

## Alternative system for non-commercial use of intellectual property in consideration of free P2P file-sharing<sup>1</sup>

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### Introduction

The Hellenic National Audiovisual Archive (HeNAA) is an organization that is evolving into a Digital Library (DL) leveraging on technological applications for making available online audiovisual works. An architectural element of DL is the application of Peer-to-Peer (P2P) technologies. The application of P2P in DL is not being seen positively by content-providers and subsequent right-holders of copyright. P2P is targeted and comes under fire in most cases from content providers and subsequent right-holders who have interwoven their business interests and business models with the commercial availability of content online. However, P2P per se is a technological system that was not invented to facilitate copyright infringement; rather, it is a technological solution to a problem of computer network architecture. Also, P2P represents a great technological advantage in information and communication core technological infrastructure for the evolution of DLs such as HeNAA. In this short whitepaper we ask whether it is possible to have a system for non-commercial use of intellectual property in consideration of free P2P file-sharing. We express the opinion that a solution to the problem of P2P file-sharing can come only if the focus is on the process to legitimize P2P file-sharing based on proper respect and due payment of the equitable remuneration as is provided by law aiming at fair compensation of authors and creators, and on a balancing of the interests of all the involved parties, i.e. creators, subsequent right-holders, and the general public, in the process of making copyrighted works available online.

Ladies and Gentlemen:

We are here today gathered on the occasion of the 40<sup>th</sup> IASA 2009 Conference entitled “Towards a new kind of archive: the digital philosophy in audiovisual archives” aimed at discussing insightful ideas upon the role of audiovisual archives in the new technological Internet-networked environment. We are supposed to delve into the possible answers to questions such as how users’ expectations of the use of audiovisual material available online and offline have changed and what strategies have been employed by organizations, such as the co-organizer of this event, the Hellenic National Audiovisual Archive (HeNAA), to meet them. We are here today to discuss the pressing need to change and evolve on the eve of digital libraries (DL) such as HeNAA rather than waste time discussing the common practice to leverage upon pre-technological era practices and regulations with the aim to avert change and dissolve the possibility of making knowledge and culture widely accessible to the public under certain circumstances that cater for the interests of all the involved parties — namely, creators, subsequent right-holders, and the general public — while regarding the protection of intellectual property of works.

HeNAA has evolved into a DL. The DL of the 21<sup>st</sup> century is a hybrid form of a library that deviates from the traditional book-keeping library of the past. The term “Digital Library” was coined because of the Internet and refers to an evolving new form of a library that could cover a wide range of information services.<sup>2</sup> The DL of the 21<sup>st</sup> century is not merely a host of digitized books and collections. Rather, it’s an integrator of information management systems, that consists of important elements such as data and metadata, human contribution (creators, users, managers), IT infrastructures (computers, networks, software) which are all orchestrated with the aim to organize, manage, and make available, i.e. provide open access

<sup>1</sup> This work is licensed under a Creative Commons Attribution—Non-Commercial-No Derivative Works 3.0 Greece License. (<http://creativecommons.org/licenses/by-nc-nd/3.0/gr>). The paper is presented here as it was delivered at the 40th IASA conference in Athens 2009 with only minor grammatical changes.

<sup>2</sup> Bokos, G. D. (2001), Introduction to Information Science, Papassotiropou, p.168.

to knowledge, art, culture, and information to library-users.<sup>3</sup> The DL of the 21<sup>st</sup> century is a borderless organization much like the Internet is a naturally borderless network of networks. Access to DLs does not depend any more upon proximity to the local physical premises of the organization. In addition, access to the contents of a DL does not require ownership of an item that becomes available through it. Instead of “owning” the item — audiovisual material mostly in the case of HeNAA — DLs could “lease” it under a license agreement. DLs’ focus has turned from the quest for how to digitize materials, store them and make them available, to the quest for how to manage the rights upon the materials along with the materials.<sup>4</sup>

And that is because the architecture per se of a digital library is different from what we’ve been used to. It is a peer-to-peer (hereinafter, P2P) architecture. P2P technological networks are of vital importance for the evolution of DL.<sup>5</sup> Actually, on the eve of DL, P2P technological networks are evolving as technological infrastructure that is an important architectural element for DLs’ networking with peers. As such, they acquire a competitive advantage. During the ‘90s, the Internet consisted mainly of client/server models which are uncomplicated methods to manage and control the distribution of content. During the last years, however, several aspects of IT developments — such as the widespread penetration of broadband Internet, more connectivity, mobility, the evolution of compression technology, the demand for more storage capacity, more CPU power, and a large amount of content residing on the personal computers of end-users — have changed the way in which users and prospective DL stakeholders connect to the Internet and make use of the content available online.<sup>6</sup> The combination of IT developments makes it difficult for DLs to gain profit via the client/server model. DL infrastructure cannot scale based on the client/server model; but it can if it leverages on the P2P architecture.<sup>7</sup>

The widespread penetration of the Internet causes content providers to explore new distribution platforms that provide solutions for the disadvantages of the client/server models. DLs, publishers, the media industry and end users are exploring systems and platforms to publish and distribute online services and content. P2Ps have demonstrated the opportunities of this disruptive technology regarding the evolution of DL. P2P systems have often been described as the counterpart of client/server networks.<sup>8</sup> In client/server systems, centralized servers manage and control the network and provide services and resources, whereas the clients consume these resources. Several client/server networks can hardly meet the demand for resources because of an increasing number of users, higher bandwidth traffic and the arrival of a variety of applications. The major drawbacks of client/server systems in comparison with P2Ps is that the client/server models suffer from inefficient

3 Atkins, D. E. (1997), Report of the Santa Fe Planning Workshop on Distributed Knowledge Work Environments: Digital Libraries, Report Version September 20, 1997, in which it is stated that “the concept of a “digital library” is not merely equivalent to a digitized collection with information management tools. It is rather an environment to bring together collections, services, and people in support of the full life cycle of creation, dissemination, use, and preservation of data, information, and knowledge.” Available at URL: <http://www.si.umich.edu/SantaFe> [last check, Sept. 15, 2009]. See also Griffin, S. M., NSF/DARPA/NASA Digital Libraries Initiative, A Program Manager’s Perspective, available at URL: <http://www.dlib.org/dlib/july98/07griffin.html> [last check, Sept. 15, 2009], and L. Candela, L., Castelli, D., Ferro, N., Ioannidis, Y., Koutrika, G., Meghini, C., Pagano, P., Ross, S., Soergel, D., Agosti, M., Dobreva, M., Katifori, V., Schuldt, H. (2007), The DELOS Digital Library Reference Model available at URL: [http://www.delos.info/files/pdf/ReferenceModel/DELOS\\_DLReferenceModel\\_0.98.pdf](http://www.delos.info/files/pdf/ReferenceModel/DELOS_DLReferenceModel_0.98.pdf) [last check, Sept. 15, 2009], which defines a digital library as: An organization, which might be virtual, that comprehensively collects, manages and preserves for the long term rich digital content, and offers to its user communities specialized functionality on that content, of measurable quality and according to codified policies.

4 Coyle, K. (2004), The rights in the Digital Rights Management, D-Lib magazine, September 2004, Vol.10 n. 9, available at: <http://www.dlib.org/dlib/september04/coyle09coyle.html> [last check, Sept. 15, 2009].

5 See Ioannidis, Y., Schek, H.-J., Weikum, G. (2005), Future Digital Libraries Management Systems: System Architecture and Information Access, 8th DELOS Thematic Workshop, Schloss Dagstuhl, Germany, available at URL: [http://dbis.cs.unibas.ch/delos\\_website/DI.1.2%20-%20Workshop%2011%20on%20DL%20Access%20and%20Architecture%20jointly%20with%20WP2%20FUTURE%20Digital%20Library%20Management%20Systems%20System%20Architecture%20and%20Information%20Access.pdf](http://dbis.cs.unibas.ch/delos_website/DI.1.2%20-%20Workshop%2011%20on%20DL%20Access%20and%20Architecture%20jointly%20with%20WP2%20FUTURE%20Digital%20Library%20Management%20Systems%20System%20Architecture%20and%20Information%20Access.pdf) [last check, Sept. 15, 2009].

6 De Boever, J., Peer-to-Peer Networks as Distribution and Publishing Model, available at URL: [http://elpub.scix.net/data/works/att/128\\_elpub2007.content.pdf](http://elpub.scix.net/data/works/att/128_elpub2007.content.pdf) [last check, Sept. 15, 2009].

7 Krishnan, R., Smith, M. D., Tang, Z., Telang, R. (2006), Digital Business Models for Peer-to-Peer Networks: Analysis and Economic Issues, available at URL: [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=917899](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=917899) [last check, Sept. 15, 2009], Travis, H. (2005), Building Universal Digital Libraries: An Agenda for Copyright Reform, Pepperdine Law Review, vol. 33, p. 761-829, available at URL: [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=860784](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=860784) [last check, Sept. 15, 2009].

8 See Pourebrahimi, B., Bertels, U., and Vassiliadis, S. (2008), A Survey of Peer-to-Peer Networks, available at URL: [http://ce.et.tudelft.nl/publicationfiles/1075\\_526\\_prorisc05.pdf](http://ce.et.tudelft.nl/publicationfiles/1075_526_prorisc05.pdf) [last check, Sept. 15, 2009].

allocation of resources and limited scalability which can result in bottlenecks and eventually in single points of failure. Furthermore, additional users stand for additional costs as they consume more bandwidth of the system. Nodes in P2P networks do not only act as clients, but they exhibit server functions as well.<sup>9</sup> In addition, while client/server networks are not scalable and are susceptible to bottlenecks and single points of failure, P2P networks are characterized by scalability, decentralization, transient connectivity, cost efficiency, fault tolerance, self organization, sharing of resources and autonomy.<sup>10</sup> In theory, P2P systems exhibit positive network externalities in a way that additional users<sup>11</sup> add value to P2P networks by introducing extra resources into the system. In this way, users preserve the system and influence the functioning, performance and control of the network by making their resources available. Therefore, the deployment of a P2P system that is able to cope with the transient presence of nodes, network/computer failures, and to self-organize itself in the absence, more often than not, of centralized coordinating components, is a critical issue for the further development and long-term viability of HeNAA as a DL.

