have to confirm

⁴⁶⁸ In the United States, according to Section 512(h) of the United States Copyright Act, a copyright owner may request a court clerk to issue a subpoena to a service provider requiring identification of an alleged infringer.

the validity of customer details. However, as a rule, service providers do not confirm the validity of customer details, such as name and address. Therefore, if a court requests information from a service provider regarding a client suspected of having stored illegally retrieved copyright material on the server of that service provider, the name and address details supplied by the service provider will not necessarily be accurate.

Example: Upon **R**'s complaint the authorities found out that illegal copies of **R**'s latest song had been stored in an account belonging to **S**. They requested **S**'s customer details from **S**'s service provider and discovered that details, such as name and address, were inaccurate. This is because the service provider did not have the policy of confirming the validity of customer details.

4.4.1.3 Potential insufficient security

Service providers do not always maintain adequate server security to prevent interlopers from using the accounts of other customers to store their illegally retrieved data. This means that a hacker may use someone else's account to store illegal material, without the knowledge of the owner of that account.

Example: Upon **T**'s complaint the authorities found out that illegal copies of **T**'s painting had been stored in an account belonging to **U**, a customer with a service provider. Further investigation disclosed that **U** had not been responsible for the storage of that illegally retrieved data in his account. Because **U**'s service provider did

not normally maintain adequate server security an unidentified interloper had used U's account to store illegally retrieved data.

This situation does not facilitate the tracing of the origin of the upload, thus, creating more difficulties in terms of copyright enforcement.

4.4.1.4 Conclusion

The conclusion is that although, in principle, service providers have access to data which should enable law enforcement authorities to find out where and when copyright infringement took place, the three factors mentioned earlier:

- the burden of keeping call logs;
- the potential lack of validity of customer information collected by service providers, and
- the potential insufficient security of their systems

add an extra level of difficulty to the process of identifying cyberspace infringers.

4.4.2 Different systems of protection

Even if the place of illegal storage can be identified, that server can be located in a country where there is no copyright protection or inadequate protection.

Example: A hacker in country V scans X's book and places the copy of X's book in a server in country Y. The authorities find out about this server storing illegal material,

so the hacker transfers the illegally acquired material to another server located in a country with a lax copyright system.

4.4.3 Compliance problem

Generally, users feel that private non-commercial copying is not illegal, and that it falls within the realms of fair use.

Example: Z, a famous painter, found out that some of her paintings had been scanned and put on the web site of a university, as teaching material for a contemporary art course. The university did not clear the rights before putting the material on the Internet. They did not think they had to do so since they were using it for teaching. They felt they could do it under fair use. The problem is that the web site is not only accessible to students on a particular course, it is accessible to anyone on the Internet.

Users with technical skills even circumvent enforcement solutions, such as data encryption.⁴⁶⁹

4.4.4 Problems with available technological measures for protection of copyright

⁴⁶⁹ See § 4.4.4.8 – Problems with available technological measures.

4.4.4.1 Introductory

Various technological measures have been developed to limit unauthorised copying. Technical solutions, such as digital watermarking⁴⁷⁰ and encryption⁴⁷¹, have been used to develop copyright protection systems to limit use to a single user and to avoid redistribution or reuse of the material.⁴⁷²

Technologies for copyright protection tend either to control access to content or to control the copying of content.

⁴⁷⁰ For a definition of *digital watermarks* see Appendix B – Technical Terms.

⁴⁷¹ For a definition of *encryption* see Appendix B – Technical Terms.

⁴⁷² See *inter alia* P. Mallam, “Copyright and the Information Superhighway: Some Future Challenges” (1995) 6 Ent.L.R. 234-237; J. Schurtz-Taylor, “The Internet Experience and Author’s Rights – An overview of some of the present and future problems in the digital information society” (1996) 24:2 International Journal of Legal Information 119-121; S. Dusollier, “Electrifying the Fence: The Legal Protection of Technological Measures for Protecting Copyright” (1999) 6 E.I.P.R. 285-297; S. Lai, “Digital Copyright and Watermarking” (1999) 4 E.I.P.R. 171-175. L. Jones, “An Artist’s Entry into Cyberspace: Intellectual Property on the Internet” (2000) 2 E.I.P.R. 79-92; K.J. Koelman, “A Hard Nut to Crack: the Protection of Technological Measures” (2000) 6 E.I.P.R. 272-288; D.S. Marks and B.H. Turnbull, “Technical Protection Measures: The Intersection of Technology, Law and Commercial Licences” (2000) 5 E.I.P.R. 198-213; K.J. Koelman and N. Helberger, “Protection of Technological Measures” in Hugenholtz, P.B. (editor), *Copyright and Electronic Commerce – Legal Aspects of Electronic Copyright Management* (Kluwer, 2000), 165-227; A.M.E., Kroon, “Protection of Copyright Management Information” in Hugenholtz, P.B. (editor), *Copyright and Electronic Commerce – Legal Aspects of Electronic Copyright Management* (Kluwer, 2000) 229-265; P. Akester, “Survey of technological measures for protection of copyright” (2001) 12:1 Ent.L.R. 36-39.

The following are some of the systems that have been developed to meet the digital challenges.

4.4.4.2 Serial Copy Management System

The Serial Copy Management System (SCMS) allows unlimited copies to be made from the original, but prevents second generation copying (i.e., copies of copies). The SCMS thus prevents the making of unauthorised multiple generations of digital copies from an original, but not of a single copy for personal use.⁴⁷³

4.4.4.3 Secure Digital Music Initiative

The Secure Digital Music Initiative (SDMI) is a technology which was established by the major recording industry trade associations and the major recording companies to enable distribution of music over the Internet in a secure format.⁴⁷⁴

4.4.4.4 Content Scramble System

⁴⁷³ The SCMS system uses copy control flags, which are embedded in the content and verify whether copying is permissible. If a user tries to do a copy from a copy, the copy device will reject it. SCMS is primarily used on digital music.

⁴⁷⁴ The SDMI system was created after the appearance of MP3 (for definition of MP3 see Appendix B – Technical terms) and consists of a file format for downloading music that prevents unauthorised reproduction and distribution of music.

The Content Scramble System (CSS) stemmed from a proposal put forward by Matsushita Electric Industrial Co., Ltd. and Toshiba Corporation, aimed at controlling access and preventing copying of DVD films.⁴⁷⁵

4.4.4.5 Digital Transmission Copy Protection

The Digital Transmission Content Protection (DTCP) was proposed by Hitachi, Intel, Panasonic, Sony, and Toshiba (also referred to as “5C”) to prevent the making of unauthorised copies of digital video.⁴⁷⁶

4.4.4.6 Macrovision - Video copy protection

This videocassette copy protection technology is used by corporations such as Hollywood studios and independent home video companies. This copy protection technology is designed to protect videocassettes, digital pay-per-view programs and DVDs against unauthorised reproduction.⁴⁷⁷

⁴⁷⁵ The CSS uses encryption to prevent unauthorised reproduction and distribution of films.

⁴⁷⁶ The DTCP is an encryption system which protects content as it is transmitted between devices (such as personal computers and DVD players). The decryption key will only be downloaded into the device if the latter is authorised to record.

⁴⁷⁷ The Macrovision – Video copy protection works by inserting a signal within an analogue video signal that prevents VCRs from recording.

4.4.4.7 Macrovision - Digital video watermarking

This system complements Macrovision's analogue copy protection technology that is implemented in the currently available DVD players and digital set-top decoders.⁴⁷⁸

4.4.4.8 Problems with available technological measures

The basic problem with available technological measures for protection of copyright and other subject matter on the Internet is that most of them have been disregarded or circumvented. In the music field, the SCMS's flags⁴⁷⁹ not only require devices where CDs are played to search for such flags, but also can be easily ignored.⁴⁸⁰ In the audio-visual field, the CSS system has been overcome by De Content Scrambling System (DeCSS). This software was developed to allow the playing of DVD films on operating systems other than Windows and Macintosh, such as Linux. The problem is that programs such as DeCSS enable users to overcome technological measures inserted in DVDs.

⁴⁷⁸ The Macrovision - Digital video watermarking system combines digital watermarking with a control module which prevents data on videocassettes, DVDs, cable, or satellite transmissions from being copied on to DVDs, DVHS, and personal computers.

⁴⁷⁹ For definition of *copy control flags* see Appendix B – Technical Terms.

⁴⁸⁰ When the user attempts to make an unauthorised copy of a work protected by SCMS, a message appears stating that he may not reproduce that work. The user is given the choice to comply with the law or to make an unauthorised copy of the work.

In **Universal City Studios, Inc. v. Reimerdes**,⁴⁸¹ the film studios filed a suit under the Digital Millennium Copyright Act to enjoin web site owners from placing DeCSS, a computer program which decrypted digitally encrypted films on DVDs, on the Internet, and from including hyperlinks to other web sites that made decryption software available. The District Court found that such activities violated the Digital Millennium Copyright Act. The court awarded the plaintiffs an injunction enjoining the defendants from placing decryption software on the Internet and hyperlinks to other web sites offering decryption software.

4.5 Proposed solutions

The following problems have been identified:

- Problems concerning authenticity: inaccuracy in attribution of authorship or content; public interest in knowing author's identity and in accurate information;
- Problems concerning infringement: new and easier ways of perpetrating copyright infringement;
- Problems concerning enforcement: infringement without trace; different systems of protection; compliance problem and problems regarding available technological measures of copyright protection.

⁴⁸¹ **Universal City Studios, Inc. v. Reimerdes** 82 F. Supp. 2d 211, 2000 U.S. Dist. Lexis 906 (S.D.N.Y. 2000).

The solutions advanced by this thesis are considered in Chapter VI - International Digital Copyright Protection System.⁴⁸²

⁴⁸² For suggested proposals see Chapter VI - International Digital Copyright Protection System, § 6.3 - Definitional proposals, § 6.4 - Obligational proposals, § 6.5 - Conflict of laws proposals and § 6.6 - Technological proposals.

Chapter V - Conflict of laws

“Let the great world spin forever down the ringing grooves of change.”

Alfred Tennyson, Locksley Hall. Line 182

5.1 Introductory

This chapter is focused on the questions of jurisdiction and choice of applicable law in the digital context. Central to this chapter is the effect of digital technology on what law or laws should be applicable when digitised works cross borders. A general analysis of conflict of laws in the realms of copyright and in the digital context is followed by the examination of what solutions can be found in national laws, international instruments and regional instruments. The chapter concludes with the presentation of some possible solutions.⁴⁸³

⁴⁸³ See *inter alia* P.E. Geller, “The Universal Electronic Archive: Issues in International Copyright” (1994) 25:1 I.I.C. 54-69; J.C. Ginsburg, “Global Use/Territorial Rights Private International Law Questions of the Global Information Infrastructure” (1995) *Journal Copyright Society of the United States* 318-338; T. Dreier, “The Cable and Satellite Analogy” in P.B. Hugenholtz (editor), *The Future of Copyright in a Digital Environment* (Kluwer, 1996) 57-65; P.E. Geller, “Conflicts of law in cyberspace: International copyright in a digitally networked world” in P.B. Hugenholtz (editor), *The Future of Copyright in a Digital Environment* (Kluwer, 1996) 27-48; J. Schurtz-Taylor, “The Internet Experience and Author’s Rights – An overview of some of the present and future problems in the digital information society” (1996) 24:2 *International Journal of Legal Information* 129-133; K. Boele-Woelki and C. Kessedijan (editors), *Internet: Which court decides? Which law applies?* (Kluwer, 1998); S. Cohen, “Jurisdiction Over Cross Border Internet Infringements” (1998) 8 *E.I.P.R.* 294-297; D. Menthe, “Jurisdiction in Cyberspace: A Theory of International Spaces” (1998) 4 *Mich. Tel. Tech. L. Rev.* 3 available at <http://www.law.umich.edu/mttlr/volfour/menth.html>; J.A.L. Sterling, *World Copyright Law* (Sweet & Maxwell, 1998), 106-114; G.W. Austin, “Domestic Laws and Foreign Rights: Choice of law in transnational copyright infringement litigation” (1999) 23:1 *Columbia-VLA Journal of Law & The Arts* 1-48; Y. Gaubiac, “Remarks about the Internet in International Copyright Conventions” in

5.2 Conflict of laws and copyright

If all the elements in a copyright case are domestic, a competent local court will apply domestic law to decide the case. However, in the context of digital use, copyright issues are not generally restricted to one country. A copyright case before the courts of a certain country may involve foreign situations and thus questions of foreign law.

The presence of foreign elements in a case gives rise to a series of problems of international private law, including deciding which court has jurisdiction, ascertaining the applicable law and securing the recognition and enforcement of foreign judgements.

Traditionally, a conflict of laws arises in a case involving a foreign element, for example, where the defendant is not a national citizen or resident, or the infringing

Pollaun-Duliam, F. (editor) *The Internet and Author's right* (Sweet & Maxwell, 1999) 105-117; P. Schönning, "Internet and the Applicable Copyright Law: A Scandinavian Perspective" (1999) E.I.P.R. 45-52; P.E. Geller, "International Intellectual Property, Conflict of Laws and Internet Remedies" (2000) 3 E.I.P.R. 125-130. For a comprehensive analysis of problems of private international law, ranging from jurisdiction and applicable law to enforcement, see Fawcett & Torremans, *Intellectual Property and Private International Law* (Clarendon Press, 1998). For a detailed analysis of the Brussels Convention on Jurisdiction and the Enforcement of Judgements and of the issue of enforcement of intellectual property rights see C. Wadlow, *Enforcement of Intellectual Property in European and International Law* (Sweet & Maxwell, 1998).

action took place in a foreign country.⁴⁸⁴ The court then has to decide whether it has jurisdiction, that is, whether it can hear, evaluate and decide the case. If the court finds it has jurisdiction it then has to decide what law is to be applied in trying the case, the domestic law, the foreign law, or both.

5.3 Conflict of laws in the digital context

The digital world is global. Cyberspace is a place outside national boundaries. In **Reno v. ACLU**⁴⁸⁵, the United States Supreme Court described it as follows:

“Taken together, these tools [e-mail, automatic mailing list services, newsgroups, chat rooms and the World Wide Web] constitute a unique medium known to us a “cyberspace”, located in no particular geographical

⁴⁸⁴ It should be noted that national treatment gives standing to the foreign copyright plaintiff for infringement of local copyright. See *infra* § 5.5 - Conflict of laws at the international level, for an analysis of what national treatment entails.

⁴⁸⁵ See **Reno v. ACLU** (521 U.S. 844, 117 S. Ct. 2329 (1997)). In **ACLU v. Reno** (929 F. Supp. 824 (E.D. Pa. 1996)), the American Civil Liberties Union (ACLU) filed a suit challenging the constitutionality of the provisions of the Communications Decency Act which intended to prohibit *“transmission of obscene or indecent communications by means of telecommunications device to persons under age 18”*. The District Court for the Eastern District of Pennsylvania filed an injunction against the enforcement of such provisions and the Government appealed. The Supreme Court held that such provisions would be deemed constitutional provided the term *“or indecent”* were removed from the statute.

location but available to anyone, anywhere in the world, with access to the Internet.”

Thus, it may often be difficult to pinpoint the territory in which transmissions originate and where works are disseminated. The question is what law or laws should be applicable when transmissions of digitised works cross borders.

In the following examples some of the problems involved are outlined in the questions arising from the respective facts.

5.3.1 Cases with potential foreign elements

In the following cases, because the infringing material is on the Internet and thus can be accessed from anywhere in the world, there is a potential foreign element.

Example 1: Without authorisation, **A**, a French citizen, places a poem, by **B**, a French author, on a French web site using the services of **C**, a French service provider.⁴⁸⁶ In this example, a copyright infringement of the reproduction, performance and moral rights took place in France and the French law should be applied by French courts.

⁴⁸⁶ See *Jean-Marie Queneau v. Cristian Leroy et autres*, *infra*.

Example 2: D, a German based company, found out that copies of digital music files it had published were being downloaded without charge via **E**, a German based service provider.⁴⁸⁷ In this example, a copyright infringement of the reproduction and communication to the public rights took place in Germany and the German law should be applied by German courts.

Example 3: F, a Scottish newspaper, set up a web site which included hyper linked headlines of **G**, another Scottish newspaper, which once clicked gave access to the stories on **G**'s web site.⁴⁸⁸ In this example, a copyright infringement of the reproduction, communication to the public and identity rights took place in Scotland and Scottish law should be applied by Scottish courts.

Example 4: In the United States, **H**, a Missouri corporation, unlawfully used code from a computer game owned by **I**, a California corporation, in the creation of another computer game and then placed the infringing software on their web site.⁴⁸⁹ In this example, a copyright infringement of the reproduction, adaptation and integrity rights took place in the United States and United States Federal law should be applied by United States courts.

⁴⁸⁷ See *Hitbit v. America Online Europe Germany*, *infra*.

⁴⁸⁸ See *Shetland Times v. Wills*, *infra*.

⁴⁸⁹ See *3DO Co. v. Poptop Software, Inc*, *infra*.

5.3.2 Cases with foreign elements

Example 1: Without permission of the copyright owner, **J**, a Finnish resident, accesses a web site in the United Kingdom and makes a copy of a software program, the copyright in which is owned by **K**, an American software company. **J** then places the software on a server in Australia.

Example 2: **L**, a Singaporean resident, accesses a web site in the United Kingdom, via a proxy⁴⁹⁰ located in Italy, and makes a copy of a song, in which copyright is owned by **M**, a German record company. Without permission of the copyright owner, **L** then places the software on a web site located in Canada.

Several questions emerge from these examples, such as the following:

- Which laws are involved?
- What infringements of the copyright owner's rights have taken place under each of the laws involved?
- Is authorisation in one country for copying in another country an infringement under the laws of either country?
- Has the user infringed by downloading?
- Has the user infringed by uploading?
- Has the user infringed by making material available?
- Has the service provider infringed either law by providing the service?

⁴⁹⁰ For a definition of *proxy* see Appendix B – Technical Terms.

- Where did infringement take place? In which jurisdiction?
- Which national law should be applied?

The answer to these questions will have significant consequences. Since national laws differ⁴⁹¹ in terms of issues such as copyright subsistence, authorship, ownership and infringement, the choice of a certain local law as the applicable law in the context of a case emerging over the Internet will mean, for instance that:

- An extemporary speech (not recorded) will be protected if the French law is the applicable law, but not if the United Kingdom law is the applicable law;
- A flower arrangement will be protected if the French law is the applicable law, but not if the United Kingdom law is the applicable law;
- A scriptwriter will be a film copyright owner if the French law is the applicable law, but not if the United Kingdom law is the applicable law;
- A film cameraman will be a copyright owner if the German law is the applicable law, but not if the United Kingdom law is the applicable law.

Traditional answers in the realms of international private law have been drafted according to national borders and may be obsolete. Should a special jurisdiction be created for cyberspace? Should the law of the country of the upload be applied? Should cyberspace be treated as an international space?

⁴⁹¹ See Chapter I, § 1.2.2 - Major differences between national systems.

5.4 Conflict of laws at the national level

5.4.1 Introductory

Some cases in various jurisdictions involving unauthorised use of protected material on the Internet will be briefly summarised, in order to see how national laws have dealt with these issues.

