

LIABILITY OF ONLINE INTERMEDIARY
FOR COPYRIGHT INFRINGEMENT

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PREFACE

“...they never went further, no, they never went back. Then came the churches, then came the schools. Then came the lawyers, then came the rules. Then came the trains and the trucks with their loads. And the dirty old track was the telegraph road.”¹

As Mr. Knopfler suggests, legal rules were here before the Internet. Despite this fact, the need for lawyers specialized in Internet issues has not been as strong as one could expect considering the rapidly increasing role of the Internet in our globalized society. This is especially true in the ‘Old World’ outside the United States. We should, however, realize that the Internet is no longer a playground open for only nerds. One by one, ordinary people and enterprises have brought their “trains and trucks” on the net — loaded with emerging disputes.

Most legal problems on the net are about content, which is information. From all the existing legal institutions to regulate information, copyright is the chosen one on the net. As I see it, for the lawyers of today, the meaning of the © sign on the Internet is the same as the meaning of the bat sign on the dark sky of Gotham City for Batman. We have heard the call. The society expects us to react.

Back to etiquette. The following individuals — in alphabetical order — have aided me in completing this study: Sakari Aalto, Matti Heimonen, Kalle Määttä, Rainer Oesch, Marjut Salokannel, and Pekka Timonen. Thank you everyone for your invaluable help; a copy of this study is my effort to compensate at least a bit of all the costs I have caused. The final version of this study is available at valimaki.com.

Finally, I am especially grateful to Hämäläisten ylioppilassäätiö and Mr. Määttä. Without their financial support I would not be able to finish this work on the sun-washed beaches of California. As the sun breaks and temperature begins to rise I save this file for the last time. Dear reader, your mission is to jump into the fire.

Santa Monica, California 1.5.1999

Mikko Välimäki

¹ From the Dire Straits’ song Telegraph Road (1982), lyrics by Mark Knopfler.

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ABBREVIATIONS

Berne Convention	Berne Convention for the Protection of Literary and Artistic Works (24.7.1971)
BILETA	British & Irish Legal Education Technology Association
BBS	Bulletin Board System
BBSAct	Act on the Liability for Electronic Bulletin Boards (1.5.1998), Sweden
Cir.	Circuit, Court of Appeals (United States)
COM	Commission Documents, Commission of the European Communities
CopyTreaty	WIPO Copyright Treaty (20.12.1996)
DMCA	Digital Millennium Copyright Act (H.R. 2281, 28.8.1998), United States
E.D.	Eastern District
EIPR	European Intellectual Property Review
ETNO	European Public Telecommunications Network Operators' Association
EU	European Union
F. 2d	Federal Reporter, Second Series (United States)
F. Supp	Federal Supplement (United States)
GRUR int.	Gewerblicher Rechtsschutz und Urheberrecht. Internationaler Teil.
HD	Supreme Court (Högsta Domstolen), Sweden
ICCP	Committee for Information, Computer and Communications Policy
IIC	International Review of Industrial Property and Copyright Law
IPR	Intellectual Property Right
ISP	Internet Service Provider
KKO	Supreme Court (Korkein oikeus), Finland
N.D.	Northern District
NIR	Nordisk Immateriell Rättskydd
NW	North Western Reporter (United States)
OECD	Organization for Economic Co-operation and Development
OSP	Online Service Provider
RAM	Random Access Memory
S.D.	Southern District
SvJT	Svensk Juristtidning
TeleAct	Act on the Use of Teleservices (1.8.1997), Germany
TfR	Tidsskrift for Rettsvitenskap
TISP	Telecommunications and Information Services Policy
U.C.C.	Uniform Commercial Code
UfR	Ugeskrift for Retvæsen
U.S.	United States
U.S.C.	United States Code
WIPO	World Intellectual Property Organization
WIPR	World Intellectual Property Report
WWW	World Wide Web
ZUM	Zeitschrift für Urheber- und Medienrecht

REFERENCES

Literacy

- Aarnio, Aulis (1987): *The Rational as Reasonable*, Dordrecht: D. Reidel Publishing Company.
- Alchian, Armen (1977): "Some Implications of Recognition of Property Right Transaction Costs", in Brunner, K. (ed.): *Economics and Social Institutions: Insights from the Conferences on Analysis and Ideology*. Boston: Martinus Nijhoff Publishing, 234-255.
- Allen, Douglas W. (1991): "What Are Transaction Costs?", *Research in Law and Economics*, 1-18.
- Athanasekou, P. Eve (1998): "Copyright in Cyberspace", *1998 BILETA Proceedings*, 2-3, <<http://www.bileta.ac.uk/98papers/athenas.html>>, 23.3.1999.
- Band, Jonathan — Isshiki, Taro — Reese, Anthony (1998): "The Digital Millennium Copyright Act", *WIPR*, 412-419.
- Barzel, Yoram (1997): *Economic Analysis of Property Rights*. 2nd ed. New York: Cambridge University Press.
- Borloff, Nils (1997): "Die Verantwortlichkeit von online-Diensten", *GRUR int.*, 387-401.
- Brinner, Robert G. (1996): "Die Rechtsstellung des Access Providers", in *Information Highway*, Bern: Verlag Stämpfli + Cie AG, 489-529.
- Calabresi, Guido (1961): "Some Thoughts on Risk Distribution and the Law of Torts", *Yale Law Journal*, 499-553.
- (1970): *The Costs of Accidents. A Legal and Economic Analysis*. New Haven: Yale University Press.
- Calabresi, Guido — Melamed, A. Douglas (1972): "Property Rules, Liability Rules, and Inalienability: One View of the Cathedral", *Harvard Law Review*, 1089-1128.
- Cock Buning, Madeleine de — Haeck, Jaap (1996): "Colloquium Discussions", in Hugenholtz, P. Bernt (ed.): *The Future of Copyright in a Digital Environment*, p. 221-239. The Hague: Kluwer Law International. Cited as Discussions (1996).
- Coase, Ronald H. (1937): "The Nature of the Firm", *Economica*, 386-405.
- (1960): "The Problem of Social Cost", *Journal of Law and Economics*, 1-44.
- Coleman, Jules (1992): *Risks and Wrongs*, Cambridge: Cambridge University Press.
- Coleman, Jules — Lange, Jeffrey (1992): "Introduction", in Coleman, Jules — Lange, Jeffrey (eds.): *Law And Economics. Volume I*, Cambridge: Dartmouth, xi-xxiii.
- Cooter, Robert D. (1985): "Unity in Tort, Contract, and Property: The Model of Precaution", *California Law Review*, 1-45.
- Discussions (1996), see Cock Buning — Haeck above.
- Demsetz, Harold (1967): "Toward a Theory of Property Rights", *American Economic Review*, 347-359.
- Elki-Koren, Niva (1997): "Copyright Policy and the Limits of Freedom of Contract", *Berkeley Technology Law Journal*, 93-113.
- Epstein, Richard A. (1997): "Law and Economics: Its Glorious Past and Cloudy Future", *University of Chicago Law Review*, 1167-1174.
- Gimbel, Mark (1998): "Some Thoughts on the Implications of Trusted Systems for Intellectual Property Law", *Stanford Law Review*, 1671-1687.
- Ginsburg, Jane C. (1997): "Copyright without Borders? Choice of Forum and Choice of Law for Copyright Infringement in Cyberspace", *Cardozo Arts & Entertainment Law Journal*, 153-175.
- Goldstein, Paul (1996a): *Copyright*. 2nd ed. New York: Aspen Law & Business.

- (1996b): “The Future of Copyright in a Digital Environment. Summary of Discussion”, in Hugenholtz, P. Bernt (ed.): *The Future of Copyright in a Digital Environment*, 241-248. The Hague: Kluwer Law International.
- (1997): “Copyright and Its Substitutes”, *Journal of the Copyright Society of the USA*, 151-157.
- Haarmann, Pirkko-Liisa (1992): *Tekijänoikeus, lähioikeudet ja oikeus valokuvaan*. Helsinki: Lakimiesliiton kustannus.
- Hagen, Eric (1996): “On-line Service Provider Liability: The Latest US Copyright Conundrum”, *Entertainment Law Review*, 274-279.
- Hansen, Jesper Lau (1999): “Retsøkonomiens veje og vildveje”, *UfR*, 115-122.
- Hansmann, Henry — Santilli, Marina (1997): “Authors’ And Artists’ Moral Rights: A Comparative Legal And Economic Analysis”, *Journal of Legal Studies*, 95-143.
- Hazard, John W. Jr. (1998): *Copyright Law in Business and Practise*. Revised Edition. West Group.
- Heine, Kasper — Haller Grønbæk, Martin von — Holdt, Helen (1997): *Internet.Jura*, København: Gad-jura.
- Hollmén, Sakari (1998): *Tietokoneohjelmien tekijänoikeudellisesta suojusta*. Turku: Turun yliopiston oikeustieteellisen tiedekunnan julkaisuja.
- Julià-Barceló, Rosa (1998): “Liability for On-line Intermediaries: A European Perspective”, *EIPR*, 453-463.
- Karnell, Gunnar (1998): “Comment on the decision of the Supreme Court of Sweden 22.2.1996”, *IIC*, 97-105.
- Krier, James E. — Schwab, Stewart J. (1997): “The Cathedral at Twenty-Five: Citations and Impressions”, *Yale Law Journal*, 2121-2147.
- Lai, Stanley (1999): “Digital Copying and Watermarking”, *EIPR*, 171-175.
- Landes, William M. — Posner, Richard A. (1980): “Joint and Multiple Tortfeasors: An Economic Analysis”, *Journal of Legal Studies*, 517-555.
- (1987): *The Economic Structure of Tort Law*. Cambridge (Massachusetts): Harvard University Press.
- (1989): “An Economic Analysis of Copyright Law”, *Journal of law and Economics*, 325-363.
- Leiner, Barry M. et al. (1998): *A Brief History of the Internet*, <<http://www.isoc.org/internethistory/brief.html>>, 20.2.1998.
- Lemley, Mark A. (1997): “Dealing with Overlapping Copyrights on the Internet”, *University of Dayton Law Review*, 547-585.
- Lemley, Mark A. — McGowan, David (1998): “Legal Impacts of Network Economic Effects”, *California Law Review*, 479-609.
- Mattei, Ugo (1997): *Comparative Law and Economics*. Ann Arbor: The University of Michigan Press.
- McManish, Charles R. (1999): “The Privatization (or “Shrink-Wrapping”) of American Copyright Law”, *California Law Review*, 173-190.
- Mercuro, Nicholas — Medema, Steven G. (1997): *Economics and the Law. From Posner to Post-modernism*. Princeton: Princeton University Press.
- Merges, Robert P. (1997): “The End of Friction? Property Rights and Contract in the “Newtonian” World of Online Commerce”, *Berkeley Technology Law Journal*, 115-135.
- Mossetto, Gianfranco (1995): “Introduction”, *Journal of Cultural Economics*, 93-94.
- Nimmer, David — Brown, Elliot — Frischling, Gary N. (1999): “The Metamorphosis of Contract into Expand”, *California Law Review*, 17-78.

- O'Rourke, Maureen A. (1997): "Copyright Preemption after the ProCD Case: A Market-Based Approach", *Berkeley Technology Law Journal*, 53-91.
- Palmer, Tom G. (1989): "Intellectual Property: A Non-Posnerian Law and Economics Approach", *Hamline Law Review*, 261-304.
- Plant, Arnold (1934): "The Economic Aspects of Copyright in Books", *Economica*, 167-195.
- Polinsky, A. Mitchell (1989): *An Introduction to Law and Economics*. 2nd ed. Boston: Little, Brown and Company
- Posner, Richard A. (1997): "The Future of Law and Economics Movement in Europe", *International Review of Law and Economics*, 3-14.
- (1998): *The Economic Analysis of Law*, 5th ed., Boston: Little, Brown and Company.
- Rajala, Katariina (1997): *Tekijänoikeudellisesta reproduointioikeudesta erityisesti tietoverkkoympäristössä*, Turku: Turun yliopiston oikeustieteellisen tiedekunnan julkaisuja.
- Reindl, Andreas P. (1998): "Choosing Law in Cyberspace: Copyright Conflicts on Global Networks", *Michigan Journal of International Law*, 799-871.
- Riis, Thomas (1996): *Ophavsret og retsøkonomi*. København: Gadjura.
- Rosén, Jan (1996): "BBS-målet och ansvaret för elektroniska förmedlingstjänster", *SvJT*, 414-425.
- Rushton, Michael (1998): "The Moral Rights of Artists: Droit Moral ou Droit Pécuniaire?", *Journal of Cultural Economics*, 15-32.
- Sanger, Lisa (1996): *Caching on the Internet*, <<http://www.seamless.com/eric/cache.html>>, 2.4.1999.
- Schaefer, Martin — Rasch, Clemens — Braun, Thorsten (1998): "Liability of On-line Service and Access Providers for Copyright Infringing Third-Party Contents", *ZUM*, 451-458.
- Schønning, Peter (1996): "Applicable Law in Transfrontier On-line Transmissions", *NIR*, 266-273.
- Schlachter, Erik (1997): "The Intellectual Property Renaissance in Cyberspace: Why Copyright Law Could Be Unimportant on the Internet", *Berkeley Technology Law Journal*, 15-47.
- Shapiro, Fred R. (1996): "The Most-Cited Law Review Articles Revisited", *Chicago-Kent Law Review*, 751-.
- Shavell, Steven (1984): "The Liability for Harm versus Regulation of Safety", *Journal of Legal Studies*, 357-374.
- (1987): *The Economic Analysis of Accident Law*. Cambridge (Massachusetts): Harvard University Press.
- Sherwin, Emily (1997): "Introduction: Property Rules as Remedies", *Yale Law Journal*, 2083-2089.
- Sieber, Ulrich (1997a): "Kontrollmöglichkeiten zur Verhinderung rechtswidiger Inhalte in Computernetzen (I)", *Computer und Recht*, 581-598.
- (1997b): "Kontrollmöglichkeiten zur Verhinderung rechtswidiger Inhalte in Computernetzen (II)", *Computer und Recht*, 653-669.
- Skogh, Göran — Lane, Jan-Erik (1993): *Äganderätten i Sverige. En lärobok i rättsekonomi*. Stockholm: SNS Förlag.
- Stefik, Mark (1997): "Shifting the Possible: How Trusted Systems and Digital Property Rights Challenge Us to Rethink Digital Publishing", *Berkeley Technology Law Journal*, 137-159.
- Strowel, Alain (1994): "Droit d'auteur and Copyright: Between History and Nature", in Sherman, Brad — Strowel, Alain (eds.): *Of Authors and Origin. Essays on Copyright Law*, Oxford: Clarendon Press, 235-253.
- Timonen, Pekka (1996): "Taloustieteen ja sen tulosten käyttö oikeustutkimuksessa", in Määttä, Kalle — Kanniainen, Vesa (eds.): *Näkökulmia oikeustaloustieteeseen*. Tampere: Gaudeamus, 129-159.

- (1998): *Johdatus lainopin metodiin ja lainopilliseen kirjoittamiseen*. Helsinki: Helsingin yliopiston oikeustieteellinen tiedekunta.
- Varian, Hal R. (1996), *Intermediate Microeconomics. A Modern Approach*. 4th edition. New York: W.W. Norton & Company.
- Wasson, Brian D. (1998): “Copyright Implications of “Unconventional Linking””, *Case Western Law Review*.
- Williamson, Oliver E. (1985): *Economic Institutions of Capitalism*, New York: The Free Press.
- Wolfson, Joel Rothstein (1999): “Contract and Copyright Are Not at War: A Reply to “The Methamorphosis of Contract into Expand””, *California Law Review*, 79-110.
- Zweigert, Konrad — Kötz, Hein (1998): *An Introduction to Comparative Law*. 3rd ed. Oxford: Clarendon Press.

Official Documents

- COM (1997) 628 final: Proposal for a European Parliament and Council Directive on the Harmonisation of Certain Legal Aspects of Copyright and Related Rights in the Information Society.
- COM (1998) 587 final: Proposal for a European Parliament and Council Directive on Certain Legal Aspects of Electronic Commerce in the Internal Market, 18.11.1998.
- ETNO (1998) RD75: Reflection Document on the European Commission’s Draft Directive Regarding On-line Liability, <<http://www.etno.be/RD/RD75.html>>, 2.4.1999.
- ETNO (1999) RD92: Reflection Document on the Draft Directive on Certain Legal Aspects of Electronic Commerce in the Internal Market, <<http://www.etno.be/RD/RD92.html>>, 2.4.1999.
- IPNII (1995): Intellectual Property and the National Information Infrastructure. The Report of the Working Group on Intellectual Property Rights. September 1995. (also known as the White Paper)
- OECD (1998): Internet Infrastructure Indicators, DSTI/ICCP/TISP(98)7/FINAL, 28.8.1998.