Examples of peer organizations provide sufficient evidence to support that conclusion. For example, in the Federated Digital Library (hereinafter, FDL) model, which is one of the classic solutions for sharing information among libraries in relevant topics, there is a group of organizations, working together formally or informally, that agree to support a set of common services and standards, thus providing interoperability among their members.<sup>12</sup> Conventionally, most FDLs were built in the client/server fashion. However, with the sharp rise in the number of DLs, especially moderate-sized ones, a performance bottleneck problem has been created in FDLs based on the client/server model. The solution to this bottleneck problem in FDLs appears to be P2P architecture. Additionally, P2P architecture in DLs seems to provide solutions to problems arising not only from scalability, but also from the granularity and meaning in metadata elements used widely in DLs. Due to the semantic heterogeneity resulting from the different metadata schemas employed by various DLs, the client/server models cannot furnish DL users with a search application that does not end up as a difficult, complex, and ineffective task across distributed and heterogeneous digital repositories. DLs may also collaborate with one another to provide content preservation by storing each other's material. Systems such as OceanStore<sup>13</sup> and Intermemory<sup>14</sup> employ this idea.

Attempting to deprive DL from P2P technological architecture and applications on the grounds of considerations for P2P legality, will result in the imposition of higher than projected costs on the deployment of DL projects: depriving them of a method of distributing their output efficiently without incurring high costs, results, simply, in higher costs. File-sharing software, including P2P applications, is capable of cheaply and quickly distributing thousands of public domain literary works, such as those made available through Project Gutenberg<sup>15</sup> as well

<sup>9</sup> This is why nodes or peers have been described as servents (SERVer + cliENTS).

<sup>10</sup> See Androutsellis-Theotokis, S., Spinellis, S. (2004), A Survey of Peer-to-Peer Content Distribution Technologies, *ACM Computing Surveys*, Vol. 36, No. 4, p.335–371, available at URL: <http://www.spinellis.gr/pubs/jrnl/2004-ACMCS-p2p/html/AS04.pdf> [last check, Sept. 15, 2009], Eberspächer, J., and Schollmeier, R. (2005), First and Second Generation of Peer-to-Peer Systems, In R. Steinmetz, R., and Wehrle K. (Eds.). *Peer-to-Peer Systems and Applications*, Berlin Heidelberg: Springer-Verlag, p.35-56.

<sup>11</sup> Such as DL, content providers, end-users, third-party DL-supporting and affiliated organizations, etc.

<sup>12</sup> Gonçalves, M.A., France, R. K., Fox, E.A., and Doszkocs, T.E., MARIAN Searching and Querying across Heterogeneous Federated Digital Libraries, available at URL: [http://www.ercim.org/publication/ws-proceedings/DelNoe01/11\\_Fox.pdf](http://www.ercim.org/publication/ws-proceedings/DelNoe01/11_Fox.pdf) [last check, Sept. 15, 2009]. An interesting example of a FDL requiring interoperability is the Networked Digital Library of Theses and Dissertations (NDLTD), at URL: <http://www.ndltd.org> [last check, Sept. 15, 2009], which is an international federation of universities, libraries, and other supporting institutions interested in worldwide access to electronic theses and dissertations (ETDs).

<sup>13</sup> Chen, Y., Katz, R., and Kubiatowicz, J. (2000), SCAN: A dynamic, scalable and efficient content distribution network, Computer Science Division, University of California at Berkeley, USA, available via URL: <http://www.springerlink.com/content/wmxcyyp86urbnpx> [last check, Sept. 15, 2009].

<sup>14</sup> Chen, Y., Edler, J., Goldberg, A., Gottlieb, A., Sobti, S., and Yianilos, P. N. (1999), A prototype implementation of archival intermemory, available at URL: <http://pnylab.com/pny/papers/improto/improto.pdf> [last check, Sept. 15, 2009].

<sup>15</sup> See Project Gutenberg at URL: [http://www.gutenberg.org/wiki/Main\\_Page](http://www.gutenberg.org/wiki/Main_Page) [last check, Sept. 15, 2009]. Project Gutenberg is the first and largest single collection of free electronic books, or eBooks. Michael Hart, founder of Project Gutenberg, invented eBooks in 1971 and continues to inspire the creation of eBooks and related technologies today.

as those historic public domain films released by the Prelinger Archive.<sup>16</sup> P2P technology is an excellent fit for HeNAA to which works that are not in the public domain are inferred by right-holders with the aim of benefitting the public at large, preserving said works, and making them accessible to users. Distributing audiovisual works over the Internet can be prohibitively expensive for DLs, as well as non-profit entities such as HeNAA, Project Gutenberg or the Internet Archive, which, if they are not allowed to leverage upon P2P architecture and applications, must divert scarce resources to purchasing bandwidth and data storage instead of digitizing audiovisual materials and archived items. File-sharing software permits these entities to shift storage and bandwidth costs onto readers and Internet users more generally, and preserve limited budgets for core mission tasks. File-sharing programs let Internet users do much more than substitute video-file or audio-file format downloads for DVD purchases: they can locate public domain works, watch recordings of live performances in which creators do not claim copyright, rediscover out-of-print or hard-to-find audiovisual works before buying.<sup>17</sup> If it works so for Internet users, it works the same for DLs and HeNAA. P2P represents a great technological advantage in information and communication core technological infrastructure for the evolution of HeNAA.

Currently, in the minds of most regulators, P2P technology is associated with the 'copyright infringement in cyberspace' problem. Content providers and intellectual property right-holders — most commonly, subsequent right-holders and collecting societies, the viability of which depends upon copy-dependent business models — put all their efforts and resources into the fight against P2P. They turn a blind eye to P2P technological advantages and opt for only the technological solutions that favour their old-fashioned business models. However, none of the great advances in information and communications technology, from the photocopier to the videocassette recorder, personal computer, and Internet, would have been viable had all copyright infringements by their users been imputed to their manufacturers.<sup>18</sup> The legal assault on P2P technologies and the "zero tolerance policy" articulated in the Napster and Aimster cases (among others) in the U.S. — and which has been used henceforth from content providers and intellectual property right-holders to attack every possible P2P application that may appear — represents a radical departure from the legal principles of civil law, and will unnecessarily deprive Internet users of a variety of content available for non-commercial use, and many of the benefits of P2P technology and DLs, such as HeNAA, leveraging upon it.<sup>19</sup>

Thus, the question is, is it possible to have a system for non-commercial use of intellectual property in consideration of free P2P file-sharing? A system which DLs such as HeNAA could leverage upon in order to meet both the need to make audiovisual works available to the general public with respect to Intellectual Property law, as well as the need to deploy P2P technologies which are a core element for HeNAA's long-term technological and operational viability?

Since 2003, the Electronic Frontier Foundation (hereinafter, EFF) has proposed an alternative approach that gets artists paid while making file-sharing legal. EFF's proposed solution caters

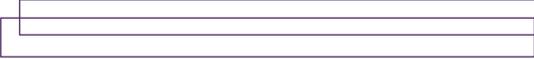
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16 See Prelinger Archive at URL: <http://www.archive.org/details/prelinger> [last check, Sept. 15, 2009]. The Prelinger Archive was founded in 1983 by Rick Prelinger in New York City. Over the next twenty years, it grew into a collection of over 60,000 "ephemeral" (advertising, educational, industrial, and amateur) films. In 2002, the film collection was acquired by the Library of Congress, Motion Picture, Broadcasting and Recorded Sound Division. Prelinger Archive remains in existence, holding approximately 4,000 titles on videotape and a smaller collection of film materials acquired subsequent to the Library of Congress transaction. Its goal remains to collect, preserve, and facilitate access to films of historic significance that haven't been collected elsewhere. Included are films produced by and for many hundreds of important US corporations, non-profit organizations, trade associations, community and interest groups, and educational institutions. Users of the Prelinger Archive are warmly encouraged to download, use and reproduce these films in whole or in part, in any medium or market throughout the world. They are also warmly encouraged to share, exchange, redistribute, transfer and copy these films, and especially encouraged to do so for free. Any derivative works that they might produce using these films are theirs to perform, publish, reproduce, sell, or distribute in any way they wish without any limitations. Their right to use these films is granted by the Creative Commons Public Domain license.

17 Travis, H., *ibid.*, (2005), p.824.

18 Travis, H., *ibid.*, (2005), p.826, and note 425 attributing this argument to Justice David H. Souter and Justice Antonin Scalia, with respect to Xerox photocopier and Apple iPod MP3 player

19 Travis, H., *ibid.*, (2005), p.826, and note 427 regarding Lawrence Lessig's arguments presented in his book *Free Culture—How Big Media Use Technology and the Law to Lock Down Culture and Control Creativity*, The Penguin Press, 2004, available at URL: <http://www.free-culture.cc/freeculture.pdf> [last check, Sept. 15, 2009].



for file-sharing of works and leverages upon the existence and operation of collecting societies. The concept is simple: users of works pay a few dollars each month in exchange for a blanket license to share and download whatever they like; collecting societies collect the money and distribute it between their member artists and right-holders. So long as they pay, the users are free to keep doing what they are going to do anyway — share the works they love using whatever software they like on whatever computer platform they prefer — without fear of lawsuits. The more people share, the more money goes to right-holders. The money collected gets divided among right-holders based on the popularity of their works.<sup>20</sup> EFF's proposed solution is based on a voluntary collective licensing scheme that leverages upon the existence and role of collecting societies. It is not a taxation option, but rather it's a flat-fee payment option to access all available works online without restrictions over copying or further distribution. Payment for file-sharing is implemented through as many mechanisms for payment as the market can support. For example, some file-sharers could buy the right for P2P file-sharing directly through a collecting society's website or could buy it from their ISPs which could bundle the P2P file-sharing fee into the price of their broadband services for users who are interested in P2P file-sharing and downloading of protected works. Payment mechanisms in the market such as channelling the P2P file-sharing fee through ISPs could allow ISPs to advertise a broadband package that includes "free downloads of all the works that the user wants."<sup>21</sup> A P2P file-sharing fee could also be channelled through universities that could make it part of the cost of providing network services to their students. P2P file-sharing software vendors could bundle the fee into a subscription model for their software, which would neatly remove the cloud of legal uncertainty that has inhibited investment in the P2P software field. Digital TV and IP-TV service providers could also bundle a P2P file-sharing fee with their subscription fee for pay-TV services and/or promote P2P file-sharing in the market as an added-value service of their TV and ISP bundled services.