5.4.2 National laws

5.4.2.1 France

In *Jean-Marie Queneau v. Cristian Leroy et autres*,⁴⁹² the plaintiff, heir of Raymond Queneau, author of *Cente Mille Millions de Poèmes*, brought a suit against the defendant who, without authorisation, had placed Raymond Queneau's protected poems on a French web site using the services of *Université Paris VIII*. The court found that the moral right of divulgation of the plaintiff had been infringed and ordered Christian Leroy and *Université Paris VIII* jointly to pay the sum of 450 000 Francs to the plaintiff.

⁴⁹² See *Jean-Marie Queneau v. Cristian Leroy et autres* (1997) 11 World Intellectual Property Reporter 266.

A non-cyberspace case worth noting, is **Angelica, Daniel and Walter Huston v. La Société Turner Entertainment, La Cinq et al**⁴⁹³, in which the heirs of John Huston, co-director of the film *Asphalt Jungle*, which originally had been produced in black and white, filed a suit against *Turner*, the holder of the rights as producer, who had made a colourised version thereof, and *La Cinq*, who intended to broadcast the colourised version. The plaintiffs requested the prohibition of the televising of such version. The Supreme Court held that the provisions of French copyright law, according to which the integrity of a work is protected irrespectively of the place of first publications, and its author is entitled to *droit moral* protection due to the creation of a work, had to be applied.

5.4.2.2 Germany

In **Hitbit v. America Online Europe Germany**⁴⁹⁴, the plaintiff, a German based company, sued *America Online Germany*, an Internet service and content provider, on the basis that users of the defendant's services were downloading digital music files which had been published by the plaintiff, via *America Online*, without charge. *America Online Germany* denied responsibility arguing that it was impossible to monitor the activities of their users. The *Landgericht* of Munich held that service

⁴⁹³ **Angelica, Daniel and Walter Huston v. La Société Turner Entertainment, La Cinq et al** (1991) 23 I.I.C. 702. The appeal and counter-appeal judgements are available at http://www.adagp.fr/edition/fr/ju_drin.htm.

providers are responsible for the existence of any illegally copied music files on their systems. It ruled in favour of *Hitbit Software* and ordered *America Online* to pay damages to *Hitbit*.

5.4.2.3 United Kingdom

In Scotland, in *Shetland Times v. Wills*⁴⁹⁵, the plaintiff filed a suit against the publisher of *The Shetland News*, whose web site included hyperlinked headlines of *The Shetland Times*, which gave access to the stories on *The Shetland Times web site*.⁴⁹⁶

Another non-cyberspace case worth noting is *ABKCO Music & Records Inc. v. Music Collection International Ltd. & Am*,⁴⁹⁷ where the plaintiff claimed that the first defendant had infringed its copyright by manufacturing and selling compact discs in the United Kingdom and that the second defendant, a Danish company, had authorised such acts and had, therefore, infringed its copyright. The second defendant argued that section 16(2) of the United Kingdom 1988 Act is limited to acts of

⁴⁹⁴ *Hitbit v. America Online Europe Germany* un-reported, April 13, 2000. See case comment on M.I.P. 2000, 99, 5.

⁴⁹⁵ *Shetland Times v. Wills* Scotland Court of Session 1997, F.S.R. 604 (1997).

⁴⁹⁶ This case is described in detail in Chapter IV – Problems concerning authenticity, infringement and enforcement, § 4.3.1 – Linking.

⁴⁹⁷ *ABKCO Music & Records Inc. v. Music Collection International Ltd. & Am* (1995) E.M.L.R. 449 CA.

authorisation executed within the jurisdiction. The court held that, unlike section 16(1), which limits the acts restricted by copyright to acts done in the United Kingdom, section 16(2) does not set geographical restrictions as to where the infringing acts may be authorised and, therefore, an authorisation given outside the United Kingdom to do a restricted act in the United Kingdom is an authorisation which is covered by the umbrella of section 16(2).⁴⁹⁸

This finding that an authorisation given abroad to do an act within the jurisdiction is a local infringement could be applied in the context of the Internet. The Internet is global, not national or regional, since it is open to users from all over the world and is characterised by the fact that the acts carried out on-line frequently have consequences which are felt at a world wide level. Therefore, this decision of the court, which is independent of geographical restrictions as to the origin of the act, is particularly relevant in the digital environment.

If, for example, a Danish citizen, finds a music file in a United Kingdom server and makes an unauthorised copy of it, applying the ABCKO ruling would mean that although the authorisation to make such copy was carried out, by electronic means, in

⁴⁹⁸ The converse situation, whether an authorisation here to commit an act abroad is a local infringement, emerged in *Tyburn Productions Ltd v. Conan Doyle* ((1990) 1 All E.R. 909), where a United Kingdom films and television programs producer and distributor filed a suit in England against the daughter of Sir Arthur Conan Doyle, in order to obtain a declaration that Sir Arthur's daughter was not entitled to copyright in the characters of Sherlock Holmes and Dr Watson under the law of the United States. The court held that this issue was not justiciable in the English courts.

Denmark, because its effects were felt in the United Kingdom, an infringing act would be deemed to have taken place in the United Kingdom.

5.4.2.4 United States of America

The United States courts addressing the question of jurisdiction⁴⁹⁹ on the Internet have generally followed one of two courses of action: (1) some have dismissed cases for lack of jurisdiction; (2) others have asserted jurisdiction on the basis of the presence of the defendant on the Internet, even if not only on that basis.

(i) Cases that have been dismissed for lack of jurisdiction

⁴⁹⁹ The Lectric Law Library's Legal Lexicon's Lyceum at <http://www.lectlaw.com/def.htm> defines *jurisdiction* as: "A power constitutionally conferred upon a judge or magistrate, to take cognisance of and decide causes according to law and to carry his sentence into execution. The tract of land or district within which a judge or magistrate has jurisdiction, is called his territory and his power in relation to his territory is called his territorial jurisdiction. Every act of jurisdiction exercised by a judge without his territory, either by pronouncing sentence or carrying it into execution, is null. An inferior court has no jurisdiction beyond what is expressly delegated. (...). It is the law which gives jurisdiction; the consent of parties cannot, therefore, confer it, in a matter which the law excludes. But where the court has jurisdiction of the matter and the defendant has some privilege which exempts him from the jurisdiction, he may waive the privilege. (...) When a court has the authority to decide a case, it is said to have jurisdiction over it. (...) A court's authority to rule on the questions of law at issue in a dispute, is typically determined by geographic location and/or type of case."

The following are examples of cases that have been dismissed for lack of jurisdiction on the basis of the analysis of factors such as whether the web site is *active* or *passive*⁵⁰⁰, whether the defendants purposely availed themselves of the laws of the forum and whether the lawsuit was triggered by the existence of the web site.

In **McDonough v. Fallon McElligott**⁵⁰¹, a Californian sports photographer sued a Minnesota advertising agency for copyright infringement, unfair competition, and damages for violation of privacy and publicity rights. The plaintiff claimed the defendant had reproduced, without permission, a photo of basketball player Charles Barkley. The defendant had a web page on the Internet which only displayed information. The California court dismissed the complaint for lack of personal jurisdiction,⁵⁰² finding that the defendant's contacts with California were not

⁵⁰⁰ For a definition of *passive web site* and *interactive web site* see Appendix B – Technical Terms.

⁵⁰¹ **McDonough v. Fallon McElligott** 1996 US Dist. Lexis 15139 (S.D. Cal. 1996).

⁵⁰² The Lectric Law Library's Legal Lexicon's Lyceum at <http://www.lectlaw.com/def.htm> defines *personal jurisdiction* as follows: "If the court is being asked to determine any defendant's rights or obligations, it must have the power to make orders concerning the individual defendant. This is called *personal jurisdiction*. *Personal jurisdiction* is also called "*in personam jurisdiction*". For a court to have *personal jurisdiction* over a defendant, the defendant must have been personally served (or have accepted service of the court papers) and the defendant must have at least some contacts with the state in which the court is located. No set number qualifies as the minimum; each situation must be analysed case by case. If the defendant lives out of state, the court must look at the defendant's contacts with the state. Going into a state regularly to conduct business is usually sufficient for the court to obtain jurisdiction; sending child support payments to a state, without actually visiting the state, however, is

sufficiently “*substantial*”, “*systematic*”, or “*continuous*” to justify the exercise of general jurisdiction.⁵⁰³ The advertisement did not target California and the existence of a web site accessed by Californians could not, by itself, establish jurisdiction. The court pointed out that if the principle of basing jurisdiction simply on the accessibility of a web site were to be followed at the international level, any United States court would be able to assert jurisdiction over a foreign company whose web site is accessed by Americans and, conversely, any foreign court would be able to assert jurisdiction over a United States company whose web site is accessed by their citizens.

The McDonough case was a landmark case in which it was determined that the fact that a web site can be accessed in a particular forum does not allow by itself the respective courts to assert jurisdiction over the owner of such web site.

The following cases accompany the reasoning of the McDonough case.

In **Expert Pages v. Buckalew**⁵⁰⁴, a California corporation, sued a Virginia resident, for copyright infringement, unfair trade practices, breach of contract, trespass, and misappropriation. The plaintiff, claiming to have the original and leading free web site for expert witnesses and consultants, alleged that the defendant had made

not. (...) This can be a complicated and convoluted area of law with many pitfalls and obstacles should opposing parties decide to contest personal jurisdiction.”

⁵⁰³ **Helicopteros Nacionales de Colombia, S.A. v. Hall**, 466 U.S. 408 (1984), requires “*substantial*” or “*continuous and systematic*” activities in the jurisdiction.

unauthorised copies of the plaintiff's web site and had sent, to the plaintiff's clients, e-mail messages that disparaged the services of Expert Pages and presented the defendant's service as an alternative. The court dismissed the claim for lack of personal jurisdiction, finding that whilst the defendant had minimal contacts with California, these contacts were "*barely greater than the constitutional threshold*".

In **IDS Life Ins. Co. v. Sunamerica, Inc.**⁵⁰⁵, an Illinois corporation, sued a Maryland corporation, with its principal place of business in California, for unfair competition, tortious interference with contract, violations of the Lanham Act, copyright infringement, misappropriation of trade secrets and intentional interference with business relationships. The plaintiff claimed that the defendant had used a web site to instigate the plaintiff's sales agents to leave the plaintiff, switch the plaintiff's customers to the defendant's business and sell them *Sunamerica* insurance and securities products. The plaintiff further claimed that the defendant had compensated the sales agents when sued by the plaintiff. The court stated that the Illinois long-arm statute⁵⁰⁶ reaches those who "*commit torts*" within the State as well as those "*doing business*" in the State. Since the solicitation of the plaintiff's sales agents by the defendant was not a tort in the State, the court considered whether the defendant was "*doing business*" within the State, which in Illinois is defined by regular activities with "*a fair measure of permanence and continuity*". The court added that although

⁵⁰⁴ **Expert Pages v. Buckalew** 1997 U.S. Dist. Lexis 12205 (N.D. Cal. 1997).

⁵⁰⁵ **IDS Life Ins. Co. v. Sunamerica, Inc.** 958 F. Supp. 1258 (N.D. Ill. 1997).

⁵⁰⁶ The "long-arm statute" is the forum State's law allowing the State to assert jurisdiction.

the defendant had a web site on the Internet with advertisements, the latter did not amount to “*regular activities*” and a contrary finding would subject any defendant whose web page contains advertising to jurisdiction. The Illinois court dismissed the complaint for lack of personal jurisdiction, stating that since the defendant had no connections to Illinois (such as property, taxes, offices, employees and sales of products or services), such an exercise of jurisdiction would “*offend traditional notions of fair play and substantial justice*”.

In **Blackburn v. Walker Oriental Rug Galleries, Inc.**⁵⁰⁷, an on-line seller of oriental rugs, from the Eastern District of Pennsylvania, sued a competitor, from the Western District of Pennsylvania, for copyright infringement. The plaintiff claimed the defendant had copied substantial portions of the plaintiff's web site. The defendant challenged venue.⁵⁰⁸ The Eastern District court held the defendants' web site to be equivalent to an advertisement in a national magazine, a passive activity insufficient to form “*continuous and substantial contacts with the forum district*” and the claim was dismissed.

⁵⁰⁷ **Blackburn v. Walker Oriental Rug Galleries, Inc.** 999 F. Supp. 636 (E.D.Pa. 1998).

⁵⁰⁸ The Letric Law Library's Legal Lexicon's Lyceum at <http://www.lectlaw.com/def.htm> defines venue as follows: “*Venue is the legally proper place where a particular case should be filed or handled. Every state has rules determining the proper venue for different types of lawsuits. For example, the venue for a paternity suit might be the county where the mother or the man alleged to be the father lives. (...) The state, county or district in which a lawsuit is filed or a hearing or trial in which that action is conducted is called the forum.*”

In **Patriot Systems, Inc., v. C-Cubed Corp**,⁵⁰⁹ the plaintiff, a Utah software company, sued a rival Virginia company, that had placed advertisements on the Internet, for trade secret misappropriation, unfair competition, copyright infringement, and business tort. The court found that the defendant's web site consisted of a passive advertisement and was not sufficient to establish personal jurisdiction. Furthermore, while the defendant did conduct business within the forum state (it had undertaken a licensing agreement with a company within the forum state and software distribution within the forum state), the claims in question did not arise from those business transactions.

(ii) Cases that have asserted jurisdiction based on the presence of the defendant on the Internet

The following cases include examples of cases in which courts have exercised jurisdiction on the basis of the presence of the defendant on the Internet, showing that the fact that a defendant's contacts with a forum are digital rather than physical does not prevent the courts from asserting jurisdiction.

In **3DO Co. v. Poptop Software, Inc.**,⁵¹⁰ a California software corporation sued a competitor Missouri corporation for copyright infringement and trade secrets misappropriation, claiming that the defendant had unlawfully copied code from their

⁵⁰⁹ **Patriot Systems, Inc., v. C-Cubed Corp** 21 F.Supp.2d 1318 (D. Utah 1998).

⁵¹⁰ **3DO Co. v. Poptop Software, Inc.** 1998 U.S. Dist Lexis 21281 (N.D.Cal.1998).

computer game *Heroes of Might and Magic II* into their computer game *Railroad Tycoon II* and had placed the infringing software on their web site. The court found jurisdiction based on the fact that the web site was interactive and not passive, since users could download the copies of the *Tycoon II Demo* from the web site, and on the fact that the defendant's conduct was aimed at or had an effect in the forum state.

In **Playboy Enterprises, Inc. v. Asiafocus International Inc.**,⁵¹¹ a Delaware corporation, sued a Hong Kong corporation for trademark and copyright infringement. The plaintiff claimed that the defendant had used the plaintiff's registered trademarks *Playmate* and *Playboy* in their e-mail address (playmates@pinmail.com) and within their domain names (Asian-Playmates.com and Playmates-Asian.com), to promote the sale of goods and services by e-mail and to attract consumers to their web sites by giving the impression that their web sites were connected with the plaintiff. The Virginia court asserted jurisdiction based on the Virginia long-arm statute's provision establishing personal jurisdiction over a non-resident "*causing tortuous injury in this Commonwealth by an act or omission outside this Commonwealth if he regularly does or solicits business, or engages in any other persistent course of conduct ... in this Commonwealth*".

(iii) **Some significant international cases**

⁵¹¹ **Playboy Enterprises, Inc. v. Asiafocus International Inc.** 1998 U.S. Dist. Lexis 10459 (E.D.Va. 1998).

Two especially notable international cases will now be examined: **Playboy Enterprises, Inc. v. Chuckleberry Publishing, Inc.** and **Itar-Tass Russian News Agency v. Russian Kurier Inc.** The latter is not an Internet case, but its significance justifies its insertion in this section.

In **Playboy Enterprises, Inc. v. Chuckleberry Publishing, Inc.**,⁵¹² the United States plaintiff had obtained previously a permanent injunction which prevented the defendant from selling the magazine *Playmen* in the United States (but not in Italy).⁵¹³ In 1996 the plaintiff discovered that the defendant had created a web site called www."Playmen".it which allowed users to view (and print) pages of *Playmen* magazine on the Internet. Although the *Playmen* site was based on a server in Italy, it could be accessed by United States users who had obtained passwords.⁵¹⁴ The Court did not have to decide whether it could assert jurisdiction based solely on Internet contacts, since it retained jurisdiction over the defendant for purposes of enforcing the

⁵¹² **Playboy Enterprises, Inc. v. Chuckleberry Publishing, Inc** 939 F. Supp. 1032 (S.D.N.Y. 1996).

⁵¹³ In 1967 the defendant began publishing a male magazine in Italy under the name *Playmen*, which was written in Italian. In 1979, the defendant declared his intention to publish an English version of *Playmen* in the United States. PEI filed a suit to enjoin the defendant's use of the name *Playmen* in connection with a male sophisticated magazine and related products. A permanent injunction was awarded in April 1981 (**Playboy Enterprises, Inc. v. Chuckleberry Publishing, Inc.** 687 F.2d 563 (2d Cir. 1982)).

⁵¹⁴ The web site offered a paid service called *Playmen Pro* and a gratuitous service called *Playmen Lite*. Users would subscribe to these services by faxing or e-mailing the defendant who would then send the subscribers a password.

1981 injunction. The court added that although the 1981 injunction did not mention on-line distribution, the injunction could be applied to such form of distribution. The court held that the defendant's activities (soliciting of United States customers over the Internet, receiving their faxes and e-mailing them passwords) constituted distribution in the United States. The court granted the plaintiff's motion for contempt for violation of a previous court order, stating that the defendant could continue to operate its web site, but could not accept subscriptions from customers living in the United States.

In **Itar-Tass Russian News Agency v. Russian Kurier Inc.**,⁵¹⁵ the plaintiffs claimed *Russian Kurier*, a Russian newspaper based in Brooklyn, had unlawfully copied stories from Russian newspapers in violation of United States and Russian copyright law. The court found the *Kurier* liable for copyright infringement under United States law and the Berne Convention. The Second Circuit reversed the lower court's decision as to certain plaintiffs and affirmed it as to others.⁵¹⁶ Firstly, the court noted that the principle of national treatment present in international instruments like Berne Convention and the Universal Copyright Convention merely requires that both nationals and foreigners be treated equally in the country in which copyright protection is sought. Most importantly, the Second Circuit established rules for

⁵¹⁵ **Itar-Tass Russian News Agency v. Russian Kurier Inc.** 1997 U.S. Dist. Lexis 8297 (S.D.N.Y. 1997).

⁵¹⁶ **Itar-Tass Russian News Agency v. Russian Kurier Inc.**, 140 F.3d 442 (2d Cir. 1998), 46 U.S.P.Q. 2d 1268 (2d Cir. 1998).

deciding which national law applies to questions of copyright ownership and infringement:

- As for the ownership question, the court held that the “*law of the country with the closest relationship to the work will apply to settle the ownership question*” and, this will generally mean that the laws of the country where the work originated will apply;
- As for the infringement question, the court ruled that the law of the place where the copyright infringement occurs would apply.

Based on these rules the Second Circuit took the following decisions:

- As for the ownership issue, considering that “*the works at issue were created by Russian nationals and first published in Russia*”, the Second Circuit applied Russian law on the matter of ownership and reversed the lower court’s decision on that issue;
- As for the infringement issue, since Kurier published the unlawfully reproduced articles in New York, the court held that the United States law applied.

