COPYRIGHT AND THE INTERNET
OF NEW WINES AND OLD WINESKINS:
SHOULD OLD LAW GOVERN A NEW MEDIUM?

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> People do not pour new wine into old wineskins. If they do, the skins burst, the wine spills out, and the skins are ruined. No, they pour new wine into new wineskins, and in that way both are preserved.
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> - Matthew 9:17

The advent of digital[1] technology has ushered in a new era in intellectual creation. Authors[2] have been freed of the constraints and limitations posed by print media, and are now able to create works[3] that incorporate text, images, sound, and video.

But the invention of the Internet,[4] particularly the World-Wide Web,[5] has revolutionized publishing[6] in ways far beyond the capabilities of mere digital

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[1] The term "digital" refers to the nature of information coded in computers as combinations of "0's" and "1's".

[2] Sec. 171.1 of Rep. Act No. 8293, otherwise known as the Philippine Intellectual Property Code (hereinafter IPC), defines "author" as the natural person creating any literary and / or artistic work.

[3] Under Sec. 172 of the IPC, the term "work" encompasses a wide range of original intellectual creations in the literary and artistic domain, including text (e.g. books, letters), images (e.g. drawings, paintings, maps), music, dramatic works, and computer programs.

[4] The Internet is the catch-all word used to describe the massive world-wide network of computers which use the TCP/IP (Transmission Control Protocol / Internet Protocol) protocol suite to route information. For the purpose of this paper, the terms internet and cyberspace shall be used interchangeably.

technology and technologies that preceded it such as the printing press. Never before has so much information been available at the public's fingertips. And never before has intellectual property been in greater danger as far as copyright holders are concerned.

The increasing popularity of the internet threatens to subvert the entire system of copyright which is rooted in the print and analog[7] medium. Given the rapid growth of the Internet[8] and the boom in electronic publishing online, as well as the perennial problems of jurisdiction and law enforcement, there is now a need to define the rules. The question is whether traditional copyright law should govern this new medium of digital technology and cyberspace. Can new wines be poured into old wineskins?

This paper will discuss how the principles of existing copyright law, being rooted in the print medium, cannot be appropriately applied to digital works on the Internet without impairing the normal operations of the Net and destroying its system of free dissemination of information. Therefore, a new legal regime operating exclusively in cyberspace must be created to govern purely online publications. Such a legal regime must necessarily shift from the economic focus of copyright and instead emphasize moral rights. Part I of this paper will discuss the basic principles and workings of the new medium that is the internet. Part II will

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[5] The World-Wide Web (WWW or "Web") is a collection of interconnected documents stored in different computers all over the world that are accessed through the Internet. Such documents are generally in HTML format and are capable of handling multimedia. The user-friendly graphical interface of the Web allows even the most ignorant of users to access any resource easily, which is the reason why the Web is the most popular Internet tool (the other Internet tools are e-mail, automatic mailing list services, newsgroups, and chat rooms) and the one with the most potential.

[6] Although the IPC does not define publication, Sec. 171.7 defines published works as "works which, with the consent of the authors, are made available to the public by wire or wireless means in such a way that members of the public may access these works from a place and time individually chosen by them."

[7] For the purpose of this paper, the term "analog" shall refer to other forms of publishing (e.g. sound and audio-visual recording) that are not digital in nature. (See note 1.)

[8] It is estimated that approximately 1.5 million web pages are born daily (Alexa Internet, Internet World Online, August 31, 1998), and internet traffic doubles every 100 days(Frances Hong, *Internet Capacity; Major Theme For 1999 - Study*, Yahoo! News, December 6, 1998).

In a press release dated January 18, 2000, Inktomi Corp., announced that the results of a joint study conducted with NEC Research Corp. verified that the World Wide Web has grown to more than one *billion* unique web pages. Details of the study may be accessed at (visited 14 March 2000) <http://www.inktomi.com/webmap/>.

examine traditional copyright concepts from the perspective of Philippine copyright law and international copyright treaties such as the Berne Convention[9], the Universal Copyright Convention[10], and the World Intellectual Property Organization (WIPO) Copyright Treaty.[11] Part III will discuss the inability of traditional copyright law to address the special problems posed by digital works posted on the Internet. Part IV will propose an alternative legal regime, "Law Cyberspace," to govern "purely" Internet-published works.

I. NEW WINES: DIGITAL TECHNOLOGY AND THE INTERNET

A. The roots of the Internet and the World-Wide Web

The Internet traces its roots to the 1960's and the height of the cold war. The U.S. military, in preparation for a possible nuclear war, sought a means to ensure communications in the event of an enemy missile attack. Because the existing system was designed in such a way that a direct hit on a central point of control would disable the entire network, it was necessary to design a new communications network that could withstand large-scale destruction, yet deliver uninterrupted service. A special communication standard called TCP/IP[12] was designed to direct the flow of data between computers on the network and around possibly damaged sections of the network, thereby increasing the survivability and reliability of the network, even in the event of war. The Department of Defense linked computers with various universities to create the network. While the original network (ARPANET) eventually died out, the concept did not. In 1986, the U.S. National Science Foundation established the NSFNET to link

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[9] Berne Convention for the Protection of Literary and Artistic Works, May 4, 1886, 828 U.N.T.S. 223.

[10] Universal Copyright Convention, July 24, 1971, 943 U.N.T.S. 194.

[11] WIPO Copyright Treaty, Dec. 20, 1996, CRNR/DC/94, (visited 4 March 2000) <http://www-swiss.ai.mit.edu/6805/articles/int-prop/wipo copyright.html>.