EFF's proposed solution is not a taxation-based scheme, thus it should not be seen as what some have dubbed "an ISP tax."<sup>22</sup> It is a solution that may have an additional cost to the user added to the existing subscription cost of an ISP, but it's not a tax imposed on ISPs directly and/or indirectly from the government. When it was first introduced, the idea for a P2P file-sharing fee channelled through ISPs was met with resistance and/or dismissed from collecting societies in the U.S. Their stance towards it has changed, however, since they realized that all their anti-piracy alternative solutions have proved to be futile so far.<sup>23</sup> In that sense, and in mind of the voluntary nature of the proposed solution, it is noteworthy that EFF's proposal does not necessarily impose an additional cost to an ISP subscriber unless said subscriber is a P2P file-sharer and chooses the ISP subscription option which includes legitimate P2P file-sharing and downloading services. People who do not share protected works online and/or offline shouldn't have to pay for the P2P file-sharing fee.

The P2P file-sharing fee must be worth the value of becoming lawful, i.e. it should not be high enough so as to discourage users from legitimising their file-sharing habits. It should also have a value that encourages the user to opt for paying a flat fee in exchange for unrestricted content available online rather than opting for a pay-per-view scheme. Moreover, all creators who are members of a particular collecting society should not be forced by their collecting society's regulations to participate in the P2P file-sharing in exchange for a P2P file-sharing fee channelled via ISPs if they don't want to. Participation should be an option for the

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20 See Electronic Frontier Foundation, *A Better Way Forward: Voluntary Collective Licensing of Music File Sharing*, April 2008, available at URL: <http://www.eff.org/wp/better-way-forward-voluntary-collective-licensing-music-file-sharing> [last check, Sept. 15, 2009].

21 This is something that's already happening in Greece in some respect and regarding works of music. Almost all bundled Mobile services operators & ISPs allow for file-downloading (P2P file-sharing is the next thing to happen) at the cost of an added-value subscription service. See, for example, the Vodafone Live service of Vodafone available at URL: <http://www.vodafone.gr/portal/client/cms/viewCmsPage.action?pagel=1082> [last check, Sept. 15, 2009] and Cosmote My World Music Zone available at URL: <http://www.musiczone.cosmote.gr/content/web2/dyn/home> [last check, Sept. 15, 2009].

22 See Electronic Frontier Foundation, *Monetizing File-Sharing: Collective Licensing Good, ISP Tax Bad*, March 2008, available at URL: <http://www.eff.org/deeplinks/2008/03/monetizing-file-sharing-collective-licensing-good-isp-tax-bad> [last check, Sept. 15, 2009].

23 See Rose F., *Music Industry Proposed a Piracy Surcharge on ISPs*, *Wired Magazine*, March 13, 2008, available at URL: [http://www.wired.com/entertainment/music/news/2008/03/music\\_levy](http://www.wired.com/entertainment/music/news/2008/03/music_levy) [last check, Sept. 15, 2009]. See, also, Electronic Frontier Foundation, *RIAA v. The People: Five Years Later*, September 2008, chapter VII: *Is It Working?*, available at URL: <http://www.eff.org/wp/riaa-v-people-years-later> [last check, Sept. 15, 2009].

creator too. However, all collecting societies should be forced by law to include a solution of this kind for their members provided that it was finally deemed to be the best alternative option for compensating authors and creators. If the implementation of a solution like EFF's proposal were voluntary to adopt by a collecting society, then the risk for an imbalance between those which have adopted and those that have rejected it in the same local market could inevitably cause competition, friction and distortion in the transparency demand of their operation imposed by collecting societies' members. The EFF's proposed solution is "technology agnostic", therefore there should be no room for the implementation of such a solution through a technological platform of a certain kind and/or of certain origins: whatever the technological platform — Linux, Mac, Windows, iPod, cell phone, downloads, streaming, buffered streams — the end-user should have the right to make a choice upon it. No ISP and no collecting society should impose any technological platform on the end-user. Once the P2P file-sharing fee is paid, it's nobody's business where the protected work comes from or where it ends up.

We find the no-taxation option of the presented solution hereto, which we acknowledge to be fair enough to cope with the file-sharing problem, to be closer to the Greek reality regarding possible options for amending the Intellectual Property Law in Greece and legitimizing P2P file-sharing of protected works. The nature of the equitable remuneration of article 18§3 of L.2121/1993 is not a tax,<sup>24</sup> but rather it is a kind of a collective licensing imposed by Law on the users indirectly, i.e. said licensing has a monetary value the cost of which is paid by the importers or producers of devices which the user is buying. Judicial precedent in Greece is in sync with this view that the nature of the equitable remuneration of article 18§3 of L.2121/1993 is not a tax, but rather is an obligation imposed by Law, a liability recognised in the provisions of L.2121/1993.<sup>25</sup> The equitable remuneration of article 18§3 of L.2121/1993 is set with the aim of balancing the conflicting interests between right-holders on one side and the general public on the other. The Greek Copyright Law caters for statutory limitations, one of which is the right to private use of a work without any obligation on the user's part except for the equitable remuneration of article 18§3 that is set at a predetermined percentage of the value of the devices for the reproduction of the work. The meaning in L.2121/1993 is that the equitable remuneration is imposed in any case, and regardless of whether a work was reproduced for private or other use or not reproduced at all. Private use of a work does not prevent the application of L.2121/1993, which caters for fair compensation for the right-holders insofar as is permitted by it.<sup>26</sup> Also, any use of a protected work, including private use, of course is limited by the three-step-test of articles 18§2 and 28C of L.2121/1993.

Rather than attacking human rights of people by considering solutions such as those furnished through the 2007 Report of Denis Olivennes<sup>27</sup> — which the Nicolas Sarkozy administration in France has attempted to implement through the passing of the Hadopi Law and which the European Parliament has already rejected,<sup>28</sup> and which the French Constitutional Court has already found to be in conflict with the holiest of French legal documents, i.e. the Declaration

24 For the meaning of "tax", see Supreme Court in plenum, 22/2006, "Isocrates" database for Athens bar Association's members, Hellenic Jurisprudence (Elliniki Dikeosini), 2005, vol.47, p.1071. See also, Supreme Court in plenum, 18/1994, "Isocrates" database for Athens bar Association's members, Legal Podium (Nomiko Vima), 1996, vol.44, p.37. See, also, Supreme Special Court, 8/2007, "Isocrates" database for Athens bar Association's members, Armenopoulos, 2007, p.1773. Contra State's Council, Fourth Department, 949/2000, "Isocrates" database for Athens bar Association's members, 2001, vol.49, p.1071, Legal Podium (Nomiko Vima), 2001, vol.42, p.1063, Hellenic Jurisprudence (Elliniki Dikeosini).

25 See Court of First Instance of Athens, Decision 121/2008, and Decision 3860/2001, Commercial Law Review (EEmpD) 2011, p.790-794, "Isocrates" database for Athens bar Association's members. See, also, Supreme Court Decision 1125/2006, "Isocrates" database for Athens bar Association's members.

26 See also Directive 2001/29/EC introductory note 45.

27 See Rapport au Ministre de la Culture et de la Communication, Mission confiée à Denis Olivennes, November 2007, available in French at URL : <http://www.culture.gouv.fr/culture/actualites/index-olivennes231107.htm> [last check, Sept. 15, 2009].

28 See Phillips L., Commission backs internet users over content providers, EUobserver.com, 9.10.2008, available at URL: <http://euobserver.com/871/26903> [last check, Sept. 15, 2009], the same, French internet law clashes with EU position, EUobserver.com, 31.10.2008, available at URL: <http://euobserver.com/871/27026> [last check, Sept. 15, 2009].

of the Rights of Man and Citizen of 1789<sup>29</sup> — we believe that a solution to the problem at hand could come only if the focus is on the process of legitimizing P2P file-sharing on condition of proper respect and due payment of the equitable remuneration as is provided by law aiming at fair compensation of authors and creators. The equitable remuneration of article 18§3 of L.2121/1993 in the provisions of the Greek Copyright Law will be violated by illegal P2P file-sharing of protected works for as long as legislators do not take action and amend L.2121/1993 in consideration of the interests of all the involved parties, i.e. right-holders, subsequent right-holders, and the general public. The interests of right-holders and subsequent right-holders are not served well by turning a blind eye to the widespread practice of P2P file-sharing, which the general public considers positively. The interests of all the involved parties regarding intellectual property via Internet networks and P2P file-sharing practices are not served well by conducting biased public consultations intended to create statistical background data and present a distorted perception for P2P file-sharing as if it had been the general public's negative stance upon it. The general public's stance opposes such measures as those proposed by the Hadopi Law. This has become clear even in France where the current public administration<sup>30</sup> found severe resistance from the opposition (the Socialists, mainly) to pass legislation that will cut off access to the Internet to those who are found to be repeatedly downloading copyrighted material without permission. Massive protests against the passing of such legislation have expressed clearly the public's dissent for the enactment of measures that could transform the Internet from a technology of freedom to a technology of surveillance.<sup>31</sup> After the French Constitutional Court's negative verdict on the constitutionality of the Hadopi Law, the proponents of it failed in "saving" intellectual property in cyberspace from the ingrained dangers of P2P file-sharing.

