

CODE AS CODE,  
OR THE END OF INTELLECTUAL PROPERTY AS WE KNOW IT  
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## 1. Introduction

The emerging digital networked environment poses a major challenge to the existing body of intellectual property law. In the words of John Perry Barlow, the ‘guru’ of the Internet and founder of the Electronic Frontier Foundation, “everything you always knew about intellectual property is wrong”. According to other, less pessimistic scholars, the future of copyright in a digital environment still shines brightly. Even so, difficult questions regarding the scope of rights and limitations, applicable law, and liability may eventually require a thorough rethinking of copyright law in the not too distant future.<sup>1</sup>

Concerns over the effectiveness of the copyright system in a digital environment have inspired right holders to look for alternative protection regimes or strategies. In this article two potential substitutes for the copyright regime will be described: contract law and information technology. The combination of both instruments poses a direct threat to the copyright system, as we know it. Contract and ‘code’ combined have the capability of making copyright and its set of statutory limitations largely redundant, and may require an entire new body of information law to safeguard the public domain.

## 2. Contract Law

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<sup>1</sup> See various contributions in: P. Bernt Hugenholtz (ed.), *The Future of Copyright in a Digital Environment*, The Hague: Kluwer Law International 1996.

*Prima facie*, contract law has all the makings of a perfect alternative to copyright protection. The structure of the Internet facilitates the establishment of a multitude of contractual relationships between information producers and end users, either directly or through intermediaries. The Internet (or more precisely, the World Wide Web) is uniquely suited for this purpose. Both its 'textual' environment and its interactive nature are ideal conditions for a contractual culture to grow and flourish.<sup>2</sup> Contract law, thus, may become the instrument *par excellence* to fill the legal vacuum of the Internet. Information producers, intermediaries and end users are free to create their own rules, without government intervention, and to experiment at will with novel legal approaches. Ideally, new legal norms may emerge from this self-regulatory laboratory; norms far better tailored to the new environment of the Internet.

However, contract law has a darker side as well. Cyberspace is no egalitarian society with equal chances for every 'netizen'. In a world totally ruled by contract, weaker parties risk being subjugated and fundamental freedoms may be jeopardised. Freedom of contract may become contractual coercion, especially when dominant undertakings abuse their market power to impose contractual rules on powerless consumers, as if they were public authorities.

Outside the Internet, direct contractual relations between information producers and consumers are still relatively scarce. Whoever buys a book at a bookstore or a CD at a record store, does not normally engage in contractual relations with the author or the publisher of the work. An exception may be the buyer of a computer program or CD-ROM, who finds himself bound directly to the producer by a so-called *user licence*. More often than not these 'licences' are euphemisms for the exact opposite, much like the 'warrants' or 'guarantees' provided by manufactures of consumer electronics. In practice, user licenses leave 'licensed' consumers very little room to move. The computer program may be used on only one machine; apart from the

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<sup>2</sup> Robert P. Merges, 'The End of Friction? Property Rights and Contract in the "Newtonian" World of On-Line Commerce', *Berkeley Technology Law Journal* (12) 1997-1, p. 118.

occasional back-up copy, no further copies may be produced; the software may not be lent out or resold, etc.

It is generally expected user licences will become the rule, not the exception, on the Internet. Already, so-called 'click-through', 'mouse-click' or 'click-wrap' contracts are frequently sighted (and routinely entered into) on the World Wide Web. In the years to come, most information products delivered electronically will be licensed: newspapers, periodicals, books, recorded music, computer software, etc. Thus, the legal relationship between information producers and consumers will increasingly be governed by contract. The technological measures discussed elsewhere in this paper will play an important role in this process. For the consumer who refuses to accept the conditions of the license, the information product that is offered on the Web will remain hidden behind a layer of technological protection.

Assuming that contracts concluded over the Internet are valid in principle<sup>3</sup>, the question arises whether the terms of these user licenses can override the statutory limitations of copyright. Does an information producer have the right to contractually subject a user to restrictions that go further than copyright law prescribes? May, e.g., the license prevent the user from copying the work for private purposes, to quote from the work or to make copies for educational or scientific purposes?