5.4.3 Conclusion

The European courts have not considered as many cases in this area as the United States courts. As far as copyright is concerned, there is no developed European jurisprudence about the Internet and conflict of law questions. As to United States jurisprudence, most of the cases that have dealt with Internet copyright issues, have avoided international conflict of laws problems. They were cases brought by United States nationals against United States nationals and, therefore, clearly subject to

United States jurisdiction and law. Except for **Playboy Enterprises, Inc. v. Chuckleberry Publishing, Inc.** and **Itar-Tass Russian News Agency v. Russian Kurier Inc.**,⁵¹⁷ the problem has been addressed at the national level. In the Chuckleberry case, although the plaintiff filed a suit against a foreign defendant the court did not have to determine the issue of jurisdiction. The Itar-Tass case, however, is a landmark case, in which the Second Circuit court established criteria regarding what law to apply on the matter of ownership and infringement. Itar-Tass did not however deal with the issues of copyright subsistence and authorship.

5.5 Conflict of laws at the international level

5.5.1 The Berne Convention⁵¹⁸

5.5.1.1 Jurisdiction

In the Berne Convention, Article 5(1) is the provision which establishes the principle of national treatment.⁵¹⁹ Article 5(1) of the Berne Convention, states that:

⁵¹⁷ These two cases are analysed above.

⁵¹⁸ See Chapter I – Background, § 1.3.2 - The Berne Convention, 1886-1971.

⁵¹⁹ *National treatment* requires countries of the Union to give nationals of other countries of the Union the same rights as enjoyed by its own nationals.

“Authors shall enjoy, in respect of works for which they are protected under this Convention, in countries of the Union other than the country of origin, the rights which their respective laws do now or may hereafter grant to their nationals, as well as the rights specially granted by this Convention.”

There are two major views regarding the interpretation of this provision:

- The traditional view is that Article 5(1) presupposes a strictly territorial approach, meaning that exclusive jurisdiction should be given to the courts of the country which grants national treatment and under whose laws the copyright emerged.⁵²⁰
- Another view contends that the principle of national treatment does not determine which court the author has to choose in order to protect one’s rights. National treatment does not operate at the jurisdiction level but at the applicable law level. The principle of national treatment does not determine which court has jurisdiction, but that equal laws will be applied to foreigners and nationals.⁵²¹

⁵²⁰ E. Ulmer, *Intellectual Property Rights and the Conflict of Laws* (Kluwer, 1978) 9-10.

⁵²¹ Fawcett & Torremans submit that the role of international intellectual property treaties in determining whether or not a court has jurisdiction to decide a case regarding the creation and validity of an intellectual property right is almost negligible or non-existent. They find confirmation of this point in Article 2(3) of the Paris Convention, which specifically states that the Convention rules do not deal with jurisdiction and that this issue is left to *“the provisions of the laws of each of the countries of the Union”* (Fawcett & Torremans, *Intellectual Property and Private International Law* (Clarendon Press, 1998) 13). See also S. Ricketson, *The Berne Convention for the Protection of Literary and Artistic Works 1886-1986* (Kluwer, 1987) 205-226.

5.5.1.2 Applicable law

Article 5(2) of the Berne Convention provides:

“(...) Apart from the provisions of this Convention, the extent of protection, as well as the means of redress afforded to the author to protect his rights, shall be governed exclusively by the laws of the country where protection is claimed.”

This provision has been subject to different interpretations, including the following:

- Since the primary aim of the Berne Convention was to establish an international system for protection of lawful uses of works, the law of the protecting country (*lex loci protectionis*) is the law of the country in which the exploitation of the work takes place.⁵²²
- The law of the protecting country refers to the country where the author is involved in legal proceedings. The Berne Convention refers to the law of the country of the forum, because it is before the courts of that country that the copyright owner is seeking protection.⁵²³

⁵²² See Fawcett & Torremans, *Intellectual Property and Private International Law* (Clarendon Press Oxford, 1998) 467.

⁵²³ See G. Koumantos, “Private international law and the Berne Convention” (1988) 24 Copyright 426: “Where the [Berne] convention refers to the place of protection, it means application of the *lex fori*.”. As to Article 5(1) and first sentence of Article 5(3), Koumantos submits that “*the rule of conflict is clear: application of national legislation in the country of origin. (...) The rule which declares the law*

- The law of the protecting country is the law of the place where the infringement was committed (*lex loci delicti commissi*).⁵²⁴

5.5.2 The Rome Convention⁵²⁵

The Rome Convention provides.⁵²⁶

*“For the purposes of this Convention, national treatment shall mean the treatment accorded by the domestic law of the Contracting State in which protection is claimed”.*⁵²⁷

of the country of origin to be applicable is of general scope and should be applicable in all cases where the convention does not provide otherwise with regard to a specific aspect of copyright (for example, the extent of protection and the means of redress, Article 5(2))” (at page 424).

⁵²⁴ See G. Koumantos, “Private international law and the Berne Convention” (1988) 24 Copyright 426.

⁵²⁵ See Chapter I – Background, § 1.3.4 - The Rome Convention, 1961.

⁵²⁶ Rome Convention, Article 2.

⁵²⁷ Foreign performances are to be treated as national performances that take place or are broadcast or first recorded on the territory of a Contracting State. Foreign producers of phonograms are to be granted the same treatment which is granted to national producers of phonograms regarding phonograms that are first recorded or first published in a Contracting State. Broadcasting organisations are entitled to the same treatment as given to broadcast organisations which have their headquarters in a Contracting State regarding broadcasts that are transmitted from transmitters that are located in that country (Rome Convention, Article 2).

The provision referring to the law of the protecting country is similar to the one of the Berne Convention and is thus open to the different interpretations outlined above.⁵²⁸

5.5.3 Other international instruments

Like the Berne Convention and the Rome Convention, the Universal Copyright Convention⁵²⁹, the TRIPS Agreement⁵³⁰, the WIPO Copyright Treaty⁵³¹ and the WIPO Performances and Phonograms Treaty⁵³² set out the principle of national treatment.

⁵²⁸ See Fawcett & Torremans (*Intellectual Property and Private International Law* (Clarendon Press, 1998) 476-477) who state that the applicable law of the protecting country is the law of the country where the performance is used. They further contend that this conclusion is reinforced by the absence, in the text of the Rome Convention, of any reference to the country of origin and the law of the country of origin (*lex loci originis*).

⁵²⁹ According to Article II of the Universal Copyright Convention, *national treatment* requires Contracting States to give nationals of other Contracting States the same rights as enjoyed by its own nationals. See Chapter I – Background, § 1.3.3 - The Universal Copyright Convention, 1952-1971.

⁵³⁰ According to Article 3(1) of the TRIPS Agreement, Member States cannot provide to nationals of other parties a protection less favourable than the one they provide to their own nationals (see Chapter I – Background, § 1.3.5 - The TRIPS Agreement, 1994). A note to Article 3 states that the term “*protection*” includes “*matters affecting the availability, acquisition, scope, maintenance and enforcement of intellectual property rights as well as those matters affecting the use of intellectual property rights specifically addressed in this Agreement*”. Fawcett & Torremans (*Intellectual Property and Private International Law* (Clarendon Press, 1998) 480-481) draw four conclusions from this definition:

5.5.4 The Draft Hague Convention

- The obligation of granting the same substantial rights to foreigners and nationals is only possible by applying the law of the protecting country;
- Considering that the definition of protection refers to both contentious and non-contentious exercise of intellectual property rights, the interpretation of the law of the protecting country as the law of the country of origin or the law of the forum, which is based on the restriction of the scope of the term protection to contentious exercise of intellectual property rights, is no longer tolerable;
- This viewpoint is said to be reinforced by the second paragraph of Article 3 of TRIPS, which establishes an exception to the rule that the law of the protecting country is applicable. The law of the forum can be applied to administrative and judicial procedural issues, within certain limits. These authors submit that this exception would not have been necessary if the principle had been that the law of the forum was the applicable law;
- Since the TRIPS Agreement incorporates the relevant articles of the Paris and Berne Conventions, all Convention provisions must be interpreted as adhering to the general rule that the applicable law is the law of the protecting country.

⁵³¹ The WIPO Copyright Treaty incorporates the principle of national treatment of the Berne Convention, because Contracting Parties have to comply with Articles 1 to 21 of Berne Convention and must apply *mutatis mutandis* the provisions of Articles 2 to 6 of the Berne Convention in respect of the protection conferred by the WIPO Copyright Treaty (WIPO Copyright Treaty, Article 3). See Chapter I – Background, 1.3.6 - The WIPO Copyright Treaty, 1996.

⁵³² According to Article 4 of the WIPO Performances and Phonograms Treaty, Contracting Parties must accord to nationals of other Contracting Parties the same treatment they grant to their own nationals regarding the rights granted by the Treaty and the equitable remuneration right. See Chapter I – Background, 1.3.7 - The WIPO Performances and Phonograms Treaty, 1996.

The *Hague Conference on Private International Law*,⁵³³ is working on an international convention to regulate jurisdiction: the *Draft Hague Convention on Jurisdiction and the Effects of Judgements in Civil and Commercial Matters* (draft Hague Convention).⁵³⁴

⁵³³ The Hague Conference on Private International Law is an intergovernmental organisation, whose purpose is “to work for the progressive unification of the rules of private international law” (Article 1 of the Statute of the Hague Conference). The principal method used to achieve this goal consists in the negotiation and drafting of multilateral treaties, which are called *Hague Conventions*. There are currently 49 members of the Hague Conference. They include Argentina, Australia, Austria, Belgium, Bulgaria, Canada, Chile, China, Croatia, Cyprus, Czech Republic, Denmark, Egypt, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Ireland, Israel, Italy, Japan, Republic of Korea, Latvia, Luxembourg, Malta, Mexico, Monaco, Morocco, Netherlands, Norway, Peru, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Suriname, Sweden, Switzerland, Turkey, United Kingdom of Great Britain and Northern Ireland, United States, Uruguay and Venezuela (<http://www.hcch.net/e/faq/faq.html>).

⁵³⁴ See *inter alia* M. Adelman, “The Hague Draft Convention on Jurisdictional & Foreign Judgements in Civil & Commercial Matters: An Introduction to the Intellectual Property Issues” in Fordham University School of Law Eighth Annual Conference on International Intellectual Property Law and Policy, 2000, available at <http://www.fordhamipconference.com/arch.htm>; J.D. Kovar, “The Perspectives of the U.S. Government on the Hague Draft Convention” in Fordham University School of Law Eighth Annual Conference on International Intellectual Property Law and Policy, 2000, available at <http://www.fordhamipconference.com/arch.htm>; C. Kessedjian, “Exclusive Jurisdiction and Multinational IP Litigation: Can (or Should) National Difference be Overcome?” in Fordham University School of Law Eighth Annual Conference on International Intellectual Property Law and Policy, 2000, available at <http://www.fordhamipconference.com/arch.htm>.

The draft Hague Convention applies to civil and commercial matters.⁵³⁵ There is currently no special provision on copyright and related rights, so that these will fall within the general provisions of the draft convention.

The general rule is that natural persons who have their habitual residence in a Contracting State, may be sued in the courts of that State, whereas legal persons may be sued in the courts of the Contracting State where they have their statutory seat, or under whose law they were incorporated or formed, or where they have their central administration, or where they have their principal place of business.⁵³⁶ The draft Hague Convention foresees other grounds for jurisdiction.

A judgement in one country may be enforced in all Hague convention member countries, even if the country has no connection to a particular dispute. Therefore, intellectual property infringement cases will be enforced globally.⁵³⁷

This rule is subject only to a narrow exception for judgements that are “*manifestly incompatible with public policy*”,⁵³⁸ or to specific treaty exceptions.⁵³⁹

⁵³⁵ Draft Hague Convention, Article 1.

⁵³⁶ Draft Hague Convention, Article 3.

⁵³⁷ Draft Hague Convention, Article 26.

⁵³⁸ Draft Hague Convention, Article 27bis(f): Judgements need not be enforced if “*recognition or enforcement would be manifestly incompatible with the public policy of the State addressed.*”

⁵³⁹ See Draft Hague Convention, Articles 26bis and 27bis.

Choice of forum contracts are enforced under the convention⁵⁴⁰. The problem is that vendors can use Article 4 to shop for favourable national laws (for example, in the software field jurisdiction can be shifted to countries that do not permit reverse engineering), and also to deny the public the opportunity to seek redress or defend actions in the countries where they live.

However, if a company directs trade or professional activities towards a Contracting State, the court of the consumer's⁵⁴¹ Contracting State of residence can assert jurisdiction in the occurrence of a contractual dispute.⁵⁴² This seems to indicate that consumers will be able to file suit in their local courts in connection to all types of contracts, including contracts concluded over the Internet. The problem here is that a company could be said to have directed its activities towards the country of a foreign

⁵⁴⁰ Draft Hague Convention, Article 4(1): *"If the parties have agreed that a court or courts of a Contracting State shall have jurisdiction to settle any dispute which has arisen or may arise in connection with a particular legal relationship, that court or those courts shall have exclusive jurisdiction unless the parties have agreed otherwise."*

⁵⁴¹ Draft Hague Convention, Article 7(1): Consumer is defined as *"a plaintiff who concluded a contract for a purpose which is outside its trade or profession."*

⁵⁴² Draft Hague Convention, Article 7(1): A *"consumer, may bring a claim in the court for the place where it is habitually resident in a Contracting State, if:*

a. the conclusion of the contract on which the claim is based is related to trade or professional activities that the defendant has engaged in or directed to that State, in particular in soliciting business through means of publicity, and

b. the consumer has taken the steps necessary for the conclusion of the contract in that State."

consumer who buys goods or services via the company's web site, independently of whether or not the company had intended to target foreign consumers.

In general, the entering into force of a Hague Convention requires the deposit of three instruments of ratification, acceptance or approval.⁵⁴³ For each State ratifying, accepting or approving it subsequently, or acceding to it, the Convention enters into force three months after the deposit of instruments of ratification, acceptance or approval or accession.⁵⁴⁴

5.5.5 Conclusion

It seems that two conclusions can be drawn from the above analysis: (1) The first one is that the Berne and Rome provisions which pertain to conflict of laws have been subject to different interpretations, and there is no consensus as to what they exactly mean. (2) The second conclusion is the absence of international regulation on conflict of laws in cyberspace in connection to copyright, since the draft Hague Convention is not in force.

5.6 Conflict of laws at the regional level

⁵⁴³ See for example, Article 46(1) of the 1993 Intercountry Adoption Convention.

⁵⁴⁴ See for example, Article 46 (2a) of the 1993 Intercountry Adoption Convention.

5.6.1 The EC Satellite Directive (Dir. 93/83/EEC)

The European Commission recently proposed the application of the law of the country of origin to on-line dissemination of works over the Internet within the European Community.⁵⁴⁵ This solution is based on the EC Satellite Directive, which establishes that the applicable law is the law of the country of the uplink.⁵⁴⁶

The European Commission suggested that a country of origin rule, similar to that of the EC Satellite Directive, could be applied in the digital environment. Instead of the law of the country of uplink, the applicable law would be the one of the country of upload, that is the country where the server is located which receives the information transmitted by the *client*⁵⁴⁷.

⁵⁴⁵ European Commission, *Green Paper on Copyright and Related Rights in the Information Society*, July 1995, (COM (95) 382 final, available at <http://www2.echo.lu/legal/en/ipr.html>).

⁵⁴⁶ EC Directive on the Coordination of Certain Rules Concerning Copyright and Rights Related to Copyright Applicable to Satellite Broadcasting and Cable Retransmission. According to Article 2(b) of this Directive: “*The act of communication to the public by satellite occurs solely in the Member State where, under the control and responsibility of the broadcasting organisation, the programme-carrying signals are introduced into an uninterrupted chain of communication leading to the satellite and down towards the earth.*”

⁵⁴⁷ For a definition of *client* see Appendix B – Technical Terms.

More recently, in the *Follow-up to the Green Paper*, the Commission acknowledged the problems raised by the application of the country of origin rule.⁵⁴⁸

5.6.2 The NAFTA Agreement

Like the Berne and Rome Conventions, NAFTA is based on the principle of national treatment.⁵⁴⁹ Therefore, each NAFTA Member must grant nationals of other Members

⁵⁴⁸ European Commission, *Follow-up to the Green Paper on Copyright and Related Rights in the Information Society* COM(96) 568 final available at <http://www.service.providero.cec.be/infosoc/legreg/docs/com96586.htm>: “As regards the possibility of defining the acts of transmission as taking place in one single country (namely the country where the transmission originates), strong doubts have been raised. Such a solution, which was chosen for transfrontier satellite broadcasting within the Community, is rejected by many in view of the very nature of acts of digital transmission. The difficulties of specifying one single place where the act of transmission originates, and the risk of leaving right holders without adequate protection - in particular when transmissions originate in third countries - have been underlined. Moreover, most interested parties consider that the application of such a “country of origin” rule would require an almost complete harmonisation within the Community of all the rights concerned by the various acts of exploitation. Most parties therefore prefer to keep the existing regimes, which in most cases will mean the application of a number of different national laws to an act of exploitation.”

⁵⁴⁹ NAFTA, Chapter 17, Article 1703(1): “Each Party must accord to nationals of another Party treatment no less favourable than it accords to its own regarding protection and enforcement of intellectual properties. In respect of secondary uses of sound recordings⁵⁴⁹ Parties may, however, limit rights of performers of other Parties to those rights its nationals are accorded in the territory of those Parties.”

the same rights as enjoyed by its own nationals, with an exception regarding secondary uses of sound recordings to which a principle of reciprocity may apply.

5.6.3 Cartagena Decision 351

Decision 351 also establishes the principle of national treatment, according to which each Member state must grant to nationals of the other Member States, treatment no less favourable than the one it accords to its own nationals.⁵⁵⁰

5.6.4 The Lugano and Brussels Conventions

European Community and European Free Trade Association jurisdiction rules can be found, respectively, in the EC Convention on Jurisdiction and the Enforcement of Judgements in Civil and Commercial Matters, Brussels, 1968 (Brussels Convention) and in the Convention on Jurisdiction and the Enforcement of Judgements in Civil and Commercial Matters, Lugano, 1988 (Lugano Convention).

The Lugano Convention applies to disputes between parties domiciled in the European Free Trade Association and the Brussels Convention applies to disputes

⁵⁵⁰ Decision 351, Article 2: *“Each Member State must grant nationals of other Member States a protection no less favourable than it grants to its own nationals regarding author’s right and connected rights.”*

between parties domiciled in the European Community. Where one party is domiciled elsewhere, such as the United States, local rules of jurisdiction will apply.

The Brussels and Lugano Convention apply in civil and commercial matters, covering actions for copyright.⁵⁵¹ The general rule is that persons who have their domicile in a Contracting State, independently of their nationality, will be sued in the courts of that State. In addition, those who are not nationals of the State in which they are domiciled will be subject to jurisdiction rules which are applicable to nationals of that state.⁵⁵²

The Lugano and Brussels Conventions establish uniform rules for all Contracting States aiming to prevent conflicts of jurisdiction. However, they were drafted before the advent of digital technology and do not provide solutions for the problems triggered by such technology. In particular, the fact they are regional Conventions means that they are not suitable to the global nature of the Internet

5.6.5 Conclusion

The conclusion is that there are no express regional rules concerning conflict of laws in cyberspace. The European Community seems to have given up its proposed solution of application of the law of the country of upload in analogy with the EC

⁵⁵¹ Brussels Convention, Article 1 and Lugano Convention, Article 1.

⁵⁵² Brussels Convention, Article 2 Lugano Convention, Article 2.

