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ARTICLES

The Internationalization of Intellectual Property: New Challenges from the Very Old and the Very New

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The intellectual property concepts that are applied today to the Napsters of the world date back to the eighteenth century¹ and tend to vary from one country's national legislation to another.² Yet, many critics of the intellectual property system recognize that solutions to the problems, ranging from database protection to the Internet, should ideally be the same worldwide.³ In today's global economy, with digital networks and cultural exchanges, incorporeal objects are instantly available everywhere. Hence, it makes little

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¹ See discussion *infra* Part I.A.

² For example, the U.S. "fair use" provisions generally do not exist in other national copyright laws, while other concepts (e.g., "fair dealing" in United Kingdom and Canada) and more specific exceptions exist in European continental laws. See LUCIE M.C.R. GUIBAULT, COPYRIGHT LIMITATIONS AND CONTRACTS: AN ANALYSIS OF THE CONTRACTUAL OVERRIDABILITY OF LIMITATIONS ON COPYRIGHT 17-21 (2002).

³ See NATIONAL RESEARCH COUNCIL, THE DIGITAL DILEMMA: INTELLECTUAL PROPERTY IN THE INFORMATION AGE 54-55 (2000) [hereinafter NRC REPORT]; see also Pamela Samuelson & Randall Davis, *The Digital Dilemma: A Perspective on Intellectual Property in the Information Age* 15-16, at <http://www.sims.berkeley.edu/~pam/papers/digidilsyn.pdf> (2000) (last visited Mar. 7, 2002).

sense to adopt rules to protect them without taking account of the laws and practices of other nations—and of the work of international organizations. This is nothing new. Protecting only domestic (or national) works or inventions would be counterproductive: it increases unfair competition from unprotected foreign works and inventions.⁴ This explains why intellectual property has been on the path of progressive internationalization since the early days of international trade.⁵

Part I of this paper examines the four phases of this internationalization process. The first phase predates the major treaties and corresponds to the growth of bilateral relations in the field of intellectual property in the nineteenth century. The second and third phases are marked by the adoption of the major treaties in this field, in particular the Paris Convention for the Protection of Industrial Property (hereinafter the “Paris Convention”),⁶ the Berne Convention for the Protection of Literary and Artistic Works (hereinafter the “Berne Convention”)⁷ and Annex 1C of the 1994 Agreement on Trade-Related Aspects of Intellectual Property Rights (hereinafter the “TRIPS Agreement”).⁸ The main difference between phases two and three is the increasing importance of trade rules as the background to intellectual property negotiations. The current, fourth phase is perhaps the most challenging ever. After the breakdown of talks in Seattle in December 2000, World Trade

⁴ If only domestic works are protected, they can be reproduced abroad and made available at a substantially lower price as unprotected foreign work. Price-conscious users will thus tend to use foreign material, thereby damaging the market for protected national works.

⁵ See WORLD INTELLECTUAL PROP. ORG., INTELLECTUAL PROPERTY READING MATERIAL 233-34 (1998).

⁶ Paris Convention for the Protection of Industrial Property, *opened for signature* Mar. 20, 1883, *as revised at* Stockholm on July 14, 1967, 21 U.S.T. 1630, 828 U.N.T.S. 305 [hereinafter Paris Convention].

⁷ Berne Convention for the Protection of Literary and Artistic Works, Sept. 9, 1886, *as revised at* Paris on July 24, 1971, 25 U.S.T. 1341, 828 U.N.T.S. 221 [hereinafter Berne Convention].

⁸ Agreement on Trade-Related Aspects of Intellectual Property Rights, Apr. 15, 1994, Marrakesh Agreement Establishing the World Trade Organization [hereinafter WTO Agreement], Annex 1C, Legal Instruments—Results of the Uruguay Round vol. 31, 33 I.L.M. 81 (1994) [hereinafter TRIPS Agreement], available at http://www.wto.org/english/docs_e/legal_e/final_e.htm (last visited March 7, 2002).

Organization (hereinafter the “WTO”) negotiators were able to launch a new global round of trade talks in late 2001.⁹ Updating the TRIPS Agreement¹⁰ will be on the agenda, as will, in the wake of the incorporation of most substantive rules of the Paris and Berne Convention into TRIPS Agreement,¹¹ the incorporation of the two new World Intellectual Property Organization (hereinafter the “WIPO”) Internet treaties.¹²

The intellectual property communities are currently facing several important challenges. Foremost among these are the protection of databases;¹³ relations between authors and publishers/producers;¹⁴

⁹ See the WTO Ministerial Declaration dated November 14, 2001. WTO document WT/MIN(01)/DEC/1, available at http://www.wto.org/english/thewto_e/minist_e/min01_e/mindecl_e.htm (last visited Mar. 7, 2002); see also Paul Blustein, *A Quiet Round in Qatar? WTO's Next Meeting Site Unlikely to See a Repeat of 'The Battle of Seattle,'* WASH. POST, Jan. 30, 2001, at E01; *Trade and Poverty Reduction in the 21st Century*, OECD OBSERVER, May 16, 2001, at <http://www.oecdobserver.org/news/fullstory.php/aid/460.html>.

¹⁰ Also referred to as “TRIPS II.”

¹¹ See TRIPS Agreement, *supra* note 8, arts. 2(1), 3(1) & 9(1).

¹² The World Intellectual Property Organization (the “WIPO”) is an international organization dedicated to the protection of intellectual property worldwide. As of March 2001, 177 nations were WIPO members. With its headquarters in Geneva, Switzerland, WIPO as a Specialized Agency of the United Nations administers twenty-one international treaties dealing with intellectual property rights and protection. In the words of Dr. Kamil Idris, Director General of WIPO, its mission is “to promote through international cooperation the creation, dissemination, use and protection of works of the human spirit for the economic, cultural and social progress of all mankind.” World Intellectual Prop. Org., *A Message from the Director General*, at <http://www.wipo.org/about-wipo/en/dgo/> (last visited Feb. 16, 2002). Both the World Intellectual Property Organization Copyright Treaty, adopted Dec. 20, 1996, 36 I.L.M. 65 (1997) [hereinafter WCT] and World Intellectual Property Organization Performances and Phonograms Treaty, adopted Dec. 20, 1996, 36 I.L.M. 76 (1997) [hereinafter WPPT] have insufficient number of ratifications. Thirty countries must ratify each treaty before it becomes enforceable (WCT art. 20 and WPPT art. 29). As of July 30, 2001, twenty-seven countries (including the United States) had ratified the WCT and twenty-four, the WPPT. In 2002, expected ratification by the European Union and its fifteen member countries would bring the number of ratifications well above thirty for both treaties.