This question has already led to extensive legal discussions<sup>4</sup>, case law<sup>5</sup> and even legislative initiatives<sup>6</sup> in the United States. In the U.S. the discussions are directly linked to the constitutional doctrine of *pre-emption*; state contract law may not undermine federal copyright law. In Europe, the discussions have only recently

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<sup>3</sup> J.E.J. Prins, 'Contracting in an On-line Marketplace', in: V. Bekkers e.a. (eds.), *Emerging Electronic Highways*, The Hague: Kluwer Law International 1996, p. 144-148.

<sup>4</sup> Jerome H. Reichman, 'Electronic Information Tools - The Outer Edge of World Intellectual Property Law', *IIC* (24) 1993, p. 462; Paul Goldstein, 'Summary of Discussion', in: P. Bernt Hugenholtz (ed.), *The Future of Copyright in a Digital Environment*, The Hague: Kluwer Law International 1996, p. 245-246; Maureen A. O'Rourke, 'Copyright Pre-emption After the ProCD Case: A Market-Based Approach', *Berkeley Technology Law Journal* (12) 1997-1, p. 53; Niva Elkin-Koren, 'Copyright Policy and the Limits of Freedom of Contract', *Berkeley Technology Law Journal* (12) 1997-1, p. 93.

<sup>5</sup> *ProCD v. Zeidenberg*, 86 F.3d 1447 (7th Cir. 1996).

begun.<sup>7</sup> From these preliminary discussions the interrelationship between contract and copyright limitation emerges as an extremely complex issue. *Prima facie*, both the freedom of contract and the ‘property rights’ nature of (European) copyright leave ample room for further-reaching contractual restrictions. The fact that many copyright limitations are aimed at protecting fundamental freedoms, such as the right to privacy or the freedom of expression and information, however, points in the opposite direction.

The European legislature has been the first to expressly enact copyright limitations of a mandatory nature. The European Software Directive (1991) contains four of such exemptions. According to Article 5 (2) of the Directive “the making of a back-up copy by a person having a right to use the computer program may not be prevented by contract insofar as it is necessary for that use”. Also, the observing, studying or testing of a computer program may not be contractually restricted (Article 9(1) and Article 5(3)). Pursuant to Recital 17 of the Directive, the same applies to running a program and to error correction (Article 5(1)). The extremely complex provisions on ‘decompilation’ (reverse engineering) are mandatory as well (Article 9(1) and Article 6). The European Database Directive also contains a number of mandatory exemptions (Article 15). The legitimate user may perform acts inherent to normal usage (Article 6 (1)); the right to re-utilise non-substantial parts of a Database may not be overridden (Article 8).

Eventually, the legislature may have to go even a step further. Outside the framework of copyright the law may need to provide for express statutory protection of the

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<sup>6</sup> Digital Era Copyright Enhancement Act, H.R. 3048.

<sup>7</sup> Institute for Information Law (L. Guibault), *Contracts and Copyright Exemptions*, Amsterdam: Instituut voor Informatierecht 1997, <http://www.imprimatur.net/legal.htm>; L. Guibault, ‘Pre-emption issues in the digital environment: Can copyright limitations be overridden by contractual agreements under European law?’, in: F.W. Grosheide and K. Boele-Woelki (eds.), *Molengrafica Series 1998*, Lelystad: Vermande 1998, p. 225-262.

information consumer against unconscionable licensing practices, e.g. in the form of 'unwaivable use rights'.<sup>8</sup>

### 3. Technological measures

The Internet is sometimes described as a 'global copying machine' with millions of irresponsible and anonymous pirates pushing the buttons. Indeed, the problems of copyright enforcement on the Internet are mind-boggling. It comes as no surprise that many information producers are hesitant to offer their vulnerable goods over the Internet. This explains, at least in part, the relative paucity of copyright protected information currently available on the Internet.