[12] *Supra* note 4. When data is transmitted on the Internet, protocols chop the message into manageable bits called "datagrams." Each datagram is addressed separately and routed to a "gateway" (a system which connects a network with one or more networks). Gateways make individualized decisions about how to route the datagrams next, detecting congestion and damage across the network, and sending information by the most efficient path. Once the datagrams have been received at their destination, they are reassembled into their original form. See Charles L. Hedrick, *What is TCP/IP?* (visited 30 March 2000) <http://oac3.hsc.uth.tmc.edu/staff/snewton/tcp-tutorial/sec1.html>.

supercomputers at high speed. NSFNET eventually became the backbone of the Internet, offering transmission speeds of a million-bits-per-second rate.[13]

The World-Wide Web came into being in March 1989, when Tim Berners-Lee of the European Particle Physics Laboratory (known as CERN, a collective of European high-energy physics researchers) proposed a system of networked hypertext[14] documents by which members of the high-energy physics community could share in each other's research. The proposed system was to link and access information of various kinds (not merely textual documents) as a "web of nodes" which the user could browse at will,[15] and would enable its users to not just browse all the information linked through the material but to interact with and contribute to it as well. By the end of 1990, the first piece of Web software was developed with the ability to view, edit, and send hypertext documents to colleagues via the Internet.[16] By 1992, CERN released the portable browser[17] software as "freeware," and interest in the internet started to pick up.[18]

The Internet phenomenon exploded sometime in 1994 when Netscape Navigator, designed by Marc Andreesen, was launched. The combination of Tim Berners-Lee's Web protocols, which provided connectivity, and Marc Andreesen's browser, which provided a very user-friendly interface, proved explosive. In twenty-four months, the Web went from being unknown to being absolutely ubiquitous[19]. Business saw the potential for marketing and trade in this new medium and made a mad rush to establish a "presence" on the Web. Not long thereafter, people and companies started signing up in droves with Internet service providers (ISP's) to gain access to the Internet and to the WWW. Today,

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[13] Student Online Companion, *Brief History of the Internet and the World-Wide Web* (visited 14 March 2000) <http://www2.coursetools.com/cti/Illustrated/wwwie/about1.html>.

[14] The term was first coined in 1965 by Ted Nelson, who described it as "nonsequential writing - text that branches and allows choice to the reader, best read at an interactive screen." TED NELSON, LITERARY MACHINES 95 (1965).

[15] Tim Berners-Lee and Robert Cailliau, *WorldWideWeb: Proposal for a HyperText Project*, CERN (CERN, 12 November 1990), as cited in Gregory R. Gromov, *History of Internet and WWW: The Roads and Crossroads of Internet History* (visited 28 March 2000) <http://www.internetvalley.com/ intvalweb.html>.

[16] Student Online Companion, *supra* note 13.

[17] "Browser" refers to the software which provides access to the hypertext world. In the last few years, Netscape Communicator and Microsoft Internet Explorer have emerged as the two (2) dominant web browsers.

[18] Gromov, *supra*, note 15.

[19] Mark Pesce, *A Brief History of Cyberspace*, ZDNET, October 15, 1995, as cited in Gromov, *supra*, note 18.

the Internet has over a billion unique web pages,[20] and this number is still expected to increase.

B. Digital technology

Unlike print or analog works, digital works consist merely of strings of computer code, allowing them to be easily stored, altered and manipulated.[21] With the right software, it takes only a few clicks of a mouse or a few strokes of the keyboard to rework an image or modify a text.[22]

Moreover, digital technology has allowed the creation of multimedia: works combining text, images, audio signals, and video, which hitherto had not been possible in print or analog media. This has breathed new life into traditional print media such as encyclopedias and dictionaries which now include audio and video entries.[23]

C. An author's paradise

The internet "constitutes a vast platform from which to address and hear from a world-wide audience of millions of readers, viewers, researchers and buyers." [24] For the first time in human history, authors can now reach a global audience with little more than a computer, modem, telephone line, internet access, and minimum HTML[25] know-how.

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[20] *Supra* note 8.

[21] This quality is popularly known as "plasticity."

[22] A case in point would be the relatively recent issue involving the posting of a nude picture of Filipina actress Donita Rose on the internet. She complained that what had been posted was an expertly altered digital work involving the superimposition of her face on the body of another woman.

[23] See for example Microsoft Encarta <http://encarta.msn.com>, Encyclopedia Britannica <http://www.britannica.com>, Merriam-Webster Dictionary <http://www.m-w.com/ dictionary>, and Roget's Thesaurus <http://www.thesaurus.com>.

[24] Reno v. American Civil Liberties Union, 117 S. Ct. 2329 (1997).

[25] HyperText Markup Language.

Digital works, not being tied to any tangible goods such as books, magazines, cassettes or videos, can be reproduced, redistributed and transmitted onward in cyberspace with the greatest of ease.[26] And unlike copies of intellectual property made using analog copiers such as photocopying machines, video recorders and fax machines, digital copies of intellectual property produce perfect copies without any loss of quality, and any copy of a digital work is capable of serving as a virtual factory for reproduction of many perfect copies.[27]

Moreover, in contrast to the sale and distribution of physical copies of books, magazines and CDs, the costs of making an extra copy of intellectual property online and of moving that copy to the end user over the Internet are insignificant.[28] Via the Internet, authors and publishers can now reach a wider audience in less time, and at virtually a fraction of the cost of publishing in print or analog.

II. OLD WINESKINS: COPYRIGHT

A. Policy principles

Copyright traces its origins to eighteenth-century England where the first copyright statute was passed in 1709.[29] A reaction to the invention of the printing press, copyright was designed to protect the economic interests of authors and artists in a world where copying had suddenly been made easy.