¹³ See *infra* notes 124 & 126.

¹⁴ Two good examples would be *New York Times Co. v. Tasini*, 533 U.S. 483 (2001), a lawsuit by several freelance writers in the United States against major newspaper and periodical publishers, and the negotiations conducted under the auspices of WIPO concerning a treaty on films and other audiovisual works, a significant part of which deals with which rights should or should not be transferred from the creators and performers to the producers. See *Diplomatic Conference on the Protection of Audiovisual Works, Geneva*

the legal regime on technical measures of protection;¹⁵ international exhaustion;¹⁶ protecting biotechnological patents;¹⁷ and the intellectual property/competition law interface.¹⁸ Some of these issues are in advanced stages of negotiation; others are well known and “only” require political action and compromise before further progress can be made.¹⁹

(Dec. 7 - 20, 2000): *Outcome of the Discussions in the Working Group*, WIPO Doc. IAVP/DC/34 (Dec. 19, 2000); see also P. Bernt Hugenholtz & Annemique de Kroon, *The Electronic Rights War*, in 6 INTERNATIONAL INTELLECTUAL PROPERTY LAW & POLICY 88-1 (Hugh C. Hansen ed., 2000).

¹⁵ For example laws that prevent the distribution and/or use of devices that can circumvent such measures, see Digital Millennium Copyright Act, Pub. L. No. 105-304, 112 Stat. 2860, 2887-905 (1998) (amending 17 U.S.C. §§ 108, 112, 114, chs. 7 & 8). In the European Union, the matter will be regulated mostly by the Directive 2001/29/EC of the European Parliament and of the Council Directive on the Harmonization of Certain Aspects of Copyright and Related Rights in the Information Society, 2001 O.J. (L 167) 10. See Recommendation for Second Reading on the Council Common Position for Adopting a European Parliament and Council Directive on the Harmonization of Certain Aspects of Copyright and Related Rights in the Information Society, EUR. PARL. DOC. A5-0043 (2001); Council Directive 98/84/EC, of 20 November 1998 on the Legal Protection of Services Based on, or Consisting of, Conditional Access, 1998 O. J. (L 320) 54 [hereinafter Conditional Access Directive]; see also Thomas P. Heide, *Copyright and E-Commerce and the World Wide Web: Is the Use and Consumption Model Already Predetermined?*, in 6 INTERNATIONAL INTELLECTUAL PROPERTY LAW & POLICY, *supra* note 14, at 89-1.

¹⁶ This matter was explicitly left open in article 6 of the TRIPS Agreement, *supra* note 8. See DANIEL GERVAIS, *THE TRIPS AGREEMENT: DRAFTING HISTORY AND ANALYSIS* 60-63 (1998).

¹⁷ For a good overview of the issues, see report by the Paris-based Organization for Economic Cooperation and Development (the “OECD”) entitled *Intellectual Property Practices in the Field of Biotechnology*, OECD Doc. TD/TC/WP(98)15/FINAL (1999), available at <http://www.oecd.org> (last visited Mar. 7, 2002).

¹⁸ Part of the problem is the regulation of copyright management organizations (the “CMOs”). The European Union is said to be preparing a directive to harmonize state control of CMOs along the lines of the German model. In Germany, under the Administration of Copyright and Neighboring Rights Act, the *Patentamt* (patent office) is given a broad range of seldom-exercised powers. See *Hearing on Collective Management—Conclusions (Brussels, 13-14 November 2000)*, at http://europa.eu.int/comm/internal_market/en/intprop/intprop/news/hearing.htm (Nov. 22, 2000). On the interface issue, see generally Ian Gilbert Eagles, *Talking Past Each Other: Intellectual Property and Competition Policy*, in 6 INTERNATIONAL INTELLECTUAL PROPERTY LAW & POLICY, *supra* note 14, at 100-01.

¹⁹ Apart from the European Directive on the protection of databases, see *infra* note 125, WIPO is also preparing a treaty on the protection of databases and is examining the issues surrounding collective administration of copyright. See Report of the WIPO Standing Committee on Copyright and Related Rights ¶¶ 72-85, WIPO Doc. SCCR/3/11 (Dec. 1, 1999).

But there are two new challenges that must be successfully tackled: the protection of traditional knowledge and the application of copyright to the Internet. During the Uruguay Round, several developing countries and “transition economies” (countries from Eastern and Central Europe in transition to a market economy) were learning the ropes of intellectual property law—by and large a set of “Western” concepts.²⁰ These countries are now coming to the table demanding appropriate protection of traditional knowledge.²¹ In parallel, the Internet’s rapid growth and increasing use as a tool to disseminate copyrighted material may engender a fundamental shift in copyright usage.²² Part II of this paper examines these challenges and focuses on the possible approaches with a view to strengthening the intellectual property system.

I. THE FOUR MAIN PHASES OF THE INTERNATIONALIZATION OF INTELLECTUAL PROPERTY

A. *The Early Days*

Either custom or law granted monopolies for acts of creation or invention at least as early as the seventeenth century.²³ For example, Galileo Galilei used a customary Italian law to obtain royalties on various optical devices that he had invented and had permitted others to manufacture.²⁴ In the field of copyright, the Statute of Anne of 1710, often considered the first true example of “modern” copyright legislation, granted publishers and authors a limited monopoly on books published or written.²⁵ It was truly a “copy-right.” Much

²⁰ See CHAKRAVARTHI RAGHAVAN, RECOLONIZATION: GATT, THE URUGUAY ROUND AND THE THIRD WORLD 114-41 (1990).

²¹ See Michael Davis, *Indigenous Peoples and Intellectual Property Rights*, at <http://www.aph.gov.au/library/pubs/rp/1996-97/97rp20.htm#MAJOR> (1996-97).

²² See NRC REPORT, *supra* note 3, at 94-95 & 129-44.

²³ See *Fragments d’Histoire de la Protection Littéraire*, 1890 Le Droit D’Auteur 7-9.

²⁴ A detailed history of Galileo’s discovery and commercialization methods can be found in DAVA SOBEL, *GALILEO’S DAUGHTER: A HISTORICAL MEMOIR OF SCIENCE, FAITH, AND LOVE* (1999).