Even so, discovering copyright infringement is relatively easy, compared to the analogue world. Search engines that are widely available on the World Wide Web (such as Altavista, Excite, Yahoo!, etc.) enable right holders to find infringing sites in a matter of seconds. Major right holders routinely employ specialised search programs, so-called web crawlers, to automatically locate pirate sites.<sup>9</sup>

Even so, the uneasiness of the right holders in entering the online market place is understandable. What if existing legal instruments are insufficient or inadequate to protect property interests? Mackaay provides the answer: "Build your own fence".<sup>10</sup> In the same way prospective landowners established property rights in the American Wild West by using poles and barbed wire, information producers in cyberspace can erect digital fences and thereby create novel property rights.

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<sup>8</sup> Niva Elkin-Koren, 'Copyright Policy and the Limits of Freedom of Contract', *Berkeley Technology Law Journal* (12) 1997-1, p. 104-105.

<sup>9</sup> 'Copyright owners learning to police online sales, performance of musical works', *BNA Electronic Information Policy and Law Report* (3) 1998-1, p. 4.

<sup>10</sup> E. Mackaay, 'The Economics of Emergent Property Rights on the Internet', in: P. Bernt Hugenholtz (ed.), *The Future of Copyright in a Digital Environment*, The Hague: Kluwer Law International, p. 20.

The digital barbed wire is called *encryption*: the encoding of information. By using encryption commercial information producers can prevent the unauthorised access to their information services or products. Access is allowed only to those in possession of the right key. Besides encryption, information providers may employ a wide range of technological protection measures: the use of passwords or special log-in procedures, combinations of hardware and software, anti-copying devices, electronic 'watermarks', etc. Together these measures constitute the *Electronic Copyright Management System* (ECMS), a fully automated system of secure distribution, rights management, monitoring and payment of copyright protected content. Various experiments with ECMS's are currently underway or even completed, such as the ESPRIT-funded IMPRIMATUR project.<sup>11</sup>

But even if, according to the oft-quoted Charles Clark, "the answer to the machine is in the machine"<sup>12</sup>, the use of technological protection measures is still in an infant stage. Whoever roams around the World Wide Web, is only rarely confronted with closed doors. Indeed, conditional access is at odds with the *free for all*' culture which still prevails on the Internet today. However, with the expected commercialisation of the Internet in the near future, users will inevitably be confronted with digital roadblocks on a more regular basis.

Technological measures will be applied mostly in combination with contract. The measure constitutes both the starting point and the final touch to the contractual relationship between information provider and consumer. Consumers not, or no longer, party to the contract will be excluded.

Technological measures may fulfil various functions. Already well known from the analogue world are the so-called *conditional access systems*. As their name suggests, these measures serve to control access to an entertainment or information service, e.g. subscriber television or an on-line database.

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<sup>11</sup> See <http://www.imprimatur.net>.

The second category consists of measures aimed at preventing the unauthorised reproduction and/or (further) use of certain information products. Software users may remember from the 1980's the so-called *copy-locks* used by a number of software producers. 'Picking' these copy-locks became something of a national sport. The legitimate users were less than content; back-up copies had to be back-ordered, the software could not be installed on other personal computers, etc. Today, copy-locked computer software has all but disappeared. An example from the 1990's is the anti-copying device (a microchip) built into digital audio recorders, preventing 'serial' copying without authorisation.<sup>13</sup> Not surprisingly, the digital audio recorder has become a total failure.

The third category of technological measures serves to identify copyright protected works and trace the copyright owners. Unerasable digital codes are imprinted on copyright protected works, providing information concerning the author or right holder, the country of origin, the year of first publication, etc. In the world of the printed book a similar, albeit simpler, code has been in use for many years: the International Standard Book Number (ISBN). The digital equivalent of the ISBN is the *Digital Object Identifier* (DOI).<sup>14</sup> Codes like these are essential to any electronic copyright management system. Both in the WIPO Copyright Treaty (Article 12) and the proposed European Copyright Directive<sup>15</sup> (Article 7), tampering with rights management information is declared an illegal act.