Copyright is founded on the belief that authors will not create works for the public unless they are sufficiently rewarded for their efforts and investments. Because state patronage is too limited in scope to encourage the progress of science and useful arts, the government grants monopoly to all authors of original

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[26] Puay Tang, *Multimedia Information Products and Services: A Need for 'Cybercops'?*, THE GOVERNANCE OF CYBERSPACE 190, 195 (B. Loader ed., 1997).

[27] Pamela Samuelson, *Copyright, Digital Data, and Fair Use in Digital Networked Environments* (visited 4 March 4 2000) <http://www.droit.umontreal.ca/crdp/en/equipes/technologie/conferences/ae/samuelson.html>

[28] Eric Schlachter, *The Intellectual Property Renaissance in Cyberspace: Why Copyright Law Could be Unimportant on the Internet*, 12 BERKELEY TECH. L. J. (visited 5 March 2000) <http://www.law.berkeley.edu/journals/btlj/articles/12_1/Schlachter/html/reader.html>

[29] This is known as the Statute of Queen Anne.

intellectual works to control the publication, reproduction,[30] and distribution of their works, thereby ensuring economic compensation for their efforts. Such a monopoly, however, is not unlimited.

To balance the competing interests of the author (i.e., his economic right to the fruits of his labor and creation) and the interests of the public (i.e., their right of access to information and intellectual creations), the code devised the concept of "fair use"[31], as well as the rule on "public domain."[32] The tenure of copyright protection is also not perpetual(usually up to fifty years after the death of the author). In this way, the public can benefit from creative works that would have not been produced were it not for the compensation afforded their creators.[33]

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[30] Sec. 171.9 of the IPC defines reproduction as "the making of one (1) or more copies of a work or a sound recording in any manner or form."

[31] Sec. 185 of the IPC provides that in determining whether the use made of a work in any particular case is fair use, the following factors are to be considered:

"(a) The purpose and character of the use, including whether such use is of a commercial nature or is for non-profit educational purposes;

(b) The nature of the copyrighted work;

(c) The amount and substantiality of the portion used in relation to the copyrighted work as a whole; and

(d)The effect of the use upon the potential market for or value of the copyrighted work."

Of these four (4) factors, it is the last which is the most determinative of whether a use falls within fair use or constitutes infringement.

[32] The public domain refers to a "commons" comprising elements of intellectual property that are ineligible for private ownership, and which therefore may be "mined" by any member of the public. Information falling within the public domain include ideas, concepts, and principles (Sec. 175, IPC); items of press information (Sec. 175, IPC); official texts of a legislative, administrative or legal nature (Sec. 175, IPC), works of the Government (Sec. 176, IPC); and works whose copyright has already expired (See Chapter XVI, IPC).

[33] MeganLarson, *Copyright in Cyberspace*, (visited 5 March 2000) <http://www.wiu.edu/users/mureg3/project2/copyright/copy.htm>. It has been observed however that the rise of Anglo-Saxon copyright was a "saga of publishing interests attempting to protect a concentrated market and a central government attempting to apply a subtle form of censorship to the new technology of the printing press." B. KAPLAN, AN UNHURRIED VIEW OF COPYRIGHT 2-9 (1967) as cited in Justin Hughes, *The Philosophy of Intellectual Property*, 77 GEORGETOWN L.J.287 (1988).

B. Basic copyright principles

1. Originality

For a work to be copyrightable under Philippine law, it must be an "original intellectual creation in the literary and artistic domain."[34] Originality is likewise an implied requirement as regards derivative works, as signified by the use of the term "new works."[35]

2. Fixation

Art. 2(2) of the Berne Convention provides that it is up to the municipal law of the States party to the convention to "prescribe that works in general or any specified categories of works shall not be protected unless they have been fixed in some material form." While the Intellectual Property Code does not expressly stipulate such a requirement, commentators such as Ranhilio Aquino believe that it is an implied fundamental requisite in order for copyright to attach to a work because absent fixation, copyright would attach to bare ideas which is not only excluded by nearly universal principles of copyright, but also absurd and impractical.[36]

3. Idea-Expression dichotomy

A fundamental and "nearly universal"[37] principle of copyright is the "idea-expression" dichotomy: it is possible to protect *expression* from copying while privileging the copying of all *ideas*, procedures, systems, methods or operations, concepts, principles or discoveries expressed therein.[38] This distinction permits copyright to act as the engine of free expression by ensuring that facts and ideas can circulate freely while permitting authors and copyright owners to earn economic advantage by controlling distribution of the particular "expressive envelope" that contains those facts and ideas.[39]

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[34] Sec. 172.1, IPC.

[35] Sec. 173.2, IPC.

[36] RANHILIO C. AQUINO, INTELLECTUAL PROPERTY LAW 10 (1998).

[37] *Id.*

[38] Larson, *supra*, note 33. See Sec. 175, IPC; Art. 2, WIPO Copyright Treaty; Art. 9, par. 2, *Agreement on Trade-Related Aspects of Intellectual Property Rights* of General Agreement on Tariffs and Trade (1994).

[39] Larson, *supra*, note 33.

C. Copyright: a matter of economics

To ensure that authors are properly compensated for their labor and efforts, the Philippine Intellectual Property Code[40] affords authors the exclusive right to carry out, authorize or prevent the following acts:

> 177.1. Reproduction of the work or substantial portion of the work;
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> 177.2. Dramatization, translation, adaptation, abridgment, arrangement or other transformation of the work;
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> 177.3. The first public distribution of the original and each copy of the work by sale or other forms of transfer of ownership;
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> 177.4. Rental of the original or a copy of an audio-visual or cinematographic work, a work embodied in a sound recording, a computer program, a compilation of data and other materials or a musical work in graphic form, irrespective of the ownership of the original or the copy which is the subject of the rental;
>
> 177.5. Public display of the original or a copy of the work;
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> 177.6. Public performance of the work; and
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> 177.7. Other communication to the public of the work.