²⁵ See Lyman Ray Patterson, *The Statute of Anne: Copyright Misconstrued*, 3 HARV. J.

older examples of copyright-type monopolies can be found in Italy.²⁶ These rights took the form of “privileges” granted by a local government.²⁷ For example, on September 1, 1486, the Council of Venice granted a printing monopoly to printer/publisher Marco Coccio de Vicovaro.²⁸ In England, similar privileges existed at least as early as the sixteenth century.²⁹

Going back even further, French author Cécile Bougeard claims that exclusive printing privileges for books existed in France as early as the thirteenth century.³⁰ While modern copyright laws were in force in France at least as early as 1770, the 1789 Revolution led to the birth of a “family” of copyright legislation (the so-called “authors’ right” or “*droit d’auteur*” tradition) based on the personhood of the author and the treatment of copyright as a human right.³¹

At the international level, the real development of modern copyright can be traced back to the mid-1800s. It may be divided into four phases.

ON LEGIS. 223, 235-36 (1966). In fact, the first book in English was published in 1476 and rights-based power over printing was first instituted by Henry VIII in 1529 (25 Hen. VIII, c.16). See JOHN S. MCKEOWN, *FOX CANADIAN LAW OF COPYRIGHT AND INDUSTRIAL DESIGNS* 14-17 (3d ed. 2000).

²⁶ See *Fragments d’Histoire de la Protection Littéraire*, *supra* note 23.

²⁷ See *id.*

²⁸ See *id.*; see also Hubert Carrier, *La Propriété Littéraire en France au XVIIe Siècle*, 13 *CAHIERS DE PROPRIÉTÉ INTELLECTUELLE* 311, 322-28 (2000).

²⁹ An exclusive printing privilege was granted in 1518 to Richard Pynson, the King’s Printer. Several similar privileges were granted to the well-known Stationers’ Company starting in 1556. See GEO. HAVEN PUTNAM, *BOOKS AND THEIR MAKERS DURING THE MIDDLE AGES, VOLUME II: 1500-1709*, at 467-68 (1897).

³⁰ See Cécile Bougeard, *Les Racines du droit d’auteur*, in *LE DROIT D’AUTEUR AUJOURD’HUI* 7 (Isabelle de Lamberterie ed., 1991).

³¹ As early as 1777 an articulate vision of the concept of copyright may be found in the debates in the French Parliament. The legislator refers to a bookstore privilege considered a “reward for the work of the author and compensation for the costs incurred by the bookstore owner,” i.e., the publisher. *Procès Verbal de ce Qui C’est Passé au Parlement Touchant les 6 Arrêts du Conseil du 30 Août 1777 Concernant la Librairie, Avec les Comptes Rendus à Leur Sujet*, in *LA PROPRIÉTÉ LITTÉRAIRE AU XVIIIe SIÈCLE* 468 (Laboulaye ed., 1959). The first version of authors’ rights as they exist today in French law was part of a law adopted in July 1793. No longer a “privilege,” it was a true right of the authors to reproduce and sell their works during their lifetime and for ten years after their death. See Cécile Bougeard, *supra* note 30, at 10.

B. Pre-1883: The Bilateral Phase

As international trade and cultural exchanges grew in the eighteenth and nineteenth centuries, it became evident that protecting only national creations and inventions could lead to strange and unjust results: if a nation only protected domestic literary and artistic works, foreign works would become available in “pirate” form, usually at a much lower price.³² This explains why the concept of “national treatment,”³³ according to which foreign nationals are to be treated in a manner no less favorable than national rightsholders, made sense: all works were equal, including from a market perspective.³⁴

To obviate the pitfalls of domestic-only protection of creations and inventions, while getting some value in return for protecting foreign subject matter, countries started entering into bilateral agreements, mutually granting national treatment to the nationals of partner countries.³⁵ This “bilateral phase” can be considered the first phase in the development of international intellectual property norms. With time, these agreements started to take a relatively standard form, but their proliferation created a gigantic spider web of treaties.³⁶ Catalogues of such treaties had to be published³⁷ to allow authors, inventors and users to determine the status of protection around the world.

³² This might be counterproductive for another reason; presumably, no other country will protect the domestic works, which are foreign to them, in retaliation. See ANDRE LUCAS & H.-J. LUCAS, *TRAITÉ DE LA PROPRIÉTÉ LITTÉRAIRE ET ARTISTIQUE* 742-43 (2d ed. 2001).

³³ See TRIPS Agreement, *supra* note 8, art. 3; Paris Convention, *supra* note 6, art. 2; Berne Convention, *supra* note 7, art. 5; see also WILHELM NORDEMANN ET AL., *INTERNATIONAL COPYRIGHT AND NEIGHBORING RIGHTS LAW* 75-76 (1990).

³⁴ Because all works benefit from the same level of copyright protection, the copyright portion of the price is the same and, therefore, any price differential is dictated not by regulatory discrimination between national and foreign works, but simply by supply and demand. See GERVAIS, *supra* note 16, at 46-51; NORDEMANN ET AL., *supra* note 33, at 75-76; David Vaver, *The National Treatment Requirements of the Berne and Universal Copyright Conventions*, 17 INT’L REV. INDUS. PROP. & COPYRIGHT L. 577, 595-607 (1986).

³⁵ See GERVAIS, *supra* note 16, at 46-51.

³⁶ See RECORDS OF THE INTERNATIONAL CONFERENCE FOR THE PROTECTION OF AUTHORS’ RIGHTS, CONVENED IN BERNE, SEPTEMBER 8 TO 19, 1884, at 8-9 (1884).

³⁷ See *id.*

C. 1883-1971: The "BIRPI" Phase

It was this complex and less than optimal international legal situation which led to the negotiation and conclusion of the two major international treaties in the field of intellectual property: the Paris Convention and the Berne Convention in 1883 and 1886, respectively.³⁸ The signing of these two major treaties can be considered the starting point of the second phase of the internalization of intellectual property norms. We refer to it as the "BIRPI phase," because these treaties were administered by the predecessor of the WIPO, the *Bureaux Internationaux Réunis pour la Protection de la Propriété Intellectuelle* (hereinafter the "BIRPI").³⁹ In their original versions, the two treaties provided little more than national treatment among signatory countries:⁴⁰ a consolidated replacement of the web of bilateral agreements.⁴¹ However, both treaties were revised several times during this phase, the last time at the Stockholm Revision Conference of 1968.⁴² New rights were added; certain exceptions were either limited in scope or eliminated and, where appropriate, new subject matter was added to the list of protected objects.⁴³ Usually, however, adding new rights or otherwise extending the existing protection was possible only among like-minded countries, with the result that, over the many years of this phase, few countries were ever "forced," to adhere to a new intellectual property treaty or version thereof by making major

³⁸ For a history of the negotiations surrounding these two Conventions, see WORLD INTELLECTUAL PROP. ORG., *THE FIRST TWENTY FIVE YEARS OF THE WORLD INTELLECTUAL PROPERTY ORGANIZATION, FROM 1967 TO 1992*, at 31-40 (1992).