REFERRED CASES

Finland

Tiihonen KKO case R 95/923: prosecutor v. Tiihonen, decision given 22.9.1997 (unpublished)

Sweden

Richt HD case B 363/95: prosecutor v. Richt, decision given 22.2.1996

United States

Carroll United States v. Carroll Towing Co. F. 2d 169 (2d Cir. 1947)

Peak MAI Systems Corp. v. Peak Computer Inc., 991 F.2d 511 (9th Cir. 1993)

Frena Playboy Enterprises Inc. v. Frena, 839 F. Supp. 1552 (M.D. Fla. 1993)

MAI Advanced Computer Services of Michigan Inc. v. MAI Systems Corp., 845 F. Supp. 356 (E.D. Va 1994)

Maphia Sega Enterprises Ltd. v. Maphia, 857 F. Supp. 682 (N.D. Cal. 1994)

Netcom Religious Technology Center v. Netcom On-Line Communication Services Inc., 907 F. Supp. 1375 (N.D. Cal. 1995)

Zeidenberg ProCD, Inc. v. Zeidenberg, 86 F.3d 1447 (7th Cir. 1996)

NAFED Marobie-Fl v. National Association of Fire Equipment Distributors (NAFED), 983 F. Supp. 1167 (N.D. Ill. 1997)

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1 INTRODUCTION

1.1 THE PROBLEM

1.1.1 Illustration

Imagine you are running a company that provides access to the Internet and related services. One day you receive e-mail from a copyright holder. He demands you to close the account of one of your customers since this user is said to distribute illegal copies of their property through your server. He threatens to sue not only this user but, in addition, you. What should you do: ignore the message, close this one paying customer out of the Internet or begin excessive monitoring of the Internet usage of your ten thousand customers in order to avoid further copyright conflicts?

Next day your problems double. Another copyright owner contacts you alleging that you have made illegal copies of his popular web site on your server. Your engineer consults you that the Internet software on your server has automatically copied the files from this popular web site because the use of these “close copies” speeds up the Internet usage through your network. The web site owner threatens to sue you if you refuse to remove the files from your server. “Hit rates” of his site have collapsed since your customers download the content² from the copies located in your server. You should again decide whether to take the risk of litigating and favor your customers or do what the copyright holder says...³

1.1.2 Academic Approach

This study is a systematic legal and economic analysis of the possible liability⁴ of an online⁵ intermediary⁶ for copyright⁷ infringement. It is useful to concrete the

² As content is meant data that can be interpreted to form any kind of understandable (and valuable) information. Content on the Internet includes e.g. www-pages, mail messages and databases.

³ This illustrative section is modified from Professor William W. Fisher’s introductory course to our subject at <<http://cyber.harvard.edu/metaschool/fisher/ISP/overview.html>>

⁴ Concentration is on private law issues and, thus, discussion on criminal liability is excluded.

⁵ Although the general term “online” is widely used, for practical reasons the focus is on the Internet environment.

⁶ On the definition of intermediary see section 2.2.

situation further in a figure that illustrates relationships between the key actors that are, in some way or other, connected to infringing actions. In short, the problem lies under relation 2 (copyright holder — online intermediary) in the figure below:

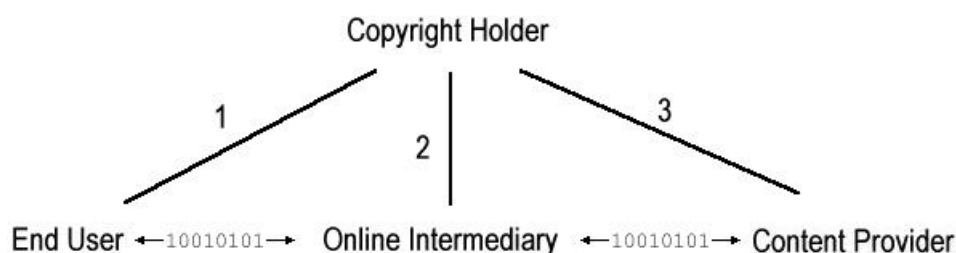


Figure 1. Three possible relations where infringement may occur.

Figure 1 describes the general situation in online transactions. End users and content providers communicate digitally through necessary technical environment that is provided by online intermediaries. Online intermediaries' basic task is to transfer data, for our purpose property protected by copyright law, at the speed of light. Whenever this data itself or its transfer is illegal, a property right has been violated, a negative externality for copyright holder created, and a liability rule will apply. The question is, who bears the negative costs from an infringement.

Our approach to this problem of cost allocation has two perspectives: a forward-looking and a backward-looking.⁸ Before the infringing action occurs, *ex ante*, we have a possibility to consider various forward-looking perspectives. After infringement, *ex post*, we have no choice but call the lawyers to cease the fire.

From an economic viewpoint, our task is to determine the efficient allocation of costs that infringing action implies. That is to consider *how* should the allocation happen. In this respect, the approach is forward-looking. We shall take into account all the parties involved in infringing activity. In effect, we shall discuss the possibility (or capacity) of each party represented in figure 1 to control risk and pay damage.

From a legal point of view, the approach is backward-looking. We will determine *who* is actually the legally responsible party for creating a wrongful loss for copyright holder. At first sight, it seems that illegal action is initiated by those who communicate. Therefore, relations 1 and 3 would appear to be the relations where successful litigation is possible. This study aims to determine whether liability may, in addition, be placed on relation 2. Answer to this question will be either affirmative or negative.

⁷ The term copyright is used throughout this study regardless traditional distinction between copyright and author's right systems. Again, pragmatic reasons overweight possible benefits from precise terminology. See section 1.2.1.

⁸ See e.g. *Coleman* (1992), p. 430.

Before reaching the details, it is useful to sketch a rough map of the main lines of the study in mind. There are three larger questions behind. Concerning online intermediaries, we ask: “What is the role of intermediaries in the context of the Internet?” The second preliminary task is to determine the origins of the liability issue: “What are the rights — components of copyright and copyright’s possible alternatives — that may be violated?” Finally, it is reasonable to ask a comparative question since the law of the Internet is still about to have a shape: “What is role of different liability systems on the Internet?”

1.2 METHOD

1.2.1 Law and Economics in Legal Analysis

The approach adopted is law and economics with certain qualifications. Our approach differs from both the conventional economic analysis of law⁹ and pure legal analysis. Unlike in conventional law and economics literature, we are not building new formal models nor do we dismantle any. Instead, we are studying the functions of the law to render the legal problem. Following Posner, we agree that “the heart of economics is insight rather than technique”.¹⁰ Hence, economics is here consumed, not produced.¹¹ Economics is forced to serve the legal analysis.

At this point, a conventional legal theorist might say that law and economics is used in systemizing and interpreting the existing law. However, this is not quite the case. That statement would not give our forward-looking perspective the emphasis it deserves. We study the law from an internal point of view, but, in addition, before opening the door, we will have a long outside excursion ahead. It would be more appropriate to name our approach as *legal analysis from an economic point of view*.¹² This is to say that the object of this study is legal rules but we approach the rules

⁹ The (positive and normative) economic analysis of law is most notably defended in *Posner (1998)*.

¹⁰ *Posner (1997)*, p. 14.

¹¹ In fact, some commentators like *Epstein (1997)*, p. 1173-74, propose “cloudy future” to the economic analysis of law since the basics of all important private law issues have already been thoroughly analyzed. Further analysis will be too specific in the mathematical language of economics to have any fruitful affect on conversation between these two disciplines. See also *Hansen (1999)*, p. 116.

¹² This is essentially the same what *Mattei (1997)*, p. 9, calls “two-step interpretation”. He points out the *practical* utility in switching between the worlds of is and ought.

from an economic viewpoint. After all, the distant goal lies in the rational reconstruction of the complex subject of law.¹³

Setting that rhetoric discussion aside, there is a more important methodological issue that needs clarification. It concerns the variety of approaches used both in the field of law and in the field of law and economics. Hence, how do we locate this study, on the one hand, in the field of different schools of law and economics and, on the other hand, in the field of different legal cultures? Then, what does it mean if this study is based on research made under “fundamentally” different approaches?

First questions that concern law and economics.¹⁴ If we use distinctions suggested by Mercurio and Medema, it follows that this study mixes literature from, at least, three different movements inside the common core of law and economics.¹⁵ Whether this is problematic or not, is *none of our concerns* within this study. Unless otherwise specified, this study assumes that the contribution of economics to law lies on the “market paradigm” as described by Coleman:

“Under a well-known, if infrequently realized, set of conditions, resources move to their most highly valued uses without the interference of law. When these conditions are not satisfied, however, legal institutions are necessary to promote efficiency. Thus, the best interpretation of current legal institutions, especially private law of property, contract, and tort, understands them as designed either to facilitate market exchange or to rectify market failures... Law generally, and private law in particular, are solutions to problems of market failure.”¹⁶

If there is need in later parts of this study to cite authors whose view *in practice* — i.e. on other than the level of philosophical theses — differs from what is stated here, it shall be mentioned.¹⁷

On the legal side of this study, similar pseudo-problems emerge. Traditionally, legal scholars have divided the copyright world into two major approaches. It is claimed that civil law countries’ approach to protect intellectual works, *droit d’auteur* (author’s right), is remarkably different from the anglo-american copyright system.¹⁸

¹³ In this respect, it is impossible to compare the meaning of the word “rational” to the metaphysical theories of rational “reconstruction”, “interpretation” or “discourse” favored by such legal theorists as Aarnio (1987). We discuss here the *economic* rationale of legal rules. See Coleman (1992), p. 40-43.

¹⁴ In the Finnish literature Timonen (1996), p. 159, has emphasized the adequacy of this question.

¹⁵ Mercurio — Medema (1997). Those three are Chicago law and economics (for example works of Posner and Cooter), New Haven school of law and economics (Calabresi, Coleman), neoinstitutional law and economics (Barzel, Demsetz).

¹⁶ Coleman (1992), p. 2-3. This is the view of mainstream law and economics.

¹⁷ There are no such cited authors in this study.

¹⁸ Strowel (1994), p. 235. Droit d’auteur is associated with natural law, the concept of natural property and the idea of an open system. In contrast, copyright refers to the concepts of positive legislation, legal monopoly and close system. While copyright emphasizes the economic rights to reproduce and

We must admit that there is much truth in that distinction. Because of the historical aspect of law,¹⁹ certain differences remain that cannot be simply skipped. So far, there is no global Internet law.²⁰ However, we analyze and compare the rights *behind the concepts* — irrespective of the legal system — and leave rhetorical discussion to philosophers. Although distinctive concepts are central in legal rhetoric, we are not blind before the reality. In general, a comparative functional (or economic) analysis shows that the substance of law among Western legal traditions is in many details unified regardless of the diversification in form.²¹ Moreover, the distinction based on the roles of judge-made common law and statute law is equally questionable.²²

1.2.2 Justice and Efficiency Combined

So far, we have determined that at least one of the functions of law is to promote efficiency. That is the *productive* dimension of law. Just as important as efficiency is the *distributive* dimension of law. That is what we shall call justice.²³ In the case of liability law, the justice principle stresses compensation²⁴, while efficiency stands for cost minimization.²⁵ An important question here is, if these two principles are rival or not. Further, if we prefer efficient outcomes of law what will happen to justice?

How challenging it may sound, this study applies these two principles as *complementary*.²⁶ This can be explained with our understanding of the relationship between the two purposes of liability law. From historical perspective, it should be emphasized that tort has developed towards market paradigm. As Shavell notes, the development of markets and payment systems has made it possible to separate tort from

distribute copies of a certain work, lays droit d'auteur weight on the author's subjective moral rights to his work.

¹⁹ Concerning U.S. copyright system see *Goldstein* (1996a), p. 1:26-1:39.

²⁰ See section 4.1.3.

²¹ See *Konrad — Kötz* (1998), p. 34-35, and *Mattei* (1997), p. 95. *Posner* (1997), p. 6, notes that "...one of the most valuable contribution that economics has to make to law is simply to show that there is less functional variety in the legal system than there is doctrinal and institutional variety" and follows declaring quite unrealistically that "...the economic analysis of law shows to translate *all* those [European] legal cultures into the language of economics... even more so than English." [italics added]

²² *Mattei* (1997), p. 84, refers to the present trend as "the orgy of statute making". *Mattei's* description is very appropriate considering the regulation of copyright.

²³ *Coleman* (1992), p. 21-27. The problem of defining these concepts is out of our reach.

²⁴ If compensation is enough to satisfy the principle of justice in tort law is, of course, arguable. See e.g. *Coleman* (1992), p. 304-305. However, the semantics of justice is not the problem of this study.

²⁵ On the goals and subgoals of tort law see e.g. *Calabresi* (1970), p. 24-33.

²⁶ *Cooter* (1985), p. 1-2, *Polinsky* (1989), p. 7-11, 129-130.

crime.²⁷ What is left, is the productive side of tort law.²⁸ Still, we must accept that there remains such compensating or corrective aspects in tort that cannot be even theoretically separated. However, a scientific approach restricts the use of pure *justice arguments to politicians and social philosophers*. This is not to say that we underestimate the social role and function of justice. We just internalize the high costs from unfruitful justice discussion within the semantics of economic rationale.

1.3 SOURCES

1.3.1 Economic Arguments and Sources of Law

Our methodological discussion lacks the final act: solving the problem that is imposed by the existing paradigm of the sources of law. In other words, we should justify the role of efficiency arguments in analyzing law. With respect to what is presented above, there should be no intellectual constraints to the wide use of efficiency arguments both in legal comparison and in analyzing the law of the United States. Hence, this problem is actual only when efficiency arguments are brought into the analysis of German and Scandinavian legal systems.

The standard model of the sources of law is a strictly delineated *normative* hierarchy based on *a priori* arguments. For example, in a model defended by Aarnio there are three levels of sources, and economic arguments are placed on the lowest one.²⁹ Even if our goal is not to question every existing doctrine accepted among civil law commentators, we reject this one. The justification of the wide use of economic arguments throughout this study is simple enough. As Mattei puts it:

“After all, scholars pursue knowledge and new perspectives. They do not necessarily have to commit themselves to the world of *ought*... they will eventually be able to see whether they will or will not endorse the efficient solution (or interpretation)... If they wish to follow it, they will have one more argument in their

²⁷ *Shavell* (1987), p. 298. He addresses compensation to insurance markets.

²⁸ That is addressed among those who adopt economic approach to law as *precaution*, an incentive towards safety. See *Cooter* (1985), p. 3-11 and *Shavell* (1987), p. 297-298.

²⁹ See e.g. *Aarnio* (1987), p. 93 (concerning the Finnish legal system). *Timonen* (1996), p. 145-150 addresses explicitly economic arguments on the bottom, as practical or “real word” arguments, but at the same time, he points out that their use depends on the *interest of the research*. Especially, he accepts their strong role in *de lege ferenda* argumentation. In this study, the somehow fictive distinction between *de lege lata* and *de lege ferenda* is, however, not constraining the use of any argument.

process of interpretation. If they do not wish to accept it, they may *hide* the inefficient nature of the interpretation they are proposing” [the latter italics added]³⁰

To make it clear, one more citation from Mattei shall end this discussion on method. He summarizes that law and economics is “the only analytical tool that allows us to distinguish scholarly work from political argument”³¹

1.3.2 Practical Issues

When a law student begins to write his graduation thesis at the University of Helsinki, he is normally advised to read all the material that is published in Scandinavian legal literature under his subject. Supplementary literature is expected to be collected first from German language region. It is uncommon to rely heavily on material from common law countries, unless there is a comparative perspective in the thesis. It seems that this study breaks this doctrine being rather interdisciplinary than doctrinal. In addition to implications from the above-discussed methodological choices, there are a number of practical reasons not to take these “quiet” rules of adequate legal writing as granted.³²

Although there is a minor comparative perspective in this study, most of the literacy and cases cited are from the United States. With regard to law and economics literature, it is a mere fact that all the classical papers have been published in American legal periodicals — where the academic movement called law and economics was “founded”.³³ Moreover, the volume of law and economics literature in the U.S. means that the variety of issues discussed is exhausting. On the other side of the coin, we have the copyright law applied on the Internet. Again, the volume of papers concerning online copyright published in the American periodicals leaves Europe behind. It is no surprise, since the U.S. Internet case law is the most developed in the world.³⁴ In short, it is extremely hard to find material from Scandinavia; from Germany there is something. Still, those few papers referring to the problems that are on focus in this study almost without exception follow the principles deduced from the U.S. case law.

³⁰ Mattei (1997), p. 8. What is more, this sort of argumentation leads to a *competitive* model of the sources of law. The competitive model emphasizes especially the role of scholarly writings, which seems to reflect the reality quite well. See *ibid.* p. 109-111 and Posner (1997), p. 5.

³¹ Mattei (1997), p. 11.

³² These doctrinal rules are explicated in Timonen (1998).

³³ See e.g. Posner (1997), p. 3-6.

³⁴ Wassom (1998). See also section 2.4 for statistical evidence on the leading position of the U.S. on the Internet.