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<sup>12</sup> Ch. Clark, 'The Answer to the Machine is in the Machine', in: P. Bernt Hugenholtz (ed.), *The Future of Copyright in a Digital Environment*, The Hague: Kluwer Law International, p. 139.

<sup>13</sup> Under *The Audio Home Recording Act*, enacted in the United States in 1992, manufacturers of digital audio recorders are under a statutory obligation to install anti-copying devices.

<sup>14</sup> See <http://www.doi.org>.

<sup>15</sup> Commission of the European Communities, Amended Proposal for a European Parliament and Council Directive on the harmonisation of certain aspects of copyright and related rights in the Information Society, Brussels, 21 May 1999, COM (1999) 250 final.

The fourth category of technological measures aims at safeguarding the integrity of the information provided. Electronic documents are stamped with 'digital signatures', 'fingerprints' or 'watermarks' to ensure authenticity.<sup>16</sup>

*The new regime: protection of technological protection*

All in all, technological protection measures are powerful new weapons in the copyright arsenal. On top of the existing copyright layer the technological measures provide an extra layer of protective armour. However, for right holders even this additional layer apparently does not suffice. A third layer is already in the making: the legal protection of technological protection of copyright protected works.<sup>17</sup>

Article 11 of the WIPO Copyright Treaty requires the contracting states "[to] provide adequate legal protection and effective legal remedies against the circumvention of effective technological measures that are used by authors in connection with the exercise of their rights [...] and that restrict acts, in respect of their works, which are not authorized by the authors concerned or permitted by law."<sup>18</sup> The proposed Copyright Directive, that will eventually implement the WIPO Copyright Treaty for the entire European Union, also contains a provision preventing the circumvention of technological measures.<sup>19</sup> However, the European proposal goes an essential step

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<sup>16</sup> Institute for Information Law (A. de Kroon), *Protection of Rights Management Information*, Amsterdam: Instituut voor Informatierecht 1998, <http://www.imprimatur.net/legal.htm>.

<sup>17</sup> Institute for Information Law (K. Koelman and N. Helberger), *Protection of Technological Measures*, Amsterdam: Instituut voor Informatierecht 1998, <http://www.imprimatur.net/legal.htm>.

<sup>18</sup> See Thomas C. Vinje, 'A Brave New World of Technical Protection Systems: Will There Be Room For Copyright?', *EIPR* (19) 1996-8, p. 431; F.W. Grosheide, 'Enkele kanttekeningen bij het WIPO Copyright Treaty 1996', *Informatierecht/AMI* 1997-4, p. 78.

<sup>19</sup> Article 6 (1 and 2) of the amended proposal reads:

"1. Member States shall provide adequate legal protection against the circumvention without authority of any effective technological measures designed to protect any copyright or any rights related to copyright as provided by law or the sui generis right provided for in Chapter III of European Parliament and Council Directive 96/9/EC, which the person concerned carries out in the knowledge, or with reasonable grounds to know that he or she pursues that objective.

2. Member States shall provide adequate legal protection against any activities, including the manufacture or distribution of devices, products or components or the provision of services, carried out without authority, which: a) are promoted, advertised or marketed for the purpose of circumvention of,



further than the corresponding WIPO provision. It would prohibit not only acts of circumvention as such, but also the manufacturing or selling of equipment that is suited for that purpose. Already, the Software Directive contains an early predecessor of such a provision in Article 7 (1.c).

The new regime inspires all sorts of questions. Questions, in the first place, regarding the scope of the new right. Are these provisions aimed merely at acts or activities that facilitate copyright infringement, or do they reach further? An especially complicating factor is the existing system of statutory limitations of copyright, which allows for unauthorised copying for certain specified ‘good causes’. Is the act of circumventing a technological measure in the context of such exempted uses permitted or prohibited? The words “permitted by law” in the WIPO provision suggest that circumvention to enable such exempted uses is, indeed, permitted.