The interests of all the involved parties cannot be served at all if the focus is on solutions the implementation of which requires violating the Constitutional principle of proportionality and/or Constitutional principles upon which human rights are founded. This cannot happen in a democratic society, such as Greece. The exchange of copyrighted materials on P2P networks is inevitable. Some users will use P2P technology to infringe. If that alone is enough reason to target P2P with the aim of shutting down the technology, then those who do so sacrifice technological progress for the sake of content providers' financial interests, a poor choice of technology policy at a time when technology has never held more promise.<sup>32</sup>

29 See Phillips L., Sarkozy tries to rescue Internet Law after court decision, EUobserver.com, 12.6.2009, available at URL: <http://euobserver.com/871/28294> [last check, Sept. 15, 2009]. In June 10, 2009, the French Constitutional Court ruled that cutting off internet access by the Hadopi agency—Haute Autorité pour la Diffusion des Œuvres et la Protection des Droits sur Internet (Hadopi), or High Authority on Diffusion of Works of Art and the Protection of the Rights on the Internet—without recourse to a court of law contravened three articles of the Declaration of the Rights of Man, France's fundamental document setting out the rights of French citizens, breaching rights to freedom of expression and the presumption of innocence. The ruling echoes the arguments the European Parliament put forward in its attempt to outlaw the French bill by tacking on an amendment to a package of legislation liberalising the European telecommunications sector.

30 On Wednesday, March 11 and Thursday, March 12, the French parliament debated the "creation and internet" law that introduces the three strikes or so-called graduated response against illegal downloading. Under the legislation those accused of such activities are first sent an email warning them of their infraction by a new government agency. They are subsequently sent a warning letter in the post. If after this second warning they continue to illegally download copyrighted content, the internet service provider will cut off access to the internet for a year. The legislation passed in the Senate, with a massive cross-party majority of 297 votes to 15. Only a handful of conservatives, centrists and socialists voted against, while the Communists abstained. However, in the lower house, the bill faced stiffer resistance as 'internauts', as web-surfers are known in France, mobilised against the law. On April 2, 2009, the French National Assembly finally passed the three-strikes-bill to combat Internet piracy despite Socialists' opposition to the bill. See Phillips L., French websites blacked out to protest piracy bill, EUobserver.com, 13.3.2009, available at URL: <http://euobserver.com/871/27769?rk=1> [last check, Sept. 15, 2009], and the same, French National Assembly passes three-strikes internet piracy bill, EUobserver.com, 3.4.2009, available at URL: <http://euobserver.com/871/27910?rk=1> [last check, Sept. 15, 2009].

31 See Phillips L., *ibid.*, 13.3.2009, according to who, La Quadrature du Net (Squaring the Net), a French internet civil liberties pressure group backed by the Open Society Institute and the Electronic Frontier Foundation, has successfully organised a 'Black-out' protest, in which web designers, bloggers and others on the internet darken their web pages in protest at the bill. The group says it is difficult to put a precise figure on the number of blacked-out sites, but say the number of unique domains joining the protest has reached over 12,000 and the number of URLs (web addresses) is at over 500,000. "To be safe, we are just saying tens of thousands," Jeremie Zimmerman, a spokesperson with La Quadrature du Net, told EUobserver: Facebook profiles were also being blacked out, and, in the first such protest of its kind in France, users of Twitter, the increasingly popular micro-blogging service, were blacking out their avatars as well. The entire "island" in Second Life, the virtual online world, went black on Saturday, March 14, 2009. "The law is based on the surveillance of internet users by a public body but employing so-called proof of illegal activities supplied by private actors - such as collecting societies and the music companies - over which, unlike the police who would normally be the actors who monitor for illegal activities - we have no democratic control," said Mr. Jeremie Zimmerman. And he continued, "It will also use harvested IP addresses as proof - which is so imprecise that it is certain that there will be innocents that will be caught up in its net, and finally, there is no recourse against this until after your internet access is cut off. It's a kafkaesque legal procedure."

32 See Schaumann N. (2005), Direct Infringement on Peer-to-Peer Networks, William Mitchell Legal Studies Research Paper No. 9, available at URL: <http://ssrn.com/abstract=703882> [last check, April 30, 2009].

Regulations that restrict P2P networks and the freedom of speech through them could be necessary in a democratic society under certain exceptional conditions. But restrictions are deemed necessary in a democratic society only if they answer a pressing social need and are proportional to the legitimate aim of the restriction. This is obviously not the case with current content-providers and subsequent right-holders' negative stance towards P2P file-sharing technologies.

Also, those who promote the implementation of solutions such as those furnished through the Hadopi Law in France, seem to sacrifice access values for the sake of property values. We object to this idea strongly since we find it out of place and context in our democratic and Internet-networked society. The attempted broadening of criminalization of P2P file-sharing with the aim of blocking access and dissemination of works in the Internet is in direct conflict with article 10 of the European Convention for the Protection of Human Rights and Fundamental Freedoms as it was amended by Protocol 11 which came into force as of November 1998, with Protocols 1, 4, 6, 7, 12, & 13 (ECHR).<sup>33</sup> An explicit recognition of the importance of the ECHR and its binding character for EU-member countries is embodied in article 6 of the Treaty of the European Union.<sup>34</sup> <sup>35</sup> Article 10 of ECHR is applicable, at the very least, into the communication of facts, news, knowledge and scientific information. The conflict with article 10 of ECHR occurs because measures such as those suggested through the Hadopi Law do not allow for certain socially valuable uses which are exempted from the copyright scope in order to pursue the objective of dissemination of copyrighted works while protecting user-privacy and stimulating the creation of new works by follow-on authors. Blocking access to and dissemination of works in the Internet for certain socially valuable uses which are exempted from the copyright scope, results in a blocking of the freedom of speech which is constitutionally protected in all EU-member countries. In its Recital 22, Directive 2001/29/EC of the European Parliament and of the Council of 22 May 2001 on the harmonisation of certain aspects of copyright and related rights in the information society, states that *The objective of proper support for the dissemination of culture must NOT<sup>36</sup> be achieved by sacrificing strict protection of rights or by tolerating illegal forms of distribution of counterfeited or pirated works.* Therefore, the objective of proper support for the dissemination of culture must NOT be achieved by sacrificing strict protection of the right to freedom of speech in as much as other fundamental human rights. Article 10 of ECHR is intended to be interpreted broadly and applied to old and new media alike — including the Internet, of course.<sup>37</sup> In consideration of this fact, it is reasonable to argue that the rights to impart, distribute, and receive information in the Internet without government interference applies also to

33 See The European Court of Human Rights, The European Convention for the Protection of Human Rights and Fundamental Freedoms at the URL: <http://www.echr.coe.int/ECHR/EN/Header/Basic+Texts/Basic+Texts/The+European+Convention+on+Human+Rights+and+its+P+rotocols> [last check, Sept. 15, 2009], article 10 of which states in §1: Everyone has the right to freedom of expression. This right shall include freedom to hold opinions and to receive and impart information and ideas without interference by public authority and regard less of frontiers. This article shall not prevent States from requiring the licensing of broadcasting, television or cinema enterprises. And in art. 10§2: The exercise of these freedoms, since it carries with it duties and responsibilities, may be subject to such formalities, conditions, restrictions or penalties as are prescribed by law and are necessary in a democratic society, in the interests of national security, territorial integrity or public safety, for the prevention of disorder or crime, for the protection of health or morals, for the protection of the reputation or rights of others, for preventing the disclosure of information received in confidence, or for maintaining the authority and impartiality of the judiciary. The ECHR has been transposed in Greece via L.D. 53/1974.

34 See the Treaty of the European Union at the URL: <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:C:2008:115:0013:0045:EN:P+DF> [last check, Sept. 15, 2009] in which article 6§1 states: The Union recognises the rights, freedoms and principles set out in the Charter of Fundamental Rights of the European Union of 7 December 2000, as adapted at Strasbourg, on 12 December 2007, which shall have the same legal value as the Treaties. The provisions of the Charter shall not extend in any way the competences of the Union as defined in the Treaties. The rights, freedoms and principles in the Charter shall be interpreted in accordance with the general provisions in Title VII of the Charter governing its interpretation and application and with due regard to the explanations referred to in the Charter, that set out the sources of those provisions. And in art. 6§2 it states: The Union shall accede to the European Convention for the Protection of Human Rights and Fundamental Freedoms. Such accession shall not affect the Union's competences as defined in the Treaties. And in art. 6§3 it states: Fundamental rights, as guaranteed by the European Convention for the Protection of Human Rights and Fundamental Freedoms and as they result from the constitutional traditions common to the Member States, shall constitute general principles of the Union's law.

35 According to article 28§1 of the Constitution of Greece, The generally recognised rules of international law, as well as international conventions as of the time they are sanctioned by statute and become operative according to their respective conditions, shall be an integral part of domestic Greek law and shall prevail over any contrary provision of the law. The rules of international law and of international conventions shall be applicable to aliens only under the condition of reciprocity. Therefore, article 10 of ECHR prevails over any contrary provision of local law in Greece.

36 Emphasis added.

37 Hugenholtz, B. (2001), *Copyright and Freedom of Expression in Europe*, published in: Cooper Dreyfuss, R., First, H., and Leenheer Zimmerman, D., (eds.), *Expanding the Boundaries of Intellectual Property*, Oxford: Oxford University Press 2001, available at URL: <http://www.ivir.nl/staff/hugenholtz.html> [last check, Sept. 15, 2009].

file-sharing enabled by P2P networks. Freedom of speech in P2P communication is blocked so long as restrictive measures aim at protecting the rights of others established by copyright law with regard to the reproduction and making available of creative works through the Internet. Assuming that every copyrighted work consists, at least in part, of “information and ideas,” a potential conflict between copyright and freedom of expression is apparent. The potential restriction and alteration of the design of P2P networks stemming from the overstretched copyright liability criteria runs contrary to the principle of freedom of speech in so far as end-users are deprived of the opportunity to disseminate free information, ideas, and unprotected works and/or protected works used for certain socially valuable uses, such as personal non-commercial use, which are exempted from the copyright scope through P2P networks made available via the Internet.<sup>38</sup> Freedom of speech is also endangered by potential restrictions and alterations of the design of P2P networks as a direct consequence of the creation of policing duties for ISPs, network operators, hosting providers etc. The burden of monitoring and policing communication via the Internet imposed on ISPs etc will inevitably direct them towards blocking end-users’ access to P2P networks via ISPs’ services and networks in order to prevent the risk of ISPs’ liability based on copyright infringement.<sup>39</sup>

Freedom of speech is safeguarded in Greece mainly through the provisions of articles 5§1 and 14§1 of the Constitution,<sup>40</sup> and the right to information is specified in article 5A§§1, 2.<sup>41</sup> It is widely accepted in legal theory that the provisions for the protection of intellectual property do not conflict with the constitutional provisions for freedom of speech and the right to information, but rather the constitutional provisions, and especially article 5A aim at safeguarding for people the right to participate in Cyberspace so that they are not deprived of it.<sup>42</sup> The protection of intellectual property is considered to be third-party’s right for which restrictions may be imposed in the constitutional right to information for the sake of protecting it. But these restrictions *may be imposed by law only insofar as they are absolutely necessary and justified*, i.e. restrictions are deemed necessary because they answer to a pressing social need and are proportional to the legitimate aim of the restriction. However, this is not the case with an attempted total ban of P2P networks and file-sharing which goes far beyond the scope of the constitutional rule and does not respect the principle of proportionality.