Infringers of these rights may be subjected to imprisonment of up to three (3) years in addition to payment of fines of up to P150,000.00,[41] payment of moral and exemplary damages,[42] and the confiscation and destruction of infringing copies or devices.[43]

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[40] Chapter V, IPC.
[41] Sec. 217, IPC.
[42] Sec. 216.1(e), IPC.
[43] Sec. 216.1(d), IPC.

Of these rights afforded to authors, existing copyright treaties and laws focus on reproduction as the main economic right.[44] Since copies are easy to find and easy to count, reproduction is the most useful benchmark for determining whether a copyright owner's rights have been unlawfully invaded.[45]

III. THE ABSURDITY OF POURING NEW WINE INTO OLD WINESKINS

Although created originally for the protection of printed materials, copyright has generally survived the onslaught of new copying technology such as video and camcorders and adapted to address the new issues and challenges posed by such technology. However, the creation of digital technology and the invention of the internet pose new issues and problems that threaten to subvert traditional copyright law.

The question then is whether existing copyright law is the proper legal regime to govern cyberspace. There are different schools of thought regarding this. The most liberal theory, "copyright radicalism,"[46] advocates the belief that copyright has become less important in the age of electronic networks and that regulation by methods other than copyright will eventually prevail. On the other end of the spectrum is "copyright maximalism"[47] which favors tight copyright control over digital works. But before it can be determined whether existing copyright law can sufficiently address digital issues, the preliminary question of whether the fundamental concepts and premises of copyright are applicable to digital media must first be answered.

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[44] Art. IV bis (1) of the Universal Copyright Convention; Art. 9 (1), Berne Convention; Sec. 177.1, IPC.

[45] Jessica Litman, *Revising Copyright Law for the Information Age*, 75 OR. L. REV. 19 (1996).

[46] P. Eve Athenasekou, *13th Bileta Conference: 'The Changing Jurisdiction* (visited 14 March 2000) <http://www.bileta.ac.uk/98papers/athenas.html> Proponents of this theory include John Perry Barlow, Esther Dyson, and Nicholas Negroponte.

[47] The term originates from Pamela Samuelson, *Big Media Beaten Back*, WIRED 5.03 (1997). This view is best exemplified by the U.S. "White Paper." See Information Infrastructure Task Force, *Intellectual Property and the National Information Infrastructure – The Report of the Working Group on Intellectual Property* (Sept. 15, 1995), cited as *NII White Paper* (visited 14 March 2000) <http://www.uspto.gov/web/offices/com/doc/ipnii/>.

A. Digital meets print

That copyright law is rooted in the "real world,"[48] particularly the print medium, is evident from its provisions. The most fundamental requirement of fixation[49] contemplates a situation where a work is capable of being preserved, so to speak, in some tangible, "material," "fixed" form. The rights of "first sale"[50] and the rights to proceeds in subsequent transfers[51] presuppose that the work and its copies are in physical form and that the author has parted with possession and ownership. The remedies afforded by the IPC against copyright infringers include physical acts such as distraint,[52] seizure,[53] and destruction[54] of infringing copies of the work and the devices used for making such copies. Copyright invariably focuses on physical manifestations of the *res* or idea.[55]

While such concepts make sense in the "real world," they have little or no application in the purely digital realm of cyberspace:

1. Fixation

Internet works can be described as being "ephemeral": they disappear the moment the viewing computer is shut off, and can be on the Net one day and gone the next, as in the case of web sites that are taken down. Because copyright requires that a work be fixed in some material form in order for it to vest, it is uncertain if Internet-published works can be deemed as copyrightable under existing law.

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[48] As opposed to cyberspace, which is the digital realm.

[49] AQUINO, *supra* note 36.

[50] Sec. 177.3 of the IPC provides that authors and/or copyright holders have the exclusive right to carry out, authorize or prevent "the first public distribution of the original and each copy of the work by sale or other forms of transfer of ownership."

[51] Also known as "follow-up rights," Sec. 200 of the IPC provides that "(i)n every sale or lease of an original work of painting or sculpture or of the original manuscript of a writer or composer, subsequent to the first disposition thereof by the author, the author or the heirs shall have an inalienable right to participate in the gross proceeds of the sale or lease to the extent of five percent (5%). This right shall exist during the lifetime of the author and for fifty (50) years after his death."

[52] Sec. 216.1(a), IPC.

[53] Sec. 216.2, IPC.

[54] Sec. 216.1 (d), IPC.

[55] Justin Hughes, *The Philosophy of Intellectual Property*, 77 GEO. L. J. 287 (1988).

2. Idea-Expression Dichotomy

The blurring of the fixation requirement likewise blurs the distinction between ideas and expression. Electronic information can be likened to wine in a world where copyright protects only the bottle, i.e. the container or vessel that is the physical manifestation of the idea. There are no bottles in cyberspace, only one "meta-bottle" of complex and highly liquid patterns of ones and zeros.[56] Because this "meta-bottle" is not, strictly speaking, a physical manifestation, idea and expression on the Internet become virtually indistinguishable.

3. First Sale

On the Internet, first sale does not apply because authors do not part with either the physical original or physical copies of their works. The act of disseminating information does not deprive them of ownership or possession of their work.