Satellite Directive.⁵⁵³ As to the NAFTA Agreement and Cartagena Decision 351, they contain a national treatment rule, which requires nationals and foreigners to be treated alike in the country in which protection is claimed, but contain no further guidance as to applicable law. The Lugano and Brussels Conventions contain rules pertaining to jurisdiction, but not to jurisdiction in cyberspace.

5.7 Possible solutions

5.7.1 Introductory

Having examined the solutions under some national laws, international instruments and regional instruments and in view of the absence of national, international, or regional regulation on conflict of laws in cyberspace, some solutions will be presented.

5.7.2 Possible solutions regarding jurisdiction

5.7.2.1 A special jurisdiction for cyberspace

⁵⁵³ European Commission, *Follow-up to the Green Paper on Copyright and Related Rights in the Information Society* COM(96) 568 final available at <http://www.service-providero.ccc.be/infosoc/legreg/docs/com96586.htm>.

A possibility is that cyberspace will emerge as a jurisdiction, with special courts and rules to decide international disputes.⁵⁵⁴

In the United States, the *Virtual Magistrate Project*, is an on-line voluntary arbitration system, aiming to provide a quick and easy method of resolving on-line disputes.⁵⁵⁵

Most disputes will be focused on whether a message, file, or posting should remain publicly available on the Internet. Complaints are filed by e-mail, describing the claim and identifying the parties involved. An arbitrator is then randomly selected and the arbitration is conducted through e-mail. The arbitrator hears from the parties and tries to reach a decision within three working days from the day of receiving the initial complaint. The *Virtual Magistrate Project* does not charge a fee to any of the participants. Parties may be able to enforce the arbitrator's decision in court, since courts have traditionally recognised decisions of arbitration.

5.7.2.2 The court of the place where the damage occurred

⁵⁵⁴ A proposal was recently made by J.A.L. Sterling towards the creation of an International Copyright Code, under which international actions could be instituted by electronic communication and decisions communicated and enforced through the same means. See J.A.L. Sterling, "The International Copyright Code and E-Justice: Basic Proposals for Global Solutions to Global Problems" (2001) 5 E.I.P.R. 28.

⁵⁵⁵ The project began operating in March, 1996 and is sponsored by the *National Center for Automated Information Research*, and maintained by the *Cyberspace Law Institute*, the *American Arbitration Association* and the *Villanova Center for Information Law and Policy*. The *Virtual Magistrate Project* is available at <http://vmag.law.vill.edu:8080>.

Another solution is to draw an analogy with the solution found in **Handelskerij G. J. Bier B.V. v. Mines de Potasse d'Alsace S.A.**⁵⁵⁶ In this case the plaintiff, a company carrying out a business of nursery gardening in the Netherlands, which used mainly water from the Rhine for irrigation of its seed beds, filed a law suit in the Netherlands, against a company engaged in mining in France, claiming that the defendant had discharged such large quantities of residuary salts into the Rhine that the increased salt content of the water had caused damage to the plaintiff's seed beds. The court held that it had no jurisdiction because "*the place where the harmful event occurred*" within the meaning of Article 5(3) of the Brussels Convention was in France.⁵⁵⁷ On the plaintiff's appeal, the appellate court made a reference to the Court of Justice for a ruling on the meaning of the phrase "*the place where the harmful event occurred*".

The committee of experts which prepared the Brussels Convention did not establish expressly in article 5(3) whether the right criterion should be the place where the event causing damage took place or whether it should be the place where the damage occurred. Therefore, the wording of article 5(3) enables the resort to the criterion of *the most significant relationship* which the situation emerging from the harmful event has with a state. The state may be other than that where the harmful event occurred or where the act was committed.

⁵⁵⁶ **Handelskerij G. J. Bier B.V. v. Mines de Potasse d'Alsace S.A.** (Case 21/76) (1978) 1 Q.B. 708 E.C.J.

The European Court of Justice held that:

“the place where the harmful event occurred was to be construed as referring both to the place where the tortious act occurred and the place where the damage occurred, that accordingly where the act occurred in one member state and the damage occurred in another, the plaintiff had the option of suing the defendant in the courts of either state.” [emphasis added]⁵⁵⁸

5.7.3 Possible solutions regarding applicable law

5.7.3.1 The law of the country of upload

The application of the law of the country of upload is based on the EC Satellite Directive.⁵⁵⁹ The European Commission suggested that an analogy to the country of uplink could be applied in the digital environment. Instead of the law of the country of uplink, the applicable law would be the one of the country of upload.

⁵⁵⁷ According to Article 5(3) Brussels Convention: *“A person domiciled in a Contracting State may, in another Contracting State, be sued: (...) 3. in matters relating to tort, delict or quasidelict, in the courts for the place where the harmful event occurred.”*

⁵⁵⁸ *Handelskerij G. J. Bier B.V. v. Mines de Potasse d’Alsace S.A.* (1978) 1 Q.B. 708 E.C.J.

⁵⁵⁹ See § 5.6.1 – The Satellite Directive (Dir. 93 83/EEC).

5.7.3.2 Cyberspace as an international space

The Internet could be deemed an international space, in line with the system which has been established for the high seas, Antarctica and outer space.⁵⁶⁰

The theory of international spaces is based on nationality, not territoriality. The primary rules are: on the high seas, the nationality of the vessel (the *law of the flag*), in Antarctica, the nationality of the base, and in outer space, the nationality of the registry of the vessel, manned or unmanned.

The question is what the vessel of nationality is in cyberspace. The vessel of nationality in cyberspace could be determined by the nationality of the person or company responsible for the creation and/or maintenance of a web page where infringing copyright material lies. In cyberspace the exact geographical location of a web page will often be unknown, but not the nationality of the person or company responsible for its creation and/or maintenance.

5.7.3.3 The law of the place where the damage occurred

⁵⁶⁰ See *inter alia*, Menthe, D., "Jurisdiction in Cyberspace: A Theory of International Spaces" (1998) 4 Mich. Tel. Tech. L. Rev. 3 available at <http://www.law.umich.edu/mttlr/volfour/menth.html>.

Yet another solution is to apply the law of the country *where the harmful event occurred* as interpreted by the European Court of Justice in the *Mines de Potasse* case.⁵⁶¹

5.7.7 Proposed solutions

The ability to assert jurisdiction by means of Internet contacts in foreign countries can subject users of the Internet to a variety of legal standards. In **Germany v. CompuServe Deutschland, et al.**⁵⁶², the issue was whether the defendant, former head of *CompuServe Germany*, was criminally liable for the on-line distribution of pornographic material and unlawfully reproduced computer games. Based on the premises that *CompuServe Germany* did not act as an access provider, since it only provided the technical conditions for access of users to servers of *CompuServe United States*⁵⁶³, that the activities of *CompuServe United States* were those of a host service provider and on the connections between *CompuServe United States* and *CompuServe Germany*, the District court judge of Munich held, on July 15, 1998, that the storage of pornographic material on the servers of *CompuServe United States* was an offence under German criminal law and sentenced Felix Somm to two years in prison and a

⁵⁶¹ See supra § 5.7.2.2 - The court of the place where the damage occurred.

⁵⁶² **Germany v. CompuServe Deutschland, et al.**, District Court of Munich, July 15 1998, (1998) E.I.P.R. N-162.

⁵⁶³ Access providers are exempted from criminal liability under Section 5 of the Law on the Use of Teleservices (TDG), which is Article 1 of the Information and Communication Services Act of 1997.

fine of DM 100,000.⁵⁶⁴ This case did not present a jurisdictional issue for the German court to address, but illustrates the types of liability to which global Internet businesses are subject.

The proposals which are put forward by this thesis are analysed in Chapter VI - International Digital Copyright Protection System.⁵⁶⁵

⁵⁶⁴ For a definition of *network, access and host service providers* see Appendix B – Technical Terms.

See also Appendix C – Chart on Internet intermediaries.

⁵⁶⁵ For suggested proposals see Chapter VI - International Digital Copyright Protection System, § 6.3 - Definitional proposals, § 6.4 - Obligational proposals, § 6.5 - Conflict of laws proposals and § 6.6 - Technological proposals.

Part III - Proposals, perspectives, summary and conclusions

Chapter VI - Proposed international digital copyright protection system

*“March to the battle-field,
The foe is now before us;
Each heart is Freedom’s shield,
And heaven is shining o’er us.”*

B. E. O’Meara, March to the Battle-Field

6.1 Introduction to the proposed International Digital Copyright Protection System

The WIPO Treaties introduced some solutions which provide for limited protection.⁵⁶⁶

The combined effect of mass access to the Internet, to the World Wide Web and to information delivery on demand, requires more than a few changes to the present copyright system.

For an effective solution what is needed in today's digital global village is one law apposite for the digital world and offering globally applicable uniform principles. Unification of substantive law will provide certainty for *Internet citizens* regarding on-line activities, because users, service providers and courts will be able to operate within the same rules.

The thesis will put forward detailed suggestions towards the adoption of an **International Digital Copyright Protection System**, in the form of definitional, obligational, conflict of laws and technological proposals, whose common denominator is the will to find new answers for the digital challenges. The **definitional proposals** will clarify conceptual questions arising from the digital revolution. The **obligational proposals** will regulate the issue of liability and duties

⁵⁶⁶ See Chapter I – Background, § 1.3.6.3 - The WIPO Copyright Treaty and § 1.3.7.3 - WIPO Performances and Phonograms Treaty, where the shortcomings of the WIPO Copyright Treaty and the WIPO Performances and Phonograms Treaty are considered.

of Internet service providers. The **conflict of laws proposals** will address the problems arising in connection with jurisdiction and applicable law on the Internet. The **technological proposals** will give practical effect to the system by focusing on deterrence and tracing copyright infringement.

6.2 Implementation of the proposed International Digital Copyright Protection System

Considering that the TRIPS Agreement adhered to the tried and tested solutions of the Berne Convention⁵⁶⁷ and established, for the first time at an international level, effective measures for enforcement of intellectual property rights⁵⁶⁸ and since the WIPO treaties have not yet come into force,⁵⁶⁹ it seems that the Council for TRIPS, under the WTO, could be the adequate forum to implement a new digital copyright protection system.

According to Article 71(1) of TRIPS, the Council has the power *“to undertake reviews in the light of any relevant new developments which might warrant*

⁵⁶⁷ See Article 9 of the TRIPS Agreement and Chapter I - Background, § 1.3.5 – The TRIPS Agreement.

⁵⁶⁸ TRIPS, Articles 41 and 64.

⁵⁶⁹ The WIPO Copyright Treaty has been signed by fifty-one countries and ratified by twenty-eight and the WIPO Performances and Phonograms Treaty has been signed by fifty countries and ratified by twenty-six (<http://www.wipo.org/treaties/docs/english/u-page31.doc>).

modification or amendment of this Agreement". The creation of a digital copyright protection system to face the new technological challenges seems to be covered by the scope of this provision.

The suggestion is, therefore, that the proposed International Digital Copyright Protection System should become part of TRIPS, possibly through the addition of a protocol to the Agreement.

6.3 Definitional proposals of the International Digital Copyright Protection System

6.3.1 Introductory

At an international level the problems raised in the digital context regarding classification of subject matter, fixation, reproduction, criterion of originality and meaning of publication are not expressly covered by any legal provision and are thus subject to a certain amount of legal uncertainty.

It is submitted that, in the name of legal certainty, what are needed are **definitional provisions** dealing with the above issues.

6.3.2 Proposals on classification of subject matter

6.3.2.1 Introductory

Today, digitised works can easily be combined with other works, creating multimedia works which are often functional and utilitarian and defy traditional categorisation. The problem is how this reality should be incorporated into the law.⁵⁷⁰

Several solutions can be found to deal with this problem, such as the following:

1. Establishment of general categories of works;⁵⁷¹
2. One category protecting all types of works;⁵⁷²
3. Creation of a new category of works;⁵⁷³
4. Division of the multimedia work into parts;⁵⁷⁴ or
5. Combination of copyright and *sui generis* protection.⁵⁷⁵

⁵⁷⁰ See Chapter II – Definitional questions in the digital context, § 2.2 - Classification of subject matter.

⁵⁷¹ See Chapter II – Definitional questions in the digital context, § 2.2.3.1 - General categories of works.

⁵⁷² See Chapter II – Definitional questions in the digital context, § 2.2.3.2 – One category covering all types of works.

⁵⁷³ See Chapter II – Definitional questions in the digital context, § 2.2.3.3 – A new category.

⁵⁷⁴ See Chapter II – Definitional questions in the digital context, § 2.2.3.4 – Dividing the multimedia work into parts.

⁵⁷⁵ See Chapter II – Definitional questions in the digital context, § 2.2.3.5 – Combination of copyright and *sui generis* protection.

6.3.2.2 Combination of copyright and *sui generis* protection

Like databases, the development of multimedia works requires a considerable investment, but can be copied at the fraction of the price required for their development, requiring protection even in the absence of the traditional threshold of originality.⁵⁷⁶ The preferable solution seems to be to acknowledge the fact that multimedia works, like databases, need a separate treatment, and to place them under the database system combining copyright protection and *sui generis* protection.⁵⁷⁷

Unlike the first solution (*establishment of general categories of works*), this solution would probably be welcomed by countries like the United Kingdom, in which copyright protection is dependent on the requirement of a creation criterion for specific categories of works.

Unlike the second solution (*one sole category protecting all types of works*), this solution would take into account the differences between works and would not require an integral redesign of the copyright system.

Unlike the third solution (*creation of a new category of works*), this solution would not require the design of a new system of protection, one which has not been tried and

⁵⁷⁶ See Recitals 7-10 of the EC Database Directive.

⁵⁷⁷ See Chapter I – Background, § 1.4.2.4 - Database Directive (Dir. 96 9/EC).

tested, and which, therefore, would provide little guarantee of working. On the contrary, the fifth solution (*combination of copyright and sui generis protection*) would follow the tried and tested solution of the EC Database Directive⁵⁷⁸, by establishing the traditional copyright protection system for original multimedia works, and a system of *sui generis* protection for non-original multimedia works.

Unlike the fourth solution (*division of the multimedia work into parts*), this solution would take into account the fact that the merit of a multimedia work results from the combination and interactivity of its different components, and would assure the same type of protection for all the different components of a multimedia work. These components would be protected as a substantial part of the whole, without prejudice to underlying copyrights.

6.3.3 Proposals on fixation

6.3.3.1 Introductory

Fixation used to imply a stable and permanent form. Digital technology has rendered this notion obsolete. With analogue technology, information had to be stored in a material support. Today, distribution of digitised material on the Internet has become a common practice. Information thus becomes independent of any carrier. In view of

⁵⁷⁸ See Chapter I - Background, § 1.4.2.4 – Database Directive (Dir. 96/9/EEC).

this dematerialization of information, the concept of *fixation* of information on a stable carrier seems difficult to sustain as a prerequisite for the qualification of a work as a copyright work.⁵⁷⁹

Several solutions can be found to deal with this problem, such as the following:

- 1 The general absence of a fixation requirement of the civil law author's right system;⁵⁸⁰
- 2 The fixation requirement of the common law copyright system⁵⁸¹; or
- 3 The *status quo* provided by the Berne Convention.⁵⁸²

6.3.3.2 The solution of the Berne Convention

The preferable solution may be to maintain the *status quo* provided by the Berne Convention⁵⁸³, allowing national lawmakers to decide whether works can be protected independently of fixation. Unlike the first solution (*the general absence of a fixation requirement of the civil law author's right system*), this solution would be welcomed

⁵⁷⁹ See Chapter II – Definitional questions in the digital context, § 2.4 - Fixation.

⁵⁸⁰ See Chapter II – Definitional questions in the digital context, § 2.4.2.1 – The position of the civil law author's right system.

⁵⁸¹ See Chapter II – Definitional questions in the digital context, § 2.4.2.2 – The position of the common law copyright system.

⁵⁸² See Chapter II – Definitional questions in the digital context, § 2.4.2.3 – The solution of the Berne Convention.

⁵⁸³ Berne Convention, Article 2(2).

by countries like the United States, where fixation is a requirement of the Constitution and protected works are works in written form.⁵⁸⁴ Furthermore, in the digital world, the results of these two solutions will not generally differ. Where the continental position is adopted, generally, all works will be protected independently of fixation. Where the common law position is followed and the fixation requirement is maintained in the digital world, it seems reasonable to assume that, in the digital context, electronic recording will automatically constitute fixation. In the digital context it could be generally agreed that electronic representation of a work for long enough for it to be perceived by another human being or another machine is fixation. From this perspective, only an exceptional category of works will fail to be protected if they are not fixed.

6.3.4 Proposals on reproduction

6.3.4.1 Introductory

The agreed statement concerning Article 1(4), adopted in conjunction with the WIPO Copyright Treaty clarified that digital reproduction is covered by Article 9(1) of the Berne Convention. However, the agreed statement did not elucidate the limits of the reproduction right in correlation with temporary copying. Thus, the question is

⁵⁸⁴ Article I, Section 8 of the United States Constitution establishes that “*the Congress shall have power (...) to promote the progress of science and useful arts, by securing for limited times to authors and inventors the exclusive right to their respective Writings and Discoveries.*” [emphasis added].

whether transitory storage qualifies as reproduction within the meaning of Article 9(1) of the Berne Convention.⁵⁸⁵

There seem to be two solutions to this problem:

1. Protection of all acts of reproduction;⁵⁸⁶ or
2. Exemption of technical acts of reproduction.⁵⁸⁷

6.3.4.2 Exemption of technical acts of reproduction

The preferable solution seems to be to follow in this respect the EC Copyright/Information Society Directive⁵⁸⁸. Article 2 of the EC Copyright/Information Society Directive sets out a very broad protection of the reproduction right, covering temporary copies. Nevertheless, to keep the balance of interests, Article 5 of the EC Copyright/Information Society Directive provides for an exception for temporary acts of reproduction which are part of a technological process for the purpose of enabling use of a work or other subject matter, provided they lack independent economic significance. The principle is that certain technical acts of

⁵⁸⁵ See Chapter II – Definitional questions in the digital context, § 2.5 – Reproduction.

⁵⁸⁶ See Chapter II – Definitional questions in the digital context, § 2.5.2.1 - Protection of all acts of reproduction

⁵⁸⁷ See Chapter II – Definitional questions in the digital context, § 2.5.2.2 - Exemption of technical acts of reproduction

⁵⁸⁸ See Chapter I - Background, § 1.4.2.7 - Copyright/Information Society Directive (Dir. 2001/29/EC)

reproduction should be exempted from the scope of the reproduction right because they have no separate economic significance.

Temporary acts of reproduction (including transient storage for viewing) which lack economic significance *per se* and which are technologically necessary in order to enable the authorised use of a work or other subject matter should be excepted from protection. Unlike the first solution, this solution would mean that the balance between the interests of authors and the interests of the public would be kept. It is suggested that the wording of the EC Copyright/Information Society Directive could be used in this connection.

6.3.5 Proposals on the criterion of originality

6.3.5.1 Introductory

Copyright has been stretched to cover a variety of works of a functional and utilitarian nature, such as computer programs and databases, which only involve a low degree of originality. The fact that the originality of these works often lies in their selection, structure and arrangement places the originality threshold under strain. The emerging questions are: What criteria should be used to ascertain whether a work created on-line is original? Do new originality requirements have to be introduced?⁵⁸⁹

⁵⁸⁹ See Chapter II – Definitional questions in the digital context, § 2.6 – The criterion of originality.