Instead, we could focus our attempts in amending the Copyright Law with the aim of balancing conflicting values, access and property, and legitimize P2P file-sharing on condition of proper respect and due payment of the equitable remuneration as is provided by law. We should be unwilling to allow content providers, collecting societies, and copyright holders to prevent infringement effectuated by means of a new technology such as P2P networks at a price of possibly denying non-infringing Internet and Intellectual Property users the benefit of the P2P technology. Blaming P2P technology just because content providers, collecting societies, and copyright holders can hardly control it and manage their — mainly financial — interests in the advent of P2P evolution, does not make any sense to the general public. If,

38 Hugenoltz, B., *ibid.*, (2001). See, also, for the United States: Nimmer, M., (1970), Copyright vs. the First Amendment, 17 Bulletin of the Copyright Society 255, Sobel, L., (1971), Copyright and the First Amendment: a gathering storm?, 19 ASCAP Copyright Law Symposium 43. For more recent discussion, see Weinstock Netanel, N., (1998), Asserting Copyright’s Democratic Principles in the Global Arena, 51 Vanderbilt Law Review 217, Fraser, S., The Conflict between the First Amendment and Copyright Law and its Impact on the Internet, 16 Cardozo Arts & Ent. Law J. 1

39 Mazziotti, G. (2008), EU Digital Copyright Law and the End-User, Springer-Verlag Berlin Heidelberg, p.239-241, Ploman, E.W., and Clark Hamilton, L., (1980) Copyright. Intellectual Property in the Information Age, London, p. 39, Jehoram, H. C., (1983), Freedom of expression in copyright and media law, GRUR Int. 385, Hugenoltz, B., *ibid.*, (2001).

40 See article 5§1 of the Constitution of Greece according to which All persons shall have the right to develop freely their personality and to participate in the social, economic and political life of the country, insofar as they do not infringe the rights of others or violate the Constitution and the good usages, and article 14§1 according to which Every person may express and propagate his thoughts orally, in writing and through the press in compliance with the laws of the State.

41 According to article 5A§1, All persons have the right to information, as specified by law. Restrictions to this right may be imposed by law only insofar as they are absolutely necessary and justified for reasons of national security, of combating crime or of protecting rights and interests of third parties, while according to article 5§2, All persons have the right to participate in the Information Society. Facilitation of access to electronically transmitted information, as well as of the production, exchange and diffusion thereof, constitutes an obligation of the State, always in observance of the guarantees of articles 9, 9A and 19.

42 See Kallinikou, D., (2008) Copyright and Related Rights, 3rd edition, P. Sakkoulas, p.11-12, Synodinou, T., (2008) Intellectual Property and New Technologies, Sakkoulas Publications, p.178-214, Supreme Court decision 752/1988, “Isocrates” database for Athens bar Association’s members, Supreme Court in plenum decision 812/1980, “Isocrates” database for Athens bar Association’s members.

however, content providers, collecting societies, and copyright holders want to enlist the public to help control copyright infringement, they must be willing to support propositions of copyright law that make sense to the general public. The general public leveraging upon the power of Internet-networked communications is probably the biggest threat to content providers and collecting societies. It is not piracy or online competitors that create the threat, but the *nonmarket alternatives* such as P2P networks in the hands of the general public. Content providers and collecting societies might rail against “pirates” and demand stronger copyright protection, but the real long term threat to their business models is the migration of consumer attention to amateur creativity and social communication. Social production on open networks such as P2P has become a powerful creative and economic force in its own right. Ordinary people can now find their own voices and develop folk cultures of their own that may or may not use the market.<sup>43</sup> The real long term threat to copyright is the widespread social defiance of the Copyright Law, which crops up as a consequence of content-providers’ and subsequent right-holders’ fight against technological solutions that pose a threat to their financial interests.

So far, we know of no scientifically conducted and unbiased report in Greece which has reached the conclusion that there is no general interest in people’s right to use creative works online and/or that information technology like P2P systems is against people’s interest in making use of intellectual property online. There has been no public — and unbiased — consultation in Greece which caters for the aggregation and scientific analysis of the feedback received from all the involved parties, i.e. creators, subsequent right-holders and the general public with conflicting interests regarding the “hot-potato” of P2P file-sharing and the legal use of intellectual property online. On the contrary, there have been efforts to demonize P2P technology as if it were the cause of all the evils that cropped up in the Intellectual Property online arena. There has been a stance of content-providers and subsequent right-holders towards P2P technologies in Greece similar to the “substantial contributory infringement”<sup>44</sup> claim in the famous Sony case<sup>45</sup> or the theory of inducement and the “active steps” liability claim in the famous Grokster case<sup>46</sup> in the U.S. Content-providers and subsequent right-holders who feel that their business models and financial interests are threatened by the advantages of P2P file-sharing are leveraging upon litigators with the aim to stop and prohibit any further use of P2P systems charging them as illegal. Those who attack P2P systems claim that P2P software providers are liable for exerting control upon illegal use of protected works through their network and/or have the possibility to exert control, and/or have a financial interest in the infringing activity, and/or are liable because they induce others who are members of a P2P network to infringe copyright, and/or are liable because of breach of their duty of care under tort law if the software provider is found either to support direct infringement actively by allowing parties to use its technology or for failing to exercise due care when giving shape to the technology itself.

The myopic legal assault on P2P systems — whatever is their nature and use — that we’ve come across during the last decade is problematic. It is a quirky reaction of lawyers who perceive Intellectual Property as if it were their terrain of expertise only in the advent of technological evolution that forces changes in almost all aspects — legal, business, social etc — of society and on how people make use of content that becomes available online.<sup>47</sup>

<sup>43</sup> Bollier, D., (2008), *Viral Spiral, How the Commons Build a Digital Republic of their Own*, The New Press, p. 133, available at URL: <http://www.viralspiral.cc/download-book> [last check, Sept. 15, 2009].

<sup>44</sup> There are three possible forms of copyright liability under the U.S. Copyright Law: A) Contributory infringement, which refers to the conduct of one who, fully aware of his/her infringing activity, induces, causes or materially contributes to the infringing activity of another. B) Vicarious liability, which refers to the legal principle that one who has the right and the ability to supervise and direct an infringer and also has a financial interest in the infringer’s activity may be held liable for the conduct of the people under their supervision. C) The theory of inducement, which provides that one who takes active steps with the intent of promoting an infringement, is liable for the resulting acts of infringement by third parties. See, also, Von Lohmann, F., (2006), *IAAL: What Peer-to-Peer Developers Need to Know about Copyright Law*, Electronic Frontier Foundation, available at URL: <http://www.eff.org/wp/iaal-what-peer-peer-developers-need-know-about-copyright-law> [last check, Sept. 15, 2009].

<sup>45</sup> See *Sony Corp. of America v. Universal City Studios Inc.*, 464 U.S. 417 (1984) case available at URL: [http://www.law.cornell.edu/copyright/cases/464\\_US\\_417.htm](http://www.law.cornell.edu/copyright/cases/464_US_417.htm) [last check, Sept. 15, 2009].

<sup>46</sup> See *Metro-Goldwyn-Mayer Studios Inc., v. Grokster Ltd.*, 545 U.S. Supreme Court, June 27, 2005, available at URL: [http://w2.eff.org/IP/P2P/MGM\\_v\\_Grokster/04-480.pdf](http://w2.eff.org/IP/P2P/MGM_v_Grokster/04-480.pdf) [last check, Sept. 15, 2009].

<sup>47</sup> Intellectual Property is economically too important to be left to lawyers while at the same time it is too legally charged to be left to managers. See Goldstein, P., (2007), *Intellectual Property: The Tough New Realities that Could Make or Break your Business*, Portfolio, p.6.

Also, P2P is targeted and is exposed to fire in most cases from content-providers and subsequent right-holders who have interwoven their business interests and business models with the commercial availability of content online. However, P2P per se is a technological system that was not invented to facilitate copyright infringement; rather, it is a technological solution to a problem of computer network architecture.<sup>48</sup> It can be used for a wide range of uses, only some of which have been found to be illegal by the judiciary in consideration of the existing legal framework and which, at its biggest portion, is the result of laws and legal theories of the pre-technologically-sophisticated era. Skype, for example, which allows users to make phone-calls from one computer to another for free, and from their computer to the telephone network for a small fee is a P2P technology. Should we enact a legal assault on Skype just because it's a P2P application?

P2P is developing as a general approach toward producing distributed data storage and retrieval systems, just as open wireless networks and distributed computing are emerging to take advantage of personal devices to produce distributed communications and computation systems, respectively. As the social and technological uses of P2P technologies grow and diversify, the legal assault on all P2P developers becomes less sustainable<sup>49</sup> — both as a legal matter and as a social-technical matter.<sup>50</sup> Therefore, it is totally wrong to behave as if the thorny problem of copyrighted content via P2P systems were only a legal matter requiring the intervention of lawyers and law-making experts to resolve. Legal use of works available online via P2P systems is an issue wider than the limits of Intellectual Property Law, or, to phrase it otherwise, the form of regulation for Intellectual Property through P2P technologies requires proper consideration of other key-factors such as technological development, people's behaviour and society's response to the Intellectual Property online problem.