But what about the proposed Copyright Directive that prohibits the production and trade in anti-circumvention devices? Note that much information that will be technologically protected either belongs to the public domain, such as statutes and case law, or may be reproduced without authorisation if a statutory limitation applies.<sup>20</sup> If circumventing as part of exempted copying is permitted, producing the necessary equipment can hardly be prohibited. For similar reasons, photocopying machines, video recorders, personal computers and other reproduction equipment considered suitable for “substantial non-infringing uses”<sup>21</sup>, have never been considered illegal.

The new regime also raises intriguing questions of proportionality. In view of the existing, well-stocked arsenal of protective means content providers already can rely

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or b) have only a limited commercially significant purpose or use other than to circumvent, or c) are primarily designed, produced, adapted or performed for the purpose of enabling or facilitating the circumvention of, any effective technological measures designed to protect any copyright or any right related to copyright as provided by law or the sui generis right provided for in Chapter III of European Parliament and Council Directive 96/9/EC.”

<sup>20</sup> Vinje, *supra* (note 18), p. 434: “Technical protection does not follow the contours of copyright”.

<sup>21</sup> *Sony Corp. v. Universal City Studios, Inc.*, 464 U.S. 417 (S.Ct. 1984).

on, it is doubtful whether the new regime is really necessary. The information industry has seen spectacular growth with only a single layer of protection: copyright. *Three* layers of protection (including the recent European Database Protective even four) is simply overdoing it. Where have the good times gone when granting rights of intellectual property was a (well-reasoned) exception to the rule of free competition.<sup>22</sup>

From a perspective of legal economics, the hastiness with which the new regime has been established, is also rather unfortunate. According to Mackaay, new ‘fences’ must not be followed immediately by legislative measures; the maturing process of new, emerging rights will be disturbed.<sup>23</sup>

Moreover, the new regime is difficult to reconcile with one of the most important rationales of the copyright system: promoting the dissemination of culture and knowledge in society. Under the copyright system, the author expressing his ideas (i.e. making his ideas public) is rewarded with an exclusive exploitation right. The new regime has the opposite effect. It rewards making information inaccessible with a supplementary right, while keeping the copyright intact.<sup>24</sup>

### *Lex Informatica*

The combination of technological measures and on-line licenses conjures a sombre picture of the future. Are we heading for a world in which each and every use of information is dictated by fully automated systems? A world in which every information product carries with itself its own unerasable, non-overridable licensing conditions? A world in which what is allowed and what is not no longer is decided by the law, but by *computer code*?

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<sup>22</sup> T. Koopmans, ‘Intellectuele eigendom, economie en politiek’, *Informatierecht/AMI* 1994-6, p. 107; H. Laddie, ‘Copyright: Over-Strength, Over-Regulated, Over-Rated?’, *EIPR* 1996-5, p. 260: “We should not be handing out monopolies like confetti while muttering ‘this won’t hurt’”.

<sup>23</sup> Mackaay, *supra* (note 10), p. 22.

<sup>24</sup> Pamela Samuelson, ‘Copyright, Digital Data, and Fair Use in Digital Networked Environments’, in: Ejan Mackaay e.a. (eds.), *The Electronic Superhighway*, The Hague: Kluwer Law International 1995, p. 126.