³⁹ Unfortunately for English speakers, the French acronym is the only one officially in use.

⁴⁰ See WORLD INTELLECTUAL PROP. ORG., *1886-1986: BERNE CONVENTION CENTENARY 19 & 83-133* (1986) [hereinafter *BERNE CONVENTION CENTENARY*]; G. H. C. BODENHAUSEN, *GUIDE TO THE APPLICATION OF THE PARIS CONVENTION FOR THE PROTECTION OF INDUSTRIAL PROPERTY 12* (1968).

⁴¹ See *BERNE CONVENTION CENTENARY*, *supra* note 40, at 83.

⁴² The Berne Convention was further amended by the edition of an Appendix to what became the 1971 Paris Act, which, otherwise is similar to the Stockholm Act of 1968. See SAM RICKETSON, *THE BERNE CONVENTION FOR THE PROTECTION OF LITERARY AND ARTISTIC WORKS: 1886-1986*, at 124 (1987).

⁴³ See *BERNE CONVENTION CENTENARY*, *supra* note 40, at 19-25; BODENHAUSEN, *supra* note 40, at 9-16.

changes to their legislation. For example, the United States adhered to the Berne Convention in 1989, more than one hundred years after it entered into force in 1886, due to its incompatibilities with U.S. copyright law.⁴⁴ In other words, when a treaty or a new version was accepted by a country, it usually meant that the country had already effected the necessary changes to its national legislation or was about to do so.⁴⁵ Another example is the area of so-called neighboring rights, i.e., rights protecting music performers, broadcasters and sound recording or phonogram producers. A new treaty known as the Rome Convention⁴⁶ was signed in 1961; but countries that could not accept this concept, such as the United States, never adhered to it.⁴⁷ The same can be said of other efforts to add protection or rights: a treaty on the protection of computer microchips (“masks”) signed in Washington in 1994 was never ratified by a sufficient number of countries to enter into force.⁴⁸

While it was particularly difficult during this long phase to add new rights or new subject matter to the coverage of existing instruments, the administrative requirements to obtaining protection

⁴⁴ See Orrin G. Hatch, *Better Late Than Never: Implementation of the 1886 Berne Convention*, 22 CORNELL INT'L L.J. 171, 180-81 (1989); Abraham L. Kaminstein, *Statement of the United States Delegation on the Berne Convention*, 14 BULL. COPYRIGHT SOC'Y. U.S.A. 435, 435-36 (1967); Melville B. Nimmer, *The United States Copyright Law and the Berne Convention: The Implications of the Prospective Revision of Each*, 1966 COPYRIGHT 94, 95-114 & 118; Ralph Oman, *Letter from the United States of America*, 1991 COPYRIGHT 117, 117-19; Sam Ricketson, *U.S. Accession to Berne: An Outsider's Appreciation*, 7 INTELL. PROP. J. 233, 241-42 (1993); Richard Jacobson, Note, *The Question of Berne Entry for the United States*, 11 CASE W. RES. J. INT'L L. 421, 426-43 (1979).

⁴⁵ See Ricketson, *supra* note 44, at 241 & 249-53.

⁴⁶ International Convention for the Protection of Performers, Producers of Phonograms and Broadcasting Organizations, Oct. 26, 1961, 496 U.N.T.S. 43 [hereinafter Rome Convention]. Only countries that accepted the concept of “neighboring rights,” according to which sound recordings are protected outside of copyright proper (i.e., rights neighboring on copyright), became parties; see also The Performing Artists Society of America, *Introduction*, at <http://www.artistsociety.org/introduction.shtml> (last visited Jan. 7, 2002).

⁴⁷ See David Nimmer, *The End of Copyright*, 48 VAND. L. REV. 1385, 1410 (1995). In addition to providing “neighboring rights,” the Rome Convention prohibits mandatory registration and grants music performers rights that go beyond those contained in Title 17 U.S.C. § 102(a)(7) (1994).

⁴⁸ Treaty on Intellectual Property in Respect of Integrated Circuits, May 26, 1989, 28 I.L.M. 1477. See also TRIPS Agreement, *supra* note 8, art. 35; GERVAIS, *supra* note 16, at 173.

beyond one's own country became increasingly less burdensome.⁴⁹ Administrative "unions" were created to simplify application procedures for industrial property rights.⁵⁰ The Madrid Agreement in the field of trademarks and the Patent Cooperation Treaty (hereinafter the "PCT") are good examples of such instruments.⁵¹ In recent years, treaties harmonizing national application procedures were added to this panoply.⁵² In addition to the treaties establishing internationally agreed standards (e.g., the Paris and Berne conventions) and the so-called "registration treaties," a number of agreements were adopted to define various classification systems which organize information concerning inventions and other subject matter protected under intellectual property rules.⁵³

In summary, therefore, between the late nineteenth century and 1968, international intellectual property norms developed slowly from the basic concept of national treatment through the progressive codification of new rights or protection of new subject matter only when a sufficient number of like-minded countries were prepared to

⁴⁹ "The services provided by WIPO under [registration] treaties simplify and reduce the cost of making individual applications or filings in all the countries in which protection is sought for a given intellectual property right." *Global Protection System Treaties*, at <http://www.wipo.int/treaties/registration/index.html> (last visited Jan. 7, 2002).

⁵⁰ See Madrid Agreement Concerning the International Registration of Marks, April 14, 1891, as last revised July 14, 1967, 828 U.N.T.S. 389 [hereinafter Madrid Agreement]; Protocol Relating to the Madrid Agreement Concerning the International Registration of Marks, June 28, 1989, at <http://www.wipo.int/treaties/registration/madrid/protocol/index.html> (last visited Feb. 18, 2002) [hereinafter Madrid Protocol]; see also WORLD INTELLECTUAL PROP. ORG., *supra* note 5, at 280.

⁵¹ Patent Cooperation Treaty, June 19, 1970, 38 U.S.T. 7645, was signed in Washington on June 19, 1970, amended on September 28, 1979 and modified on February 3, 1984. The PCT, the Madrid Agreement and the Madrid Protocol, *supra* note 50, comprise the "Madrid system." The Madrid Protocol brought about changes that should allow the United States to enter the system. See Bruce MacPherson, *Clinton Administration Readies Madrid Protocol for Senate Action*, INTA News (2001), at <http://www.inta.org/news/mpsenate.shtml>. On September 5, 2000, President Clinton transmitted Treaty Document 106-41, the Protocol Relating to the Madrid Agreement, to the Senate for ratification. On July 25, 2001, the bill was placed on the Senate Legislative Calendar under General Orders (calendar No. 101).