In that sense, we believe that the 2003 EFF's proposal presented hereto and seen in the context of the Greek Copyright Law is in the right direction and capable of providing a balanced solution to a seemingly insolvable problem. Thus, we could design and implement a plan in which ISPs could bundle the P2P file-sharing fee into the price of their broadband services for users who are interested in P2P file-sharing and downloading of protected works. In that case, file-sharers could remunerate right-holders through collecting societies. The EC Directives on Copyright issues allow for the idea of mandatory collecting societies licensing in situations similar to the case of article 9§1 of "Council Directive No. 93/83/EEC of 27 September 1993 on the coordination of certain rules concerning copyright and rights related to copyright applicable to satellite broadcasting and cable retransmission". According to this article, *Member States shall ensure that the right of copyright owners and holders of related rights to grant or refuse authorization to a cable operator for a cable retransmission may be exercised only through a collecting society*. An amendment to Copyright Law which would cater for such mandatory collecting societies' licensing in the case of P2P file-sharing for non-commercial use would be in sync with existing regulation and could provide a solution to a seemingly insolvable problem. Also, the non-commercial use of intellectual property

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<sup>48</sup> See Schaumann, N., (2005), *Direct Infringement on Peer-to-Peer Networks*, William Mitchell Legal Studies Research Paper No. 9, available at URL: <http://ssrn.com/abstract=703882> [last check, Sept. 15, 2009]. In the traditional ("one-to-many") model, users access a web site, physically located on a server — a computer whose task is to respond to user requests (for example, to view a file, to receive and process user orders, or any of the myriad functions performed by web sites). In this model, one server responds to many users, and the model was a vast improvement over that prevalent in the pre-network era, when information generally had to be delivered physically to the computer on which it was used. For all its relative efficiency, however, the one-to-many model has some shortcomings easily noticed by users and web site proprietors. From the user's perspective, a bottleneck is created when server capacity is overtaxed by the number of user requests. That is, logging on to a busy server results in very slow responses or even in some cases a complete failure to respond. From the web site proprietor's perspective, it is expensive to store vast amounts of information on servers. Moreover, a successful business model implies that the more information is stored, the more users will be attracted to the information, necessitating additional processing capacity — and thus additional investment — to avoid bottlenecks that will make response times unacceptably slow and thereby drive users away. P2P technology addresses these concerns by reconfiguring the model of information storage and retrieval. In the P2P model, each user's computer acts simultaneously as a server and as a client. The result is a "many-to-many" configuration; many servers to many users. Because each connected computer functions simultaneously as a client and as a server, each computer is a "peer" of the other connected computers; hence the term "peer-to-peer."

<sup>49</sup> It could sustain only as sufficient evidence of legal stupidity and myopia, which could, however, turn out dangerous for society when people expressing it are assigned the task to manage government-funded organizations that focus on the intellectual property legal and/or societal issues.

<sup>50</sup> Benkler, Y., (2006), *The Wealth of Networks—How Social Production Transforms Markets & Freedom*, Yale University Press, p.421, available at URL: [http://cyber.law.harvard.edu/wealth\\_of\\_networks/Main\\_Page](http://cyber.law.harvard.edu/wealth_of_networks/Main_Page) [last check, Sept. 15, 2009].

should be available for free through P2P file-sharing networks because of a work's "non-excludable" and "non-rival" nature once it becomes available online. Considering that a copyrighted work is both an input and an output of the process of intellectual creation,<sup>51</sup> increasing the cost of use at the input stage, consequently increases the cost at the output stage. Or, to put it differently, the elimination of the free access to works and allowance for file-sharing through P2P networks would dramatically restrain the use of copyrighted works as an input to further creativity i.e. the output of the process of intellectual creation. In fact, only those who are willing to pay the costs mandated by the copyright right-holders would have the opportunity to access and build upon the protected work, the ideas and material described therein. Therefore, we need to craft and make use of an alternative system for non-commercial use of intellectual property in consideration of free P2P file-sharing. Once successful locally such an alternative system could be replicated internationally starting from the EU member-countries and expanding beyond EU borders; it could achieve sameness in the legal environment of different jurisdictions.

Legislators need to adopt an open-minded approach to the P2P file-sharing problem in Copyright or else they run the risk of losing the battle for the "hearts and minds" of the general public. They run the risk of turning the general public into Copyright's worst enemy by making it abolish copyright at social level and thus create an unprecedented crisis for the copyright system. The officially registered Pirates Parties in Sweden<sup>52</sup> and some other EU countries,<sup>53</sup> as well as the similar movements in many other countries that have yet to register officially, are indications that speak volumes of the general public's revolt to legislators' hesitance in amending Copyright Law in a way that considers carefully the interests of all the involved parties. Legislators and copyright holders need to consider carefully whether a system that is routinely ignored — such as the existing copyright system that directly confronts P2P file-sharing technologies — may help to foster the belief that copyright is unimportant and unjustifiable and hence in the long term may undermine the entire copyright edifice.<sup>54</sup> They need to reform current Copyright legislation with the aim of adopting a system that is flexible and adaptable, just as new technologies enabled the creation of new kinds of works, far from the rigidity of the existing one which makes it unsustainable in the long term.<sup>55</sup>

Legislators need to take measures to protect intellectual property in cyberspace but only after meticulous assessment in light of contemporary innovation research, and in respect of the principle of proportionality, the necessity for said measures, in consideration of

51 Scotchmer, S., (1991), Standing on the shoulders of giants: cumulative research and patent law, *Journal of Economic Perspectives*, p.29-41. Benkler, Y., (2001), *A Political Economy of the Public Domain: Markets in Information Goods vs. The Marketplace of Ideas in Expanding the Boundaries of Intellectual Property: Innovation Policy for the Knowledge Society* (Cooper Dreyfuss, R., Leenheer Zimmerman, D., & First, H., eds., Oxford University Press).

52 The Pirate Party (Swedish: Piratpartiet) is a political party in Sweden. It strives to reform laws regarding copyright and patents. The Pirate Party is the third largest party in Sweden in terms of membership. The Pirate Party's associated youth organization, Young Pirate (Swedish: Ung Pirat), is now the largest political youth organization in Sweden by membership count.

53 As of 2009, Pirate Parties are officially registered in the following countries: Austria (Piratenpartei Österreichs), Czech Republic (Česká pirátská strana), Finland (Piraattipuolue), France (Parti Pirate Français), Germany (Piratenpartei Deutschland), Poland (Partia Piratów), Spain (Partido Pirata), United Kingdom (Pirate Party UK). Unofficially registered Pirate Parties exist in the following countries: Argentina (Partido Pirata Argentino), Australia (Pirate Party Australia), Belgium (Pirate Party Belgium), Brasil (Partido Pirata do Brasil), Canada (Pirate Party of Canada), Chile (Partido Pirata de Chile), Estonia (Eesti Piraadipartei), Denmark (Piratpartiet), Ireland (Pirate Party of Ireland / Páirtí Foghlaithe na hÉireann), Italy (Partito Pirata Italiano), The Netherlands (Piratenpartij Nederland), Portugal (Partido Pirata Português), Romania (Partidul Piraților), Slovak Republic (Slovenská pirátska strana), Slovenia (Piratska stranka Slovenije), Switzerland (Piratenpartei Schweiz), Ukraine (Піратська Партия України), and United States (Pirate Party). Additionally, there are discussions on Pirate Party International about forming parties in Mexico, Brazil, Colombia, New Zealand, Serbia and a letter of notification that a party is forming in Peru. See Wikipedia EN at URL: [http://en.wikipedia.org/wiki/Pirate\\_Party#cite\\_note-Stahl-25](http://en.wikipedia.org/wiki/Pirate_Party#cite_note-Stahl-25) [last check, Sept. 15, 2009].

54 Burrell, R., and Coleman, A., (2005), *Copyright Exceptions—The Digital Impact*, Cambridge Studies in Intellectual Property Rights, Cambridge University Press, p.278-279.

55 Samuelson, P., (2007), Preliminary Thoughts on Copyright Reform, *Utah Law Review*, 2007; U.C. Berkeley Public Law Research Paper No. 1002676. Available at URL: <http://ssrn.com/abstract=1002676> [last check, Sept. 15, 2009].

openness and its importance,<sup>56</sup> and the related legal framework that does not allow for systematic monitoring and surveillance of Internet users' P2P file-sharing behaviour online. We all need to delve into the causes of intellectual property infringement among which is certainly the excessive access restriction to works in cyberspace imposed by intellectual property right-holders, creators and, most commonly, subsequent right-holders.<sup>57</sup> We need to re-orientate our legal framework from P2P-resistant to file-sharing-friendly and amend Copyright Law so that it becomes possible to bridge the existing and constantly widening gap between regulation and technological advancement regarding the use of intellectual property in cyberspace. The current myopic assault on P2P leads to a dead-end and stems from a one-sided approach of, mainly, subsequent right-holders.

## References

- Androutsellis-Theotokis, S.; Spinellis, D. (2004) *A Survey of Peer-to-Peer Content Distribution Technologies*, ACM Computing Surveys, 36(4), pp.335–371, available at URL: <http://www.spinellis.gr/pubs/jrnl/2004-ACMCS-p2p/html/AS04.pdf> [last check, April 30, 2009].
- Arms, W.Y. (2001), *Digital Libraries*, The MIT Press.
- Atkins, D. (1997), *Report of the Santa Fe Planning Workshop on Distributed Knowledge Work Environments: Digital Libraries*, Report Version September 20, 1997, available at URL: <http://www.si.umich.edu/SantaFe> [last check, April 30, 2009].
- Barlow, J.–P., *A Declaration of the Independence of Cyberspace*, available at URL: <http://homes.eff.org/~barlow/Declaration-Final.html> [last check, April 30, 2009].