Will 'code' replace the law? The true technocrat will marvel at the idea.<sup>25</sup> Computer code has many advantages over the law of intellectual property and other legal instruments. What is especially appealing to the technocrat is its capability of fully automated enforcement, not *ex post* but immediate and automatic. The code leaves the user no alternative but to comply: (cheap and fast) 'self-enforcement' in stead of (expensive and slow) enforcement by the law. As Professor Lessig has observed: "In the well implemented system, there is no civil disobedience. Law as code is a start to the perfect technology of justice".<sup>26</sup>

From the freedom of the Internet to the dictatorial rule of *Lex Informatica* is only a small step. The Internet will be transformed from an open and anarchistic space into a closed and fully controlled environment. The rules of this 'coded' world will no longer be set by democratic means, but by software engineers.<sup>27</sup>

In his study for the Dutch Society of Lawyers (*Nederlandse Juristen Vereniging*) in 1988, Professor Verkade discussed a first symptom of the new regime of terror: the 'logical bomb'. The computer program that is not regularly maintained by its producer or provider, automatically self-destructs.<sup>28</sup> According to Verkade, the person responsible for installing the technological measure would become liable under a variety of legal theories: breach of contract, invalid title (immorality), good faith, etc. Against extreme forms of technological self-enforcement even criminal law might provide a remedy, as generations of Dutch legal students have learned from the legendary 'Eel trap' (*Palingfuiken*) decision of the Dutch Supreme Court.<sup>29</sup>

But what if the information consumer is notified in advance that the computer game he buys may be played only X times; the book may be copied only Y times; the music

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<sup>25</sup> Joel R. Reidenberg, 'Lex Informatica: The Formulation of Information Policy Rules Through Technology', *Texas Law Review* (76) 1998, p. 553.

<sup>26</sup> Lawrence Lessig, 'The Zones of Cyberspace', *Stanford Law Review* (48) 1996, p. 1408.

<sup>27</sup> Lessig, *supra* (note 26), p. 1410.

<sup>28</sup> *Handelingen NJV* 1988 I, p. 54.

<sup>29</sup> Supreme Court of the Netherlands (Hoge Raad) 25 June 1934, *NJ* 1934, 1261.

may be enjoyed only Z times? Is it illegal to market a light bulb with a shorter life span than the state of the art would necessitate? Is it not true that prosperity in modern-day society is derived, at least in part, from the production of consumer goods that are inferior *ab initio*?

Should the legislature intervene? Perhaps the invisible hand of the market mechanism will come to the rescue. In the 1980's a massive consumer boycott prevented the market success of 'copy protected' software. Let's hope that books that combust upon a first or second reading, will never become best-sellers.

*The end of the public domain?*

For copyright law the rule of Lex Informatica will have far reaching consequences. Vinje expects the information provider will replace copyright "with a new, private regime of his own making that admits no exceptions and pays no heed to the public domain".<sup>30</sup> According to Professor Samuelson, "There may be nothing for copyright to do, except perhaps to serve as a kind of *deus ex machina* justifying the use of technological and contractual means for protecting works in digital form."<sup>31</sup> "Should our beautiful system of statutory limitations be left to the Museum of Copyright?," laments Dutch law-maker Arkenbout.<sup>32</sup> If technology gets its way, indeed. The remainder of the copyright law will be ripe for the archives as well. In a totally controlled system no need for protection *erga omnes* will remain.

The large-scale application of contracts and technological measures will undoubtedly disturb the delicate balance between intellectual property protection and information freedoms, which is presently codified in the copyright law. All sorts of information presently unprotected (data, statutes, case law, government information, 'expired' works, etc.) may eventually disappear from the public domain. As Professor Phillips has observed: "Look at every aspect of intellectual property and the evidence is plain:

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<sup>30</sup> Vinje, *supra* (note 18), p. 437.

<sup>31</sup> Pamela Samuelson, *supra* (note 24), p. 125.

the public domain, like the mighty rainforests of South-America, is being whittled away almost while we watch it".<sup>33</sup>

### *Right to information*

Even a copyright counterbalanced by mandatory limitations can not offer a remedy against the 'fencing in' of the public domain. Copyright does not provide for a right to gain *access* to information. Other bodies of the law only rarely provide for a right of individual citizens to receive information. The main exception is the freedom of information legislation enacted in many countries, that grants citizens the right to be informed by government. In horizontal relationships (between citizens) a similar right of access to information has, until today, never been truly recognised.<sup>34</sup>

At present only competition law may provide a legal basis for a horizontal right to information, or for its mirror image: a duty to supply information. In its landmark *Magill* decision<sup>35</sup>, the European Court of Justice considered that the British broadcasters' refusal to license the use of radio and television listings amounted to an abuse of a dominant position. The abuse followed from the broadcasters' factual monopoly in the programme data of which the broadcasters were the only source.