1.4 OVERVIEW OF THE STUDY

This first chapter framed the problem: in which conditions, if any, may an online intermediary be held liable for copyright infringement. In addition, we discussed some *methodological issues* and clarified theoretical concepts. We founded law and economics with a comparative perspective as the methodological basis of this study.

Chapter 2 presents some central terms and definitions. Online *intermediary* and *transactions* on the Internet environment are on focus. The point of view is pragmatic: the aim is to capture the technical and economic contexts in which the main interests of this study are. Some statistics concrete the picture. Chapters 1 and 2 form together a long introduction to the subject. The rest of this study analyzes the actual problem.

In chapter 3, is examined the scope of *copyright* protection and its relevance on the Internet. Special emphasis is on the possible ways to avoid the whole infringement problem with alternative methods to secure rights. Concerning copyright, the reproduction component is on the top. The chapter forms the general part of this study where law and economics shows its full force.

Legal analysis of copyright *liability* is on focus in chapter 4. In particular, the question is examined whether intermediaries could be held secondary liable in the case there clearly is an actual first party infringer. We do a survey of existing legislation, *de lege lata*, in the United States and European Union. Comparative law and economics is used in order to detect possible ineffectiveness of legal rules and institutions. The end of the chapter focuses on the directive proposal of the EU that is expected to enter into force in the near future. Chapter 4 forms the specific part of this study analyzing the positive law in the context of theoretical discussions.

There are three main trends during the study: (1) intermediary and its role, (2) copyright and its role, and (3) the role of national laws on the Internet. The concluding chapter draws the main lines together.

2 THE ROLE OF ONLINE INTERMEDIARY IN INTERNET TRANSACTIONS

2.1 THE NATURE OF INTERNET TRANSACTIONS

2.1.1 Relation to Traditional Transactions

The emergence of the Internet — from a local academic network of the 1960's to the global marketplace of today — has been a short period in the history of mankind but its effects on our world order have already been remarkable.³⁵ In the field of law, the information revolution has been, until recently, very well in control. Lawyers have been capable to internalize arising problems under existing legal institutions.

For example, a "traditional" electronic contract has been legally easy to control. Contracts have been written (a) under a well-founded commercial relationship, (b) between two corporations, and (c) in a definite field of business. From a technical point of view, there has been a direct cable connection (probably through a telephone network) between contracting parties. In other words, there have been no third parties. In this commercial relationship, there are the parties, and only those, that contract law, as we know it, recognizes. Moreover, the actions these contracting parties take are only a little modified from those described in traditional contract law textbooks. One party presents an auction, maybe using an agent, to the other, who accepts terms in it and we have a contract.

A global computer network, *cyberspace*, where there can be an unlimited number of parties all over the world making transactions between each other at the same time has changed the picture. Due to *electronic commerce* (commercial transactions) on the Internet, we face legal problems are in many respects sui generis, i.e. problems based on legal relations which can be handled only with limitations using traditional legal doctrines. These new challenges to the legal system are created by the nature of the Internet. In cyberspace, there is such a variety of parties making not only new kind of transactions but also with methods unknown to the real world.³⁶ Since parties may remain unknown to each other, there is a strong need for a variety of insurance

³⁵ An authoritative introduction to the history of the Internet, from a technical point of view, is *Leiner et. al.* (1998). The writers of the paper include those "gurus" who originally were designing the technical structure of the Internet.

³⁶ *Varian* (1996), p. 590-591, emphasizes that digital environment does not require new *kind* of economic analysis since economics is fundamentally "about people, not goods". The same view applies, *mutatis mutandis*, in the field of law.

mechanisms provided by third parties. For example, we can mention digital signature, payment, and encryption services. The following table compares briefly with a few factors the nature of electronic commerce on the Internet to the traditional model.

Traditional electronic commerce	Internet electronic commerce
<i>business-to-business</i>	<i>business-to-business</i> <i>business-to-consumer</i> <i>user-to-user</i>
<i>closed industry specific "clubs"</i>	<i>open global marketplace</i>
<i>limited number of partners</i>	<i>unlimited number of partners</i>
<i>closed proprietary networks</i>	<i>open unprotected networks</i>
<i>known and trusted partners</i>	<i>unknown partners</i>
<i>security part of network design</i>	<i>security and identification needed</i>

Table 1. Traditional electronic commerce compared to electronic commerce on the Internet. While in traditional model the network is used as a means to transfer data, on the Internet the network forms the market. Source: COM(97) 159, p. 3.

2.1.2 Definitions

In every online transaction, some actors want to transfer data from one place to another. If sender is the active party, i.e. the one who gives the last needed command to begin transfer, the operation is called upload, else download. More precisely, download and upload are here defined as follows:

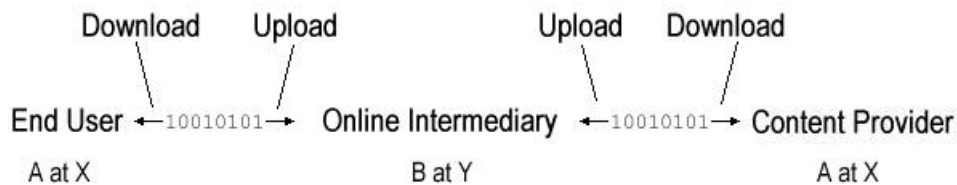


Figure 2. Actions that may infringe copyright.

- Actor A *downloads* data from B when he commands his computer to load data from location Y to location X. Thus, A *reproduces* a copy of the received data to his computer's memory in location X. The most common transaction on the Internet occurs when an end user downloads a content provider's www-page.
- A *uploads* when he commands his computer to send data from its memory, location X, to B's computer in location Y. Again, A *reproduces* a copy of the data, this time to location Y. If other Internet users may then freely download this data, A has made the data *available for public*.

Since the environment for data transfers is the Internet, the data will flow — independently on the intentions of the transacting parties — through network facilities

provided by several third parties. We have named these third parties as intermediaries. Now there is a property rule, i.e. copyright, which addresses restrictions on a certain type of *use of data* protected by copyright law. The preliminary question here is: how do the intermediaries in fact use the data? There are three basic alternatives:

- Let the data *move freely* through routers without storing it for even a second. This is the basic role for an intermediary that provides technical facilities.
- Reproduce a *temporal copy* of it on a *cache* (or proxy) server. The function of using a cache memory is to speed up Internet transactions. For example, an intermediary that provides access to the Internet might copy in cache the data that most frequently flows through its access server. Next time when a user asks for this data, there is no need to search and download it from the original site that might be on the other side of the globe. The search ends at the cache server.
- Reproduce a *permanent copy*. This can only rarely be rational. However, we could think of an “accidental” storage for a long time; for example, in the case of renewing the physical cache memory components, the old components may not be erased due to human error or the costs.

2.2 ONLINE ACTORS

Below is a detailed sketch of different parties in online transactions that have a role in this study. Five different online intermediaries are separated:

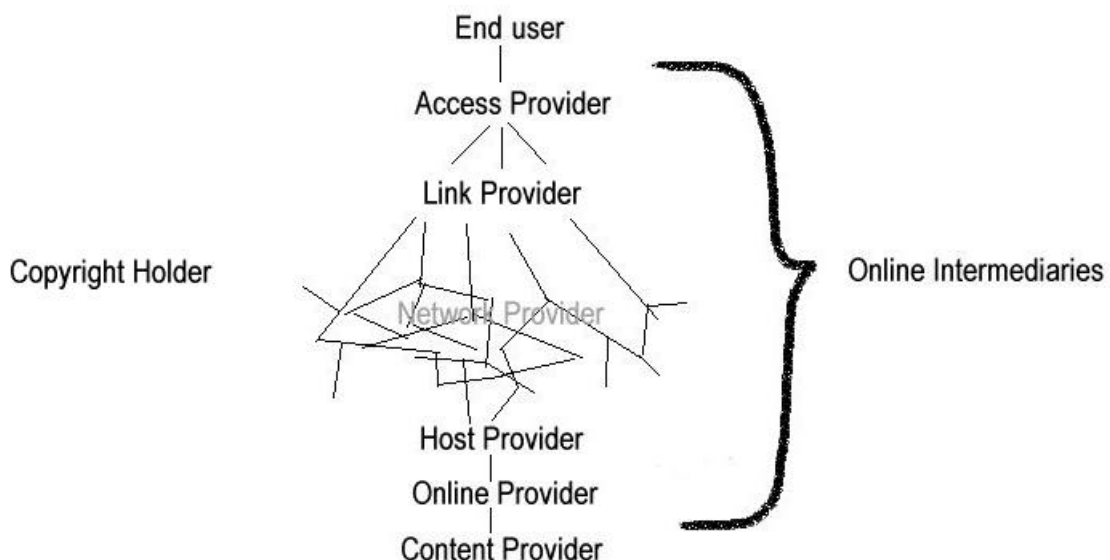


Figure 3. The online actors that have relevance in this study.

2.2.1 Intermediaries

Next, the different intermediaries in online transactions shall be defined according to their functional roles.³⁷ However, it should be pointed out that the distinctions made below are in essence *a priori*, i.e. they serve mainly legal and economic analysis introduced in later chapters. In the real world — due to benefits from internalizing transaction costs — service providers usually take on several of these functions. Five distinctions:

- Users connect to the network by connecting to an *access provider's* server. Most access providers use cache memory and, thus, reproduce (temporarily) the data their customers most frequently demand.
- *Link provider* searches and sorts material on the web either automatically or manually. Most commonly, he provides manually configured links to content providers' sites. The problem is, if he is liable for pirate links.
- *Network provider* provides the routers, i.e. the needed technical facilities for the transmission of data. Network provider may, in addition, use cache to fasten the data flow and, hence, face similar legal problems as access providers.
- *Host provider* rents space on his server, upon which users or content providers can upload content. Conversely, other users may download the material for their use. The problem is, how does host provider's knowledge of the content and the ability to control the rented space affect the liability issue.
- *Online provider* provides the space he has rented from a host service provider. Users may upload and download material to an online service, such as a bulletin board, news group or chat room.

A special notation is a Bulletin Board System (BBS) that comes frequently up with elder case law. In the pre-Internet era — that is some five years ago — computer networks consisted of separate local BBS “networks”. A BBS is usually a single host computer that provides access to its space through a direct modem connection. The number of users online at once is restricted to the number of phone lines the BBS has. Normally, a single computer enthusiast — a system operator — provides a BBS service for message and file exchange. Though the number and role of BBS services has collapsed, the BBS case law is still of most relevance. A BBS combines all the functions that can be addressed to an ISP. The only factors making difference to the present situation are the restricted amount of users at the same time and the relative small size and capacity (in both technical and economic sense) of a BBS.

There are two major reasons why an intermediary may be held liable for copyright infringement. The first we shall call the problem of *consciousness*. It concerns mainly

³⁷ Almost equal distinctions are made for example in Sieber (1997a), p. 597-598 and Julià-Barceló (1998), p. 454. See also Heine — von Haller Grønbaek — Holdt (1997), p. 304-308.

link, host and online providers. Link providers are those to guide users to surf through the Internet. Host and online providers — commonly called Online service providers (OSP)³⁸ — are the two that provide possibility to upload and download content to the space they provide. The common factor of these three providers is that they act as “publishers” of content and thus have some sort of *control* over it. Each of them may face problems if they become conscious of the infringing nature of the content they somehow promote or contribute.³⁹ The consciousness depends mainly on the kind of maintenance or *monitoring* activities the provider takes. It is the law to address the scope and characteristics of these possible duties that we analyze.

The second reason — active storing of content without authority — concerns mainly access and network providers. Both have an incentive to *caching*, i.e. to reproduce copies of content without rightholders consent. Consequently, we call this the problem of caching. Again, it is the law to address under which conditions, if any, caching may be allowed that we analyze.

2.2.2 Controllers of Content

Any of the defined intermediaries does not provide information on the Internet whereas content provider does. Content provider is either an organization or individual that uploads content on a service he maintains. An important point is that content provider is both conscious of the content and, what is more, has full control over the data he wishes to store or distribute. From a legal viewpoint, this means that initially content provider is held — in the case of a copyright violation — a direct infringer. As the legal position of content providers seems somewhat non-controversial, legal analysis of liability issues concerning content providers seems unnecessary. Instead, the legal *distinction* between content provider and an intermediary is of most importance. Where is the line between own and third party content? Since in practice many telecommunication companies act as an OSP, access provider and even provide content at the same time, the terms need some clarification.⁴⁰

The key concept here is *control*. Link, access and network providers may have knowledge of what can be achieved using their services and they may even be able to restrict the availability of it. Nevertheless, they do not initially have any possibility to

³⁸ The most general and widely used term Internet service provider (ISP) covers all the five intermediaries we have defined. In this study, we use instead the term intermediary.

³⁹ It should be noted that they cannot be direct infringers of copyright. See definitions of upload and download above.

⁴⁰ *Heine — von Haller Grønbaek — Holdt* (1997), p. 307, and *Bortloff* (1997), p. 169, stress the importance of this distinction.

control the content. Instead, host and online providers have a possibility to take down and monitor the content on the space they have provided. Still, they act as intermediaries. After all, the full control and responsibility of the infringing content on the Internet remains with content providers.

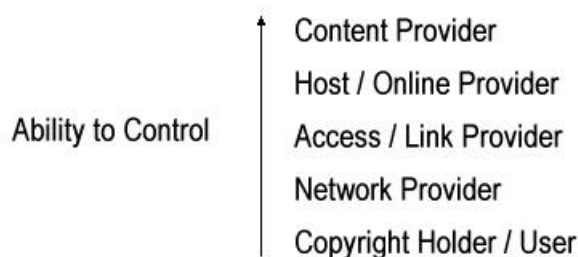


Figure 4. The ability of different online actors to control content.

From an economic perspective, these observations are of most interest. According to Skogh and Lane, the party that controls the risk should also bear the possible costs. We can call this as the *control principle*.⁴¹ Applied to our case, the principle says that content provider should be the party to bear the costs from illegal infringements. Further, a possible secondary liability of intermediaries should depend on the level of control they have upon the content. From what is said above, it follows that at least a partial liability for host and online providers could be rational from an economic point of view.

2.2.3 Other Parties

Every single actor that connects to the Internet is an *end user*, a subscriber of an access service. If there is pirated material on the Internet it is due to the economic behavior of users. It is what economists might call free riding or rent seeking, that makes incentives to piracy. The point is that this kind of behavior is within us, from here to eternity. Opposite incentives, maybe placed through law, are the only way to constrain it. If copyright law allows private copying without rightholders consent then there is, for example, no opposite incentive in downloading infringing content for personal use.

One of the main roles in this study is reserved for *rightholders*, i.e. those actors that own the copyrights. Rights on information goods are usually owned by some producer organization, not the original creator. Whenever property right transactions are legal, there is a contractual relationship between transacting parties and the owner of the right. Conversely, the relationship between the infringer and the owner

⁴¹ Skogh—Lane (1993), p. 93-94. The importance of control as a “crucial” feature in separating own and third party content is also emphasized — from a political perspective — in *ETNO* (1998) RD75.

of the right is non-contractual and, thus, after infringement, ex post, a thinkable way to make incentives in favor of rightholders is to apply liability rules for the infringer.

There are a number of other parties not illustrated in figures 3 and 4 who play essential roles in online transactions on the Internet. Generally, the need for trusted systems generates markets for a number of third parties. One central is trusted third party, an organization to guarantee electronic transactions between unknown parties. Concerning piracy, various “police” organizations could be considered, too. However, proper monitoring and liability rules can internalize costs from this kind of activities.

2.3 COSTS OF PIRACY

At the first sight, it might seem that transaction costs do not play a central role on the Internet since they can be expected to be near zero. Digital information goods are certainly very cheap to transmit, store and consume. What else should the function of the Internet be than a mechanism to lower these costs.

Coase (1937) explained that firms existed, since within them transacting, in certain cases, does not involve as high costs as on the open markets. Equally well the Internet could be explained as a market institution to lower (or to internalize) transaction costs. Therefore — now in the terms of *Williamson* (1985) — the hierarchies and governance mechanisms of the Internet become important concerning the effective allocation of resources. Online actors (hierarchies), especially intermediaries, are those whose actions, directed by law and other norms (governance mechanisms), affect the allocation. How effectively — this is the question. This line of reasoning is one way to defend the subject of this study.

This initial view is, however, rather naive. It applies until something “fails”. The piracy results in a market failure for digital property transactions that is very expensive to control under the current legal framework. More generally, ex post transaction costs become extremely high in the case there is possibility that normal transactions result in online piracy. We should remember that transaction costs do not consist only of establishing but, what is more important here, also of *maintaining* property rights.⁴² To find and catch pirates with the “help” of the existing copyright law on the Internet is — to speak the truth — an impossible task. Hence, there is less litigation (and deterrence) than would be on the efficient level. In addition, uncertainty about the applicable law and the empty pockets of the caught pirates (pirating itself is almost without costs) do neither reduce these costs.

⁴² *Allen* (1991), p. 1, 3-4. Allen emphasizes especially the role of “theft” and free riding.