4. Copying and reproduction

The right of reproduction is admittedly the main economic right conferred by copyright. However, this poses special problems as regards copyrighted works that are posted on the World Wide Web. The technology of the internet, by its very nature, requires reproduction as part of its normal operations. Web pages can only be "run" if they are loaded as a whole or in part from a permanent storage into the random access memory (RAM)[57] of a computer. For this purpose, the permanently stored copy is temporarily duplicated in the RAM. Thus, the mere act of viewing a digital work published on a web page requires that the work be reproduced.[58] If existing copyright law were to be applied

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[56] John Perry Barlow, *Selling Wine Without Bottles: The Economy of Mind on the Global Net* (visited 4 March 2000) <http://www.eff.org/pub/Publications/John_Perry_Barlow/HTML/idea_economy_article.html>

[57] RAM is a type of physical computer memory used in most personal computers to temporarily store data in electronic form. See also MAI Systems Corp. v. Peak Computer, Inc. 845 F. Supp. 356, 362.

[58] John D. Grossman & Cyrill P. Rigamonti, *Internet Basics and Copyright Law*, J. INTERNET L. (visited 4 March 2000) <http://www.gcwf.com/articles/journal/jil_june98_2. html>

strictly to all acts involving the internet, then anyone who accesses a web page would be held criminally and civilly liable for copyright infringement![59]

B. Unique problems

Internet technology also presents unique problems for copyright law:

1. Equivalence of digital works

Digital technology allows text, sound, images and movie clips to be incorporated into a single work, something never possible before in the print medium. However, digital works are necessarily "equivalent:"[60] all information, be it text, image, or sound, is not stored as text, image, or sound, but as strings of computer code. Although the separate components of the work are evidently different, in digital form they are all just "0's" and "1's." It is only when they are processed by a microprocessor-controlled device[61] and presented to the human eye or ear that the information is transformed into something intelligible to human senses.[62]

Philippine copyright law recognizes two (2) main categories of works: literary and artistic works (original intellectual creations),[63] and derivative works, which include collections of literary, scholarly or artistic works, and compilations of data and other materials which are original by reason of the selection or coordination or arrangement of their contents.[64] Multi-media works (and all

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[59] The White Paper in the US is being severely criticized for its position that duplication in RAM constitutes copyright infringement. Authors such as Jessica Litman contend that this is tantamount to giving authors and copyright holders the power to determine the right to read, something that copyright law never intended. See Jessica Litman, *The Exclusive Right to Read*, 13 CARDOZO ARTS & ENT. L.J. (1994).

[60] This term was coined by Pamela Samuelson. See *Copyright, Digital Data, and Fair Use in Digital Networked Environments* (visited 4 March 2000) <http://www.droit.umontreal.ca/crdp/en/equipes/technologie/conferences/ae/samuelson.htm>.

[61] Tang, *supra* note 26, at 195.

[62] M. Ethan Katsch, *Rights, Camera, Action: Cyberspatial Settings and the First Amendment*, 104 YALE L. J. 1681 (1995).

[63] *Supra* note 3.

[64] Sec. 173.1 of the IPC likewise includes "(a) Dramatizations, translations, adaptations, abridgments, arrangements, and other alterations of literary or artistic works as derivative works.

digital works, for that matter) are necessarily computer programs,[65] which are afforded a separate protection under copyright law. However, the existing definition of derivative works contemplates new works created out of a combination of prior existing works. It does not cover multi-media works where all the content components (text, image, sound and video) are original intellectual creations of the same author made specifically for such multi-media works. Although it can be argued that multimedia works can fall under Sec. 172.1 (o) of the IPC, i.e. "other literary, scholarly, scientific and artistic works," the special nature of multimedia works requires further clarification under copyright law so that the "sub-works" contained in such a computer program are granted protection.

2. Ease in creating derivative works

Net users are at liberty to download information from the Net and to experiment with them. Since computers can be interconnected privately, works can be created interactively and joint authorship need not be limited by physical distance.[66] Interactivity can make it difficult to create an authoritative work, and works produced in this way present problems for the attribution of authorship.[67]

3. Lack of territorial boundaries in cyberspace

We take for granted the fact that we live in a world where territorial borders, i.e. lines separating physical spaces, delineate areas within which different sets of legal rules apply and determine one's legal rights and responsibilities within such territories.[68] All law is prima facie territorial,[69] and in the "real world," physical borders make sense in the promulgation and enforcement of law by

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[65] Sec. 171.4 of the IPC defines a "computer program" as a "set of instructions expressed in words, codes, schemes or in any other form, which is capable when incorporated in a medium that the computer can read, of causing the computer to perform or achieve a particular task or result." As mentioned previously, all digital works are necessarily in binary computer code.

[66] Tang, *supra* note 26, at 193. A case in point would be the UP LSG web page (http://fire.csua.ucla.edu/~celeste/UPLaw-LSG/) which was created by Onofre Alvarado, Nadja Buenafe, and Celeste de Guzman working concurrently from their respective locations in the Philippines and Los Angeles. Interestingly enough, these three have only met online but never in person, and they have never exchanged photographs.

[67] *Id.*

[68] David R. Johnson and David G. Post, *Law and Borders – The Rise of Law in Cyberspace*, 48 STAN. L. REV. 1367 (1996) at <http://www.cli.org/X0025_LBFIN.html>

[69] *Id.*

sovereign states. Geographical borders determine a state's control over physical space and the people and things located in that space, and provide notice of which sets of rules apply when borders are crossed.[70] This is particularly true with respect to copyright law: under international copyright treaties such as the Berne Convention, Universal Copyright Convention and WIPO Copyright Treaty, the promulgation of specific copyright provisions[71] as well as the enforcement of copyright are left to municipal law.