There seem to be three solutions to this problem:

1. The notion of originality of the common law copyright system;⁵⁹⁰
2. The notion of originality of the civil law author's right system;⁵⁹¹ or
3. The common denominator between the two systems.⁵⁹²

6.3.5.2 The common denominator between the two systems

The originality criterion may have been made higher in the common law system and lower in the Continental system, in order to protect the new digital works.⁵⁹³ In the European Community, computer programs and databases will be protected provided they are the "*author's own intellectual creation*". The notion of *intellectual creation* gives us a common denominator between the two systems, which could be followed at an international level. It could be said that this standard of originality has been influenced predominantly by the author's right system. However, according to Ricketson:

⁵⁹⁰ See Chapter II – Definitional questions in the digital context, § 2.6.2.1 - The notion of originality of the common law copyright system.

⁵⁹¹ See Chapter II – Definitional questions in the digital context, § 2.6.2.2 - The notion of originality of the civil law author's right system.

⁵⁹² See Chapter II – Definitional questions in the digital context, § 2.6.2.3 - The common denominator between the two systems.

⁵⁹³ See EC Computer Programs Directive, Article 1(3) and EC Database Directive, Article 3(1).

*“It must be concluded that the common law countries, in this regard, depart from the spirit if not the letter of the [Berne] Convention.”*⁵⁹⁴

Therefore, in this respect, if a choice had to be made between the approach of the civil law author’s right system and the approach of the common law copyright system, the former should be favoured.

6.3.6 Proposals on the meaning of publication

6.3.6.1 Introductory

Today works are regularly placed on the Internet enabling users to have access to them at a time and place individually chosen by them. With the advent of digital technology, the emerging question is what constitutes publication on the Internet: this will have important consequences on both the *term of protection* and the concept of *country of origin*.⁵⁹⁵

6.3.6.2 Proposal

⁵⁹⁴ S. Ricketson, *The Berne Convention for the Protection of Literary and Artistic Works 1886-1986* (Kluwer, 1987) 900-901.

⁵⁹⁵ See Chapter II - Definitional questions in the digital context, § 2.7 – The meaning of publication.

It is suggested that the definition of publication and of making available should be the same. If, for example, an electronic book is placed on an Australian server and 300 copies are downloaded in Singapore (as if the 300 copies had been bought and shipped to Singapore), publication should be deemed to have taken place in Australia.

It seems that to avoid legal uncertainty the definition of on-line publication should be clarified at an international level. A possible solution could be:

- to regard the act of placing of works on the Internet, by the authors or with their consent, as an act of publication, (from which the date of publication can be ascertained);
- to equate the country of publication to the country where the server, to which the work is uploaded to, is located, and
- if the work is simultaneously uploaded to several web sites, located in different countries, to treat this case as one of simultaneous publication.⁵⁹⁶

6.4 Obligational proposals of the International Digital Copyright Protection System

⁵⁹⁶ See Articles 3(4) and 5(4)(b) of the Berne Convention. In the case of a work published simultaneously in a country outside the Berne Union and in a country of the Union, the latter country shall be deemed the country of origin of the work.

6.4.1 Introductory

The absence of international rules regarding liability and obligations of service providers creates uncertainty. To assure legal certainty and uniformity, global harmonisation is needed. Any attempt to regulate the Internet must be global, not national nor regional. Otherwise, digital versions of tax havens will flourish. Only world-wide harmonisation can obviate the incentives to relocate activities abroad, in the country with the least protective system. What is required is global harmonisation on minimum standards regarding liability of service providers. This issue requires the same level of protection world-wide.⁵⁹⁷

6.4.2 Proposals on exemptions from liability of service providers

The precursor provisions of Section 202 of the US Digital Millennium Copyright Act and of the EC Electronic Commerce Directive, on exemptions from liability of service providers may provide various principles for a world-wide uniform law.

⁵⁹⁷ See Chapter I – Background, § 1.4.2.7 - Electronic Commerce Directive (Dir. 2000/31/EC) and Chapter III – Problems affecting the scope of granted rights and liability of service providers, § 3.5.3 - The EC Electronic Commerce Directive, § 3.5.4 - Section 202 of the US Digital Millennium Copyright Act and § 3.5.5 - Common points between the EC Electronic Commerce Directive and Section 202 of the US Digital Millennium Copyright Act.

In line with Section 202 of the US Digital Millennium Copyright Act and the EC Electronic Commerce Directive, service providers should be given the following exemptions at an international level:

- Service providers should be exempted from monetary damages and be subject only to injunctive remedies if the infringement occurs on their networks, in cases where they act as *mere conduits*;
- They should also be granted exemptions from liability for *caching* and for provision of *host services* under certain circumstances;
- Furthermore, service providers should benefit from an exemption regarding *location tool providers*.

6.4.3 Proposals on obligations of service providers

6.4.3.1 Introductory

In line with existing obligations at national level, obligations aimed at the removal of copyright infringing material from the Internet should be placed on service providers at an international level. These obligations should include:

1. the duty to give notice of illegal activity;
2. the notice and take down procedure;
3. the duty to appoint a responsible person; and
4. the duty of identification upon request of the investigative authorities;

6.4.3.2 The duty to give notice of illegal activity

One of the obligations that service providers should have is the duty to give notice of illegal activity. Upon becoming aware or having reason to suspect of the existence of copyright infringement, service providers should report such facts to the enforcement authorities.⁵⁹⁸

6.4.3.3 The notice and take down procedure

Service providers should also be bound by the notice and take down procedure, according to which they would delete or bar access to illegal contents upon becoming aware or being informed of their existence.⁵⁹⁹

6.4.3.4 The duty to appoint a responsible person

In addition, service providers should have to appoint a responsible person, namely as a contact person for the investigative authorities.⁶⁰⁰ Service providers should have to set up *hotlines*, whose task is to inform the service providers of the existence of illegal

⁵⁹⁸ In the US, the Protection of children from sexual predators Act of 1998 introduced the duty to give notice of illegal activity, see United States Copyright Act, Section 227.

⁵⁹⁹ In the US, service providers have to comply with the notice and take down procedure, see United States Copyright Act, Section 512 (c)(3).

⁶⁰⁰ In line with Section 512 (c) (2) of the United States Copyright Act, which requires the service provider to name a designated agent to receive notifications of alleged infringements.

contents, upon being notified by users.⁶⁰¹ Service providers would then, in accordance with the notice and take down procedure, delete or bar access to the illegal material.

6.4.3.5 The duty of identification upon request of the investigative authorities

A further obligation should consist of the duty of identification of copyright infringers upon request of the investigative authorities.⁶⁰²

⁶⁰¹ The installation of hotlines on the Internet has been considered by the European Community. The *EC Action Plan on Promoting Safer use of the Internet* (available at <http://www.echo2.lu/iap/position/de.html>) expresses the intention of implementing a link from these reporting offices to a network of European hotlines.

⁶⁰² In the US, according to Section 512(h) of the United States Copyright Act, a copyright owner may request a clerk of “*any United States district court*” to issue a subpoena to a service provider requiring identification of an alleged infringer. If the subpoena is issued, the service provider will be ordered to disclose swiftly to the copyright owner the identification of the alleged infringer, to the extent that such information is available to the service provider. This provision will require stronger cooperation between copyright owners and service providers in tracing copyright infringement in the digital world. It should be noted that for this duty to have some practical effect, service providers would have to confirm the validity of customer details. Generally, service providers do not confirm the validity of customer details, such as name and address. Therefore, if a court requests information to a service provider regarding a client suspected of having stored illegally retrieved copyright material on the server of that service provider, the name and address details supplied by the service provider will not necessarily be accurate. However, with the use of certificates, which allow one to prove one’s identity in electronic transactions, this problem will no longer exist. See Chapter IV – Problems concerning authenticity, infringement and enforcement, § 4.4.1.2 – Potential lack of validity of customer

6.4.3.6 The duty to monitor contents

Monitoring of large volumes of data is technically impossible and would violate privacy rights of citizens. Therefore, service providers should not have to be subject to the duty to monitor contents.⁶⁰³

6.4.4 Conclusion

In consonance with the US Digital Millennium Copyright Act and with the EC Electronic Commerce Directive, service providers cannot be expected to monitor all the massive amount of information that is stored by users on their servers. However, they should be liable for the existence of illegal material on their servers:

-
- When they have knowledge or reason to suspect of the existence of illegal contents on their servers and when deletion or blocking of this content is technically feasible and can reasonably be expected;
 - When they fail to act promptly to delete or bar access to illegal material on their servers, upon acquiring knowledge of the existence of such material themselves,

information and Chapter VI – Proposed International Digital Copyright Protection System, § 6.6 – Technological proposals.

⁶⁰³ See Article 4 of the Swedish Act of Responsibility for Electronic Bulletin Operators. In contrast, Section 512 (m) of the United States Copyright Act and Article 15 of the EC Electronic Commerce Directive free service providers from any obligation to monitor their servers.

or being notified about it by a *hotline*, or requested to remove the material by the competent authorities.

6.5 Conflict of laws proposals of the International Digital Copyright Protection System

6.5.1 Proposals on jurisdiction

6.5.1.1 Introductory

At an international level the problems raised in the digital context regarding jurisdiction are not expressly covered by any legal provision and are thus subject to a certain amount of legal uncertainty.

Several solutions can be found to deal with the jurisdiction problem in cyberspace, such as the following:

- A special jurisdiction for cyberspace⁶⁰⁴; or
- The court of the place where the damage occurred.⁶⁰⁵

⁶⁰⁴ See Chapter V- Conflict of laws, § 5.7.2.1 – A special jurisdiction for cyberspace.

⁶⁰⁵ See Chapter V- Conflict of laws, § 5.7.2.2 – The court of the place where the damage occurred.

6.5.1.2 The court of the place where the damage occurred

The preferable solution seems to be to follow the interpretation of Article 5(3) of the Brussels Convention as held by the European Court of Justice in the **Mines de Potasse case**⁶⁰⁶.

In **Handelskerij G. J. Bier B.V. v. “Mines de Potasse” d’Alsace S.A.**, the appellate court made a reference to the Court of Justice for a ruling on the meaning of the phrase *“the place where the harmful event occurred”*. The European Court of Justice held that:

“The place where the harmful event occurred was to be construed as referring both to the place where the tortious act occurred and the place where the damage occurred, that accordingly where the act occurred in one member state and the damage occurred in another, the plaintiff had the option of suing the defendant in the courts of either state.”

The solution presented by the European Court of Justice in the latter case could be extrapolated into cyberspace, and construed as meaning that jurisdiction will be given to the court of *the place where the damage occurred*.

⁶⁰⁶ **Handelskerij G. J. Bier B.V. v. Mines de Potasse d’Alsace S.A.**, (Case 21/76) (1978) 1 Q.B. 708 E.C.J.

The choice of this solution can be justified by a two level analogy between the way waters flow in rivers and the way in which information flows in cyberspace, in terms of origin and consequences of such flows:

- Generally, it is possible to determine the place where the act was committed, but it is difficult to determine the places where the damage may arise, whereas in these two environments (rivers and Internet) it is often impossible to determine the place where the act was committed, but the places where the damage may arise are often known;
- On the other hand, the consequences of acts committed in these two environments cannot be restricted to any geographical boundaries. In **Handelskerij G. J. Bier B.V. v. Mines de Potasse d'Alsace S.A.**, a discharge of a saline waste into the Rhine in France affected the plaintiff's crops in the Netherlands.

This solution would be based on a tried and tested solution of the Brussels Convention as interpreted by the European Court of Justice and would also be in line with the spirit of several cases, such as, **3DO Co. v. Poptop Software, Inc.**,⁶⁰⁷ where the court found jurisdiction based on the fact, even if not only on that basis, that the defendant's conduct had an effect in the forum state, **Playboy Enterprises, Inc. v. Asiafocus International Inc.**,⁶⁰⁸ where the court asserted jurisdiction based on the fact that a

⁶⁰⁷ **3DO Co. v. Poptop Software, Inc.** 1998 U.S. Dist Lexis 21281 (N.D.Cal.1998). This case is described in Chapter V- Conflict of laws, § 5.4.2.4 - United States.

⁶⁰⁸ **Playboy Enterprises, Inc. v. Asiafocus International Inc.** 1998 U.S. Dist. Lexis 10459 (E.D.Va. 1998). This case is described in Chapter V- Conflict of laws, § 5.4.2.4 - United States.

non-resident had caused “*tortuous injury in this Commonwealth by an act or omission outside this Commonwealth*”, and **ABKCO Music & Records Inc. v. Music Collection International Ltd. & Am**,⁶⁰⁹ where it was held that an authorisation given abroad to do an act within the jurisdiction was a local infringement.

Another option would be to create ex novo a special jurisdiction for cyberspace.

In the United States, an on-line voluntary arbitration system has been introduced, the Virtual Magistrate Project.

Tierney v. Email America⁶¹⁰ was the first decision of the *Virtual Magistrate*. James Tierney, a member of *America Online* and an advisor of the *Virtual Magistrate Project* on consumer fraud issues, filed a complaint against *Email America*, which had posted a message on *America Online* offering to sell lists of as many as twenty million email addresses. The complaint alleged that *Email America*'s message was deceptive, an invasion of privacy, against sound public policy, and promoted *spamming*.⁶¹¹ *America Online*, who voluntarily participated in the case, submitted that it does not encourage unsolicited mail on its system. The *Virtual Magistrate* ruled that *America Online* should remove the message from its system. *Email America* did not respond to repeated requests to participate in this case, which shows a weakness of this system

⁶⁰⁹ **ABKCO Music & Records Inc. v. Music Collection International Ltd. & Am** (1995) E.M.L.R. 449 CA. This case is described in Chapter V- Conflict of laws, § 5.4.2.3 - United Kingdom.

⁶¹⁰ **Tierney v. Email America** VM Docket No. 96-0001 (8 May 1996), available at <http://vmag.law.vill.edu:8080>.

(in contrast with the powers of a properly constituted court to give judgement in default of appearance). This is a system in which the intervention of the parties is dependant on their good will.

6.5.2 Proposals on applicable law

6.5.2.1 Introductory

At an international level the problems raised in the digital context regarding applicable law, are not expressly covered by any legal provision. Several solutions can be found to deal with the applicable law problem in cyberspace, such as the following:

- The law of the country of upload⁶¹²;
- Cyberspace as an international space⁶¹³; or
- The law of the place where the damage occurred.⁶¹⁴

6.5.2.2 The law of the place where the damage occurred

The preferable solution seems to be to apply the law of the country *where the harmful event occurred*, in an analogy with the interpretation of Article 5(3) of the Brussels

⁶¹¹ For a definition of *spamming* see Appendix B – Technical terms.

⁶¹² See Chapter V- Conflict of laws, § 5.7.3.1 – The law of the country of upload.

⁶¹³ See Chapter V- Conflict of laws, § 5.7.3.2 - Cyberspace as an international space.

⁶¹⁴ See Chapter V- Conflict of laws, § 5.7.3.3 – The law of the place where the damage occurred.

Convention as held by the European Court of Justice in the **Mines de Potasse case**.⁶¹⁵

The applicable law would be the law of the country where the damage occurred.

Bearing in mind that jurisdiction would be given to the court of the place where the damage occurred,⁶¹⁶ this solution would accord with Article 5(2) of the Berne Convention⁶¹⁷ when this provision is interpreted as referring to the law of the country where the author is involved in legal proceedings: the Berne Convention refers to the law of the country of the forum, because it is before the courts of that country that the copyright owner is seeking protection.⁶¹⁸

Another solution would be to apply the law of the upload, in accordance with the European Community upload proposals. The application of the law of the country of the upload seems, at first sight, to provide a simple and effective solution in face of the challenges posed by digital technology.

⁶¹⁵ **Handelskerij G. J. Bier B.V. v. Mines de Potasse d'Alsace S.A.**, (Case 21/76) (1978) 1 Q.B. 708 E.C.J.

⁶¹⁶ See *supra* § 6.5.1.2 - The court of the place where the damage occurred.

⁶¹⁷ “(...) *Apart from the provisions of this Convention, the extent of protection, as well as the means of redress afforded to the author to protect his rights, shall be governed exclusively by the laws of the country where protection is claimed.*”

⁶¹⁸ See G. Koumantos, “Private international law and the Berne Convention” (1988) 24 Copyright 426. See Chapter V- Conflict of laws, § 5.5.1 - The Berne Convention, in which Article 5(2) of the Berne Convention is analysed.

However, it is difficult to establish where the upload originated. The notion of a *country of origin* is contemporary of a non-digital world, where it is easier to establish where an act originated. In the digital world, where reproduction, communication, adaptation and distribution of data can occur simultaneously across the world, through any network, this notion becomes ambiguous. With the Internet, works are accessible globally. Authors located in different continents can collaborate in creating the same work. It is normal to find a web page in the United Kingdom linked to pages in the Singapore, Norway, Finland, Sweden, Switzerland, France and Japan. Users download information unaware of all the countries travelled in the transmission of the information and without seeing where the information is actually coming from. When material is uploaded to the Internet, it can be downloaded by anyone. It is difficult to pinpoint the territory in which transmissions originate and where they are disseminated. Thus, it will not be easy to pinpoint the origin of the upload.⁶¹⁹

Another solution can be found in the qualification of cyberspace as an international space. The common denominator between the high seas, Antarctica, outer space and cyberspace is their international and sovereignless quality. They are international spaces. In these three international spaces, which lack territorial jurisdiction, jurisdiction is asserted on the basis of nationality. The extension of such a

⁶¹⁹ Problems involved in tracing the origin of the upload are further complicated due to lack of validity of customer information of service providers and insufficient security of accounts of the latter. See Chapter IV- Problems concerning authenticity, infringement and enforcement, § 4.4 – Problems concerning enforcement.

rule to the Internet could provide certainty and uniformity. Since on the Internet it is difficult to pinpoint the geographical territory in which acts take place or from where they are originated, it would be easier to determine what law to apply to a case with international elements if nationality were the primary principle for the assertion of jurisdiction. The vessel of nationality in cyberspace could be determined by the nationality of the person or company responsible for the creation and/or maintenance of a web page where infringing copyright material lies.

A common problem with the law of upload, and qualification of cyberspace as an international space is that it can only work if copyright laws are harmonised world wide, and certain minimum standards of protection are established. These three solutions require the same level of copyright protection world-wide. In the absence of global copyright harmonisation, users will upload from the country with the least protective system and companies will place their businesses in countries with a more lax copyright system.⁶²⁰

6.6 Technological proposals of the International Digital Copyright Protection System

⁶²⁰ See *Opinion of the Social and Economic Committee on the Green Paper – Copyright and Related Rights in the Information Society*, 96 C97/03, which states that the upload solution could lead to the transmission of works from countries with lower levels of protection or enforcement capabilities.

6.6.1 Introductory

The digital environment brings some dangers to copyright protection. Information in digital form is intangible and can be reproduced instantaneously, with total accuracy and little effort. Digital copies are different from printed copies, because there is no difference between original and copy. Analogue technology is not compatible with multi-generation copying, but with digital technology copies can be made indefinitely with no loss of quality. Digital technology also eases the retrieval of existing works across the Internet, by means of mechanisms such as the World Wide Web⁶²¹ and search engines.⁶²² Furthermore, increases in capacity of the Internet⁶²³ and digital compression techniques have made it easier to distribute works at high speed and with little time or cost⁶²⁴.

In summary, digital technology increases the ability to copy works and related subject matter, the quality of the copies, the potential to manipulate and modify the work and the speed with which copies can be delivered to the public.

⁶²¹ For a definition of *World Wide Web* see Appendix B – Technical Terms.