From an *ex ante* perspective, we can conclude that the threat of *ex post* piracy costs increases the *expected* transaction costs. When distributed online, property will face the risk of negative network effect.

One of the three main themes of this study is detecting the mechanisms to minimize these expected costs. *Ex ante*, costs can be avoided with market solutions. In short, it is a question of contractual arrangements such as licenses enforced by technical protection. Further, law could impose regulation for safety — such as monitoring duties to intermediaries. *Ex post*, when markets have already failed, focus is on the liability rules. In short, it is a question of risk bearing: who has *ex post* the burden to pay realized costs. In a non-contractual situation, legal system is all that is left. Law could direct the liability, wholly or partly, to intermediaries by, for example, imposing controlling duties. Among rational actors, the risk of liability would increase deterrence and, hence, lower the rate of piracy.

The problem concerning law is its enormous enforcement costs compared to rather minimal benefits. A survey undertaken among intermediaries within the EU shows that legal issues result in *significant costs* that impact on future investments and competitiveness within the ISP business.⁴³ Liability of intermediaries could also lead to negative external effects since a rational intermediary would shift at least a part of the burden to users and content providers. Social insurance management should not be the task of intermediaries. Consequently, it is doubtful if the copyright liability of intermediaries is the most efficient mechanism in the fight against piracy. All in all, these first impressions suggest discussion that is more thorough. This task is taken in the next chapter.

2.4 STATISTICS ON THE INTERNET AND INTERMEDIARIES

Next some empiric facts. Statistical evidence shows the role of online intermediaries — and Internet in general — in different societies. To begin with, what is the number of end users? It is almost impossible to calculate the accurate number of end users, i.e. those who have an access to the Internet and use this access regularly. However, some online institutes try to make "educated guesses" with the help of the data collected from the newest national researches. In the beginning of the 1999, the

⁴³ Competitiveness suffers if smaller ISPs face this kind of market barriers. See *COM(1998) 587 final.*, p. 8-9.

total number of users must be a few hundred millions.⁴⁴ The only thing all agree is that the number is increasing rapidly.

The number of Internet host servers — the central building blocks for our purposes — gives us direct information on the role of intermediaries. The OECD has recently calculated the amount of Internet host servers in the OECD-countries. Calculations are based on information provided by two well-known online research institute.⁴⁵ The numbers are shown in the figure below; the vertical-axis stands for the number of hosts per 1 000 inhabitants.

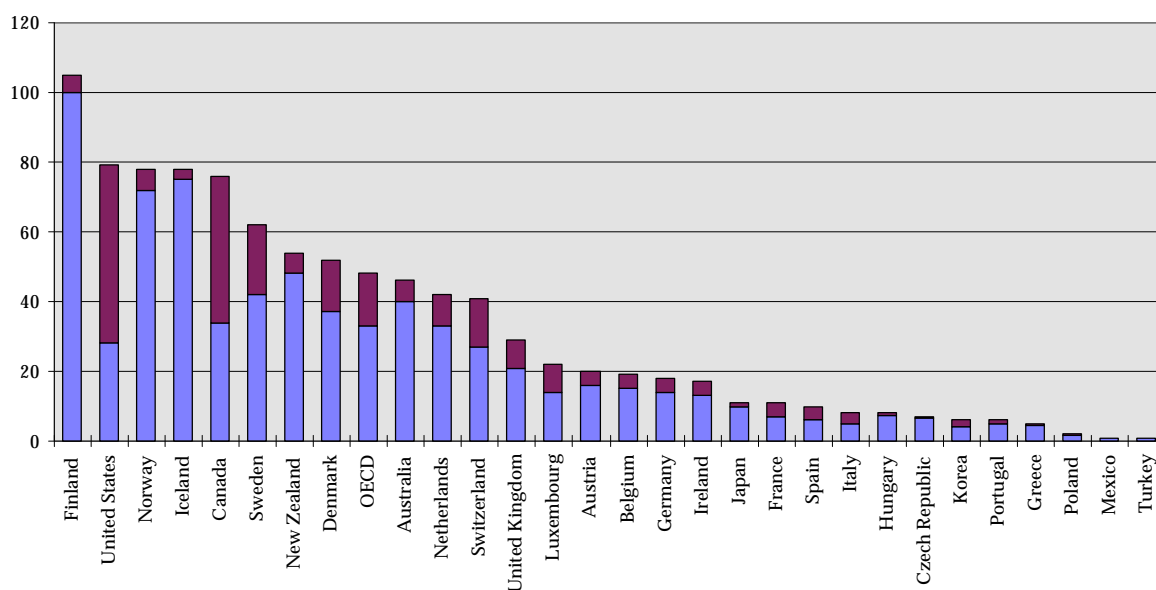


Figure 5. Internet-hosts per 1 000 inhabitants in July 1998. Darkened areas consist of generic host addresses, i.e. addresses that are not tied to world's political map, such as .com, .org or .net. Source: OECD (1998), p. 54.

As we can see, the Nordic countries⁴⁶ and North America are on the top of this ranking list. In Finland, there is as much as one host address for every tenth resident. Nevertheless, we should point out the relatively small number of inhabitants in Nordic countries. In Europe, United Kingdom and Germany are, on an absolute scale, on

⁴⁴ Commerce.net at <<http://www.commerce.net>> documented in January 1999 that there has to be at least 120 million end users. According to their documentation, some 65% of users came from North America, 20% from Europe and the last 15% from Asia. The numbers are based on national researches conducted in 1997 and 1998. Countries in South-America and Africa lack research.

⁴⁵ Those are Network Wizards at <<http://www.nw.com>> and RIPE (Reseaux IP Européens) at <<http://www.ripe.net>>.

⁴⁶ As Nordic countries is meant Denmark, Finland, Iceland, Norway and Sweden.

the top in these host rankings; these two countries have 36% of all host servers in Europe while the Nordic countries together reach only 18%.⁴⁷

Darkened areas in figure 1 hold information on the commercialization of the Internet. In globalized markets, traditional frontiers between countries disappear and market-actors become kind of independent agents, i.e., they may — in principle — choose their virtual identity independently of the real world equivalents. In this respect, the widely used term cyberspace is very appropriate. Maybe the most concrete example of development in this direction is the business world’s increasing use of generic domain names which seems to be most common in North-America. According to figure 1, in the United States and Canada most of the addresses in use are generic, while, for example, in Finland some 90% of addresses are tied to the national .fi sign. From a legal point of view, the development described above sets remarkable challenges to the problem of *applicable law*.⁴⁸

The OECD has also made calculations on those host servers that provide adequate secure technology that is (or at least *should be*) necessary for electronic commerce on the Internet as was noted in table 1. Numbers are given in the same form as in figure 1; vertical-axis stands now for the number of secure hosts per 100 000 inhabitants.

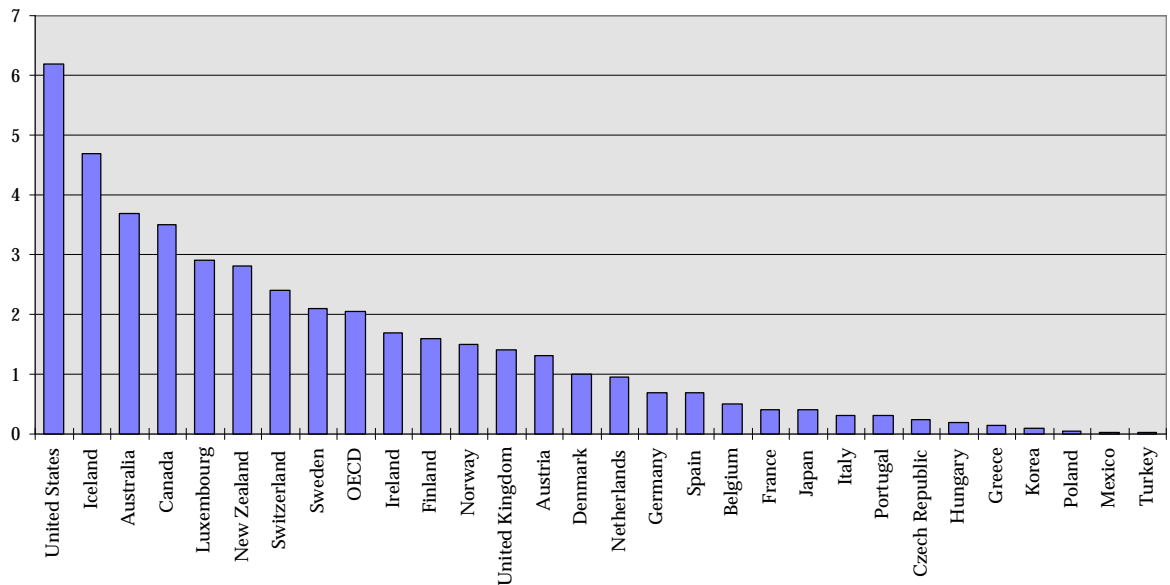


Figure 6. Secure Internet servers for electronic commerce per 100 000 inhabitants in August 1998.

Source: OECD (1998), p. 56

It must be noted that these surveys have limitations. First, the real number of hosts is impossible to reach since connections may be temporarily down or blocked for information safety reasons. Second, this data give us no information on the real use of

⁴⁷ Percentages are calculated from data represented in OECD (1998), p. 36.

⁴⁸ See section 4.1.3.

commercial services. However, concentration solely on the OECD member countries is not of such importance. This is because some 96% of the growth in the number of world's host-servers came from the OECD-area at the time the data was collected.⁴⁹

Finally a note on a present trend within ISP business. It seems that existing intermediaries grow continuously, both in the scope of services provided and the number of subscribers. The old BBS world is almost dead and few large corporations (depending on the market region; most intermediaries operate still nationally) increasingly dominate the branch. With the present Internet infrastructure, the function of large and active intermediaries is to *add the value* of the Internet. They extensively try to add the number of users and keep connections everywhere open, while, on the other hand, they try to attract new content providers to rent space.⁵⁰ In brief, the function of intermediaries is to correct market failure by reducing transaction costs between transacting parties.

2.5 CONCLUSION: THE ROLE OF INTERMEDIARIES

In so far, the role of intermediaries as the central building blocks of the Internet should be clear. We found that intermediaries' role is to add the value of the Internet by making electronic commerce possible. The technical structure of the Internet requires a great variety of intermediaries. Tendency is, however, towards large intermediary corporations that internalize costs from different activities most efficiently.

In particular, the discussion on the costs of piracy suggested a closer examination of the functions that can be taken in order to lower piracy costs. Two problems were identified: (1) the problem of consciousness and (2) the problem of caching. Possibility to place monitoring and other ex ante controlling duties to intermediaries seemed possible and reasonable. Instead, liability and other ex post threats, although in many cases unavoidable, were considered more controversial. Discussion on liability issues continues in the next chapter from these points.

In addition, we identified reasons why rightholders may see intermediaries as attractive targets for litigation. First, intermediaries are able, though limitedly, to control the content that is placed on the space they provide. Preliminary discussion on efficient risk bearing suggested that the costs of piracy should be distributed in accordance with control. Second, intermediaries are easier to identify than individual

⁴⁹ OECD (1998), p. 8-9.

⁵⁰ Brinner (1996), p. 495-496.

users. And finally, large corporate intermediaries are generally more wealthier than average users.

Last but not least, statistical evidence showed that the commercialization of the Internet is still in progress. North America, Nordic countries and Germany were on the lead. Consequently, legislation on these countries is under closer analysis in this study.

3 THE ROLE OF COPYRIGHT IN CONTENT PROTECTION

3.1 PRELIMINARY REMARKS ON CONTENT PROTECTION

3.1.1 What Exactly Are Property Rights?

In his classical paper on externalities⁵¹ (or social costs), Coase addressed the problem in the following way. If property rights⁵² were perfectly delineated and transacting of them both possible and without costs, legal rules would have no meaning. Given zero transaction costs and perfect delineation of rights, any assignment of legal rights would result in an efficient allocation of resources.⁵³ However, in reality there are always externalities and transaction costs. The argument goes further blurring the distinction between the law of property and the law of torts.⁵⁴ Coase used the following example:

In an old English case, a railroad company was not held liable for emitting sparks on landowner's crops and thus creating a negative externality. The point was that the landowner was the cheapest cost-avoider. More net wealth was gained if landowner only kept his property a safe distance from track.⁵⁵

Applied to our case, whenever digital property is pirated on the Internet the owner of the property suffers a negative externality. Correspondingly, those who initiated the pirate action gain a positive externality. Externality is the social cost, which results whenever the infringer does not bear the full benefits and the owner the full costs from infringing action.

⁵¹ *Coase* (1960) is the all times most cited article in the field of law. See *Shapiro* (1996) and *Krier—Schwab* (1997) for evidence. While Krier and Schwab used national Law Journals and Law Review database, bases Shapiro's effort on the worldwide Social Science Citation Index.

⁵² We discuss property rights here from an economic perspective. On the distinction between legal and economic property rights see *Barzel* (1997), p. 90-91

⁵³ This can be drawn from *Coase* (1960), p. 15-16. Coase's line of arguments has later been developed to the known *Coase theorem*. See also *Coleman — Lange* (1992), p. xii.

⁵⁴ See e.g. *Posner* (1998).

⁵⁵ *Coase* (1960), p. 30-.

3.1.2 Property Rights and Liability Rules

According to the influential article by Calabresi and Melamed⁵⁶ there are two fundamental issues every legal system has to resolve. The first issue is the problem of entitlement, i.e. the need to decide *which side to favor* in conflict situations.⁵⁷ Our concern is the entitlement to use, in certain ways, data protected by copyright law. In general, this problem is discussed by legal analysis. Then, the choice of which side to favor must be *enforced* in some way or other. This is the second issue. An interesting question here is, which is the most efficient way to protect the entitlement. Calabresi and Melamed implicitly suggest *state intervention* either by property or liability rules.⁵⁸ This second order decision is the one that is relevant from an economic viewpoint.

In brief, the doctrine says that the choice between property rules and liability rules should be based on transaction cost analysis. Under high transaction costs, a liability rule is more efficient, and equally, under low transaction costs a property rule should be applied. In other words, liability rule is a response to market failure. Finally, where do we draw the line between high and low? That is where marginal costs from free market transactions equal marginal benefits.⁵⁹

Since Calabresi and Melamed, discussion has focused on two major legal institutions capable to handle this enforcement problem: those of property and tort. In the following we consider some alternatives and reject a false conception that the central role of Calabresi and Melamed dichotomy would necessary prevail on the Internet environment. The Internet may, in fact, skip this discussion as unnecessary if rights can be reasonably secured *ex ante* (by any other method than law). However, the actual strong role of copyright will make discussion on this classical dichotomy adequate. Contribution of the “Internet discussion” should be seen as complementary.

3.1.3 Digital Property Rights on the Internet

For digital property, i.e. property that is in digital binary form, we should note some further qualifications the conventional analysis lacks. Digital property has many distinctive features: it is easy and cheap to reproduce, copies are identical to originals and a large number of copies can be made without attracting much atten-

⁵⁶ Calabresi — Melamed (1972). In the field of law and economics, the citation ranking of Calabresi and Melamed is right behind Coase (1960); see note 34 *supra*. For a list of notable articles discussing Calabresi and Melamed see Sherwin (1997).

⁵⁷ Calabresi — Melamed (1972), p. 1090.

⁵⁸ *Ibid.* p. 1092. They seem to treat terms “state” and “society” as identical.

tion.⁶⁰ On the Internet environment, many digital IPR products develop due to network externalities, i.e. externalities in which utility of a product depends on the number of users.⁶¹ All these features, with the notion that most users do not understand and, hence, do not care of the legal framework, threaten the traditional enforcing of property rights through copyright (liability) system.⁶² We have faced a problem that Lemley has called the overlapping of copyrights: under existing copyright doctrines almost every actor on the Internet is a lawbreaker.⁶³

An important point to note here is that copyright is a child of technology. The development of copyright has always *followed* technology. Legislators have tried to adapt the copyright system to digital age by adding exemptions to the initial exclusive monopoly rights. Classical exemptions include research, quotation and non-monetary uses. Today we have, for example, definite exemptions on reverse engineering.⁶⁴ The point is that on the Internet environment the existing copyright system has perhaps faced a challenge that is out of the exemption policy's reach. It is possible and in many cases is even rational to enforce digital property rights with other methods than copyright.

If digital property rights are established cheaply relying on the protection of existing copyright law, the delineation of rights is far from perfect. Piracy is waiting behind the next corner and its avoidance, in other words the maintenance of copyright protection, is very expensive. If instead copyright holder pays little more for, e.g., ex ante technical protection, thus delineating his rights more perfectly, maintenance costs collapse. As Alchian has noted, protection of private property rights evolves if present delineation is poor and better can be achieved.⁶⁵ The next logical question is: what are the possibly more efficient ways to protect the content on the Internet?