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<sup>56</sup> See Background Report for the 1st Internet Governance Forum, Athens, Greece, Oct.–Nov. 2006, available at URL: <http://igf.wgig.org/cms/index.php/athensmeeting> [last check, Sept. 15, 2009]. During the 1st IGF, many speakers and contributors highlighted the importance of openness as one of the key founding principles and characteristics of the Internet. The open nature of the Internet was seen as part of its uniqueness, and its importance as a tool to advance human development. The Internet provides for a robust and unencumbered exchange of information, and welcomes millions of individuals as users from all corners of the world. Internet users trade ideas and information and build on both, thus increasing the wealth of knowledge for everyone, today and in the future. The openness of the Internet was also seen as a key feature to ensure its stability and security. Many submissions pointed out that the Internet made it possible for more people than ever before to communicate and therefore to express themselves (i.e. to hold, receive and impart information and ideas regardless of frontiers) as clearly and as quickly at such a low cost. Access to knowledge and empowering people with information and knowledge that is available on the Internet was described as a critical objective of an inclusive Information Society and to continued economic and social development. There was a widespread acceptance across the contributions that because the Internet was designed for efficiency and not control, it has enabled millions of people all over the world to educate themselves, express their views, and participate in democracy to an extent never before possible. Moreover, there was also widespread recognition of the fact that the distributed nature of the Internet, whereby control is placed at the ends, or in the hands of users, rather than at a centralized point, is a key architectural feature of the Internet that has ensured that freedom of expression and the free flow of information. Hence there was a consensus around the importance of openness in fostering processes of development. There was a general understanding that one of the most important set of rules governing online behaviour is the body of law dealing with intellectual property rights (IPR) in cyberspace. Because of the unique digital nature of the Internet – copies of data are necessarily made to engage in just about any online activity – almost all uses of the Internet automatically trigger intellectual property rules. However, there was no common understanding on how these rules should be shaped to protect the openness of the Internet and the free flow of information. For some, such as the IP Justice, Electronic Frontier Foundation, Janet Hawtin-Reid, the real concern was that the direction of current policy development with regard to IPR and technological innovation, such as with regard to digital rights management (DRM) and technology protection measures (TPM), were capable of undermining the free flow of information and the openness of the Internet. However, others held the view that these rights were essential for protecting the rights of creators and stimulating innovation. The need to maintain an open Internet was also seen as a prerequisite to sustainable development. Several contributions, such as WSIS Civil Society, Special Libraries Association's (SLA), focused on the role of free flow of information as a mechanism for sustaining development and inhibiting the 'brain drain' from poorer to richer countries. Critical to these types of arguments is the view that openness of the Internet is about looking at ways to ensure a fairer distribution of scientific knowledge between countries. Such flows of information are axiomatic to the innovation process and support the development of small and large businesses in developing countries. Specific proposals include metadata standardisation, a freely available Digital Object Identifier (DOI) system, P2P networks as a possible solution to publish scientific information, the creation of a World Language Diversity Network and semantic Web gTLDs. The importance of open and online education resources was highlighted by a number of contributors. The challenges here are not only in defining and fostering open educational resources online but also ensuring that such resources are developed in line with the WSIS principles and the Millennium Development Goals (MDGs). These arguments were reinforced by others who highlighted guiding principles for the free flow of information, namely: public access to works created by and funded by public authorities; to ensure the smooth migration of content into new formats for purposes of preservation; lending and copying those materials that still have a copyright but are not under commercial use; measures to encourage individual research and study by allowing copying of protected material/content by individuals for personal use (research and study) and measures to harmonize copyright legislation.

<sup>57</sup> See Lambrinidis, S., (2008), Member of EU Parliament, Rapporteur, Report with a proposal for a European Parliament recommendation to the Council on strengthening security and fundamental freedoms on the Internet, (2008/2160(INI)), available at URL: <http://www.europarl.europa.eu/sides/getDoc.do?type=REPORT&reference=A6-2009-0103&language=EN#title5> [last check, Sept. 15, 2009].

- Benkler, Y. (2006), *The Wealth of Networks — How Social Production Transforms Markets and Freedom*, Yale University Press.
- Bollier, D. (2008), *Viral Spiral: How the Commoners Built a Digital Republic of their Own*, The New York Press, available at URL: <http://www.viralspiral.cc/download-book> [last check, April 30, 2009].
- Bokos, G. (2001), *Introduction to Information Science*, Papassotiriou.
- Boyle, J. (1999), *A Politics of Intellectual Property: Environmentalism For the Net?* available at URL: <http://www.law.duke.edu/boylesite/Intprop.htm> [last check, April 30, 2009].
- Boyle, J. (2008), *The Public Domain: Enclosing the Commons of the Mind*, Yale University Press, available at URL: <http://www.thepublicdomain.org/download> [last check, April 30, 2009].
- Benkler, Y. (2006), *The Wealth of Networks – How Social Production Transforms Markets & Freedom*, Yale University Press, available at URL: [http://cyber.law.harvard.edu/wealth\\_of\\_networks/Main\\_Page](http://cyber.law.harvard.edu/wealth_of_networks/Main_Page) [last check, April 30, 2009].
- Candela, L.; Castelli, D.; Ferro, N.; Ioannidis, Y.; Koutrika, G.; Meghini, C.; Pagano, P.; Ross, S.; Soergel, D.; Agosti, M.; Dobрева, M.; Katifori, V.; Schuldt, H. (2007), *The DELOS Digital Library Reference Model*, available at URL: [http://www.delos.info/files/pdf/ReferenceModel/DELOS\\_DLReferenceModel\\_0.98.pdf](http://www.delos.info/files/pdf/ReferenceModel/DELOS_DLReferenceModel_0.98.pdf) [last check, April 30, 2009].
- Chen, Y.; Katz, R.; Kubiawicz, J. (2000), *SCAN: A dynamic, scalable and efficient content distribution network*, Computer Science Division, University of California at Berkeley, available at URL: <http://www.springerlink.com/content/wmxcyp86urbrnpx> [last check, April 30, 2009].
- Chen Y.; Edler J.; Goldberg A.; Gottlieb A.; Sobti, S.; Yianilos, P. (1999), *A prototype implementation of archival intermemory*, available at URL: <http://pnylab.com/pny/papers/improto/improto.pdf> [last check, April 30, 2009].
- Coyle, K. (2004), *The rights in the Digital Rights Management*, D-Lib magazine, 10 (9) available at URL: <http://www.dlib.org/dlib/september04/coyle/09coyle.html> [last check, April 30, 2009].
- Christodoulou, K. (2007), *Notes upon the general theory of intangible goods*, DiMEE magazine, vol.2007, p.180-197,
- De Boever, J. (2007), *Peer-to-Peer Networks as Distribution and Publishing Model*, available at URL: [http://elpub.scix.net/data/works/att/128\\_elpub2007.content.pdf](http://elpub.scix.net/data/works/att/128_elpub2007.content.pdf) [last check, April 30, 2009].
- Dole, W.; Hurych, J. M.; Koehler, W. C. (2000), *Values for Librarians in the information age*, Library Management, 2000, 21(6) pp. 285-286.
- Eberspächer J.; Schollmeier R., *First and Second Generation of Peer-to-Peer Systems*, In R. Steinmetz and Wehrle K. (Eds.) (2005), *Peer-to-Peer Systems and Applications*, Berlin Heidelberg: Springer- pp. 35-56.
- Iglezakis, I. (2007), *Issues related to open content availability in the framework of Information Society*, Review of Hellenic Justice magazine, 2007, pp.1065-1082.

- Ioannidis, Y.; Schek, H.-J.; Weikum, G. (2005), *Future Digital Libraries Management Systems: System Architecture and Information Access*, 8<sup>th</sup> DELOS Thematic Workshop, Schloss Dagstuhl, Germany available at URL: [http://dbis.cs.unibas.ch/delos\\_website/D1.1.2%20-%20Workshop%20II%20on%20DL%20Access%20and%20Architecture%20jointly%20with%20VFP%20FUTURE%20Digital%20Library%20Management%20Systems%20System%20Architecture%20and%20Information%20Access.pdf](http://dbis.cs.unibas.ch/delos_website/D1.1.2%20-%20Workshop%20II%20on%20DL%20Access%20and%20Architecture%20jointly%20with%20VFP%20FUTURE%20Digital%20Library%20Management%20Systems%20System%20Architecture%20and%20Information%20Access.pdf) [last check, April 30, 2009].
- Gonçalves, M.-A.; France, R.-K.; Fox, E.- A.; Doszkocs, T.- E., *MARIAN Searching and Querying across Heterogeneous Federated Digital Libraries*, available at URL: [http://www.ercim.org/publication/ws-proceedings/DelNoe01/11\\_Fox.pdf](http://www.ercim.org/publication/ws-proceedings/DelNoe01/11_Fox.pdf) [last check, April 30, 2009].
- Goldstein, P. (2007), *Intellectual Property: The Tough New Realities That Could Make or Break Your Business*, Portfolio 2007.
- Griffin, S. (1998), *NSF/DARPA/NASA Digital Libraries Initiative, A Program Manager's Perspective*, available at URL: <http://www.dlib.org/dlib/july98/07griffin.html> [last check, April 30, 2009].
- Guédon, J.-C. (2001), *In Oldenburg's Long Shadow: Librarians, Research Scientists, Publishers, and the Control of Scientific Publishing*, Association of Research Libraries, available at URL: <http://www.arl.org/resources/pubs/mmproceedings/138guedon.shtml> [last check, April 30, 2009].
- Hoffman, K. (2005), *Professional ethics and Librarianship*, Texas library journal.
- Kallinikou, D., (2007), *Copyright and Libraries*, Sakkoulas.
- Kallinikou, D.; Papadopoulos, M.; Kaponi, A.; Strakantouna, V. (2009), *Alternative system for non-commercial use of intellectual property in consideration of free P2P file-sharing*, available at URL: <http://www.marininos.com.gr/bbpdf/pdfs/msg77.pdf> [last check, April 30, 2009].
- Kallinikou, D. (2008), *Proceedings of Conference "Archives, Libraries and the Law in the era of Information Society*, Athens, February 2-3, 2006, Athens: National Library of Greece.
- Kallinikou, D.; Papadopoulos, M.; Kaponi, A. (2008), *Re-examining the limits of regulation for intellectual property protection on the eve of Openness*, December 15-16, 2008, speeches at the international conference titled "Open Access Infrastructures: The Future of Scientific Communication" organized by the National Hellenic Research Foundation & the National Documentation Centre at NHRF's Leonidas Zervas Auditorium in Athens, Greece, Kallinikou's part one of speech at URL: [http://www.marininos.com.gr/bbpdf/pdfs/EIE\\_15.Dec.08\\_Dionysia.pdf](http://www.marininos.com.gr/bbpdf/pdfs/EIE_15.Dec.08_Dionysia.pdf) [last check, April 30, 2009], and Papadopoulos' part two of speech at URL: [http://www.marininos.com.gr/bbpdf/pdfs/EIE\\_15.Dec.08\\_Marininos.pdf](http://www.marininos.com.gr/bbpdf/pdfs/EIE_15.Dec.08_Marininos.pdf) [last check, April 30, 2009].
- Kallinikou, D.; Papadopoulos, M.; Strakantouna, V. (2008), *The Creative Commons v.3.0 licenses and Academic Libraries*, June 10, 2008, Presentation at Workshop organized by the Ionian University, TAB at Nomiki Bibliothiki EUROPE Conference Hall, available at URL: <http://www.marininos.com.gr/bbpdf/pdfs/msg75.pdf> [last check, April 30, 2009].
- Kallinikou, D.; Papadopoulos, M.; Kaponi, A. (2008), *The Creative Commons v.3.0. GREECE licenses and digital repositories of works of music*, May 29, 2008, lecture for an audience of graduate students and professors at the Department of Communication & Mass Media of the National & Kapodistrian University of Athens, available at URL: <http://www.marininos.com.gr/bbpdf/pdfs/msg74.pdf> [last check, April 30, 2009].