⁶²² For a definition of *search engine* see Appendix B – Technical Terms.

⁶²³ Modems achieve speeds of up to 56 kbps and cable modem and DSL Telephone lines achieve speeds of 512kbps. For a definition of *kbps* and *DSL* see Appendix B – Technical Terms.

⁶²⁴ With MP3, for example, copies can be produced which are 8% of the original size and can be transferred down the Internet 12 times faster than the originals. For a definition of *MP3* see Appendix B – Technical Terms.

Copying has been made so easy and accessible to any end user, that works and other protected subject matter require more protection from unauthorised copying.

6.6.2 Proposals on control of copyright

6.6.2.1 Introductory

Broadly speaking, unauthorised uses may be prevented by technological means, such as encryption, and subsequent unauthorised uses may be traced by means of digital watermarking.

(i) **Encryption and monitoring**⁶²⁵

Encryption techniques should be used for the following already known purposes. Digital signatures, which are encryption based, should be used to assure that a work has not been manipulated and then attributed to the original author.⁶²⁶ In addition,

⁶²⁵ For a definition of *encryption* see Appendix B – Technical terms.

⁶²⁶ When an author digitally signs his work, an end user will still be able to delete the digital signature of the author, insert his own digital signature and assume authorship of a document not created by him. However, the user will not be able to modify the document and disseminate it under the name of the author of the original work. For a definition of digital signatures, see Appendix B – Technical terms.

encryption should be used to prevent users from manipulating works.⁶²⁷ Encryption should also be used as a means for assuring that users pay for restricted uses of works placed on the Internet. Lastly, encryption techniques should be used in parallel with monitoring of the web sites, by means of search engines, to verify whether there are web sites redistributing unauthorised decrypted versions of works and if there are to trace them and to have them closed down.⁶²⁸

(ii) Digital watermarking and tracking services⁶²⁹

⁶²⁷ The best method for preventing modifications to copyright works is to encrypt the entire work. Another method of deterring modifications to copyright works is saving information in non-editable form (some PDFs, for example, are not editable), which consists of a bit-map (for definition of *bit-map* see Appendix B – Technical Terms). If information is saved in this form the only way to manipulate it is by applying optical character recognition (for definition of *optical character recognition* see Appendix B – Technical Terms), which converts the bit-map back to editable form. This process does not prevent manipulation of data altogether, but it adds an extra level of difficulty to acts of modification of copyright works.

⁶²⁸ A record company, for example, will encrypt its music and then make it available on its web site. A user will need a player to decrypt, decompress and play the music (for definition of *player* see Appendix B – Technical Terms). A user may still be able to access and store the decrypted and decompressed data from the player. This file can then be compressed in a widely available compression form, like MP3, and then placed on the World Wide Web (for definitions of *MP3* and *World Wide Web* see Appendix B – Technical Terms). This is why encryption techniques should be used in parallel with monitoring of the web sites, by means of search engines, to see whether there are web sites redistributing unauthorised decrypted versions of works.

⁶²⁹ For a definition of *digital watermarks* see Appendix B – Technical terms.

Digital watermarking, sometimes called fingerprinting, allows copyright owners to incorporate into their works invisible identifying information. Digital watermarking should also be used in parallel with new tracking services, allowing copyright owners to find all illegal copies of their works on the Internet and to take appropriate legal action.

6.6.2.2 Digital identification and watermarking

The suggestion is put forward that, in addition to these methods, a method of digital identification of users should be used for protecting copyright on the Internet.

(i) Identifying users with certificates

The need to identify users digitally, emerges from the need to trace copyright infringement. Users can be identified by means of certificates, which are already available on the market. Today, they are merely used to guarantee the identity of users in electronic transactions. However, certificates should also be used to trace copyright infringement.

Certificates consist of special documents, which allow one to prove one's identity in electronic transactions. They are issued by certification authorities, who are independent and trusted parties who check the validity of customers' details and

subsequently issue certificates.⁶³⁰ It is most important that certification authorities be trustworthy and independent entities, since certificates are only as reliable as the entity responsible for their issuance.

⁶³⁰ Broadly speaking, certification authorities ascertain the identity of a person and certify that a certain public key used to create digital signatures belongs to that person. For a definition of *digital signature* see Appendix B – Technical terms.

The following is a summary of the process involved in obtaining a certificate (see *inter alia*, Thomas J. Smedinghoff et al, Chapter 4 of *Online Law: The Spa's Legal Guide To Doing Business On The Internet* (Addison-Wesley, 1996); S. Tanenbaum, *Computer Networks* (3rd edition, Prentice Hall, 1996) 577-620; W. Stallings, *Data & Computer Communications* (6th edition, Prentice Hall, 2000) 649-683; H. Abelson, R. Anderson, et. al, “The Risks of Key Recovery, Key Escrow, and Trusted Third Party Encryption” (July 1998) available at <http://www.cdt.org/crypto/risks98/>; L. Brazell, “Electronic Security: Encryption in the Real World” (1999) 1 E.I.P.R. 17-27):

Obtaining a certificate

A subscriber of a certificate has to generate his own public and private key pair, visit a certification authority and produce proof of identity (such as a passport and/or driver’s license or any other proof required by the certification authority), and demonstrate that he holds the private key corresponding to the public key (without disclosing the private key).

Some certification authorities may require a subscriber to appear in person before them to establish the subscriber's identity, others may be willing to rely on a third party to establish the subscriber's identity.

An added level of security may be put in place, by requiring photographs and fingerprinting, to ensure that each registered public key corresponds to a real person and not a fraudulent identity.

Once the certification authority has verified the association between an identified person and a public key, the certification authority then issues a certificate.

Aim of the certificate

A certificate is an electronic record that attests to the connection of a public key to an identified subscriber, identifies the certification authority issuing it, contains the subscriber's public key and possibly other information, such as an expiration date for the public key.

Assuring the authenticity of the certificate

To provide assurance as to the authenticity and integrity of the certificate, the certification authority attaches its own digital signature to the certificate. The authenticity and integrity of a certificate issued by a certification authority can be verified by the certification authority's digital signature, using the certification authority's public key. In turn, the certification authority has its public key certified by another higher level certification authority, which acts as a certification authority for it. The higher level certification authority, in turn, has its public key certified by an even higher level certification authority.

Reviewing the certificate

Once the certificate has been issued, the certification authority notifies the subscriber so as to give the subscriber an opportunity to review the contents of the certificate before it is made public.

If the subscriber finds that the certificate is accurate, the subscriber may make it available to third parties for purposes of electronic communication.

Making the certificate available to the public

A common way of publishing a certificate is by recording it in one or more *repositories*, which are digital database of certificates, generally available online. Once a certificate has been published, the subscriber may then attach the certificate to any digital message.

Revocation of the certificate

If a private key is lost, compromised, or no longer used for any other reason, the corresponding public key and its certificate are placed on the *certificate revocation list*, which is a database of certificates of keys that have been revoked before their expiration date. Before relying on a public key, a user should verify the certificate revocation list.

Certification authorities may be private entities and governmental entities licensed to act as certification authorities by a Government, or private entities acting as certification authorities for commercial purposes.⁶³¹

Expiration of the certificate

A validity period can be included in the certificate. Anyone who then consults the certificate will know whether it has expired.

⁶³¹ The tendency does not seem towards globalisation, unlike with what happened with *IP addresses* and *domain names*, both run by American companies on a global scale: IANA (Internet Assigned Numbers Authority) allocates IP addresses and ICANN (Internet Corporation for Assigned Names and Numbers) allocates domain names (for a definition of *IP addresses* and *domain names* see Appendix B – Technical terms). The following are some example of certification authorities in France, Germany, Portugal, the United Kingdom and the United States.

France:

- Certplus (Verisign international affiliate)
- Thawte Francophone

Germany:

- Deutschland Chamber Association of Digital Acceptance (DE-CODA)
- IN-certification authority: Individual Network e.V.
- TC TrustCenter

Portugal:

- Certipor (Sociedade Portuguesa de Certificados Digitais, S.A.)
- Multicert (SIBS - Sociedade Interbancária de Serviços)

United Kingdom;

- BT Trustwise (Verisign international affiliate)
- Endorse (Barclay Bank)
- Globalsign UK (part of the Globalsign Network)

(ii) Identifying copies of works with watermarking⁶³²

Copies of works must also be identified in order to trace copyright infringement. To do so, unique identification numbers may be inserted into copies of works. However, serial numbers can be removed. Car manufacturers, for instance, weld a vehicle identification number in each car, which can still be removed. In cyberspace, a serial number may be removed from a digital copy of a song.

The safest way of identifying copies of works is by using digital watermarks, because these are difficult to remove – it is difficult to isolate the watermark in order to remove it.⁶³³ Digital watermarks are bits embedded in digital content, usually invisible

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- TrueTrust (Salford University)
 - Viacode (Royal Mail certification authority)

United States of America:

- AlphaTrust.com
- Digital Signature Trust Company
- Equifax Secure, Inc.
- IBM World Registry
- MIT Internet PCA Registration Authority
- SUN Certification Authorities
- Verisign
- Washington Digital Authentication Web Site.

⁶³² For a definition of *digital watermarks* see Appendix B – Technical terms.

⁶³³ The House of Lords (*House of Lords, Select Committee on Science and Technology, Fifth Report, Chapter 3, Digital Images*, 1998, available at <http://www.parliament.the-stationery->

in the absence of the proper software to detect and decode it. The watermark can contain information such as the author's name and e-mail address, ID number and a URL,⁶³⁴ information about who owns a work, how to contact the owner and whether a fee must be paid to use the work.

(iii) Identifying both the user and the copy of the work

The conclusion is that in order to trace copyright infringement both the user and the copy of the work should be identified, and a strong link between the user and the purchased copy of a work should be established. With this link in place there can be no repudiation or denial of purchase of a copy of a work, when infringing copies of that work are found on the Internet.

office.co.uk/pa/ld199798/ldselect/ldsctech/064v/st0505.htm) has recognised that authentication technologies, however advanced, may be eventually circumvented. Therefore, technology must keep ahead of circumventers. They added: *“our witness from IBM said of circumvention technologies: “in all of these processes the only thing that you can do is make it very difficult, and if you can make it difficult enough, such as that the process takes too long, then you are at least achieving part of your aim” (Q 292). We concluded that watermarks can be used to great advantage: they can provide a high level of security in conjunction with an audit trail and the cost of introducing a watermark to an image is likely to be low relative to the costs of trying to circumvent it.”*

⁶³⁴ For a definition of *URL* see Appendix B – Technical terms.

(iv) **Combined use of digital identification and watermarks**

The suggestion is that a method combining the use of certificates with watermark techniques should be used to assure traceability and to deter copyright infringement.

To assure traceability, all users would be required to have a certificate for purchasing works on the Internet. When selling copies of their works on the Internet, copyright owners would make the delivery of the copy of the work dependant on receiving and validating a customer's certificate.⁶³⁵ The certificate of a user would be automatically inserted in the digital watermark contained in the work that he bought. Vendors would keep a record of the certificate and the corresponding watermark. Only then would on-line vendors deliver an individually watermarked copy to that user.

Example: A finds a song he likes on the web site of a well known music industry company. Wanting to purchase a copy of such song, A clicks the button which says *buy*. The vendor then sends what is called a *challenge* consisting of a numeric string down the Internet. A's computer encrypts the numeric string with his private key and attaches to such message A's certificate⁶³⁶. This is called the *response*. Subsequently,

⁶³⁵ There have been national acts on the compulsory use of anti piracy devices. For example, the US Audio Home Recording Act 1992 prompted a device which could prevent copying: the Serial Copyright Management System.

⁶³⁶ The certificate contains A's public key, establishes a connection of a public key to A, identifies the certification authority issuing it and may contain other type of information, such as an expiration date for the public key.

the vendor has to contact the certification authority responsible for the issuance of A's certificate to validate the latter. Once this has been accomplished A's certificate is automatically inserted in the digital watermark contained in the work that A bought. Lastly, the vendor delivers the individually watermarked copy to A.

It should be noted that this whole process can take place in a second or less, in the background, and does not require any expertise on the part of the buyer.

This method which, according to the information available, has not so far been used, would guarantee that if the user later distributes unauthorised copies of the work, these copies would be traced back to him. This would also act as a deterrent for copyright infringement.

The implementation of this system would not require any major changes. The building blocks are already in place from both a legal and technological perspectives: encryption, watermarks, certificates, certification authorities and digital signatures' legislation are already a widespread reality.⁶³⁷

⁶³⁷ See Chapter I – Background, § 1.2.3 - Digital aspects and § 1.4.2.5 - Electronic Signatures Directive (Dir. 99/93/EC).

6.6.3 Privacy concerns

6.6.3.1 Introductory

In the digital world privacy may be affected to an unprecedented degree. This is because the Internet brings many difficulties to copyright enforcement and, at first sight, the easiest solution for this problem is full-scale enforcement. However, a system of full-scale enforcement could be said to require intrusive surveillance of users, going against privacy and freedom of expression.

Unfortunately, full-scale enforcement systems may soon populate the Internet. The Lehman Report⁶³⁸ suggested a copyright management system which would give the US Government the right to monitor what citizens read for law enforcement reasons. In cyberspace, this system would protect right holders works but would compromise users' anonymity, by enabling a surveillance of users' reading, hearing and viewing decisions.

The challenge is complex, because on the one hand, solutions have to be found to protect works in digital format against unauthorised use and to track down

⁶³⁸ See the US Lehman Report (*Intellectual Property and the National Information Infrastructure*, Report of the Working Group on Intellectual Property Rights, Lehman, B.A. and the Information Infrastructure Task Force, Office of Legislative and International Affairs, United States Patent and Trade Mark Office, 1995), 211-235.

infringement but, on the other hand, such solutions should not conflict with basic human rights.⁶³⁹

6.6.3.2 Proposals on users' privacy

If information regarding the purchaser of a legally acquired digital copy of a work is inserted, by means of a watermark, into that copy, such information will be accessible to service providers, marketing companies and so forth, and users' privacy could be affected.

The question is how to trace copyright infringement without going against the right of privacy established in Article 12 of the Universal Declaration of Human Rights⁶⁴⁰ and

⁶³⁹ See D.L. Zimmerman, "Copyright in Cyberspace: Don't throw out the public interest with the bath water" (1994) Annual Survey of American Law 403-413; J. Litman, "The Exclusive Right to Read" (1994) 13 Cardozo Arts & Entertainment L.J.29 1-10 also available at <http://www.msen.com/~litman/read.htm>; P. Samuelson, "Copyright, Digital Data and Fair Use in Digital Networked Environments" (1994) available at <http://www.droit.unmontreal.ca/crdp/en...chnologie/conferences/as/samuelson.html>; P. Samuelson, "Legally Speaking: The NII Intellectual Property Report" (1994) available at <http://www.nlc-bnc.ca/ifla/documents/infopol/copyright/samp1.html>; P. Samuelson, "The Copyright Grab" (1996) available at <http://www.wired.com/wired/4.01/features/white.paper.html>; J. Cohen, "A Right to Read Anonymously - A closer look at "copyright management" in cyberspace" (1996) 28:953 Connecticut Law Review 981-1039; A. Mason, "Developments in the law of copyright and public access to information" (1997) 11 E.I.P.R. 636.

Article 8 of the European Convention on Human Rights⁶⁴¹ and without compromising users' anonymity, which has, so far, ruled the Internet.

If the Internet remains totally anonymous, actions of copyright infringement will continue to damage the interests of authors and owners at the present rhythm. If users are not able to acquire, legally but anonymously, copies of works for their personal use, this will be felt as an intrusive surveillance of their lives⁶⁴². If users are required to surrender their anonymity as a condition for access to digital works, the careful balance between author's right and users' rights that copyright reflects could be jeopardised.

⁶⁴⁰ Article 12 of the Universal Declaration of Human Rights: *"No one shall be subjected to arbitrary interference with his privacy, family, home or correspondence, or to attacks upon his honour and reputation. Everyone has the right to the protection of the law against such interference or attacks."*

⁶⁴¹ Article 8 of the European Convention of Human Rights: *"1. Everyone has the right to respect for his private and family life, his home and his correspondence. 2. There shall be no interference by a public authority with the exercise of this right except such as is in accordance with the law and is necessary in a democratic society in the interests of national security, public safety or the economic well-being of the country, for the prevention of disorder or crime, for the protection of health or morals, or for the protection of the rights and freedoms of others."*

⁶⁴² In France the "Liberty of Communications Act" was passed by Parliament in May 2001, obliging all Internet users to identify themselves and holding both users and ISPs liable for inaccurate information. The Act was subject to strong opposition and a petition was held against the draft proposals. The Senate amended it, freeing service providers from such legal requirement.

Solutions for tracking down infringement must balance these interests, assuring that authors have control over their works and an incentive to create, and that users are not required to surrender their anonymity as a condition for access to works on-line. The aim should be to maintain the balance between authors' rights and users' rights that copyright has tried to achieve.

What is needed is a system of identification of users that does not jeopardise users' privacy. It may be possible to achieve this goal by identifying a legally acquired digital copy of a work with a number, without identifying the purchaser. This number would be linked to the purchaser, but this link could be kept secret. Only certification authorities would have access to the database holding the link between numbers and individual users, which information such authorities would only supply to law enforcement authorities.

Since the on-line purchase of works with credit cards would mean that the purchase would not be anonymous, electronic money (*cybercash*) could be used, instead, in order to maintain anonymity.

6.6.4 Proposals on public access to information on networks

6.6.4.1 Introductory

Two basic digital challenges have been detected: (i) from the perspective of the right holders, a challenge regarding control of their rights; (ii) from the perspective of the

public, a challenge regarding public access to works and related subject matter on networks.

A solution has to be found that assures a fair return for authors and encourages creation for the benefit of the public. To maintain the balance between the interests of authors and the interests of the public free use should not be banned from the digital environment. The ban of free use from the digital environment would encourage current creators, but could also stifle future creative efforts, because authors build on the work of their predecessors.⁶⁴³

The proposed International Digital Copyright Protection System would assure both the interests of authors and of the public; it would both stimulate the creation of new works and safeguard access to information.

6.6.4.2 Digital identification and fair use

Certificates⁶⁴⁴ can play an important role in maintaining the balance between the interests of authors and of the public. The compulsory use of certificates in electronic transactions would be of vital importance both for authors and for the public. Today,

⁶⁴³ N. Goodman (N. Goodman, *Ways of Worldmaking*, Hassocks Harvester Press, 1978, 6) points out that creation “*always starts from works already on hand; the making is a remaking. Overprotection diminishes the ability of new authors to make use of what has come before in creating their own works and can be as stifling to creation as under-protection*”.

they are merely used to guarantee the identity of users in electronic transactions. However, certificates should also be used to install fair use in cyberspace.

Certificates should contain information regarding whether a user is a student, a pensioner or disabled. When obtaining their certificates users would present their student IDs or their pensioner or disability certificates and that information would be incorporated into the certificate.

This method which according to the information available, has not so far been used, would enable the right holders from which the copies of the works are to be bought on the Internet to offer them for free or to offer concessions.

⁶⁴⁴ Certificates are analysed in detail in § 6.6.2.2 – Digital identification and watermarking.

Chapter VII - Perspectives for the third millennium

“For what avail the plough or sail,

Or land or life, if freedom fail?”

Ralph Waldo Emerson, Boston

7.1 Introductory

This chapter reflects on the place of copyright in the legal order and on the economic and political dimensions of the digital challenge.