3.1.4 Alternatives to Property Right Protection

Therefore, before taking a closer account to copyright, we have a systematic discussion before us. All this is necessary in order to see the economic weakness of the statute originated "pre-determined" copyright system on the Internet. The discussion

⁵⁹ See *ibid.* p. 1106- and for commentary e.g. *Coleman* (1992), p. 73-86.

⁶⁰ See e.g. *Gimbel* (1998), p. 1673.

⁶¹ See e.g. *Varian* (1996), p. 592, 597. From a legal point of view see *Lemley—McGowan* (1999).

⁶² *Schlachter* (1997), p. 19-21.

⁶³ *Lemley* (1997).

⁶⁴ On exemption development see e.g. *Vinje* (1999), p. 192-194.

⁶⁵ See *Alchian* (1977), p. 247-248.

below owes much to Palmer’s approach to the law and economics of intellectual property.⁶⁶ In short, the emphasis is on the *emergence* of property rights as a criticism of blind application of the legal category of property to ideal objects.

Generally, there are three main alternatives to copyright: (1) not to protect property at all, or enforce the rights to property through (2) electronic contracts or (3) technical protection. Considering the protection of content, the table below illustrates in brief an “updated” Calabresi — Melamed framework for the Internet age.⁶⁷

Free Distribution	Enforceable Contract	Property Law
<i>No liability</i>	<i>Technical enforcement</i>	<i>Copyright liability</i>
<i>No copyprotection</i>	<i>Maximum protection</i>	<i>Limits on enforceability</i>
<i>Totally flexible</i>	<i>Adaptable</i>	<i>Formal</i>
<i>No costs</i>	<i>Ex ante costs</i>	<i>Ex post cost</i>
<i>No legal protection</i>	<i>Complementary protection</i>	<i>Copyright law</i>
<i>No direct income</i>	<i>Direct and safe income</i>	<i>Direct but pirated income</i>

Table 2. On the Internet environment, even free distribution of goods can sometimes be rational. Further, high transaction costs alone do not necessary mean that a liability rule would lead to the most efficient outcome.

With regard to transactions of property rights, technical protection solely is not a solution. It is most useful in supporting the contract alternative. Hence, we have three basic categories. Of course, variations and combinations, even with copyright, of these alternative techniques are possible.

3.1.4.1 Free Distribution

So far, we have noted that although the Internet does not form a perfectly efficient market, it is a close approximation. Market failures from information asymmetry are at large part avoided when information is widely provided and is easy to compare.⁶⁸ In addition, on the Internet (ex ante) transaction costs are nearly diminished.⁶⁹ On the other hand, we know that in efficient markets profits are maximized when marginal costs from producing an additional copy equal the revenue from selling it. In conclusion, the question addressed by Schlachter is of most relevance: “If marginal costs are zero, what is the profit maximizing price?”⁷⁰

⁶⁶ See *Palmer* (1989), which is in much a criticism of *Landes—Posner* (1989). Palmer’s views are influenced most notably by Friedrich Hayek and Bruno Leoni.

⁶⁷ See also *Merges* (1997), p. 130. For general texts with insightful aspects to this framework see *Discussions* (1996) and *Goldstein* (1996b).

⁶⁸ *Schlachter* (1997), p. 21-22.

⁶⁹ See section 2.3.

⁷⁰ *Schlachter* (1997), p. 22.

If we assume the answer is logical, i.e. zero, then, from where does the producer obtain any incentive to produce? Moreover, there remains always a certain amount of fixed costs not affected by the rate of efficiency of the marketplace. In the case of intellectual property, the fixed costs of new products can be extremely high. With no protection (and no price), this could lead to negative outcomes. Thus, some commentators believe that production of intellectual property will collapse if the present monopoly based IPR-system is passed.⁷¹

However, there seems to be a number of possible ways to collect profits without any kind of copyright (or other) protection; here presented shortly in two major categories:⁷²

- Selling *complementary* products or services. On the Internet environment this kind of cross-subsidization has almost unlimited sphere of application.⁷³ We can think of, for example, advertising (including sponsorships); sales of upgrades (“try before you buy”) or complementary technology (add-ons); sales of support services (help and maintenance); and selling information from customer database (cookies).⁷⁴
- Marketing *strategies*, which are based more on the conventional criticism of the monopoly rights created by copyright system. These include the advantage of the original author to be the first mover; use price discrimination to conquer the markets; quality control and assurance; use of inside information; and determining the consumer demand.⁷⁵

It follows that no protection approach is a remarkable challenge to the present copyright system. What is more, in the realm of the Internet, we have a number of successful examples before us applying this no protection approach.

One of the most successful stories is the Linux operating system that is based on the so-called open source movement. Distribution of the source code of the software is free and in effect a number of individual programmers has contributed the wide-spread code. Until recently, the efforts to capitalize the success were few. But now there are such companies as Red Hat that provide the large soft-

⁷¹ See e.g. *Nimmer—Brown—Frishing* (1999).

⁷² *Schlachter*, p. 23. See also *Palmer* (1989), p. 287-.

⁷³ Compare to the classic example concerning material (or tangible) goods: Gillette can deliver razors for free (this in fact happens; at least in the Finnish Army) in order to sell blades. The point is that subsidization is restricted to blades.

⁷⁴ For a longer and detailed list see *Schlachter* (1997), p. 24-30. See also *Palmer* (1989), p. 289-291, who notes that the possibilities of selling complementary goods is restricted only by human creativity.

⁷⁵ *Palmer* (1989), p. 295-300. See also *Landes — Posner* (1989), p. 328-333 and *Plant* (1934).

ware components on one CD-ROM, detailed printed manuals, instruction and help services. Of course, their support site for Linux includes advertisements.⁷⁶

By most concrete the power, or hype, of the “advertisement movement” can be illustrated with the stock prices at Nasdaq.⁷⁷ For example, there is listed Yahoo, a well-known corporation providing free search engine and e-mail services that are used by millions every day. Yahoo obtains almost all its income from advertises. How weird it might sound, the price of Yahoo’s stock was 11.5.1999 about 35 times the price it was exactly two years ago.

3.1.4.2 Contract Law

If internalization of externalities through private contract, rather than statutory monopoly, costs less than the benefits from reduced transaction costs, contracting is efficient. There are two main reasons why online contracts greatly reduce transaction costs. First, if property owner can directly contract with end users, there are *no third parties* demanding share (except the state collecting taxes). The whole traditional distribution channel disappears. Second, contracting indeed increases the value of property rights. This is because contracting, especially when direct and online, makes *specific and detailed* bargaining both possible and attractive.⁷⁸ In perfect markets, contracts are made according to users’ desires, through free bargaining. For example, a user might want to pay only for reading one article from a digital publication rather than purchasing the whole book. In this case, both parties gain from contracting: the owner is able to fully exploit the work and the user has more to choose from.⁷⁹

To be effective, contracts must be enforceable. From a legal point of view, it has been controversial if contractual constructions, which can tighten the protection even outside the traditional scope of copyright law, may be held enforceable or not.⁸⁰ Until recently, the opinion of many scholars has been that at least shrink-wrap licenses are not enforceable.⁸¹

Shrink-wrap license is usually a paper found inside a software package. The license assumes that by breaking the seal the user accepts various terms in the contract. Click-wrap licenses, instead, are “signed” after the user has had a possibility to read the terms on the screen. Further, the program may want an established online connection in order to sign effectively. Hence, click-wrap license is a “real” online contract. Program does not run until clicking.

⁷⁶ <<http://www.redhat.com>>

⁷⁷ <<http://www.nasdaq.com>>

⁷⁸ Vinje (1999), p. 194-195.

⁷⁹ Vinje (1999), p. 195, Palmer (1989), p. 291-295. See even Plant (1934), p. 63.

⁸⁰ IPNII (1995), p. 49-59.

⁸¹ See e.g. Nimmer—Brown—Frisching (1999).

The present trend is a transition from shrink-wrap arrangements to even wider use of click-wrap licenses. What is more, the case *Zeidenberg*⁸² authored by Judge Frank Easterbrook has changed the picture of shrink-wraps in the United States⁸³:

A company produced an electronic telephone book which it sold using a shrink-wrap license. License was encoded on the program discs, printed in the manual, and it even appeared on the screen every time user ran the software. License prohibited the user to reproduce copies from the telephone listings. *Zeidenberg* broke this term and defended by pleading the federal copyright law. Copyright law does not initially protect telephone listings due the lack of originality even if there would be strong economic reasons to protect this kind of expensive production. Judge Easterbrook found that (1) a license constitutes an enforceable contract although it appears only inside the software package, and (2) the federal copyright law does not preempt the enforcement of this kind of contractual construction. In particular, he recognized that the "...law of contract could interfere with the attainment of national objectives", but held that "...contract reflects private ordering, essential to the efficient functioning of markets".

More generally, the evolution can be called as the *privatization* of the copyright law.⁸⁴ Not surprisingly, it has faced an enormous debate among scholars. Critics have emphasized the non-negotiability of shrink-wrap licenses and argued against enforceability to the extent terms affect the existing copyright law.⁸⁵ From an economic perspective, privatization of copyright threatens the existing balance between the incentives of authors and the interest of public by disfavoring public.⁸⁶

However, supporters of this privatization process have strong arguments, too. It is argued that the (non-monetary) benefits from increased licensing and other contractual arrangements outweigh possible losses for two reasons. First, the markets for uncopyrightable information are growing fast and become socially more important. Second, contractual restrictions have an important role in guaranteeing privacy and in the fight against piracy.⁸⁷ From an economic point of view, we can add the general

⁸² *ProCD, Inc. v. Zeidenberg*, 86 F.3d 1447 (7th Cir. 1996). For commentaries see e.g. *California Law Review* 1/1999, where *Nimmer — Brown — Frischling* (1999) argue strongly against the decision and *Wolfson* (1999), who replies sharply. See also *Berkeley Technology Law Journal* 1/1997 where e.g. *Elkin-Koren* (1997) is against and *O'Rourke* (1997) favors the decision.

⁸³ Following *Zeidenberg*, the future enactment of a new model law — article 2B of the Uniform Commercial Code (U.C.C.) to regulate transactions in information products and services — may change the core of the contract law in the United States. See e.g. *Lemley* (1999) and discussion at <<http://www.ljx.com/maillinglists/cyberia-l>>, in march-april 1999.

⁸⁴ *McManis* (1999).

⁸⁵ *Nimmer — Brown — Frischling* (1999), p. 20, prospect even "the death of copyright" in the case U.C.C. article 2B is enacted without special provisions. What else could be replied to this than that the rumors of copyright's death are strongly exaggerated.

⁸⁶ See section 3.2.2.

⁸⁷ *Wolfson* (1999), p. 79.

arguments for privatization through efficient online contracting discussed above. By definition, a well-delineated private property right is more efficient than a public monopoly. Contractual constructions should be allowed to fill the inefficiency gaps in the existing copyright law if there are such.

3.1.4.3 Technology

Technology allows easy copying of digital property and thus makes piracy possible. On the other hand, technology allows also efficient protection mechanisms against not wanted use of digital property. In particular, it can be useful in protecting online contracts. We can name a number of examples from existing technology:

- Before infringement can be used traditional copy protection (copying or printing limitations⁸⁸); limited functionality; access limits (locks after certain period of time or number of uses); or encryption of the whole product (passwords, digital certificates).⁸⁹
- After infringement digital watermarks or other hidden information can reveal the origins of pirates.⁹⁰

It has been pointed out that increasing use of technological protection mechanisms can lead to such micropayment economy, which, paradoxically, increases transaction costs.⁹¹ If, for example, complementary services to otherwise free products are sold one by one, certain parts of customer support could be too costly to produce at all. Moreover, a standard claim is that no technological protection mechanisms have been so far produced that would be immune to hacking. Finally, this kind of micro-protection of property rights could lead to all too tight protection.⁹² We should not forget the point of view of users.⁹³

Consequently, it is worth considering if technical protection mechanisms should be regulated in favor of the public interest. Contracting enforced with the latest technology will grant the authors an ultimate degree of control, which, as Gimbel argues,

⁸⁸ One of the most interesting developments in this area are systems like Digital Property Rights Language (DPRL) by Xerox. DPRL includes sixteen rights such as print, copy, loan and edit. Each of them can be granted exclusively for particular time, fee or users. See more detailed *Gimbel* (1998), p. 1676-1680, and more generally *Stefik* (1997).

⁸⁹ *Schlachter* (1997), p. 38-40.

⁹⁰ *Ibid.*, p. 43-44. From legal point of view see *Lai* (1999).

⁹¹ *Schlachter* (1997), p. 38.

⁹² *Gimbel* (1998), p. 1671.

⁹³ On the balancing purpose of IPR protection between users and authors (according to the rationale of copyright law) see section 3.2.2.

“...law has not only been unable but unwilling to provide”.⁹⁴ Technical devices are able to prohibit acts that existing copyright law exemptions would permit.⁹⁵ On the other hand, law should not be in conflict with private interests of owners. Socialization can not be a desirable goal either. If someone wants to prohibit any kind of circumvention of the property he owns, let it be his choice.

This discussion has affected the debate among legal scholar on the issue how should technical hacking devices be regulated.⁹⁶ At present, there are two approaches. Article 11 of the international CopyTreaty requires protection of circumventing *acts* whereas section 1201 of the new U.S. DMCA regulates hacking *devices*.⁹⁷ While regulating acts reminds us of the copyright system leaving gaps in law, the approach taken in the DMCA is more close to new wings. Section 1201 generally prohibits the circumvention of technological measures that control access to, or the reproduction of, copyrighted works. To preserve a similar “balance“ as in the copyright law, a number of exemptions are added to the provision.⁹⁸ Consequently, it seems that legislators in the U.S. have taken an attitude favoring the replacement of (public) copyright system by (private) technical enforcement. Only such exemptions from the old system that serve strong public interest should remain.

How important and interesting this whole discussion on alternative protection methods may be, it does not directly affect our initial problem. If we recall the situation in figure 1, privatization might change the legal nature of relations 1 (copyright holder — user) and 3 (copyright holder — content provider). Nevertheless, our concern, relation 2 (copyright holder — intermediary), would remain on a non-contractual basis where copyright law applies. Therefore, as long as copyright law exists, copyright liability for intermediaries is at least in theory possible. Of course, a totally free or contractual (and technically enforced) relation between transacting parties or copyright owners could *remove* legal risks of intermediaries. No liability litigation would occur if either there were no copyright which to infringe or the property were too protected to infringe.

Therefore, if one wonders what is the rationale of seeking alternatives to copyright, it is to see the relevance of the main issue. The point is that copyright holder

⁹⁴ Ibid., p. 1672.

⁹⁵ Vinje (1999), p. 197.

⁹⁶ On the rationality behind this kind of safety regulation approach as a substitute or complement to liability rules see Shavell (1984).

⁹⁷ Ibid., p. 201-202. Proposed EU legislation follows the DMCA. See *ibid.*, p. 205-. See also Goldstein (1997).

⁹⁸ Those include, for example, reverse engineering, encryption research and security testing. See DMCA section 1201(f) and Vinje (1999), p. 202-204.

has alternative — even more efficient — methods to protect his property rights. Perhaps the role of the copyright system on the Internet will be rather supportive than ruling. Further, if economic efficiency is a desired goal for society, perhaps the role of the copyright system, in addition, *should* be supportive.

3.2 COPYRIGHT

3.2.1 Copyright within the Legal Framework

In any case, even if the role of the copyright system is to decrease it is still the most debated issue, especially from the viewpoint of intermediaries. Almost all the content on the Internet — was it text, picture, music, video, or software — is copyrighted. Of course, a number of other types of law may be applied to protect the content, too. Those other types of substantive law that, if infringed online, may result in liability for intermediaries include:⁹⁹

- *Trademark* law: to copy and distribute trademarks in digital environment is as easy as in the case of copyrighted material.
- Right to *privacy* if content such as intimate pictures or personal document is uploaded online without rightowner's consent.
- In the same way, it is possible to publish *trade secrets*.
- Law generally provides means to acquire compensation for publication of *defamatory* or misrepresentative content.
- Publishing of *criminally* sanctioned content, e.g., child pornography, racist or terrorist material may lead to liability.

What makes copyright important from an economic viewpoint are the costs. As noted earlier, one of the greatest sources of transaction costs in electronic commerce is the current legal framework.¹⁰⁰ More specified, an empiric survey undertaken within the EU identified the copyright law as the main source of legal costs.¹⁰¹ Results are illustrated in the figure 7 below.

⁹⁹ *Julià-Barceló* (1998), p. 455.

¹⁰⁰ See section 2.3.

¹⁰¹ *COM(1998) 587 final.*, p. 8. Costs can be considerable indeed: the proposal mentions as example two ISPs spending some 40-60 000 ECUs per year to legal services.