⁵² See Trademark Law Treaty, Oct. 27, 1994, 34 INDUS. PROP. L. & TREATIES 3-010, 001 (1995); Patent Law Treaty, June 1, 2000, 39 I.L.M. 1047.

⁵³ See, e.g., Strasbourg Agreement concerning the International Patent Classification, Mar. 24, 1971, 26 U.S.T. 1793; Nice Agreement concerning the International Classification of Goods and Services for the Purposes of the Registration of Marks, June 15, 1957, 23 U.S.T. 1336, 550 U.N.T.S. 45.

enter into international agreement for that purpose.⁵⁴ In certain cases, such as the Rome Convention, the agreement had preceded the adoption of national legislation, but reflected a preexisting political consensus.⁵⁵

D. 1971-1994: The TRIPS Phase

1. 1971-1986: Pre-TRIPS Discussions

The third phase of the internationalization process began in 1971, after the signing of the Paris Act of the Berne Convention and, more generally, the progressive application of the norms and standards negotiated at the Stockholm Conference.⁵⁶ It ended with the signing of the TRIPS Agreement in 1994.⁵⁷ We would refer to this period as the “trade-related” or TRIPS phase. Indeed, during this phase, the face of international intellectual property changed rapidly due to pressure from perceived trade imbalances stemming from unequal intellectual property regimes.⁵⁸ Several studies showed the

⁵⁴ With respect to the Berne Convention, see BERNE CONVENTION CENTENARY, *supra* note 40, at 82.

⁵⁵ See *supra* notes 46-47 and accompanying text.

⁵⁶ The Intellectual Property Conference held in Stockholm from June 11 to July 14, 1967, produced a new version (or “Act”) of both the Paris and Berne Conventions. However, while the new Act of the Paris Convention in the area of industrial property (signed on July 14, 1967) quickly entered into force, the new version of the Berne Convention never did. A new Act signed in Paris on July 24, 1971 (known as the Paris Act of the Berne Convention; not to be confused with the Paris Convention) included an Appendix providing additional exceptions to exclusive rights for developing countries. It entered into force in respect of each country upon ratification (see Berne Convention, *supra* note 7, art. 28). See BERNE CONVENTION CENTENARY, *supra* note 40, at 22 & 192-219.

⁵⁷ See *supra* note 8. The Agreement entered into force on January 1, 1995. See Final Act Embodying the Results of the Uruguay Round of Multilateral Trade Negotiations, Apr. 15, 1994, Legal Instruments—Results of the Uruguay Round vol. 1 (1994), § 3, 33 I.L.M. 1125 (1994) [hereinafter Final Act]; WTO Agreement, *supra* note 8, art. XIV(1); TRIPS Agreement, *supra* note 8, art 65(1).

⁵⁸ See GENERAL ACCOUNTING OFFICE, GENERAL AGREEMENT ON TARIFFS AND TRADE: URUGUAY ROUND FINAL ACT SHOULD PRODUCE OVERALL ECONOMIC GAINS 102 (1994); Frank Emmert, *Intellectual Property in the Uruguay Round—Negotiating Strategies of the Western Industrialized Countries*, 11 MICH. J. INT’L L. 1317, 1328 (1990); Richard A. Morford, *Intellectual Property Protection: A United States Priority*, 19 GA. J. INT’L COMP.

enormous importance of intellectual property rights (hereinafter the “IPRs”) in economic development.⁵⁹ Core copyright industries⁶⁰ alone are responsible for almost five percent of the gross domestic product (hereinafter the “GDP”) of the United States and between four and five percent of the GDP of most industrialized nations.⁶¹ Copyright has become a crucial factor in countries such as India, home to one of the world’s largest film and software industries.⁶² In the field of patents, the trade in goods protected by patents (e.g., pharmaceuticals) is similarly important.⁶³ Also during this phase, trademarks and other intellectual property rights concerning the marking of goods and services started to be viewed as essential to national and international trade insofar as they reassure buyers about the commercial or geographic origin and quality of a particular good

L. 336, 340 (1989).

⁵⁹ See UNESCO Institute for Statistics and the Division of Cultural Policies, *International Flows of Selected Cultural Goods, 1980-98, Executive Summary*, at http://www.ius.unesco.org/en/public/doc/dult_sum_web.pdf (2000).

⁶⁰ Defined as transactions involving text publishing, music, film, video games, computer software, photography and art. See WORLD INTELLECTUAL PROP. ORG., *supra* note 5, at 38-39.

⁶¹ Or, \$457.2 billion. The full impact of copyright in the United States in 1999 is estimated at 7.33% of GDP or \$678 billion. See International Intellectual Property Alliance, *Copyright Industries in the U.S. Economy—The 2000 Report, Executive Summary*, at http://www/iipa.com/copyright_us_economy.html (last visited Jan. 7, 2002).

⁶² The Indian film industry, sometimes referred to as “Bollywood,” has produced over 27,000 feature films and thousands of short-subject and documentary films. See *India Infoline Sector Reports, Film Industry, The Complete History of Bollywood*, at <http://www.indiainfoline.com/sect/mefi/ch02.html> (last visited Jan. 7, 2002). The Indian computer software industry generated 72 billion rupees in 2000, or approximately \$1.6 billion. See *India Infoline Sector Reports, Software*, at <http://www.indiainfoline.com/sect/ifso/ch01.html> (last visited Feb 15, 2002).

⁶³ See Thomas G. Field Jr., *Pharmaceuticals and Intellectual Property: Meeting Needs Throughout the World*, 31 IDEA 3, 14-15 (1991); Michelle McGrath, *The Patent Provisions in TRIPS: Protecting Reasonable Remuneration for Services Rendered—or the Latest Development in Western Colonialism?*, 18 EUR. INTELL. PROP. REV. 398, 399 (1996). The traditional line of argument is as follows: “Strong worldwide protection of intellectual property is essential to foster pharmaceutical research and development. On average, it takes 12 to 15 years and costs \$500 million to discover and develop a new drug—but, without patent protection, a drug can be copied, or reverse-engineered, quickly and cheaply. Thus, without strong patent protection, there would be no research-based pharmaceutical industry—and few new drugs would be developed to help and heal patients.” *PhRMA Annual Report 2000-2001*, at <http://www.phrma.org/publications/publications/annual2000/toc.phtml> (last visited Jan. 7, 2002).

or service.⁶⁴ In fact, in cases such as apparel and sporting goods, trademarks alone generate an increasingly important amount of trade and international business.⁶⁵