Digital technology, however, has managed to detach information from the physical plane.[72] Information on the internet is everywhere[73] and nowhere[74] at the same time, and is capable of crossing physical borders in the physical world with the greatest of ease. The system is indifferent to the physical location of the machines between which messages and information are routed, and there is no necessary connection between an internet address and a physical jurisdiction.[75] Because of this, the Net allows transactions between people who do not necessarily have to know the physical location of the other party;[76] transactions otherwise not possible in the real world where geographical location is an important factor in the application of law.[77]

Cases of copyright infringement in the real world are problematic enough when they involve the concurrent jurisdiction of two or more States and a choice of law is necessary. But when transactions occur entirely in the digital realm without ever "crossing over" into the real world,[78] the determination of the applicable territorial law becomes difficult, if not downright impossible.

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[70] *Id.*

[71] See for example Art. 1 and Art. IVbis (1) of the Universal Copyright Convention; Art. 2 (2), Art. 2(4), Art. 13 (2a), and Art. 16 of the Berne Convention.

[72] Barlow, *supra* note 56.

[73] They can be accessed by anyone from any part of the world at any given time.

[74] Because they do not exist "physically," they cannot be "pinned down" to a specific geographical location at any given time.

[75] Johnson and Post, *supra* note 68. A good illustration of this would be the free web-based e-mail services such as Yahoo (http://www.yahoo.com), Pinoymail (http://www.pinoymail.com), and Hotmail (http://www.hotmail.com) which enable one to check and send e-mail from anywhere in the world.

[76] *Id.*

[77] Payments, auction sales, and exchange of information and files can now be done entirely on the Internet, regardless of the physical locations of the parties to the transaction.

[78] Such a "crossing-over" is effected either through uploading, i.e. placing material on the Internet, and/or downloading, i.e. obtaining a file from the Internet by saving it into one's

C. *Contending philosophies*

The Internet's working philosophy is the free flow of ideas and the purposeful creation of a pool of shared knowledge and information. This philosophy, commonly known as the "information wants to be free" philosophy[79] pervades the Internet and is best exemplified by the phenomenon of "shareware,"[80] open-source software,[81] and free e-mail addresses. The nature of such products creates and reinforces a belief among users that all information on the Internet should be shared and just as easily downloadable.[82] On the other hand, the purpose of copyright law is to prevent works from "flowing freely"[83] and instead to maintain control of works in the hands of copyright holders. Obviously, imposing a monopolistic legal regime on a system that operates on laissez-faire will not work.

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computer. Downloading constitutes an active act to reproduce the information and store it for future use in one's hard drive. Hence, downloaded information remains in the computer even after the power has been shut off, unlike browsed information which is purged from the hard drive as soon as one exits from the browser without saving.

[79] One of the main proponents of this philosophy is John Perry Barlow, former lyricist for the Grateful Dead and co-founder of the Electronic Frontier Foundation. See the John Perry Barlow library <http://www.eff.org/~barlow/library.html> for a sampling of his writings.

[80] Shareware refers to copyrighted software that is available to the public for downloading for a trial period at no cost. Shareware operates on an honor system: should users wish to use the product beyond the trial period, they must register the software and pay a minimal fee.

[81] Open-source software refers to software that is readily available in source code form and is distributed without any imposed restrictions on use, modification, or distribution. The system encourages users to improve on the software and to give feedback, enabling thousands and even millions of users from around the world to work on different pieces of the project concurrently, thereby ensuring the rapid development of the software. Currently, the most popular open-source software project is Linux, which is estimated to have anywhere between 4-27 million users. See <http://www.opensource.org/> for information about the phenomenon of open-source software.

[82] Barbara Cohen, *A Proposed Regime for Copyright Protection on the Internet*, 22 BROOK. J. INT'L L. 408 (1996).

[83] *Id.*, at 405.

Because existing copyright law ignores the unique issues that arise when information is transmitted over the Internet,[84] and since the normal functioning of the Internet is predicated on multiple infringements of the right of reproduction vested in existing copyright law, the need for new rules becomes imperative. "Old analogies just don't cut it."[85]

IV. NEW WINESKINS FOR NEW WINES

A. Cyberspace as a distinct location: the need for a separate set of rules

Because the internet is engineered to work on the basis of "logical" and not geographical locations,[86] trying to tie the laws of any particular territorial sovereign to transactions on the internet pose jurisdictional, substantive and practical problems. Many of these quandaries can be resolved by conceiving of cyberspace as a distinct "place" with its own set of rules [87] distinct from the existing territory-based copyright laws of the "real world."

The "placeness" of cyberspace is recognized by "netizens,"[88] as evidenced by popular Internet jargon: "visit our web site;" "go online;" and "enter a chat room."[89] To be sure, no one really "strays" into Cyberspace. You can only enter the internet through a screen and (usually) a password boundary.[90] Since the line that

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[84] Denise Caruso, *Digital Commerce: Should an Extension of Current Copyright Law, Tweaked a Bit, Govern the Internet?*, NY TIMES, July 15, 1996 at D7.

[85] Steele, *Comments at Newjuris: A Conference on Law in Cyberspace* 31 (Oct. 1993), as cited by I. Trotter Hardy, *The Proper Legal Regime for "Cyberspace,"* 55 U. PITT. L. REV. 1020 (1994).

[86] Machines on the Internet have Internet Protocol ("IP") addresses (unique thirty-two bit numbers) which do not necessarily correspond to any particular geographical locale. An example of an IP address is 210.16.2.51, which corresponds to the Philippine Supreme Court website address (http://www.supremecourt.gov.ph).

[87] Johnson & Post, *supra* note 68.

[88] A "netizen" refers to someone who frequently "inhabits" cyberspace.

[89] Individuals who enter a chat room are able to engage in real-time dialogue by typing messages to one another that appear almost immediately on the others' computer screens. Multiple Internet Relay Chat, more popularly known as mIRC, is the most popular chat forum among Filipinos, although ICQ (a play on the phrase "I Seek You") is quickly gaining popularity among Filipino chatters.