- Kallinikou, D.; Papadopoulos, M.; Karounos, T. (2008), *The Creative Commons v.3.0. GREECE licenses as Free Culture applications for the promotion of Open Educational Resources*, May 27, 2008, speech at the Conference titled 3rd FREE / LIBRE / OPEN SOURCE SOFTWARE Conference organized by the Greek Research & Technology Network s.a., the e-Business Forum, and the Greek Open Source community, available at URL: <http://www.marinos.com.gr/bbpdf/pdfs/msg73.pdf> [last check, April 30, 2009].
- Kallinikou, D.; Karounos T.; Papadopoulos, M. (2007), *The Greek version of Creative Commons licenses*, DiMEE magazine, vol.2007, p.377-386.
- Kallinikou, D.; Karounos T.; Papadopoulos, M. (2007), *The Greek version of Creative Commons licenses*, Presented at 16<sup>th</sup> Pan-Hellenic Librarians Conference 2007, available at URL: <http://www.marinos.com.gr/bbpdf/pdfs/msg63.pdf> [last check, April 30, 2009].
- Kotsiris, L. (2005), *Copyright Law*, 4<sup>th</sup> edition, Thessaloniki: Sakkoulas.
- Kallinikou, D. (2008), *Copyright and Related Rights*, 3rd edition, P. Sakkoulas.
- Koumantos, G. (2002), *Copyright*, 8<sup>th</sup> edition, Ant. Sakkoulas.
- Krishnan, R.; Smith, M.; Tang, Z.; Telang, R. (2006), *Digital Business Models for Peer-to-Peer Networks: Analysis and Economic Issues*, available at URL: [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=917899](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=917899) [last check, April 30, 2009].
- Kyrillidou, M.; Young, M. (2002), *ARL Statistics 2001-2002*, Association of Research Libraries, available at URL: <http://www.arl.org/bm~doc/arlstat02.pdf> [last check, April 30, 2009].
- Kyrillidou, M.; Young, M. (2003), *ARL Statistics 2002-03*, Association of Research Libraries, available at URL: <http://www.arl.org/bm~doc/arlstat03.pdf> [last check, April 30, 2009].
- Kyrillidou, M.; Young, M. (2005), *ARL Statistics 2004-05*, Association of Research Libraries, available at URL: <http://www.arl.org/bm~doc/arlstat05.pdf> [last check, April 30, 2009].
- Lemley, Mark A. (2005), *Property, Intellectual Property, and Free Riding*, Texas Law Review, Vol. 83, p.1031, available at URL: <http://ssrn.com/abstract=582602> [last check, April 30, 2009].
- Lessig, L. (2004), *Free Culture — How Big Media Use Technology and the Law to Lock Down Culture and Control Creativity*, The Penguin Press, available at URL: <http://www.free-culture.cc/freeculture.pdf> [last check, April 10, 2009].
- Lessig, L. (2006), *Code 2*, Basic Books, available at URL: <http://pdf.codev2.cc/Lessig-Codev2.pdf> [last check, April 30, 2009].
- Lessig, L. (2002), *The Future of Ideas, The Fate of the Commons in a Connected World*, Random House, available at URL: <http://www.the-future-of-ideas.com> [last check, April 30, 2009].
- Lessig, L. (1999), *Code and Other Laws of Cyberspace*, Basic Books 1999.
- Lessig, L. (2008), *Remix — Making art and commerce thrive in the Hybrid Economy*, The Penguin Press 2008.

- Lessig, L., *Answers to Written Questions. The Senate Judiciary Committee, "The Microsoft Settlement: A Look to the Future"*, available at URL: <http://www.lessig.org/content/testimony/answers.doc> [last check, April 30, 2009].
- Litman, J. (2006), *Digital Copyright*, Prometheus Books.
- Lohmann, F. (2006), *IAAL: What Peer-to-Peer Developers Need to Know about Copyright Law*, Electronic Frontier Foundation, available at URL: <http://www.eff.org/wp/iaal-what-peer-peer-developers-need-know-about-copyright-law> [last check, April 30, 2009].
- Mason, M. K. (2009), *The ethics of librarianship*, available at URL: <http://www.moyak.com/papers/ethics-librarianship.html> [last check, April 10, 2009].
- Marinos, M.-T. (1998), *Some Notes upon the status of traditional libraries and public digital libraries under the system of Law 2121/1993*, Hellenic Justice Magazine (EIIDik) p.1484.
- Marinos, M.-T. (1994), *The violation of Intellectual Property Right and of Related Rights*, Hellenic Justice Magazine (EIIDik) 1(35).
- Marinos, M.-T. (2005), *Copyright*, 2<sup>nd</sup> edition, Ant. Sakkoulas.
- Mitrou, L. (2002), *The Law in the Information Age*, Sakkoulas.
- Mitrou, L. (2005), *Self-Regulation in Cyberspace*, Sakkoulas.
- Montagnani, M.-L.; Borghi, M. (2008), *Positive Copyright and Open Content Licenses: How to make a marriage work by empowering authors to disseminate their creations*, International Journal of Communications Law & Policy, 12, available through SSRN at URL: [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=1020997](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1020997) [last check, April 30, 2009].
- Papadopoulos, M. (2008), *Creative Commons licenses v.3.0*, Presentation to the National & Kapodistrian University of Greece, Athens law School, available at URL: <http://www.marinos.com.gr/bbpdf/pdfs/msg70.pdf> [last check, April 30, 2009].
- Papazoglou, V. (2008), *Horizontal Action of Academic Libraries: Legal Issues*, Proceedings of the Conference Archives, Libraries and the Law in the era of Information Society, Athens, February 2-3, 2006, National Library of Greece, 2008.
- Pedley, P. (2007), *Digital Copyright*, Facet.
- Pourebrahimi, B.; K. Bertels, K.; Vassiliadis, S., *A Survey of Peer-to-Peer Networks*, available at URL: [http://ce.et.tudelft.nl/publicationfiles/1075\\_526\\_prorisc05.pdf](http://ce.et.tudelft.nl/publicationfiles/1075_526_prorisc05.pdf) [last check, April 30, 2009].
- Reeder, M. (2007), *Dutch Collecting Societies welcome CC*, August 23, 2007, available at URL: <http://creativecommons.org/weblog/entry/7622> [last check, April 30, 2009].
- Rubin, R. (2000), *Foundations of Library and Information Science*, New York, Neal-Schuman.
- Saez, C. (2008), *Improbable Match: Open Licences And Collecting Societies In Europe*, available at URL: <http://www.ip-watch.org/weblog/2008/10/28/french-deal-highlights-open-licensing-and-collecting-societies-in-europe> [last check, April 30, 2009].
- Schachaf P; Rubenstein, E. (2007), *A Comparative Analysis of Libraries' approaches to Copyright: Israel, Russia and the U.S.*, available at URL: <http://dlist.sir.arizona.edu/2117/01/approachesToCopyright.pdf> [last check, April 30, 2009].

- 
- Schaumann, N. B. (2005), *Direct Infringement on Peer-to-Peer Networks*, William Mitchell Legal Studies Research Paper No. 9, available at URL: <http://ssrn.com/abstract=703882> [last check, April 30, 2009].
- Severson, R. (1995), *The recovery of ethics in librarianship*, Journal of information ethics, 2(2).
- Sinodinou, T.-E. (2008), *Intellectual Property & New Technologies*, Sakkoulas.
- Strakantouna, V. (2007), *Legal deposit of works protected by Copyright*, addressed at international conference titled "Rethinking the boundaries of copyright," Istanbul 15-16 November, 2007.
- Strakantouna, V.; Piskopani, A.-M.; Mitrou L. (2007), *Personal Data and Libraries*, Private Law Chronicle (Xronika Idiotikou Dikaiou), Z.
- Suber, P. (2009), *Timeline of the Open Access Movement*, revised February 9, 2009, available at URL: <http://www.earlham.edu/~peters/fos/timeline.htm> [last check, April 30, 2009].
- Suber, P. (2007), *Open Access Overview, Focusing on open access to peer-reviewed research articles and their preprints*, revised June 19, 2007, available at URL: <http://www.earlham.edu/~peters/fos/overview.htm> [last check, April 30, 2009].
- Thorne, M. (2008), *Danish Collecting Society KODA teams up with CC Denmark*, January 31<sup>st</sup>, 2008, available at URL: <http://creativecommons.org/weblog/entry/8012> [last check, April 30, 2009].
- Travis, H. (2005), *Building Universal Digital Libraries: An Agenda for Copyright Reform*, Pepperdine Law Review, vol. 33, pp. 761-829, available at URL: [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=860784](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=860784) [last check, April 30, 2009].
- Zittrain, J. (2008), *The Future of the Internet and How to Stop it*, Yale University Press 2008, available at URL: <http://futureoftheinternet.org/static/ZittrainTheFutureoftheInternet.pdf> [last check, April 30, 2009].