In parallel, and in part due to their increasing level of economic development, a number of relative newcomers joined the tables where new intellectual property rights were being discussed and negotiated.⁶⁶ While the Paris and Berne Conventions were negotiated on a trans-Atlantic basis with limited input from other parts of the world (only a few countries such as Japan and Australia), in the early stages of this third phase, several African, Asian, Latin American and Middle Eastern countries began to show active presence at every international intellectual property negotiations.⁶⁷ In fact, these countries now comprise the majority, but it is a relatively recent phenomenon. The participation of these countries is essential to ensure that intellectual property norms are understood by all and updated in ways that reflect the concerns of all nations. By the same token, however, these countries are from different backgrounds and traditions, rendering the task of agreeing on new norms, standards and procedures far more difficult than in the past.⁶⁸

⁶⁴ See Albrecht Conrad, *The Protection of Geographical Indications in the TRIPS Agreement*, 86 TRADEMARK REP. 11, 12 (1996); L. Sordelli, *The Future Possibilities of International Protection for Geographical Indications*, 1991 IND. PROP. 154.

⁶⁵ For example, Nike's swoosh symbol.

⁶⁶ According to the WTO Secretariat, about than 100 of the WTO's 140 members (as of Nov. 30, 2000) are developing countries. See *Trading Into The Future: Introduction to the WTO*, at http://www.wto.org/english/thewto_e/whatis_e/tif_e/dev0_e.htm#whatis (last visited Jan. 10, 2002).

⁶⁷ Records of the 1967 Stockholm Diplomatic Conference show very little concrete participation by developing countries in deliberations concerning the wording of the agreements, e.g., the Berne Convention. See BERNE CONVENTION CENTENARY, *supra* note 40, 192-219. Concerns of developing countries were reflected mostly in the introduction to the Appendix to the Berne Convention, which contain a convoluted set of compulsory licensing procedures for publication and translation of foreign works by developing countries. Complexity may explain why the system has fallen into disuse. One such formality is that under Article I of the Appendix, countries must make a declaration, valid for ten years. As of January 15, 2002, only eight countries had a valid declaration filed with the WIPO. See *infra* note 70.

⁶⁸ At their annual meeting, the WIPO Governing Bodies decided not to try to amend the Berne Convention itself, because Article 27 (3) of requires unanimous approval for such changes to take effect and it seemed unrealistic to expect all countries party to the Berne Convention (148 as of January 15, 2002) to agree. Instead, the Governing Bodies chose to negotiate a protocol to the Berne Convention, which was allowed as a "special agreement"

This probably explains why between 1971⁶⁹ and April 1994, no negotiation on a new substantive treaty in the field of intellectual property was successfully concluded.

The first sign of the marked presence of developing countries in international negotiations was the adoption of a complex and by and large unused "Appendix" to the Paris Act of the Berne Convention in 1971.⁷⁰ It featured certain compulsory licensing and exemption options (e.g., for translation) specifically for developing nations.⁷¹ Today, it is fair to say that developing countries generally do not seek only *different* rules and exceptions; they prefer that intellectual property norms and standards adopted at the international level fully reflect and integrate their core concerns.⁷²

Owing in large part to the countries' inability to negotiate new agreements, the first part of this third phase, from 1971 to 1986, was characterized by an increasing tendency to resort to bilateral discussions and trade-based sanctions aimed at pressuring others to change their intellectual property regimes.⁷³ This almost recreated

under Article 20 and would only bind countries that decided to ratify the new instrument. For a negotiating history, see Basic Proposal for the Substantive Provisions of the Treaty on Certain Questions Concerning the Protection of Literary and Artistic Works to be Considered by the Diplomatic Conference 2, WIPO Doc. CRNR/DC/4 (Aug. 30, 1996). See also Robert A. Cinque, *Making Cyberspace Safe for Copyright: The Protection of Electronic Works in a Protocol to the Berne Convention*, 18 FORDHAM INT'L L.J. 1258, 1261-62 (1995).

⁶⁹ In fact, one should say 1967. The Stockholm Conference, at which the Paris and Berne substantive provisions were updated for the last time, was held from July 11 to 14, 1967. See WORLD INTELLECTUAL PROP. ORG., *supra* note 5, at 234.

⁷⁰ As of January 15, 2002, only eight (Algeria, Bahrain, Bangladesh, Cuba, Jordan, Mongolia, the Philippines and Singapore) of the 148 countries party to the Convention had made the declaration pursuant to Article I of the Appendix, which entitles them to use the Appendix. See Berne Convention, *supra* note 7, app. art. I.

⁷¹ See *id.*

⁷² See Peter Gakunu, *Intellectual Property: Perspective of the Developing World*, 2 GA J. INT'L & COMP. L. 358, 362 (1989); Roshani M. Gunewardene, *GATT and the Developing World: Is a New Principle of Trade Liberalisation Needed?*, 15 MD. J. INT'L L. TRADE 45, 66 (1991); see also CARLOS M. CORREA, *INTELLECTUAL PROPERTY RIGHTS, THE WTO AND DEVELOPING COUNTRIES: THE TRIPS AGREEMENT AND POLICY OPTIONS* (2000); KEITH E. MASKUS, *INTELLECTUAL PROPERTY RIGHTS IN THE GLOBAL ECONOMY* (2000); SUSAN K. SELL, *POWER AND IDEAS: NORTH-SOUTH POLITICS OF INTELLECTUAL PROPERTY AND ANTITRUST* (1998).

⁷³ Especially Section 301 of the Trade Act of 1974. Section 301 is still in use today, to

the pre-1883 system and its web of bilateral arrangements and undertakings.⁷⁴ While this system may have produced results, it required substantial amounts of time, effort and significant political trade-offs.⁷⁵ It thus became apparent in the mid-1980s that the international intellectual property framework had to be updated at the multilateral level.⁷⁶ Hence, the decision to add intellectual property to the agenda of the global trade talks launched at Punta del Este, Uruguay, in 1986.⁷⁷ The inclusion of intellectual property in the General Agreement on Tariffs and Trade (hereinafter "GATT")⁷⁸ is in fact at the very center of this third phase.

Why the GATT? The GATT itself dates back to 1948.⁷⁹ It refers to intellectual property in some of its provisions. For example,

accelerate TRIPS Agreement implementation and also in areas not covered by the TRIPS Agreement. See "Special 301" on Intellectual Property Rights and 1996 Title VII Decisions, at <http://www.ustr.gov/reports/special/factsheets.html#special301> (May 1996).