7.2 The place of copyright in the legal order

7.2.1 Introductory

The most apparent problem is whether digital technology has rendered copyright obsolete. Uncertainties emerge which put the system under strain.

7.2.2 The risk of disappearance of high quality works and of dissemination of low quality works on the Internet

It does not seem that authors will completely stop creating as a result of the difficulties in controlling uses of their works. The problem is that without the ability to control the use of their works, creators will have little incentive to create, because creation usually requires a considerable investment of time and effort. According to

Marshall Leaffer⁶⁴⁵, we may be left with great copying techniques but with very little worth copying. In the absence of assurance of a fair return for authors' creative efforts, the quality of works may decrease.

The immediate effect of the copyright system is to assure a fair return for authors. The ultimate aim of the copyright system is to encourage creation for the benefit of the public. It seems that the balance between the interests of authors and the public has to be somehow kept in the digital world. Only this will assure public access to quality works on the Internet.

7.2.3 The copyright imperative in the third millennium

Technology will provide authors and owners with new weapons to assure authenticity of their works, to enforce their rights in the on-line world and to trace copyright infringement⁶⁴⁶. This is important for the overall balance of the system, because with the assurance of a fair reward for authors' creative efforts, the public may be given access to works and related subject matter on the Internet.

⁶⁴⁵ M. Leaffer, "Protecting Author's Rights in a Digital Age" (Fall, 1995), 27, *University of Toledo Law Review*, 1-12.

⁶⁴⁶ C. Clark, "The answer to the machine is in the machine" in P.B. Hugenholtz (editor), *The future of copyright in a digital environment* (Kluwer, 1996) 139-145.

Nevertheless, technology alone cannot provide a viable solution. Technological measures for protection of copyright must be supported by copyright laws that support such measures and prohibit their circumvention, to make sure that they are respected.

To assure legal certainty and uniformity these laws should be globally harmonised. In the absence of global harmonisation, digital versions of tax havens will emerge. Because the digital world is a global one, this issue requires the same level of protection world-wide.

7.3 Economic and political perspectives

7.3.1 Economic dimension

Studies have shown that copyright is of great economic significance.⁶⁴⁷ The advent of digital technology has increased the economic importance of copyright in areas such

⁶⁴⁷ See *inter alia*: M. Hoecke (editor), *The socio-economic role of intellectual property rights* (Story Scientia, 1991); W. Landes and R. Posner, "An economic analysis of copyright law" (1989) 18 *Journal of Legal Studies* 325; E. Mackaay, "Economic incentives in markets for information and innovation" (1990) 13 *Harvard Journal Of Law & Public Policy* 867; E. Mackaay, "An Economic View of Information Law" in W. Korthals Altes, E. Dommering, B. Hugenholtz and J. Kabel. (editors), *Information law towards the 21st century* (Kluwer, 1992), 43; M. Pendleton "Intellectual property information-based society and a new international economic order - the policy options?" (1985) 2 *E.I.P.R.* 31; A. Quaedvlieg, "The economic analysis of intellectual property law" in W. Korthals Altes,

as electronic publishing, CD-ROMS and multimedia, digital broadcasting, computer programs, databases and Internet communication. Simultaneously digital technology has made copyright infringement much easier.

Given the clear increase in the economic importance of copyright through the advent of digital technology, what challenges does this increased importance represent?

The economic analysis of copyright is complex. As a component of the perfect market, information should become costless and instantly available. As a good that must be produced within that market it must give its producers an incentive to produce.

In addition, some works require enormous investments of time and money, have a long life span, require no maintenance and can be copied at no cost, therefore requiring high copyright protection. On the other hand, other works require little investment or can be protected by technological means or by advertising, hence requiring a lower level of protection to guarantee an adequate return to encourage future production.

The challenge from an economic perspective is to achieve the right level of copyright protection. It is just as dangerous to produce a system with too much protection as one

E. Dommering, B. Hugenholtz and J. Kabel (editors), *Information law towards the 21st century* (Kluwer, 1992, 379).

with too little. If the level of protection is too low, authors will probably not create. If copying is cheap and easy, the price that can be charged for the original may decrease to an extent that even something which can be produced at low cost will not be produced in the absence of legal protection. If the level of protection is too high, that will diminish the public domain of freely available material, depriving future creators of the raw materials they need to create new works.

7.3.2 Political dimension

7.3.2.1 Introductory

One tends to think of the Internet as a ubiquitous reality which contributes to the democratisation of access to information, culture and knowledge, providing incentive to authors' free speech. However, this new reality is also characterised by Government and private control of the Internet.⁶⁴⁸

⁶⁴⁸ See inter J. Boyle, "A politics of Intellectual Property. Environmentalism for the Net", Intellectual Property Policy Online: a Young Person's Guide (1996) available at <http://www.law.duke.edu/boylesite/intprop.htm>; M. Zwart, "The future of the Internet: content regulation and its potential impact on the shape of cyberspace" (1998) 2 Ent. L.R. 86-94; J.H. Matsuura and J.P. Auffret, "The Case Against Internet Law" (1998) available at http://fc.vdu.lt/Conferences/INET98/2a/2a_2.htm; *Internet censorship report. The challenges for free expression on-line* prepared by D. Cozac and D. Tortell (1998) available at <http://www.cjfe.org/publications/internet/>; *Blocking Content of the Internet: A Technical Perspective*,

7.3.2.2 Government control of the Internet

Various countries have attempted to regulate the Internet. The danger appears when such regulation affects heavily and negatively authors' freedom of expression.

In authoritarian regimes, the tendency is to control and censor all Internet communications in the country, in the name of national security or cultural or religious values. Users may be able to circumvent some restrictions and access banned information,⁶⁴⁹ but if they are caught the costs can be quite high.⁶⁵⁰

In Burma, the Government has prohibited access to the Internet as well as the ownership of unregistered computers with networking capacity.

report prepared by P. McCrea, B. Smart and M. Andrews for the Australian Federal Government's National Office of Information Economy (June 1998), available at http://www.noie.gov.au/projects/consumer/content_regulation/blocking1/blocking.htm; *Press Freedom Survey 2000, Country Reports A-Z*, available at http://www.abc.net.au/science/news/print/print_21765.htm.

⁶⁴⁹ According to an Australian report (*Blocking Content of the Internet: A Technical Perspective*, report prepared by P. McCrea, B. Smart and M. Andrews for the Australian Federal Government's National Office of Information Economy (June 1998), available at http://www.noie.gov.au/projects/consumer/content_regulation/blocking1/blocking.htm), Internet censorship schemes where service providers block user access to certain material will fail on technical grounds. Such content blocking schemes can easily be bypassed.

In China, citizens who want to have access to the Internet have to apply to the police to get Internet access and sign a pledge not to harm China's national interests. Furthermore, the Internet traffic has been routed through two gateways in Beijing and Shanghai and access to web sites which are perceived as unsuitable, such as web sites dealing with Tibetan independence, has been blocked.

In February 2001, a Chinese *webmaster* creator accused of posting subversive articles on the Internet went on trial.⁶⁵¹ Huang Qi had created a website which contained articles about pro-democracy activism in China, a banned spiritual group and an independence movement in the North of the country. He was tried in secret and as the court authorities did not release any information about the hearings, it is not known whether he was convicted.⁶⁵²

In Pakistan, citizens are prohibited from encrypting their messages and must agree to have their Internet communications monitored by the Government.

⁶⁵⁰ In Burma, the penalty for disobedience to these rules is a prison term ranging from seven to fifteen years.

⁶⁵¹ For definition of *webmaster* see Appendix B – Technical Terms.

⁶⁵² On-line BBC news, 17 August 2001, available at http://news.bbc.co.uk/1/hi/english/world/asia-pacific/newsid_1496000/1496107.stm

In Vietnam, an Internet *firewall* was installed in order to bar transmissions from specific senders, such as news resources.⁶⁵³ Furthermore, research, legislative and judicial organisations are not allowed to connect to the Internet.

In some democratic countries, the Governments have tried to establish a State monopoly of Internet service providing. In Malawi, for example, there are a few independent Internet service providers, but they have to connect to the Internet via South Africa, at high costs. The major service provider is the *Malawi Post and Telecommunications Corporation*, which is owned by the State, which already controls all telecommunications services in Malawi on which the Internet depends and which is in charge of awarding Internet service licences.

In Singapore, several censors patrol the Internet daily in search for undesirable web sites, especially ones with *subversive* material, which once found are blocked by the service providers upon order of the Government.

In 1995, the *G7* group of nations, which met in Paris to discuss terrorism, agreed on the implementation of a system in which the keys required to have access to encrypted messages would be deposited with a third party, who would enable the Governments to read private encrypted messages sent by anyone on the Internet.⁶⁵⁴

⁶⁵³ For definition of *firewall* see Appendix B – Technical Terms.

⁶⁵⁴ For definition of *encryption* see Appendix B – Technical Terms.

7.3.2.3 Private control of the Internet

Another form of control of the Internet is carried out in some countries by private entities. In the United States, for example, the Internet business and the network system on which the Internet operates is basically owned by private companies, such as *American Telephone & Telegraph*. There are some independent companies, but they may be eventually underpriced and forced out of the market by the big companies. The risk of corporate domination, even monopolisation, of the Internet business and infrastructure, is that differing views of authors made available on the Internet, particularly those which conflict with the communications companies themselves, will likely be reduced substantially.

7.3.2.4 Conclusion

Many Governments have placed restrictions on the free flow of information on the Internet, in order to limit the presence within their borders of information that they deem threatening. Other obstacles to authors' free speech on the Internet are connected to private control of the new media. Because of this kind of obstacle only a small percentage of the world population is able to profit from the abundance of information readily available to those who can get access to it. The potential of the Internet can only succeed if it becomes a space accessible to all, in which authors' freedom of speech is truly recognised.

Chapter VIII - Summary and conclusions

“Hope springs eternal in the human breast:

Man never is, but always to be blest.

The soul, uneasy and confined from home,

Rests and expatiates in a life to come.”

Alexander Pope, Essay on Man. Epistle i. Line 95

8.1 Introductory

This chapter will summarise the thesis and draw some conclusions.

8.2 Summary

This thesis has investigated some copyright challenges emerging from the digital revolution, in particular in relation to classification of subject matter, identification of authors, fixation and reproduction, the criterion of originality, the meaning of publication, recognition of moral rights, recognition of economic rights, exceptions and limitations, exemptions from liability of service providers, authenticity of works, infringement, feasibility of enforcement and conflict of laws.

The thesis has identified various problems:

- On the matter of classification of subject matter, fixation, reproduction, criterion of originality and the meaning of publication: Uncertainty because of the absence of express legal provision covering these concepts in the digital context;
- On the matter of divulgation: unauthorised dissemination and manipulation of works;
- On the matter of identity: unauthorised incorporation in other works, false claim of authorship and violation of anonymity;
- On the matter of integrity: manipulation;

- On the matter of reproduction: lack of clarity regarding acts of temporary reproduction and ease and accessibility of copying;
- On the matter of communication, including on-demand availability: difficulties regarding control of the *on-demand availability right* and public access to information;
- On the matter of adaptation: ease and speed of manipulation;
- On the matter of distribution: decrease of distributors' role, speed and low cost of digital distribution and problems in terms of control of the distribution right;
- On the matter of limitations and exceptions: dilemmas concerning the balance of interests and public access to information;
- On the matter of liability of service providers: legal uncertainty because of the absence of world wide harmonised rules.
- On the matter of authenticity: inaccuracy in attribution of authorship or content and public interest in knowing author's identity and in accurate information;
- On the matter of infringement: new and easier ways of perpetrating copyright infringement;
- On the matter of enforcement: infringement without trace, different systems of protection, compliance problem and problems regarding available technological measures of copyright protection.
- On the matter of conflict of laws: uncertainty due to absence of global rules on choice of jurisdiction and applicable law in cyberspace.

Two basic digital challenges were identified: (i) from the perspective of the right holders, a challenge regarding control of their rights; (ii) from the perspective of the

public, a challenge regarding public access to works and related subject matter on networks.

In this context the thesis has examined and compared the main national systems (the common law copyright and the civil law author's right systems), the main international instruments (the Berne Convention for the Protection of Literary and Artistic Works, Paris text, 1971, the Universal Copyright Convention, 1952, the Rome Convention for the Protection of Performers, Producers of Phonograms and Broadcasting Organisations, 1961, the Agreement on Trade-related Aspects of Intellectual Property Rights, 1994, the WIPO Copyright Treaty, 1996, the WIPO Performances and Phonograms Treaty, 1996 and the Proposed WIPO Database Treaty) and main regional instruments (the European Community Directives chiefly concerned with digital aspects, NAFTA and Cartagena Decision 351).

The aim was to measure the level of protection afforded by these instruments in the digital context. It was concluded that there are many gaps in terms of copyright regulation in the digital field (such as the absence of an express definition of either temporary or transitory digital reproduction, express definition of publication on the Internet; international rules regarding the liability of service providers, and specific international rules dealing with adoption of encryption, watermarking, etc. to fight digital piracy and no specific enforcement rules on this area).

The thesis concludes that for an effective solution of the problems raised by digital technology an international standard for copyright protection must be adopted, one apposite for the digital world. The thesis puts forward detailed suggestions towards

the adoption of an **International Digital Copyright Protection System**, in the form of definitional, obligational, conflict of laws and technological proposals, whose common denominator is the will to find new answers for the digital challenges. The **definitional proposals** will clarify conceptual questions arising from the digital revolution. The **obligational proposals** will regulate the issue of liability and duties of Internet service providers. The **conflict of laws proposals** will address the problems arising in connection with jurisdiction and applicable law on the Internet. The **technological proposals** will give practical effect to the system by focusing on deterrence and tracing of copyright infringement.⁶⁵⁵

Issues relating to Government and private control of access to the new media were also investigated.

8.3 Conclusions

In the past few years the public has been given access to a colossal amount of information and goods on the Internet. The popularity of digital information delivered on-demand has lead various companies to set up their own web sites. Goods sold on-line range from clothes and shoes, to food and houses. The purchase of physical goods like CDs, cassettes, videotapes, etc. in the high street is being replaced by the sale of the equivalent digital products without a material carrier over the Internet.

⁶⁵⁵ See Chapter VI – Proposed International Digital Copyright Protection System.

Professional advice, such as medical or legal, is given by e-mail or by automatic reply generated on the basis of filling a questionnaire. Hotels can be booked on the Internet and air tickets can be bought in the same way. Even lectures can be attended in such medium. New on-line services are emerging, such as ones giving advice on what products to buy in terms of quality and/or price.

In its turn, the *dot.com* boom led to stock market changes. The stock market value of the shares belonging to these companies reached values which puzzled the City *habitues*. This has meant that a multitude of very young start up owners became millionaires overnight.

But not all is well. This democratisation of access to digital information delivered on-demand has not been felt by everyone. In some authoritarian regimes, web sites and electronic communications are censored for political, cultural or religious reasons.

In addition, from the perspective of copyright, a primary conflict can be recognised, one resulting from the fact that the Internet provides incentive to the free flow of ideas, knowledge and information, whereas the fundamental design of copyright law is to prevent unauthorised free flow of authors' creations.

Some, such as the following authors, have been overly pessimistic about the ability of copyright law to adapt to the challenges of the digital revolution.

Marshall Leaffer, advocates the replacement of copyright with an association of technological measures and contract. According to Leaffer, when copies of works

subsist in networks more than in material form, when sophisticated technological measures for protection of copyright are accomplished and attempts to circumvent it become illegal, copyright law will not be required to protect such works, it will become obsolete. Creators and their creations will be protected by an alliance of technological and contractual measures in parallel with criminal sanctions.⁶⁵⁶

Simmon Olswang suggests the replacement of copyright, which protects against reproduction, with a right to control access to digital content, which he calls *accessright*. Olswang believes that this right would abolish the need for different types of use, and the corresponding different categories of use and legal categories.⁶⁵⁷

Jessica Litman proposes the redraft of copyright as an exclusive *right of commercial exploitation*. This would be the right of the owner of the work to obtain a monetary benefit with the work. Litman reasons that relinquishing the reproduction right in benefit of a right of commercial exploitation would bring the law closer to popular expectations and ease enforcement.⁶⁵⁸

⁶⁵⁶ M. Leaffer, "Protecting Author's Rights in a Digital Age" (Fall 1995), 27, University of Toledo Law Review, 10-12.

⁶⁵⁷ S. Olswang, "Accessright: an evolutionary path for copyright into the digital era?" (1995) 5 E.I.P.R. 215-218.

⁶⁵⁸ J. Litman, "Revising Copyright Law" (1996) 75 Oregon Law Review 40-48; J. Litman, "New Copyright Paradigms" (1997) available at <http://www.msen.com/litman~/paradigm.htm>.

The conclusion drawn by many is that the acute changes brought by digital technology will give place to profound transformations in the way in which we protect creators and their creations.

This thesis has nevertheless concluded that copyright law will adjust to digital technology as it has conformed to other technological challenges, such as photography, motion pictures and sound recordings, throughout its existence. Furthermore, technology will provide authors and owners with new weapons to assure protection of their works and to enforce their rights on the Internet.⁶⁵⁹ This is significant for the balance of the copyright system as a whole, since it gives authors control over their works, and consequently an incentive to create. The assurance of a just compensation for authors' creative efforts may mean that the public will be given access to works and related subject matter on the Internet.

But technology *per se* cannot supply an adequate solution. Technological measures for copyright protection must be validated by laws prohibiting their circumvention and thus assuring that they are respected.

Following this line, the WIPO Copyright Treaty⁶⁶⁰ and the WIPO Performances and Phonograms Treaty⁶⁶¹, concluded in 1996, established that remedies have to be

⁶⁵⁹ C. Clark "The answer to the machine is in the machine" in P.B. Hugenholtz (editor), *The future of copyright in a digital environment* (Kluwer, 1996) 139-145.

⁶⁶⁰ WIPO Copyright Treaty, Articles 11-12.

adopted to assure authenticity of works and related subject matter in the digital world and to fight infringement in the digital environment (technological measures and rights management information). In view of the importance of anti-circumvention laws it is fundamental that the WIPO Treaties be globally implemented as soon as possible.

However, these treaties solely addressed some of the digital challenges faced by copyright. In addition, the digital issues were considered at a very basic level. Therefore, many questions were left unanswered. Lastly, some of the questions which are present today were not even identified at the time of the drafting of those treaties.

In summary, several conclusions can be drawn:

1. There is no need to replace copyright with a new legal system for protection of works on the Internet. What is required is an update of the international copyright system in order to deal with the issues of the digital agenda which were left unanswered by previous international instruments;
2. Technical measures for protection of copyright will facilitate copyright enforcement, provided circumvention devices are prohibited at a world wide level;
3. Copies of works that are placed and sold on the Internet should not be *over-priced* but *micro-priced*. This will provide an incentive to copyright law compliance and grant reasonable profits to right holders;
4. Users should be educated at school from an early age to respect copyright;

⁶⁶¹ WIPO Performances and Phonograms Treaty, Articles 18-19.

5. A combination of updated legislation, technology and sweeping educational actions, could solve the problems of copyright on the Internet. Ultimately, national legislators and users will understand that creators need strong protection for copyright, if the public is to have access to works and related subject matter on the Internet. The protection of creators is imperative and worth the struggle.

Appendix A - History and operation of the Internet

History of the Internet⁶⁶²

In 1957 the *Advanced Research Projects Agency* was created within the Ministry of Defence of the United States. Initially its mission was focused on space, missiles and nuclear test monitoring.