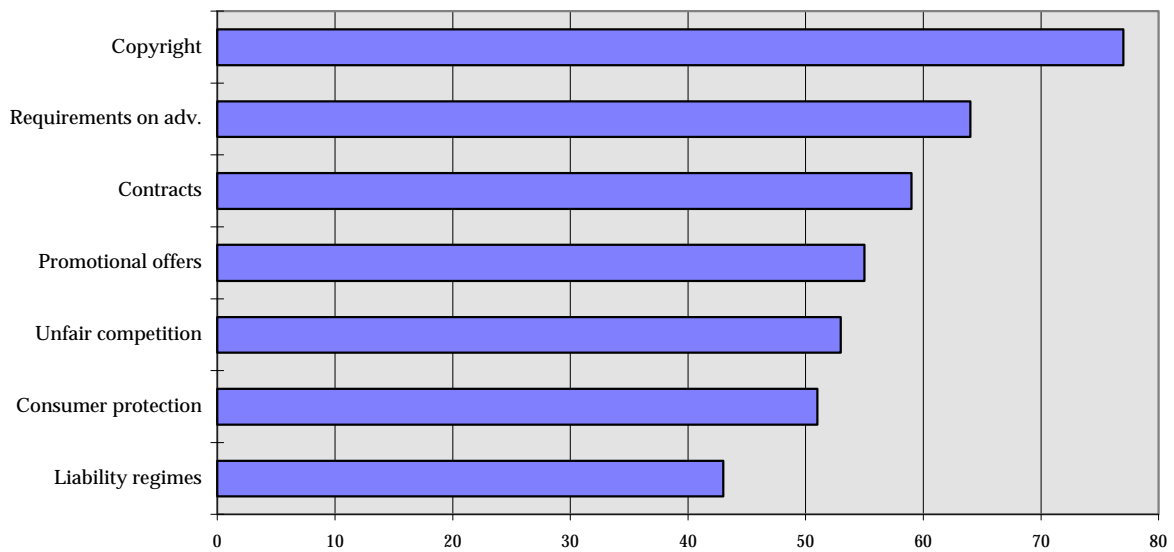


Figure 7. The importance in percentages of the key regimes of law that increase companies' legal costs. Source: COM(1998) 587 final., p. 9.

3.2.2 Economic Nature of Copyright

We have already criticized a blind application of existing copyright system on the Internet environment without exactly determining the nature of copyright.¹⁰² The object of copyright law is to create an efficient *balance* between (1) the creativity of authors and (2) the need of the society as a whole to draw on earlier copyrighted works. The problem according to the standard view is that without copyright authors would create less than the social optimum requires and with copyright users pay for copyrighted works more than the market price. Without copyright the problem is production and with copyright the usage.¹⁰³ For now on, we focus on the latter dilemma.¹⁰⁴

To be precise, the problem derives from the fact that copyrighted property is intangible by nature. The object of copyright, information, is a resource that is neither divisible nor scarce.¹⁰⁵ Copyright values information and, thus, makes markets for copyrightable information possible. As a side effect, however, copyright results in an

¹⁰² The copyright is discussed here only from an economic point of view. Logically, a possible objection is that the nature of copyright is not an economic at all. We rejected this approach in section 1.2.1.

¹⁰³ See e.g. *Goldstein* (1996a), p. 1:40-1:45. See also *IPNII* (1995), p. 19-23.

¹⁰⁴ Discussion on alternative methods concentrated on the first dilemma: incentives to produce without copyright.

¹⁰⁵ This foundation restricts the use of public good and "tragedy of commons" -analogies.

artificial (or legal) *monopoly*¹⁰⁶ and *rent seeking* activity by authors. Further, too high price and the lack of enforceability — especially in digital environment — lead to *free riding* by users.¹⁰⁷ Surprisingly enough, many copyright holders usually see free riding as a kind of disease and argue that copyright is a cure to it while, in fact, it is a question of rational behavior. If the probability of sanction is minimal, there is only little incentive not to commit in piracy.¹⁰⁸ Finally, there is a prevailing *information asymmetry* between the author and user since a user may not know what the author is producing.¹⁰⁹ In effect, the author should either inform consumers or lower the price.¹¹⁰ That is to say, correct the *market failure* created by copyright.

3.2.3 Rights and Exemptions

We can divide the subject matter of copyright law into three dimensions: (1) the scope of protection, (2) the term of protection and (3) the strength of protection.¹¹¹ In this study, we are interested in the *strength of protection*, which is determined by the specific rights and exemptions granted in copyright law. According to Riis, an economic analysis suggests that this third dimension should determine the (optimal) level of copyright protection.¹¹² Conversely, the scope and term of the protection provided in copyright law should be relatively weak.¹¹³

¹⁰⁶ If intellectual works were (totally) imperfect substitutes they would create a natural monopoly. See e.g. *Mossetto* (1995), p. 94. At the time of the global information superhighway this argument has lost much of its relevance.

¹⁰⁷ We have already many times referred to free riding as “piracy”.

¹⁰⁸ A rational criminal maximizes his expected outcome, which in this case = (benefits from copying) – (sanction) x (the probability of sanction).

¹⁰⁹ *Ibid.*, p. 93-94.

¹¹⁰ It is worth noting that the rationale behind the free distribution alternative to copyright essentially derives from this observation.

¹¹¹ *Riis* (1996), p. 11-12.

¹¹² *Ibid.*, p. 13. Landes and Posner have instead built a model focusing on the first dimension that ought to tell the optimal level of protection. See *Landes—Posner* (1989), p. 333-. However, a typical case of copyright infringement on the Internet involves a clearly copyrightable work. Hence, the relevance of the first dimension is reduced.

¹¹³ Especially the term of protection (Article 7 of the Berne Convention requires at least 50 years) is unreasonably long considering many new types of copyrighted works. Let us say computer programs or, more generally, any non-cultural work with a number of substitutes. No reasonable man would predict a longer lifetime for a new computer program than a year or two. The point is that copyright law protection covers only the *expression* which is to be valued today on the information superhighway.

Our next task is to specify the scope of rights imposed by copyright law. Regardless of the legal system, those rights include:¹¹⁴

- Reproduction — the right to reproduce copies from a work,
- Distribution — the rights to make the copies available to public,
- Derivative rights — such as the rights to translate and adapt a work,
- Performance — the right to public performance of a work,
- Display — the right to display a work publicly, and
- Moral rights — the rights to paternity, integrity and disclosure of a work.

The first five are copyright's economic components, and the last one moral component. While economic components form positive transferable rights, the moral component is inalienable. From an economic viewpoint, excludability and transferability are the two basic components, or requirements, in delineation of property rights.¹¹⁵ The right to reproduce copies is an effort for the first, the right to make copies available to public is the legal equivalent to the latter. These observations suggest a closer discussion on the reproduction and distribution components.

However, these basic rights are limited by a great number of exemptions. Most notable exemptions are:¹¹⁶

- Private use,
- Educational use,
- Journalistic use, and
- Various rules on exhaustion of rights.

Once again, transaction cost analysis gives a justification for exemptions.¹¹⁷ For example, consider a university teacher photocopying an article. It would be all too expensive relative to the benefits to negotiate a license with the copyright holder every time the teacher wants to copy. Educational use exemption allows copying and, hence, promotes efficiency. More generally, the optimal strength of protection is a proper balance between rights and exemptions.

Next, we take a closer account to the reproduction and distribution rights. In addition, moral rights deserve a few words. If the role of positive components is reduced,

¹¹⁴ For U.S. law see *Goldstein* (1996a), p. 1:10-1:17, for Swedish law *Koktvedgaard — Levin* (1997), p. 109-114, for Finnish law *Haarman* (1992).

¹¹⁵ *Barzel* (1997), p. 91-, *Demsetz* (1967).

¹¹⁶ For Swedish law see *Koktvedgaard—Levin* (1997), p. 148-165 and for Finnish law *Haarman* (1992). In the U.S. law, a fair use exemption covers the whole scene. See *Goldstein* (1996a), p. 1:19-1:20.

¹¹⁷ *Landes—Posner* (1989), p. 357-361.

the inalienable rights are what remain. The question is, if there is any reason behind inalienability.

3.2.4 Right to Reproduce Copies and the Problem of Caching

3.2.4.1 Existing Paradigm

On the Internet environment, the exclusive right to reproduce copies is the key component of copyright. Among legal writers, it has been under discussion what “formats” involve a reproduction. If we recall the situation presented in figure 2 (defining download and upload), we can easily see that simple usage of the Internet involves a number of reproductions. When a user surfs on the Internet, he downloads copyrighted works to his computer. The browser not only copies the content (1) on the *screen*, but also (2) in the *RAM* and (3) *cache* memory on the fixed disk. All of these three reproductions are temporal, i.e. they exist only when the computer is turned on. Further, if the user only wants, he can command the computer to make additional copies on any digital media.

Legal rhetorics successfully developed a claim that, for example, a technically clear copy in a computer’s RAM was not to be held a copy at all in the sense of copyright law.¹¹⁸ In the U.S., the debate was based on a strict interpretation of 17 U.S.C. § 101, which defines copies as “material copies... in which a work is *fixed* by any method” [italics added]. None of those three reproductions mentioned above is fixed in the traditional sense because they exist only temporarily in electro-magnetic form. The claimed problem — whether these copies existed longer than just a transitory duration or not — sounds quite ridiculous from a practical point of view. Of course the copies exist: why would anyone, for example, surf on the Internet if he could not use the downloaded copies for more than a transitory duration? No wonder, it is now generally accepted that all the technical reproductions mentioned above are also copies in the copyright’s sense. In the case *Peak*¹¹⁹, a court held that loading data to RAM infringed the reproduction right because the act created a fixed copy of the

¹¹⁸ See e.g. *Lemley* (1997), p. 550-552. From a Scandinavian viewpoint see *Hollmén* (1998), p. 41-45.

¹¹⁹ *MAI Systems Corp. v. Peak Computer Inc.*, 991 F.2d 511 (9th Cir. 1993). *IPNII* (1995), p. 28, 64-66, treats the decision explicitly as settled law. For references on discussion of this case see *Lemley* (1997), p. 551. See also *Advanced Computer Services of Michigan Inc. v. MAI Systems Corp.*, 845 F. Supp. 356 (E.D. Va 1994) and *Marobie-Fl v. National Association of Fire Equipment Distributors (NAFED)*, 983 F. Supp. 1167 (N.D. Ill. 1997).

program. Within the EU, this seems to be the law too.¹²⁰ The clearance of the existing law is most welcomed.

The need for that fictional interpretation was very pragmatic. Under a more “real” interpretation, which is the positive law now, every user surfing on the Internet constantly commits in copyright infringements unless he is somehow, explicitly or implicitly, authorized to do so by the owners of the copyrights. What is more, most Internet users believe they are free to surf around, to view what content they can freely access, and maybe even “borrow” some of the content they find.¹²¹ The existing law also implies that all the content stored in intermediary’s cache enjoy copyright protection. It seems that the normal functioning of the Internet requires justification.

3.2.4.2 Problem of Caching

To this point, it should be clear that caching involves reproduction infringements. As noted earlier, there are two main issues threatening online intermediaries.¹²² The first is the problem of consciousness — the situation where the intermediary is conscious of the illegal nature of the content that is placed upon the space he provides. The second is the problem of caching. While the problem of consciousness requires wider legal analysis, the problem of caching is merely a part of the reproduction issue. Hence, we can clear the most parts of this second problem here.

Three questions are relevant: (1) does caching involve a reproduction of a *copy*, and, if it does, then (2) does caching a part of the work involve a reproduction of a *work*. Finally, if the both questions were answered yes, then (3) how do intermediaries manage with the problem of infringing reproductions. The first questions lies in the core of the reproduction problem and the answer goes as presented above: caching involves a reproduction of a copy. There should be no doubts on that issue. Then, we have the second question about the preliminary requirements of copyrightability.

¹²⁰ Article 2 of the proposed Copyright Directive, *COM (1997) 628 final.*, includes a very broad definition of a reproduction: “permanent or temporary, in any manner of form”.

¹²¹ *Wassom* (1998).

¹²² See section 2.2.1.

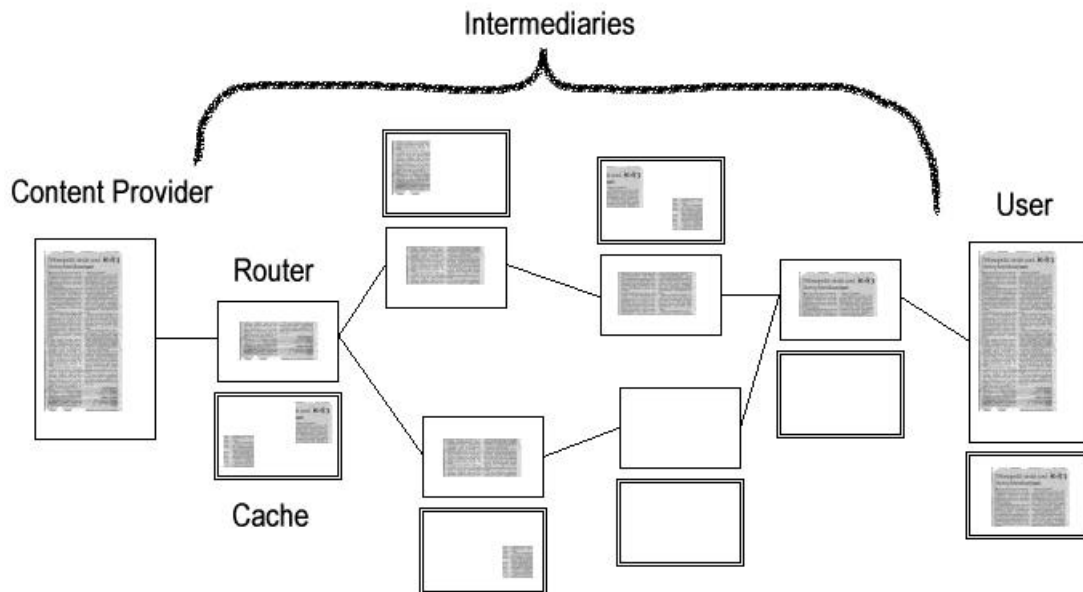


Figure 8. The problem of caching and partial works.

Figure 5 illustrates the caching framework. We can easily see the relevance of the second question concerning partial works. If the caching is done wisely and in efficient way, only the most frequently asked parts of data are stored. In other words, caching does not obey delineation of works. However, this does not usually affect the copyrightability. Instead, the point is that caching has nothing to do with the direct consumption of the copyrighted work. Small and separate parts of a work have namely no worth alone.

What about the third problem — is normal operator activity illegal? In figure 5, we see numbers of partial copies all around the network. We have two possible arguments to justify this: (1) either exemptions or (2) the doctrine of *implied license*.¹²³ The argument for implied license goes as follows. On the Internet, the rightholder cannot reasonably expect to prevent others from viewing the work as they please, nor should he. What is the reason for him to put anything online? As noted, the copyright holder can protect his work with efficient technical means if there is need. Therefore, the decision to make the work available on the Internet creates an implied license to view the file.

From an economic point of view, the point is that caching can be best described as non-incidental reproduction. It does *not* involve *free riding*.¹²⁴ The last statement, however, destroys the doctrine of implied licensing. Whenever content is pirated, i.e.

¹²³ On the idea of implied license on the Internet see e.g. *Lemley* (1997), p. 567, and *Wasser* (1998).

¹²⁴ *Landes—Posner* (1989), p. 346.

illegally reproduced or distributed, there is no legal owner who would have authority to license the copy.¹²⁵

The problem with existing exemptions is the restricted scope of application. The private use doctrine exempts individual users, no doubt. However, intermediaries use cache for commercial purposes and that is where exemptions do not apply. Under existing copyright system, it seems that justification of caching needs a new exemption allowing caching for even commercial use.¹²⁶

3.2.5 Distribution to Public

In some cases, the position of intermediaries is comparable to the distributors of information. The question whether intermediaries are also infringing distribution right concerns the problem of consciousness when intermediary rents space for users. The Internet can be seen as public and hence distribution right is always infringed when copyrighted material is illegally placed upon the rented space.¹²⁷ Therefore, there should be no doubts of the legal nature of the problem. Another question is the position of online service providers. Next chapter will unleash the problem.

3.2.6 Moral Rights on the Internet

So far, we have discussed the economic or monetary components of copyright. To complete the picture, we remark some points on the moral components of copyright, often described as non-monetary and non-transferable. Those include:¹²⁸

- Paternity — the right to be identified as the author,
- Integrity — the right against alteration of the work,
- Disclosure — the right to refuse publication of the work, and withdrawal, and
- The right to remove the work from circulation.

While it is obvious that monetary rights are an appropriate target to economic analysis, it has been until recently that moral components have received attention among law and economics scholars.¹²⁹ Rushton addresses two main issues to consider from an economic point of view: (1) the extent to which monetary and moral rights should be tied together, and (2) the extent to which moral rights should remain

¹²⁵ Lemley (1997), p. 567.

¹²⁶ Ibid., p. 567. This is also the approach taken. We discuss the new rules in the next chapter.

¹²⁷ IPNII (1995), p. 67-69 discussing cases Frena and Maphia.