⁷⁴ The US (and to a certain extent the European Communities as well) entered into bilateral agreements, often as a result of an action under Section 301 of the Trade Act. See *id.*

⁷⁵ Not all countries respond in the same way and the same speed. China, whose accession to the WTO (the negotiations for which started in 1990 and which were still not completed as the time of this writing) was repeatedly named as a priority country under Section 301. See *id.* The 1992 and 1995 memoranda between China and the US concerning intellectual property were published online at <http://www.mac.doc.gov/China/Agreements.htm>.

⁷⁶ See General Agreement On Tariffs And Trade (GATT) Punta Del Este Declaration [hereinafter Ministerial Declaration], at http://www.sice.oas.org/trade/Punta_e.asp (Sept. 20, 1986); GERVAIS, *supra* note 16, at 11.

⁷⁷ See *id.*

⁷⁸ General Agreement on Tariffs and Trade, Oct. 30, 1947, 24 U.S.T. 146, 55 U.N.T.S. 194 [hereinafter GATT], available at <http://pacific.commerce.vbc.ca/trade/GATT.html#xx>. This Agreement was signed in 1948 and was supposed to form a part of the Havana treaty establishing the International Trade Organization (the "ITO"). The ITO and other parts of the Havana charter never entered into force as no acceptances were received by the Secretary-General of the United Nations. The Havana conference had been convened under the aegis of the U.N. Council for Economic and Social Affairs. The GATT was therefore a stand-alone document and was serviced by a "temporary" secretariat operating as the Interim Committee for the International Trade Organization. It was replaced only in 1995, when the WTO came into being. See JOHN H. JACKSON, WORLD TRADE AND THE LAW OF GATT 3 (1969).

⁷⁹ The GATT was supposed to be only a part of the Charter of the International Trade Organization (also known as the "Havana Charter"), which never saw the light of day, in large part because the U.S. Senate refused to ratify it. See GERVAIS, *supra* note 16, at 11; JACKSON, *supra* note 78, at 49-53.

Article IX(6) states that “the contracting parties shall cooperate with each other with a view to preventing the use of trade names and such matter as to misrepresent the true origin of a product . . .” and Article XX(d) allows contracting party (GATT signatories) to “adopt or enforce measures necessary to secure compliance with laws or regulations which are not inconsistent with the provisions of this Agreement, including those relating to the protection of patents, trade marks, copyrights and prevention of deceptive practices.”⁸⁰ It is interesting to note that Article XX(d) seems to be based on the assumption that intellectual property rights are a form of *exception* to free trade rules.⁸¹

The GATT had also done useful work on the issue of trade in counterfeit goods including a decision adopted at Ministerial level on November 29, 1982.⁸² In the eyes of several industrialized countries, the increasingly strong link between trade and intellectual property made the GATT the most adequate forum for updating the international intellectual property system.⁸³

2. 1986-1994: The Uruguay Round

The inclusion of intellectual property on the agenda of the new Uruguay Round of trade talks in 1986 was deceptively minimalist.⁸⁴ The Ministerial Declaration adopted at Punta del Este, Uruguay only stated the need to “clarify provisions and elaborate as appropriate new rules and disciplines” and that “negotiations shall aim to develop a multilateral frame work of principles, rules and disciplines dealing with international trade in counterfeit goods, taking into account work already undertaken in GATT.”⁸⁵ Additionally, the negotiations had to be “without prejudice to other complementary initiatives that may be taken in the World Intellectual Property

⁸⁰ GATT, *supra* note 78, art. XX(d).

⁸¹ Article XX deals with “general exceptions.”

⁸² Ministerial Declaration of the Thirty-Eight Session at Ministerial Level, Nov. 29, 1982, GATT B.I.S.D. (29th Supp.) at 19 (1983).

⁸³ See GERVAIS, *supra* note 16, at 10-25.

⁸⁴ *See id.* at 11.

⁸⁵ Ministerial Declaration, *supra* note 76.

Organization and elsewhere to deal with these matters.”⁸⁶

In reality, the GATT was ill-equipped to deal with such matters. The Secretariat had no intellectual property expert on staff.⁸⁷ When intellectual property negotiations were entrusted to the Group of Negotiation on Goods (hereinafter the “GNG”), a small team was set up within the Secretariat, but this group also had to deal with investment issues and government procurement.⁸⁸ During the first years of negotiation, the Secretariat, for its own benefit and that of several national negotiators who had limited knowledge of intellectual property issues, collected information on the exact situation of the protection of intellectual property rights worldwide, recruited intellectual property experts, and produced several key reports outlining the main differences and areas where negotiations were potentially needed.⁸⁹ Over that same period, countries added intellectual property experts to their Uruguay Round negotiating teams.⁹⁰

The real multilateral negotiations on substance thus started in earnest only in the early 1990s when the European Communities, quickly followed by the United States and Japan, tabled a draft legal text covering all aspects of intellectual property rights, including, for the first time in a multilateral document, detailed rules on the application of intellectual property rules before national courts and custom authorities and proposals that such rules be integrated in the dispute-settlement mechanism of the new trade body to be established at the end of the Round.⁹¹ Considering the limited Punta del Este mandate, this was an exceptionally far-reaching proposal.⁹² A group of fourteen developing countries which had interpreted the mandate of the negotiating group produced a much more limited

⁸⁶ *Id.*

⁸⁷ The two leaders of the division during the negotiations, David Hartridge and Adrian Otten, were long-time GATT Secretariat employees with a good track record in previous GAAT rounds but without any prior knowledge of intellectual property.

⁸⁸ It was known as negotiating “Group No. 11.” See GERVAIS, *supra* note 16, at 12.

⁸⁹ *See id.*

⁹⁰ *See id.*

⁹¹ *See id.* at 10-28 for a detailed history.

⁹² *See id.* at 10.

proposal.⁹³ The Secretariat then consolidated the various proposals produced by the EU, US, Japan and partial texts proposed by Switzerland and Australia into a single text, with differences indicated by alternative texts in square brackets.⁹⁴ The bulk of the developing countries' proposal was also reflected, but as a separate "approach" and in a distinct part of the text.⁹⁵

The TRIPS negotiating group (a subset of the GNG) had a target in mind for the conclusion of the discussions, namely the Ministerial Conference to be held in Brussels in December of 1990.⁹⁶ Under the able direction of Ambassador Lars Anell of Sweden, the negotiating group produced a text in time for the Ministerial Conference, which is remarkable given the number and breadth of the issues under consideration.⁹⁷ While it still contained square-bracketed alternatives, with the necessary political will, the text could have become a new international agreement as early as 1990.⁹⁸ Unfortunately, that did not happen due to the collapse of the Conference as a whole, caused mostly by the failure of major players to agree on agriculture-related issues.⁹⁹

Between December 1990 and December 1993, the Uruguay Round negotiations continued.¹⁰⁰ The rhythm of discussions varied greatly but, by the end of 1993, all negotiating groups had agreed on texts that, together, became the final Uruguay Round package, including the establishment of the new WTO.¹⁰¹

⁹³ See *id.* at 16-17.