[90] Johnson & Post, *supra* note 68.

separates online transactions from our dealings in the real world is just as distinct as the physical boundaries between our territorial governments,[91] it therefore makes sense to conceive of Cyberspace as a separate and distinct jurisdiction with distinct copyright rules that address the unique legal issues posed by purely digital transactions. Under such a legal regime, the subsequent reproduction, transmission and alteration of works that originate exclusively on the internet shall be governed by cyberspace rules for as long as they do not cross the digital boundary over into the real world.[92]

B. "Law Cyberspace"

Law normally comes into being through the promulgation by a central imposing authority. However, given the absence of territorial boundaries in cyberspace, it is not feasible to have any one sovereign impose and enforce rules to protect internet works. An alternative system of promulgating rules to govern intellectual and artistic works published online therefore must be considered.

One such system would be the development and crystallization of customs by those who have a special interest in seeing those norms applied. This process is not unheard of. The Law Merchant provides us with a historical example of how binding rules can evolve through the development of custom and common usage.

After the fall of the Roman Empire, commercial activities in Europe were almost non-existent. However, during the eleventh and twelfth centuries, a class of professional merchants emerged in Europe. Along with such merchants emerged what is now known as the medieval "trade fairs": periodic gatherings of European and Asian merchants at central locations in Europe and England where goods of all sorts were bought and sold for shipment or transport back to the

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[91] *Id.*

[92] Once the boundary between cyberspace and the real world is crossed however, "real world" copyright laws will apply. Thus, unauthorized uploading onto the internet of copyrighted works originating in the real world, as well as unauthorized "real world" publication of works originally published online shall constitute infringements and give rise to civil and criminal liability under existing copyright laws. Existing copyright law must be amended, however, to cover such situations.

merchants' home territories.[93] Because of the differences in language, cultural background and trading practices among these merchants, disputes could not be resolved by the local nobles whose established feudal law mainly concerned land claims. Neither could the nobles easily establish meaningful rules for a sphere of activity which they barely understood and which was usually executed in locations beyond their respective spheres of control.[94] In the absence of any other potential source of law,[95] it became necessary for the merchants themselves to adopt customs founded on principles of equity, general convenience, and a common sense of justice[96] in order to facilitate trade and commerce. Such customs, which were reasonably uniform across all the jurisdictions involved in the trade fairs,[97]eventually achieved the status of legal enforceability and were even incorporated into contemporary commercial law.[98]

The circumstances that gave rise to the system of the Law Merchant are similar to those surrounding the Internet phenomenon. In both cases, there exist:

(1) the absence of a central imposing authority that could give authoritatively lay down the rules of transaction;

(2) a need for laying down rules that are uniformly acceptable across all jurisdictions; and

(3) the possibility of such rules co-existing side by side with existing law.

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[93] I. Trotter Hardy, *The Proper Legal Regime for "Cyberspace,"* 55 U. PITT. L. REV. 1020 (1994).

[94] Johnson & Post, *supra* note 68.

[95] Bruce L. Benson, *The Spontaneous Evolution of Commercial Law*, 55 S. ECON. J. 647 (1989).

[96] LEON E. TRAKMAN, THE LAW MERCHANT: THE EVOLUTION OF COMMERCIAL LAW 11-12 (1983).

[97] Hardy, *supra* note 93, at 1020.

[98] Our Negotiable Instruments Law (Act No. 2031) and the U.S. Uniform Commercial Code on which it is based draw largely upon customary principles of the Law Merchant.

Given the special nature of the Internet, the pragmatic needs of its users[99] would best be effectuated by means of self-regulation through "Law Cyberspace."[100] Necessarily, "Law Cyberspace" must be tailored to fit digital technology and to address the special needs of users brought about by the circumstances of the Internet.

C. *Shifting the focus from economic to moral rights*

Because making digital reproductions is an unavoidable incident of reading, viewing, listening to, learning from, sharing, improving, and reusing works posted on the Internet, mere reproduction should no longer be deemed the standard to measure infringement.[101]

Moreover, the protection of economic rights is no longer as compelling for intellectual and artistic works originating on the Internet as it is in the real world. Authors need not resort to copyright to ensure that they are duly compensated but can instead rely on cross-subsidization models such as advertising[102] and sponsorships[103] to support the production of their works which they can give away freely to the public.[104] But more importantly, the Net is being utilized predominantly by individuals and non-profit institutions such as non-governmental organizations, colleges, universities, and government, which publish

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[99] Gibbons, *No Regulation, Government Regulation, or Self-Regulation: Social Enforcement or Social Contracting for Governance in Cyberspace*, 6 CORNELL J.L. & PUB. POL'Y 475 (1997), as cited by James E. Gaylord, *State Regulatory Jurisdiction and the Internet: Letting the Dormant Commerce Clause Lie*, 52 VAND. L. REV. 1102 (1999).

[100] Hardy, *supra* note 93, at 1021.

[101] Litman, *supra* note 45.

[102] Advertising is one of the highest-profile business models on the Internet. Under the advertising model, a company gives away intellectual property to attract visitors to its site and then sells advertising space on its site to others. Schlachter, *supra* note 28.

[103] A variant on the advertising model, sponsorship is the "co-branding" of intellectual property with the sponsor's trademarks. It is emerging as a strong alternative to banner advertising. Schlachter, *supra* note 28.

[104] In fact, cross-subsidization as an alternative to direct compensation from users is rapidly becoming the rule rather than the exception. If content providers (i.e. publishers and authors) wish to maintain a following on the Net, they must necessarily resort to this since Net users gravitate inevitably towards sites that give information for free.

on the Internet not so much to make money as to express themselves and to convey important information.