¹²⁸ See e.g. Hansmann—Santilli (1997), p. 95-96.

¹²⁹ Hansmann—Santilli (1997) and Rushton (1998) are the first few contributors.

inalienable.¹³⁰ It can be argued that separating moral and economic rights allows more flexibility in the allocation of resources.¹³¹ In the civil law tradition, however, inalienable moral rights form the basis of copyright statutes. Moreover, this has impacted recently also the copyright law in the U.S. where moral rights have long been handled in terms of privacy and tort.¹³² The evolution suggests that moral rights include such aspects that cannot be capitalized. All in all, as Rushton concludes, the contribution of economic analysis lies in the recognition of the different nature of moral and economic aspects of copyright.¹³³

Considering the possibly weakening overall role of copyright on the Internet, it can well be that in the future all that is left from the copyright as we know it today are the moral components. New legislation has in fact been adopted to secure the *copyright management information*, such as the name of the author and the publisher, in digital works.¹³⁴ As we remember, when the free distribution alternative is used, linking the work to a larger context is the key to obtain any income. Therefore, we can predict that the role of moral rights as supportive rights to alternative enforcement methods will be central. The identification is the key to context. The context is the key to success.

3.3 CONCLUDING REMARKS: THE COSTS OF COPYRIGHT

Application of the existing copyright system on the Internet is costly. Copyrights overlap. Moreover, the means of the legal system to solve the problem seemed restricted. Regulation is costly, too. We can think of extending the scope of exemptions or the doctrine of implied licensing. Unfortunately, both approaches have shortcomings. Exemption policy complicates the already complex system. Moreover, on the Internet, the economic rationale for most exemptions disappears. Only those exemptions that the law has granted for some reason other than transaction costs are reasonable. Concerning the implied license approach, it works well precisely in the situations it is last needed.

¹³⁰ Rushton (1998), p. 15.

¹³¹ Hansmann — Santilli (1997), p. 100-

¹³² See Rushton (1998), p. 16-, Hansmann — Santilli (1997), p. 95-99.

¹³³ Rushton (1998), p. 29.

¹³⁴ Article 12 of the CopyTreaty obligates signatory countries to provide adequate and effective legal remedies to secure the integrity of copyright management information. The article is implemented in the U.S. law in the section 1201 of the DMCA.

Does the alternative protection methods solve the problem? It is clear that these alternative methods, based merely on the real working of markets, exist and, what is more, markets in fact strongly believe in business based on this approach. Today, free distribution, contracting and encryption are used to substitute the inefficient copyright. Unfortunately, the alternative methods cost, too. As Goldstein notes, breach of contract on the Internet can be as costly to correct as copyright infringement itself. The same applies to legal rules against disencryption.¹³⁵

However, we addressed that copyright, especially its moral components, could serve as a supplement to private ordering. In any case, a question still remains where is the line between private and public? What is the future of the great balance in the copyright law? The nature of this question is too political to discuss here. Still, we can agree with Goldstein who predicts that "...electronic contracts and digital encryption will soon join copyright and author's right as institutional bridges between authors and their audiences", and concludes: "It would surely benefit us all if lawmakers took care to apply to these two substitutes the historical norms of copyright and author's right"¹³⁶

¹³⁵ *Goldstein* (1997), p. 156.

¹³⁶ *Goldstein* (1997), p. 157.

4 THE SCOPE OF LIABILITY

4.1 PRELIMINARY REMARKS

4.1.1 Allocation of Risk

Perhaps the most important function of liability law is its role in risk distribution. If we are to address an efficient risk allocation, we need to know if there are other approaches which to compare. According to Shavell, the framework looks this:

	Ex ante	Ex post
Privately initiated	<i>Injunction</i>	<i>Liability</i>
State initiated	<i>Safety regulation</i>	<i>Fine for harm</i>

Table 3. Approaches to the control of risk. Source: Shavell (1987), p. 278.

In the previous chapter, favoring the regulation of technical circumvention devices, we supported state initiated safety regulation from an ex ante perspective. In this chapter, we focus on the attractiveness of ex post liability rules.¹³⁷

Which factors affect the decision who should bear the risk? In our case, the ability to pay is central.¹³⁸ We can suppose that the pockets of intermediaries are deep and pirates conversely empty. Under the *superior insurer* principle, deep pocket intermediaries would be the most efficient risk bearers.¹³⁹ Then, recall the *control* principle.¹⁴⁰ It held that the party that controls the risk should also bear the costs. Since the nature of our problem is such that there are a number of parties with ability to affect the risk, then, according to Skogh and Lane the most efficient allocation of risk is acquired through applying the control principle.¹⁴¹ We shall examine if this is also the approach taken in existing laws.

¹³⁷ Discussion on injunction and state-determined fine are excluded. The role of the former is supportive to liability, and considering the latter is simply inadequate.

¹³⁸ On the ability to pay and the problem of deep pockets see *Shavell* (1987), p. 167-170, 279-280 and *Calabresi* (1970), p. 39-67.

¹³⁹ See *Skogh—Lane* (1993), p. 92.

¹⁴⁰ Section 2.2.2.

¹⁴¹ *Skogh—Lane* (1993), p. 93-94.

4.1.2 Standard of Liability

The two thinkable liability standards for intermediaries are strict liability and negligence.¹⁴² Of these, the standard of strict liability is in practice inadequate. If intermediaries were liable whenever pirated content would flow through their facilities, the whole branch would suffer. So far, it should be clear that the possibility of intermediaries to control over the content is restricted, and depends on the functional role of the intermediary. Any kind of duty to monitor with a strict liability standard would inevitably lead to an inefficient outcome. A strictly liable intermediary could shift the increased costs to its customers through higher user fees or liability insurance thus creating a negative externality.¹⁴³ However, strict liability is a cost efficient standard for content providers. They have full control of their own activities.¹⁴⁴

It seems that negligence would be the only reasonable liability standard for intermediaries. According to negligence (or culpa) standard, an intermediary would be exempted from liability if he had no knowledge and control of piracy. Liability would require fault. The next logical question is what should be the optimal duty of care?

From an economic point of view, the Hand rule¹⁴⁵ would justify the liability if intermediary's monitoring costs were less than the probability of harm to rightholder multiplied by the gravity of economic losses. In other words, the cheapest cost avoider would pay. The outcome is again inadequate: it skips the role of content provider who is the actual infringer. A better justification for negligence in our case is a general consideration which liability regime is the most efficient in reducing *overall* monitoring and enforcement costs.¹⁴⁶

Finally a note from the legal point of view. In the U.S. law, there are two negligence standards in copyright law: contributory infringement and vicarious liability. More relevant here is contributory infringement, which occurs when "one who, with knowledge of the infringing activity, induces, causes or materially contributes to the infringing conduct of another".¹⁴⁷ Contributory infringement is secondary by nature;

¹⁴² Julià-Barceló (1998), p. 455

¹⁴³ Reindl (1998), p. 857. See even Calabresi (1961), p. 499-501.

¹⁴⁴ Reindl., p. 857. See also Skogh—Lane (1993), p. 94-96.

¹⁴⁵ The rule is derived from the case *United States v. Carroll Towing Co.* F. 2d 169 (2d Cir. 1947). For explanation of the rule see e.g. Landes—Posner (1987), p. 85-88.

¹⁴⁶ Reindl (1998), p. 857 note 189.

¹⁴⁷ See Goldstein (1996a), p. 6:2, and the cases he refers. From an economic point of view see Landes—Posner (1980), p. 529-531.

a primary direct infringement must have occurred.¹⁴⁸ In the continental legal systems, we have no such detailed rules for copyright liability standards.

4.1.3 Which Law Applies?

The dilemma is this: in spite of the Internet does not know national borders the copyright statutes are territorial.¹⁴⁹ Although there is a unified basis for copyright statutes in international treaties, the applied copyright is national legislation. As long as there is no multinational “Internet law”, a complex problem concerning the choice of law remains.¹⁵⁰ Consider a following example: a Finnish intermediary provides space for a web site located on a server in Estonia. A Russian user becomes a subscriber and uploads Playboy's copyrighted images on the server. Further, the images are downloaded, cached, and copied in principle all over the world. If the rightholder decides to sue the intermediary, then, which law is applied.¹⁵¹

Two basic approaches are thinkable: the country of origin and the country of reception. In our fictive case, the former links to Finnish law (the intermediary's home country), and the latter to case-by-case considerations (the user's home country). An analogy from satellite broadcasts would suggest the country of origin as a starting point.¹⁵² Schönning has argued that the analogy does not apply since the nature of Internet is not only interactive but also transactions are made point-to-point rather than point-to-multipoint. Moreover, a general country of origin rule would favor pirates and create incentives to expensive forum shopping for intermediaries.¹⁵³

The pros for the country of origin rule are that it is simple, predictable and “fair” to the defendant.¹⁵⁴ Still, there remains a shortcoming because the rule in its strict sense is also pirate-friendly. Reindl has proposed a following solution: if applied to pirates that exploit works for *commercial* purposes, the choice should be rightholder-friendly.¹⁵⁵ In any case, the problematics of the choice of law in copyright conflicts suggest a bright future to contractual alternatives to copyright. For contractual relationships, there are settled rules in private international law.

¹⁴⁸ See *Ibid.*, p. 6:2-6:3, and cases referred there.

¹⁴⁹ See e.g. *Gisburg* (1997), p. 153.

¹⁵⁰ Cf. *IPNII* (1995), p. 147.

¹⁵¹ Another important question is the competence of the courts, i.e. the jurisdiction problem. See *Ginsburg* (1997), p. 155-168. That question is both too complex and inadequate to discuss here.

¹⁵² See e.g. *Schönning* (1996), p. 269 and *Reindl* (1998), p. 821-829.

¹⁵³ *Schönning* (1996), p. 270-272.

¹⁵⁴ *Reindl* (1998), p. 870-871. See also *COM (1998) 587 final*, p. 12-13. Article 3 of the directive proposal should harmonize the country of origin principle within the EU.

¹⁵⁵ *Reindl* (1998), p. 871.

4.1.4 Remarks on Legal Comparison

We now turn to the comparison of legal systems by determining some distinctive factors.¹⁵⁶ At the microlevel, the following factors are especially studied:¹⁵⁷

- Is caching exempted,
- What is the standard of liability,
- Is the approach in accordance with control principle, and
- Is there any monitoring (notice and take-down) duties.

At more general or macrolevel, we detect among other things:¹⁵⁸

- Does the legislation cover all the functions intermediaries take, and
- Is the approach taken vertical or horizontal; does the specific legislation cover only copyright infringement or also all other types of substantive law.

Before the details, some final statements on the selection of the legal systems. First, the role of the U.S. is so central on the Internet that it is quite natural to begin with the U.S. law. Second, within the EU there is specific legislation in two Member States, namely in Germany and Sweden. Consequently, statutes in these countries are under closer examination. Finally, although there are no remarkable differences in the subject of law among Scandinavian legal systems, the interest of the research has affected to the choosing of Finland.

4.2 UNITED STATES

4.2.1 Case Law

Three seminal cases on the copyright infringement issue are worth to mention. In the first two cases, the intermediary was found liable while in the third case not. The point in each of these cases is the standard of knowledge required before liability can be addressed. The first case is from 1993:

In the case *Frena*¹⁵⁹, a system operator called Frena was held liable for *direct copyright infringement*. Users of Frena's BBS had uploaded pictures — whose copyright was owned by Playboy Productions — to the BBS, from where other users

¹⁵⁶ Konrad—Kötz (1998), p. 34-35.

¹⁵⁷ Ibid., p. 4.

¹⁵⁸ Ibid., p. 5.

¹⁵⁹ *Playboy Enterprises Inc. v. Frena*, 839 F. Supp. 1552 (M.D. Fla. 1993).

could download them. The court rejected Frena's first argument that he had no knowledge of the infringing activity. Instead, the court stated that *knowledge* or intention is *irrelevant* when considering the infringement issue, and hence "...even an innocent infringer is liable for infringement". Moreover, the court rejected Frena's second argument for the fair use doctrine (17 U.S.C. 107 §) — on all four factors.¹⁶⁰

The facts in the second case suggested no milder outcome than in Frena but the outcome changed:

In *Maphia*¹⁶¹, the facts were following. Users of a BBS called Maphia uploaded unauthorized copies of Sega's video games to the BBS. Unlike in Frena, in this case, the operator of the BBS *knew of the infringing activity* and, what is more, even encouraged users to trade pirated software. Piracy was operator's business: he in fact sold certain (illegal) hardware components that were necessary in order to run the pirated software. In his decision, the court explicitly referred to the Frena resolution. But in this case, Maphia's "... role in copying, including provision of facilities, direction, knowledge and encouragement..." lead only to liability for *contributory infringement*. Finally, Maphia's fair use defense was rejected on all four factors as in Frena.

The court added, as obiter dicta, that those *users* who initiated the infringing uploads could have been liable for direct infringement and thus face the strict liability standard. In contrast, the role of the intermediary was nothing more than a contributor to the infringement. It seems that the court implicitly applied the control principle: liability was based on the fact that Maphia had some control over the infringing content. Finally, in the third case from 1995 the rule for contributory infringement was discussed further:

In *Netcom*¹⁶², the question was if an intermediary is directly, vicariously or contributorily liable for user's infringing activity. A user had uploaded copyrighted writings of a scientology guru L. Ron Hubbard to a discussion group on the Internet. Rightholder brought suit against two intermediaries: the BBS the user had used in uploading and an Internet access provider this BBS had further connected to. The court found that intermediaries could not be held as (1) direct infringers since a rule of strict liability "...could lead to the liability of *countless parties* whose role in the infringing is nothing more than setting up and operating a system that is *necessary for the functioning of the Internet*" [italics added]. In addition, the argument for (2) vicarious liability was rejected since there were no proofs of financial benefit to infringers.

However, the most important part of the decision was about (3) contributory infringement. The facts were that the rightholder had *notified* intermediaries and because they did not take any action in order to delete (or take down) the in-

¹⁶⁰ See *Hagen* (1996), p. 276, for analysis. On the fair use doctrine see *Goldstein* (1996a), p. 1:19-1:20.

¹⁶¹ *Sega Enterprises Ltd. v. Maphia*, 857 F. Supp. 682 (N.D. Cal. 1994).

¹⁶² *Religious Technology Center v. Netcom On-Line Communication Services Inc.*, 907 F.Supp. 1375 (N.D. Cal. 1995).

fringing material, the rightholder decided to sue them too. The parties settled before the resolution. Nevertheless, it is accepted among scholars that this case confirmed the rule of contributory infringement as settled law.¹⁶³

We can see that the court explicitly addressed the control principle as the decisive standard. It observed that the intermediary did not completely relinquish control over how its systems were used: (1) in the past Netcom had taken down accounts of subscribers who violated its terms and conditions; (2) Netcom admitted that it may be possible to monitor content coming from a particular source; and (3) Netcom had allowed uploads, including user's infringing message, to remain on its servers 11 days before taking them down. Concerning the liability standards, the development has lead from direct to contributory infringement.

4.2.2 Digital Millennium Copyright Act

The copyright law of the United States was changed remarkably on 28 August 1998 when the Digital Millennium Copyright Act (DMCA) entered into force.¹⁶⁴ As the name of the statute tells, it covers only the copyright law. Hence, the approach taken is *vertical*. This quite complex and detailed act consists of five separate titles. Title II of the DMCA — attributed as "Online Copyright Infringement Liability Limitation Act" — limits the liability of intermediaries in many respects.¹⁶⁵ This title added a new section 512 to the U.S.C. title 17. We shall next have a closer look on these limitations introduced in the new section 512 of 17 U.S.C.¹⁶⁶

Generally, section 512 creates "safe harbors" to limit the liability of qualifying intermediaries. Rules depend on the *function* the intermediary takes: the DMCA detects different rules for, i.a., network, host and link providers. Concerning the *problem of caching*, section 512(b) provides an *exemption* from copyright liability. The following conditions must be at hand:¹⁶⁷

- caching must be automatic, initiated by others, and for the purpose of users,
- cache must be unmodified,

¹⁶³ See e.g. *Lemley* (1997), p. 553-556.

¹⁶⁴ In signing the bill, the President stated that "we have done our best to protect from digital piracy the copyright industries that comprise the leading export of the United States." The statement describes the high expectations the politicians may have. See *Self — Dove — Maggioni* (1999).

¹⁶⁵ Title II was originally a separately proposed piece of legislation that was eventually folded into the DMCA. Its origins are in an industrial agreement signed in the early 1998. The agreement is published and commented in BNA's *Electronic Commerce & Law Report* (1998), p. 451-469.

¹⁶⁶ For early commentaries see *Hazard* (1998), p. 7:49-7:52 and *Band—Isshiki—Reese* (1998), p. 415-418.

¹⁶⁷ *Ibid.*, p. 416-417.

- cache must be removed or updated if the content provider requires, and
- cache must be removed or updated if the rightholder requires.