In 1962 ARPA set up a computer research program and appointed an MIT scientist John Licklider to lead it. Licklider had just published his first paper on the *Galactic Network*, a futuristic vision where computers would be networked together and would be accessible to everyone.

In 1965 an experiment was carried out in which computers in Berkeley and MIT were linked over a low speed telephone line to become the first WAN (Wide Area Network).⁶⁶³

By 1966/67, the new head of computer research, Leonard Roberts, published a plan for a computer network system called ARPANET.

⁶⁶² See *inter alia*, S. Tanenbaum, *Computer Networks* (3rd edition, Prentice Hall, 1996) 52-53; D. Comer, *Internetworking with TCP IP, Vol. I: Principles, Protocols, and Architecture* (4th edition, Prentice Hall, 2000) 6-8.

⁶⁶³ For a definition of WAN see Appendix B – Technical terms.

In 1969, UCLA students were able to login to Stanford's computer, access its databases and send data.

In 1972, at the *First International Conference on Computers and Communication*, held in Washington DC, ARPA scientists linked computers from 40 different locations.

In 1974, ARPA scientists, working with Stanford scientists, developed a common language that would allow different networks to communicate with each other, which was known as a *Transmission Control Protocol/Internet Protocol (TCP/IP)*.⁶⁶⁴

In 1982, ARPANET adopted TCP/IP and the Internet was born: a connected set of networks using the TCP/IP standard.

In 1984, *Domain Name Servers (DNS)* were introduced, enabling names of host computers to be easier to remember and transforming these addresses into a coded sequence of numbers intelligible for computers.⁶⁶⁵

In 1984 the British Government announced the construction of JANET (*Joint Academic Network*) to serve British universities

⁶⁶⁴ For a definition of *TCP IP* see Appendix B – Technical terms.

⁶⁶⁵ For a definition of *DNS* and *domain* see Appendix B – Technical terms.

In 1985, the United States' NCF (*National Science Foundation*) decided to create an American version of JANET known as NSFNet.

In 1990, the first Internet search engine, *Archie*, was developed at McGill University, Montreal.⁶⁶⁶

In 1991, the United States' NSF (*National Science Foundation*) removed its restriction on private access to its backbone computers.⁶⁶⁷

In 1989, the World Wide Web concept was created by Tim Berners-Lee, a scientist at CERN, the European centre for High Energy Physics.⁶⁶⁸

By 1990 Tim Berners-Lee had developed a program which he called World Wide Web.

In 1991 the World Wide Web was released to the public.

In 1993, Mark Andreessen of NCSA (*National Center for SuperComputing Applications*) launched *Mosaic X*, which installed many of the present features of browsers, such as *Netscape* and *Internet Explorer*.⁶⁶⁹

⁶⁶⁶ For a definition of *search engine* see Appendix B – Technical terms.

⁶⁶⁷ For a definition of *backbone* see Appendix B – Technical terms.

⁶⁶⁸ For a definition of *WWW* see Appendix B – Technical terms.

Until then, the Internet and the World Wide Web had basically served the scientific community. With HTML,⁶⁷⁰ enabling easy creation and access to web sites, the new generations of browsers, facilitating the finding of such sites, the appearance of more powerful and cheaper personal computers, and the increase in capacity of the communications infrastructure, the World Wide Web became the most widely used application on the Internet.

Operation of the Internet⁶⁷¹

IP Address⁶⁷²

Because the Internet is a global network of computers each computer connected to the Internet must have a unique address, known as an IP address. Internet addresses are in the form nnn.nnn.nnn.nnn where nnn must be a number from 0 - 255.

If a user connects to the Internet through an Internet Service Provider (ISP), he will usually be assigned a temporary IP address for the duration of his dial-in session.

⁶⁶⁹ For a definition of *browser* see Appendix B – Technical terms.

⁶⁷⁰ For a definition of *HTML* see Appendix B – Technical terms.

⁶⁷¹ W. Stallings, *Data & Computer Communications* (6th edition, Prentice Hall, 2000) 31-59 and S. Tanenbaum, *Computer Networks* (3rd edition, Prentice Hall, 1996) 52-53.

⁶⁷² For a definition of *IP address* see Appendix B – Technical terms.

Packets

Each message sent by one computer to another is broken up into smaller chunks of data, which are called *packets*.

The TCP layer

In what is called the TCP layer (as in TCP/IP),⁶⁷³ each packet is assigned a port number to know which program on the destination computer needs to receive the message

The IP layer

Subsequently, in the IP layer, each packet receives its destination address.

The hardware layer

The hardware layer converts the packets containing the alphabetic text of the message into electronic signals and transmits them over the phone line.

Router

On the other end of the phone line the Internet service provider's router examines the destination address in each packet and determines where to send it. Often, the packet's next stop is another router.

⁶⁷³ For a definition of *TCP IP* see Appendix B – Technical terms.

Destination

When the packets reach its destination the above explained process is repeated in reverse order.

The hardware layer

The hardware layer receives electronic signals over the phone line and converts the packets into the alphabetic text of the message.

The IP layer

Subsequently, the destination address of the packet is checked.

The TCP layer

The port number is checked to see which program on the destination computer needs to receive the message. When the data reaches this point the packets have been reassembled into their original human readable form.

Appendix B - Technical terms

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⁶⁷⁴ See *inter alia*, W. Stallings, *Data & Computer Communications* (6th edition, Prentice Hall, 2000); S. Tanenbaum, *Computer Networks* (3rd edition, Prentice Hall, 1996); F. Halsall, *Data Communications, Computer Networks, and Open Systems* (4th edition, Addison-Wesley, 1996); D. Comer, *Internetworking with TCP/IP, Vol. I: Principles, Protocols, and Architecture* (4th edition, Prentice Hall, 2000); W. Stevens, *TCP/IP Illustrated, Vol. I: The Protocols* (Addison-Wesley, 1994).

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Access providers

Access providers supply access to the Internet. Generally, access providers also provide e-mail accounts (examples include *CompuServe* and *America Online*).

Analogue signal

An analogue signal is a continuously varying electromagnetic wave. The signal is analogous to acoustic sound or reflected light.

Backbone

A backbone is a high speed network that connects several powerful computers.

Bandwidth

Bandwidth consists of the capacity and speed of a network, usually measured in bits per second. The higher the bandwidth, the faster data can flow.

Binary

Binary is a numeric system using only 0's and 1's.

Bit

Bit is the most basic unit of computer information. A *bit* or *binary digit*, is a single piece of computer information, expressed as 1 or 0. Bits are the building blocks of all digital information.

Bit-map

Bit-map is an image format defined by a rectangular pattern of *pixels*.

Bits per second (bps)

Bps are a measure of the rate of data transmission.

Browser

A browser is a software program, such as *Netscape Navigator* or *Microsoft's Internet Explorer*, which allows a user to read and download on-line documents and to move between web pages.

Bulletin board service (BBS)

A BBS is a service that enables users to post messages on the Internet for others to read and to hold on-line discussions, also providing its users with files for downloading.

Byte

A byte is eight bits of data.

Cache

Cache is information saved on a computer for later use.

Caching

Caching is the process of storing copies of data on servers at different points in the network in order to increase the speed of access to the data in question.

Call log

A call log consists of a history of phone numbers and associated user information, which is automatically gathered by service providers during users' connection to networks.

Chat services

Chat services use software programs which enable on-line interactive textual communication amongst a number of users.

Client

A client is a computer which initiates a communication to a server.

Compact Disk Read Only Memory (CD-ROM)

CD-ROMs are used for the recording of audio and video and can store more data than a floppy disk.

Compression

Compression is a method used to reduce the amount of information stored in a particular file. Compression often comes with some sacrifice of image quality.

Copy control flags

Copy control flags are bits which are embedded in digital content and verify whether copying is authorised.

Cyberspace

Cyberspace consists of the virtual world which includes the universe of data, programs, computers and networks.

Digital data

Digital data is stored as a sequence of binary digits.

Digital format

Information digitally stored is expressed in 0's and 1's. When assembled in a sequence of binary digits, these digits create a format which a computer can process.

Digital signatures

A digital signature resembles a sequence of unintelligible alphabetic and numeric characters. A digital signature provides assurance about the origin and integrity of the communication. It allows the recipient to ascertain if the sender is who he purports to be and whether the message was altered after it was digitally signed. Because a digital signature is derived from the document itself, it is unique for each document *signed*.

The sender needs a public key and a private key. The private key is kept confidential and the public key is disclosed generally where the recipient of the digitally signed communication can access it. To digitally sign an electronic message the sender has to run a computer program which automatically creates what is called a message digest (or hash value) and subsequently encrypts the message digest using the sender's private key. The encrypted message digest - a sequence of bits - is the digital signature. The digital signature is attached to the communication and they are both sent to the intended recipient.

The recipient has to run a computer program which automatically decrypts the digital signature using the sender's public key. If the program decrypts the digital signature, that means that the message came from the alleged sender. The computer program

then creates a second message digest and compares it to the first message digest. If the two message digests match, that means that the communication has not been altered.

Digital Subscriber Line (DSL)

DSL is a method for high speed transferring of data over phone lines, using the same copper wires used for normal phone services.

Digital technology

Digital technology consists of technology which stores data in a digital format.

Digital watermarks

Digital watermarks are bits embedded in digital content, usually invisible in the absence of the proper software to detect and decode it. The watermark can contain information such as the author's name and e-mail address, ID number and a URL, information about who owns a work, how to contact the owner and whether a fee must be paid to use the work. A watermark can only be effective if the playback and record devices look for the watermark in that particular piece of content.

Domain Name System (DNS)

DNS is the on-line distributed database system used to map human readable computer names into IP addresses.

Domain

A domain is part of the DNS naming hierarchy. A domain name consists of a sequence of names separated by dots. Examples:

- COM - Companies
- EDU – Academic institutions

- GOV - Government institutions
- MIL - Military groups
- ORG - Organisations other than those above
- INT - International organisations

Download

Download is the act of transmitting a file from a remote computer to a local one.

Dumb terminal

A dumb terminal consists of a screen, keyboard and connection to another computer. It contains no memory, processor or hard disk. Therefore, it cannot store information.

Electronic commerce

Electronic commerce entails service activities carried out on-line, covering the sale, distribution, delivery, marketing, advertising or any other commercial activity carried out by electronic means using the *Transmission Control Protocol/Internet Protocol* (TCP/IP).

E-mail

E-mail is short for electronic mail. It is a means of sending messages across the Internet from one computer to another. The postal address of the physical world is replaced, on the Internet, by an e-mail address. The advantage is that one can send a message to someone, on the other side of the world, in a fraction of the time.

Encryption

Encryption is a technological method used to obscure the meaning of a message. There are various types of encryption. Asymmetric encryption is the best suited for e-commerce, since it uses two different keys and only public keys need to be distributed (there is no need to distribute any private keys). Each user generates two keys that are different: a private key and a public key. They keep their private key secret but send their public key to other users. The sender encrypts a message with the public key of the intended recipient and then sends it on to the recipient. Only the recipient's private key can be used to decrypt the message.

Fibre optics

Fiber optics are high capacity cable made of glass threads that transmit information as pulsating light. The light pulses represent bits of information.

File transfer protocol (FTP)

FTP is a high-level protocol for transferring files from one computer to another.

Firewall

A firewall is a computer placed between an organisation's network and the Internet to provide security by preventing access to such network from the outside.

Framing

Framing consists of linking one web site to pages of another web site where those pages are *framed* by the original web site, so that the user is unaware that he is actually viewing the contents of a third party web site.

Gateway

A gateway is a computer that enables connection between different networks.

Home page

A home page is an entry point to a series of web pages.

Host

A host is any end user computer system that connects to a network.

Host service providers

Host service providers supply the servers where data is stored.

Hypertext

Hypertext consists of highlighted text that once clicked allows the user to link to an Internet resource, for example, a web page.

Hypertext Markup Language (HTML)

HTML is the standard language used for creating hypertext documents within the World Wide Web.

Hypertext Transfer Protocol (HTTP)

HTTP is the standard language that World Wide Web clients and servers use to communicate.

Internet

The Internet is a global network of computer networks originally developed in late 1969 as a way for researchers, academics and defence contractors to communicate which was opened to commercial uses in 1990.

IP address

An Internet Protocol address, or IP address, is a 32 bit address, divided into a network portion and a host portion, assigned to each host that participates in a TCP/IP internet.

Integrated Services Digital Network (ISDN)

ISDN is a digital network that provides very fast, simultaneous transmission of voice, data and images over one telephone line.

Interactive web site

An interactive web site allows the visitor to interact with the web site, frequently allowing the visitor to purchase goods and services.

Kilo Bits Per Second (kbps)

Kbps is a measure of the rate of data transmission.

Linking

Linking enables users to access instantly and easily different pages and different sites anywhere in the world. The most common linking practices are the following:

- A link from one web site to the home page of another web site;

- In-line linking - Drawing material into one web site through a link with another web site, such as, *Yahoo* or *Altavista*.
- Deep linking - A link from one web site to a particular page of another web site.

Local Area Network (LAN)

A LAN is a private network located within a building or complex of buildings, such as a campus, linking computers together for transferring digital data.

Location tool providers

Location tool providers supply Internet users with search engines.

Mailing list

A mailing list is a computer program that sends the same message to a group of people who have asked to receive it.

Metropolitan Area Network (MAN)

A MAN is a network located within a metropolitan area, linking computers together for transferring of digital data.

Modem

A modem is a device that connects a computer to a telephone line, allowing information to be sent from one computer to another.

Motion Pictures Expert Group (MPEG)

MPEG is a standard format for compressing digital audio and video.

MP3

MP3 is a subcategory of MPEG for audio compression.

Multimedia

Multimedia is a term describing any medium that can display text, graphics, images and sounds.

Name resolution

Name resolution is the process of mapping a computer name into a corresponding IP address using DNS.

Network

A network is a group of interconnected computers.

Network providers

Network providers provide the facilities for the transmission of data, such as cables, routers and switches.

Newsgroups

Newsgroups are public message or discussion areas on the Internet. Despite the name newsgroups rarely contain news bulletins.

On-line

A computer is on-line when it is connected to a computer network.

Optical character recognition (OCR)

OCR transforms text or drawings in the form of pixels, or small dots, as imported from a scanner, for example, into a higher level representation, which is intelligible to a word processing software package.

Packet

A packet is a block of data.

Passive web site

A passive web site does not allow the visitor to interact with the web site, for example, by direct purchase of goods or services, but it does allow the web site owner to advertise their products or services.

Pixel

A pixel is the smallest single image that can be manipulated on a monitor. Together, pixels of various colours can be grouped to form pictures on the screen,

Player

A player directs a stream of data to the audio or video output. The stream of data may also be decrypted and/or decompressed by the player to enable the music to be played or the picture to be viewed.

Portal

A portal is a point of entry to a web site.

Protocols

Protocols are the rules computers must follow to exchange data. Standards for transferring information on the Internet include FTP (File Transfer Protocol) and HTTP (Hyper Text Transfer Protocol).

Proxy

A proxy is a server which acts on behalf of the user when the user is downloading web pages.

Random Access Memory (RAM)

RAM is formed by one or more microchips that a computer can access to store data temporarily. Unlike magnetic hard disks or floppy discs, which can store data indefinitely, volatile RAM empties its contents when the computer is restarted, shut down or otherwise loses power.

Route

A route is the path that network traffic takes from its source to its destination.

Router

A router is a computer that forwards packets from one network to another.

Scanning

Scanning transforms light reflected from a hard copy into a digital bit-map representation.

Search engine

A search engine is a software program, such as *Altavista*, *Yahoo* and *Google*, that collects information from a wide variety of web sites and allows users to search this information based on keywords on-line.

Server

A server is a computer that serves information and software to the Internet community and, in general terms, a computer that makes services available on a network.

Sound card

A sound card is an expansion card allowing input and output of audio information

Spamming

Spamming consists of sending multiple e-mails which the recipients have not requested.

Transmission Control Protocol/Internet Protocol (TCP/IP)

TCP/IP are two fundamental protocols for the functioning of the Internet. TCP defines the rules of error control, flow control and congestion control. IP defines the format of an IP address.

Uniform Resource Locator (URL)

A URL identifies the location of a resource on the Internet, such as web page, which includes three elements: the protocol to access the page, the domain name or IP

address of the server, and the actual location of the page within the server. A URL could take the form of: <http://www.a-domain.com/home-page/index.html>. The *http* refers to the protocol used to access the page, in this case the HyperText Transfer Protocol. The *www.a-domain.com* refers to the domain name address of the server and the *home-page/index.html* refers to the location of the page on the server.

Upload

Uploading consists of sending a file from one computer to another computer.

Virtual reality

Virtual reality is a technology that immerses the user in an interactive computer-generated environment.

Web page

A web page is a hypertext document, possibly containing graphics, text and hyperlinks to other such pages.

Web site

A web site consists of a collection of web pages.

Webmaster

A webmaster is the administrator responsible for the management and often design of a World Wide Web page.

Wide Area Network (WAN)

A WAN is a network that spans large geographic distances, linking computers together for transferring digital data.

World Wide Web (WWW)

The WWW was developed by a physicist, Tim Berners-Lee, in 1989 for his own use at the *European Laboratory for Particle Physics* known as CERN in Switzerland. The Web is a hypertext-based system for finding resources and accessing information on the Internet.

Appendix C - Chart on Internet intermediaries

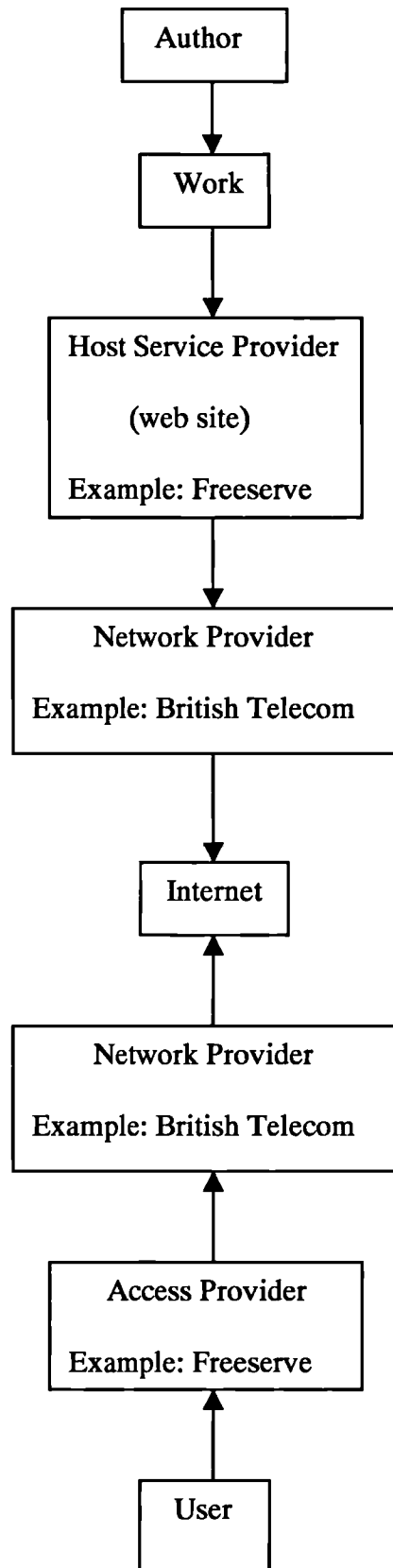


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