Given the unique demographics of the Internet, the inherent interactivity of the digital medium, the ease of creation of derivative works, and the speed of dissemination of information in cyberspace, the more pressing need then is to protect the integrity of authors' original works and to ensure that credit is properly given where it is due. "Law Cyberspace" must necessarily veer away from the economic focus of copyright and instead emphasize moral rights.

The concept of moral rights is expressly provided under the Berne Convention[105] and Philippine intellectual property law,[106] and is implied by the WIPO Treaty.[107] It has two components: the right to claim authorship ("right of attribution")[108] and the right to object to any distortion, mutilation or other derogatory action ("right of integrity"). Such rights, which exist independently of copyright,[109] are meant to protect the author's reputation, not to provide economic compensation as copyright does.[110]

Effecting a paradigm shift from copyright to moral rights should not be too difficult. Copyright (and all intellectual property law for that matter) is tremendously counter-intuitive,[111] and most people do not understand why they must pay for something that they believe should be free to begin with. But just about every culture knows that it is inherently wrong to plagiarize, or to appropriate another's work, or to mutilate another's work.

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[105] Article 6bis (1) provides that "(i)ndependently of the author's economic rights, and even after the transfer of said rights, the author shall have the right to claim authorship of the work and to object to any distortion, mutilation or other modification of, or other derogatory action in relation to, the said work, which would be prejudicial to his honor or reputation."

[106] Sec. 193.3 of the Intellectual Property Code substantially reproduces the provisions of Article 6bis (1) of the Berne Convention.

[107] Art. 12.

[108] In Philippine intellectual property law, the right of attribution is contained in Sec. 193.1 of the IPC, which reads: "The author of a work shall, independently of the economic rights ...have the right to require that the authorship of the works be attributed to him, in particular, the right that his name, as far as practicable, be indicated in a prominent way on the copies, and in connection with the public use of his work..."

[109] Sec. 193.1, IPC. Certain legal systems such as the United States do not provide for moral rights.

[110] Larson, *supra* note 33.

[111] Jessica Litman, *Copyright as Myth*, 53 U. PITT. L. REV. 237 (1991).

A solution to the problem of plagiarism therefore would be to require authors of derivative works to affix to their works a truthful disclaimer and a citation or hypertext link to an unaltered copy of the original.[112] However, since such a solution would be merely a moral but not a legal duty, authors would be well-advised to likewise make use of technology controls or "cybercops" as they are popularly known, to ensure protection of their moral rights.

D. "Cybercops"

One such cybercop is encryption. Described as the ability to "hide what you say by encoding it in a way that no one except intended readers can understand,"[113] encryption relies on the basic concept that one could decrypt the desired information content only by using a key for which one would have to pay. Such technology permits the deployment of systems that would limit the number of times encrypted content could be accessed and that also would permit certain types of use while excluding other types of use such as replication. Encryption technologies would also permit one to determine with high reliability whether content has been altered, including the removal of various notices.[114]

Another cybercop is "fingerprinting." This refers to the embedding of digital images coded with "fingerprints" and identification (ID) sentences containing letters and dates in works posted on the Internet. These fingerprints and ID remain in the image even after manipulation or duplication of the work. Thus, this method can be used by authors to identify and prove ownership, as well as to determine whether their work has been changed.[115]

Similar to fingerprinting is "watermarking." Invisible electronic or digital signatures embedded in digital works are automatically reproduced when copies are made illegally for sale, or when plagiarists copy out portions for their own use. If a plagiarist digitally copies a portion of an author's work, authenticity can be

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[112] Litman, *supra* note 45.

[113] Lawrence Lessig, *The Path of Cyberlaw*, 104 YALE L. J. *1750 (1995)*.

[114] HENRY J. PERRITT, JR. LAW AND THE INFORMATION SUPERHIGHWAY 462 (1996).

[115] Tang, *supra* note 26, at 203.

proved through the use of the digital signature[116] since such watermarks cannot be removed by anyone except the person who set up the system. Watermarks can also include a code number so that every time a work is reproduced without authority, the misappropriation may be tracked to its original source.

Such use of technology controls, coupled with a widespread acceptance of moral rights on the Internet, should prove to be a better working alternative to traditional copyright rules.

V. CONCLUSION

The exponential growth of the Internet is a direct consequence of the unleashing of the power of individual creativity.[117] Heralded as "the greatest free marketplace of ideas that has ever existed,"[118] it is linking people around the world, allowing us to communicate with each other in ways that previously unheard of, and to express ourselves like never before. Rather than limit the potential of the Internet, intellectual property law must adapt to suit this new medium and allow it to reach its full potential (which is quickly being realized with each passing day).

This is not to say that copyright has no place in a digitized world. But where works exist purely in the digital realm of the Internet, copyright must give way to "Law Cyberspace," and moral rights must take precedence over economic rights on the Internet. Moreover, technology can be used to enforce protection of the integrity of author's works and to ensure their rights of attribution.

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[116] National Writers Union. *Authors in the New Information Age: A Working Paper on Electronic Publishing Issues* (visited 19 November 1999) <http://www-swiss.ai.mit.edu/6805/articles/int-prop/natnl-writers-union-sept.html>.

[117] Christopher Anderson, *The Economist Newspaper Limited*, as quoted by Gromov, *supra* note 15.

[118] Henry Edward Hardy, *The History of the Net*, Master's Thesis, September 28, 1993.

Copyright and "Law Cyberspace" can co-exist concurrently within their separate jurisdictions: copyright to the physical world, and "law cyberspace" to the Internet. By placing new wines in new wineskins, neither the wines nor the wineskins are lost. And we are all the better for it.

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