In brief, if the intermediary does not have any editorial purpose to the content, there should be no troubles. Further, focusing specifically on the *problem of consciousness* section 512(c) provides another safe harbor if the intermediary meets these conditions:

- does not have *actual* knowledge of the infringing content,
- is not aware of information revealing the infringing nature of content,
- removes or blocks access to the infringing content when acquires such knowledge, and
- does not benefit financially from the infringing content

For activities other than network communications (such as caching) an intermediary may enjoy limited liability only if it complies with notice and take-down *duties*. According to section 512 (c), the intermediary must have “designated an agent to receive notifications of claimed infringement.” Notifications must adhere to various formalities. They must also identify the copyrighted material in question, identify the alleged copyright infringement, and provide sufficient information to allow the intermediary to locate and remove the infringing content.

The DMCA section 512(g) also limits the liability of an intermediary who takes down the allegedly infringing material in response to a request from copyright holder. On the other hand, the DMCA section 512(h) provides the copyright holder with power to force intermediaries to reveal the identity of the subscriber responsible for the infringement. Misleading claims of infringement are penalized.

4.3 DE LEGE LATA IN EUROPEAN UNION

4.3.1 Germany

On 1 August 1997, the Act on the Use of Teleservices (TeleAct) entered into force.¹⁶⁸ New legislation was expected for there had been wide discussion in Ger-

¹⁶⁸ This *Gesetz über die Nutzung von Telediensten* (adopted 22.6.1997) is the first article of *Gesetz zur Regelung der Rahmenbedingungen für Informations- und Kommunikationsdienste* (Act for the Regulation of the Framework Conditions for Information and Communications Services). Unofficial English translations are from *Commercial Laws of Europe* (1997), p. 599-622.

many on, e.g., pornographical issues on the Internet since 1995. Access providers were in the public line of fire.¹⁶⁹

In a preliminary, rather ridiculous case, the manager of CompuServe Germany was sentenced to two years imprisonment and 100 000 DM fines. The facts were that CompuServe operated as an Internet access provider. German subscribers had, as any user of the Internet has, a possibility to download criminal pornographic content from the Internet. It should be emphasized that CompuServe did not operate as online service provider: the illegal content did not locate on its servers. No wonder, the prosecutors later changed their minds and appealed on the defendant's behalf.

Thus, it was no surprise that the German parliament was the first in Europe to approve comprehensive Internet-related legislation. In addition, the German TeleAct is still the most detailed act of its kind in force within the EU. Nevertheless, for example *caching* is not regulated in the act. Therefore, it might be worth to notice that *commercial* values, such as copyright, had no such direct and public influence on the act in spite of the fact that Germany has the greatest number of commercial Internet sites in Europe.¹⁷⁰ However, the first section of TeleAct defines as the purpose of the act to create uniform economic framework conditions for telecommunication services.

According to section 5(1), the liability rules in TeleAct represent a *horizontal* approach. In other words, the section covers, in addition to copyright, all other types of substantive law, too.¹⁷¹ Concerning the structure of its liability rules, TeleAct is based on the *functional roles* of intermediaries. In section 3, TeleAct distinguishes between two kinds of "service providers": those who provide access to use, and those who make their own or others teleservices¹⁷² available for use. The first refers, without doubt, to access providers. The meaning of the latter is more controversial; it could well be interpreted to cover all online service providers.¹⁷³

¹⁶⁹ For background information see *Sieber* (1997a), p. 581-582. See also *Bortloff* (1997), p. 396-397 for elder cases.

¹⁷⁰ *Sieber* (1997a), p. 581, points out that while in Germany the public discussion was about pornography and national socialist propaganda, in Anglo-American region were main concerns on copyright and defamatory material. See also section 2.4.

¹⁷¹ Cf. *Schaefer — Rasch — Braun* (1999) who have tried to show that this section would not concern the liability of copyright infringement at all. They maintain that intermediaries would not be liable for infringement outside their control even without the specific exemptions.

¹⁷² The definition of teleservices is given in TeleAct section 2: service that is intended for (1) the individual use of combined data, such as multimedia, and is based on a (2) transfer by means of telecommunications. This definition sounds open enough to cover all normal Internet services.

¹⁷³ Cf. *Julià-Barceló* (1998), p. 456, who seems to think that "service provider" means only host service provider.

Liability for access providers is exempted in section 5(3).¹⁷⁴ Instead, online service providers are held liable for third party content, which they make available for others to use if three conditions mentioned in section 5(2) are met:

- They have knowledge of such content,
- It is technically possible, and
- Reasonable to prevent its use.

Again, it seems that the control principle is applicable. The point is expressed in the technical possibility to control content provider's behavior.¹⁷⁵ What is more, section 5(2) clarifies the problem of *consciousness*. It seems that liability is based on the *negligence* standard since knowledge of illegal or infringing material is required. Still, we can ask, what is the exact standard of knowledge as the law remains silent of, e.g., *monitoring* activities such as the one that was found in the DMCA. As section 5(2) mentions only "knowledge", arguments for actual knowledge would be reasonable.¹⁷⁶ Thus, silent awareness of the facts is not enough; at least a provable notice is required. However, contrary to the law of the United States, it seems that a notice from any user of the Internet should be accepted.

4.3.2 Sweden

Sweden is the other Member State having a specific statute. The Act on the Liability for Electronic Bulletin Boards (BBSAct) entered into force on 1 May 1998.¹⁷⁷ One of the main reasons to give this act was a controversial Supreme Court (Högsta Domstolen, HD) decision from 1996.¹⁷⁸ The question was whether an online service provider might be held liable for copyright infringement if he provides a possibility to download program files protected by copyright law.

A system operator called Richt had provided a BBS-service for two years in the beginning of the 1990's. His BBS included, i.a., a file exchange service: users had a possibility to upload programs for other users to download. Richt himself conducted only virus checking and renaming for files, that is, normal maintenance.

¹⁷⁴ Nevertheless, section 5(4) moderates this rule: injunction is possible, if access provider: (1) obtains information of illegal content, (2) without breaching telecommunications secrecy, (3) it is technically possible, and (4) reasonable to prevent its use.

¹⁷⁵ The technical possibility to control according to section 5(3) is discussed thoroughly in *Sieber* (1997a) and (1997b).

¹⁷⁶ *Julià-Barceló* (1998), p 456.

¹⁷⁷ This *Lag om ansvar för elektroniska anslagstavlor* was adopted by the Swedish parliament 12.3.1998. English translations are made by the writer.

¹⁷⁸ Case nr B 363/95: prosecutor vs. Richt, decision given 22.2.1996.

Richt's objective was to store only files intended for free distribution such as shareware or public domain programs. However, certain right owners found that their copyrights were violated in Richt's BBS and therefore Richt was charged for making these programs available to public. In her decision, HD found that even wording in section 2 of the Swedish Copyright Act, which speaks of "*making available to the public*" [italics added], refers to activity that normal BBS-maintenance does not satisfy. Hence, HD found Richt not guilty.

Stare decisis of this Richt case is that liability for making a copy available to public requires an *active step*. Furthermore, a mere provision of an online service is not a such step.¹⁷⁹ Unfortunately, charges for illegal reproduction of copies were ignored only because of a procedural error. However, HD confirmed as obiter dicta that uploading and downloading of files protected by copyright law represent illegal reproduction. Karnell presents that since uploaded files were stored for a certain period of time by the system operator *as his copies*, an infringement would have been apparent.¹⁸⁰ From an economic viewpoint, we can specify what Karnell is looking for: the control principle.

The BBSAct was given to make the issue clear. In spite of its sincere intention to clarify it does, instead, raise more questions than it gives answers to. We shall now have a closer look on the problems of the BBSAct. As the title of the act says, it seems to apply — in principle — only to online service providers. Nevertheless, section 1 of the BBSAct defines an electronic bulletin board more broadly as "a service for electronic transmission of messages". Delineation is far from perfect; this definition seems to cover all electronic transactions. Thus, the BBSAct means as an electronic bulletin board not only online service provider but also other intermediaries.¹⁸¹ It seems that the well founded *functional* approach that was the basis of German and United States law has been *overlooked* in the Swedish law.

The standard of liability is according to sections 4 and 5 near *strict liability* or at least the standard is higher compared to DMCA and TeleAct. Section 4 leaves the definition of *monitoring* quite open. The service provider has an obligation to monitor his service to the extent that can be "reasonably" required when taking "the scope and direction" of the service into consideration.¹⁸² These kinds of "metadefinitions" have become increasingly common in Scandinavian legal systems.

¹⁷⁹ Rosén (1996), 419-423, argues strongly against this whole active step construction.

¹⁸⁰ Karnell (1998), p. 101-102.

¹⁸¹ Same interpretation is made by Julià-Barceló (1998), p. 457.

¹⁸² Section 4 goes: "...*skäligen* kan krävas med hänsyn till *omfattningen* och *inriktningen* av verksamheten" [italics added].

4.3.3 Finland

In spite of its close legislative tradition with Sweden, Finland does not have statute law on liability issues we are studying. Therefore, we only mention a supportive Supreme Court (Korkein Oikeus, KKO) decisions to the discussion on the Swedish law above. The facts almost equal the Swedish case. The question, however, was if a system operator was liable for *reproducing* illegal copies of computer programs protected by copyright law¹⁸³:

A system operator called Tiihonen had provided a BBS-service for about a year in the beginning of the 1990's. Among other files, commercial computer programs were uploaded to the BBS and users had a possibility to download them. According to the facts of the case, about 1700 illegal copies were uploaded and 1400 downloaded. Tiihonen was accused for illegally reproducing those 1400 downloaded copies. KKO found Tiihonen not guilty since he had only *founded* a BBS and provided *normal maintenance* for it. In this case, charges for making copies available to public were ignored because of a processual fault.

The case does not give much additional light to the subject of law in Scandinavia. We can only say that the resolution favors intermediaries. Is it in accordance with the control principle, is another question.

4.4 DIRECTIVE PROPOSAL

Concerning the copyright liability issue, there is no community law in force. However, there is a directive proposal on electronic commerce,¹⁸⁴ which provides in section 4 the issue of liability for intermediaries.¹⁸⁵ The approach taken in the proposal is *horizontal*, i.e. the rules cover all types of substantive law.¹⁸⁶ Further, the approach of the directive proposal is not based on the functional roles of intermediaries. Instead, the proposal distinguishes specific types of *activities* that are exempted from liability. Article 14 regarding "hosting" handles the problem of *consciousness*. Liability is exempted if online service provider meets the following conditions:¹⁸⁷

- Does not have *actual* knowledge of the infringing content,
- Is not aware of information revealing the infringing nature of content, and

¹⁸³ As we remember, in the Richt's case the question was about distribution right.

¹⁸⁴ COM (1998) 587 final.

¹⁸⁵ The origin of section 4 is the same industrial agreement as the origin of the DMCA. See note 165 above.

¹⁸⁶ ETNO (1999) RD92 emphasizes that because of the horizontal approach, the proposed copyright directive COM (1997) 628 final. should be accepted together with the electronic commerce directive.

¹⁸⁷ Compare to the almost equal provision in the DMCA.

- Removes or blocks access to the infringing content when acquires such knowledge.

However, the point is an additional qualification in the second paragraph of article 14. According to it, the above-mentioned exemption does not apply when “...the recipient of the service is acting under the authority or the *control* of the provider” [italics added]. The proposal emphasizes that this qualification means the control of the infringer’s acts, not control of the information as such.¹⁸⁸ It seems that the Commission has read its Skogh and Lane well.

Further, the proposal explicitly in article 15 places *no duties* to monitor the content. Considering the problem of caching, article 13 provides an exemption from liability. The rule is in essence the same as is the caching exemption in the DMCA. Finally, there seems to be a remarkable gap in the proposal since it does not address any take down procedures.¹⁸⁹

4.5 SUMMARY

We have found some differences between the discussed regulatory approaches. In the form of a simple table:

United States	Directive Proposal	Germany	Scandinavia
<i>Specific legislation</i>	<i>Specific legislation</i>	<i>Specific legislation</i>	<i>Random legislation</i>
<i>Vertical approach</i>	<i>Horizontal approach</i>	<i>Horizontal approach</i>	<i>Horizontal approach</i>
<i>Functional approach</i>	<i>Activity approach</i>	<i>Functional approach</i>	<i>No distinctions</i>
<i>Duty to monitor</i>	<i>No duties to monitor</i>	<i>No duties to monitor</i>	<i>Unclear</i>
<i>Caching exempted</i>	<i>Caching exempted</i>	<i>Caching exempted</i>	<i>Unclear</i>
<i>Contributory liability</i>	<i>Negligence</i>	<i>Negligence</i>	<i>Negligence?</i>

Table 4. Though, for example, the U.S. law and directive proposal originate from a same agreement, the approaches to regulation seem to differ in significant ways.

Summa summarum. Our short survey shows that existing solutions to the liability problem vary significantly in the technique. At the macrolevel, the approaches may be horizontal or vertical, functional or emphasizing specific activities. Nevertheless, the most important substantive issues seem to be resolved in a unified manner. At the microlevel, hence, the differences between practical outcomes disappear. A common factor among the systems is the exemption granted for caching. All the systems examined, in addition, have a liability rule that is based on the negligence standard.

¹⁸⁸ COM (1998) 587 final., p. 25.

¹⁸⁹ ETNO (1999) RD92.

More detailed analysis detected also few shortcomings in particular approaches. The U.S. law seemed most complete, but within the EU the development is still on the run. Especially, the monitoring duties were poorly delineated in European rules. A major legal uncertainty concerning the liability rules on take down procedures suggests that the issue should be clarified in the coming directive. The rules in Scandinavia are on their own class. All in all, there is actual need to harmonize the disperse rules within the EU.

As noted, the negligence standard has substituted strict liability in the last few years. Moreover, we saw that the latest rules are generally in accordance with the control principle. Hence, it is obvious that the substance of law has developed towards efficiency.¹⁹⁰ At least we have presented strong arguments that support this view as applied to the copyright liability law on the Internet environment.

¹⁹⁰ This is the original idea in *Posner (1998)* concerning the economic nature of common law.

5 CONCLUDING REMARKS

5.1 RISK AND CONTROL

The heart of the liability problem is in the allocation of risk. Under existing copyright system, the copyright holder takes always a risk of piracy when he distributes new content. We did not ask who was in charge, but rather who was in control. We stated that while the party that provides the content is primarily responsible, secondary liability might face those intermediaries that have some control over the activities of pirates. More detailed, we found the application of the control principle very fruitful.

While control is an adequate factor in determining the risk bearing, deep pocket and easy identification arguments are not. It is expected that the rate of Internet related copyright litigation will increase, and then reasons behind litigation must be carefully specified. Placing risk in accordance with the deep pocket argument could be very devastating, indeed. Increased costs for intermediaries would lead to loss spreading to individual users and content providers. Further, the fact is that loss spreading through deep pocket approach would do nothing to reduce the primary costs, the piracy.¹⁹¹ In effect, all the parties were worse off. Except the authors.

A copyright infringement requires causality between the infringing act and the infringement. As long as pirate activity is out of intermediaries' control, liability exemptions are not necessary in law. The volume of new legislation addressing exemptions gives us empiric evidence on the fact that intermediaries have certain amount of control over the risk. Is the evolution of law on the right track? Is there a conflict if the intermediaries, on the one hand, have more controlling power, and on the other hand, they are still granted liability exemptions? We suggested that there is no conflict. After all, the role of intermediaries is to add the value of the Internet information infrastructure. In the end, it is users and content providers who benefit the most.

¹⁹¹ *Calabresi* (1970), p. 43.

5.2 HAS COPYRIGHT A FUTURE?

There are two main competitive scenarios for the future of copyright:¹⁹²

- disappearing copyright — a market based approach substitutes copyright through either free, contractual or technical alternative, and
- reformed copyright — more exemptions to the existing system.

The present trend is that the role of copyright on the Internet is diminishing. In the Internet era, it seems that it is in many cases rational to delineate property rights perfectly and, on the other hand, leave them unprotected. It is clear that these alternative methods, based merely on the real working of markets, exist and, what is more, markets in fact strongly believe in business based on them. However, the alternatives or even substitutes, as Goldstein notes, lack such cultural and political acceptance that the copyright system have sustained for centuries.¹⁹³ It is still an open question, what will happen to the balance between authors and users.

If the market based approach is to prevail, then all the efforts of legal experts will be secondary to the development of technical and economic environment. Copyright will be a supportive legal institution. Even everything that is said in this thesis about the existing copyright law will lose its practical relevance. If this is the right scenario, we will see. Hopefully at least the honest efforts laid down in this short study are valued more than nothing.

* * *

For those about to rock, we salute you!

¹⁹² Cf. Athanasekou (1998), who distinguishes four scenarios: radicalism, revisionism, traditionalism and maximalism. This study has hopefully showed that the most relevant of these are radicalism and revisionism. The only sure thing, in any case, is the change.

¹⁹³ Goldstein (1997), p. 151-152.