Interestingly, the Court judged the facts in *Magill* not only from a licensing perspective, but also as an anti-competitive refusal to supply information. The Court considered that the broadcasters had excluded all forms of competition on the market (for weekly program guides) by refusing access to the basic data essential to the

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<sup>32</sup> E.J. Arkenbout, *Informatierecht/AMI* 1997-8, p. 174.

<sup>33</sup> Jeremy Phillips, 'The Diminishing Domain', *EIPR* 1996-8, p. 429; see also Jessica Litman, 'The Public Domain', *Emory Law Journal* (39) 1990, p. 965.

<sup>34</sup> Supreme Court of the Netherlands (Hoge Raad) 25 June 1965 nr. 9836, *NJ* 1966, 115 (Televizier I); European Commission of Human Rights 6 July 1976, *NJ* 1978, 237 (De Geïllustreerde Pers v. Nederland); Supreme Court of the Netherlands (Hoge Raad) 23 October 1987, *NJ* 1988, 310 (NOS v. KNVB), note G.A.I. Schuijt, *Informatierecht/AMI* 1988, p. 35; E.J. Dommering, 'Informatiemonopolies', in: *De Maris-bundel*, Deventer: Kluwer 1989, p. 150-153.

<sup>35</sup> European Court of Justice, 6 April 1995, 1 C.E.C. 400 (RTE v. Commission of the European Communities).

production of programme guides. Thus, Article 86 of the EC Treaty would create, under specific circumstances, a ‘horizontal’ right to receive information.

Recent developments in public broadcasting law are symptomatic of an emerging right to information (in the public interest).<sup>36</sup> Both on the national and the European level, legislative measures have been taken to safeguard public access to sports broadcasts and the reporting of other important events. The European Convention on Transfrontier Television, which was concluded in the framework of the Council of Europe in 1989, invites Member States to “examine the legal measures to avoid the right of the public to information being undermined due to the exercise of a broadcaster of exclusive rights [...] of an event of high public interest and which has the effect of depriving a large part of the public [...] of the opportunity to follow that event on television”.<sup>37</sup> The Recitals preceding the Convention clarify that the Convention is founded, at least in part, on the freedom of expression and information embodied in Article 10 of the European Convention on Human Rights.

If one were to contemplate legal measures to cure the negative effects of the wide-scale application of trusted systems and safeguard the public domain, comparable legislation outside the field of broadcasting law might be appropriate, e.g., a right of access to scientific source material, important works of art, etc. Of course, pro-active measures to stimulate the public supply of information and information services, e.g. by granting subsidies, would also deserve serious consideration.

#### **4. Conclusion**

The non-hierarchical architecture of the Internet provides the ideal environment for the growth of a flourishing contractual and technological culture. The combination of contractual and technological measures will decrease the need for and use of legal

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<sup>36</sup> E.J. Dommering, *supra* (note 34), p. 152-153.

<sup>37</sup> The European Television Directive (89/552/EEC) contains a similar, albeit more detailed provision aimed at keeping the broadcasting of important events ‘in the clear’. Member States are obliged to draw up lists of ‘important events’ that may not be broadcast exclusively by pay television services.

protection systems *erga omnes*. Seen in this light, the persistent call for increasing copyright protection appears ill-founded. What is definitely not needed is a third legal regime: legal protection of technological protection of copyright protection.

In the near future the Internet will gradually lose much of its open character. Encrypted information products and services will enforce their own pre-programmed conditions of use automatically. *Lex Informatica* will rule the Internet with iron logic. In the end, only a new body of information law, replacing traditional copyright law, will be able to save the diminishing public domain.

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