⁹⁴ See *id.*

⁹⁵ *Id.* at 17-18.

⁹⁶ See The Draft Final Act, GATT Doc. MTN.TNC/W/35/Rev.1 (Dec. 3, 1990).

⁹⁷ See *id.*; GERVAIS, *supra* note 16, at 21; Thomas Cottier, *The Prospects for Intellectual Property in GATT*, 20 COMMON MKT. L. REV. 383, 396 (1992).

⁹⁸ In fact, the final text of April 1994 contains relatively few changes when compared to the draft of 1990. The draft and the final text are compared in GERVAIS, *supra* note 16, at 39; see also David Hartridge & Arvind Subramanian, *Intellectual Property Rights: The Issues in GATT*, 22 VAND. J. TRANSNAT'L. L. 893, 897 (1989).

⁹⁹ See THE GATT URUGUAY ROUND: A NEGOTIATING HISTORY (1986-1992) vol.1, at 203-4 (Terence P. Stewart ed., 1993).

¹⁰⁰ See *id.*

¹⁰¹ See K.S. Sajeev & Raghav Narsalay, *A Negotiating History of the Uruguay Round*, at <http://www.cuts-india.org/no-9-99.pdf> (1999).

The Uruguay Round package of agreements, including the TRIPS Agreement, was signed in Marrakech in April 1994 and the WTO officially came into being on January 1, 1995.¹⁰² The TRIPS Agreement entered into force on the same date, although transitional periods of various durations gave WTO members time to adapt their national intellectual property regime to the “new world order.”¹⁰³ This result is nothing short of astonishing. Given the sluggish pace and partial coverage of intellectual agreements negotiated between 1883 and 1994, it is amazing indeed that in less than four years—

the bulk of the work was actually done in less than one year—a new multilateral agreement covering all forms of intellectual property, including forms never previously covered by an international agreement could be adopted.¹⁰⁴ For the first time, national courts as well as custom and administrative authorities could apply an identical agreement.¹⁰⁵ Additionally, the entire Agreement, including its dispute-settlement mechanism was brought under the umbrella of the WTO.¹⁰⁶

Even at its signing in Marrakech in 1994, however, the TRIPS Agreement was already outdated.¹⁰⁷ Ironically, part of the reason for this as we shall see was the rapid growth of technology and one particular invention made just a few miles from both the WIPO and WTO headquarters in Geneva, at the CERN Research Center on the Swiss-French border. It is there that Tim Berners-Lee invented the World Wide Web.¹⁰⁸

¹⁰² See *supra* note 57 and accompanying text.

¹⁰³ TRIPS Agreement, *supra* note 8, arts. 65-66.

¹⁰⁴ See *id.* art. 63.

¹⁰⁵ See *id.*

¹⁰⁶ See *id.* art. 64.

¹⁰⁷ See GERVAIS, *supra* note 16, at 12-25. The bulk of the TRIPS Agreement was negotiated in 1990. By 1994, it was partly outdated due to the very rapid technological progress between 1990 and 1994. For example, the World Wide Web was “invented” by Tom Berners-Lee at CERN around 1989-1990 and the Internet became vastly popular only during the early 1990s. See Tom Berners-Lee, *The World Wide Web: A Very Short Personal History*, at <http://www.w3.org/People/Berners-Lee/ShortHistory.html> (last visited Feb. 15, 2002).

¹⁰⁸ See Berners-Lee, *supra* note 108.

E. 1994-Today: The Paradigmatic Phase

The signing of the TRIPS Agreement marks the end of the third phase of the development of international intellectual property.¹⁰⁹ The most striking feature of the current, fourth phase, which began with the TRIPS Agreement, is the emergence of new intellectual property concerns, from biotechnological patents to MP3 downloads. We would refer to it as the “paradigmatic phase” in the internationalization of intellectual property. Indeed, as astonishing as the results of the TRIPS negotiations can seem, the internationalization of intellectual property protection since 1883, i.e., phases two and three, may be summarized as an expansion in depth and geographical coverage of the protection, always along the lines of the systems of protection that existed in a few industrialized Western countries in the nineteenth century. The changes that we are currently witnessing in international intellectual property brought about by the new challenges discussed below may result in a *fundamental shift* in the paradigm, i.e., changes to the intellectual property system much greater in scope than anything we have seen to date.

While these major changes are underway, a number of more traditional issues still have to be addressed. For example, since 1994, there has been a very significant focus on the harmonization of national procedures concerning intellectual property rights: the Trademark Law Treaty of October 1994 and the Patent Law Treaty adopted in June 2000 are excellent examples.¹¹⁰ While multinational

¹⁰⁹ See *supra* note 57 and accompanying text.

¹¹⁰ The Trademark Law Treaty, *supra* note 52, adopted at Geneva on October 27, 1994, harmonizes a number of important practical issues: designation of an address for service (Art. 4), filing dates (Art. 5), and applications concerning several classes of goods or services (Art. 6). The United States became party on August 12, 2000. See *Regulations Under the Trademark Law Treaty*, at <http://www.wcl.american.edu/internationaltrademark/tltreg.html> (last visited Feb. 15, 2002). The Patent Cooperation Treaty, *supra* note 51, allows applicants to file an international patent application and a preliminary international examination procedure. See *id.* art. 3 & 31. It does not result in the issuance of an international patent, however. Applications must in the end be submitted to individual (national or regional) patent offices. The United States became party on Jan. 24, 1978. See *The Patent Cooperating Treaty (PCT) Homepage*, at <http://www.wipo.org/pct/en> (last visited Feb. 15, 2002).

companies as well as individual authors and inventors are increasingly trying to do business and protect their rights on a global scale, obtaining worldwide intellectual property protection, especially for trademarks and patents, is extremely expensive and time-consuming.¹¹¹ This form of administrative and, to a certain extent, substantive harmonization is thus both necessary and useful, and should be continued.

Other developments in the field of intellectual property, however, may force a reconsideration of the *fundamental tenets* of intellectual property, not just “minor” changes or adjustments along entirely predictable lines. These challenges to the international intellectual property regime are coming from the very old and the very new.

II. NEW CHALLENGES TO THE INTERNATIONAL INTELLECTUAL PROPERTY ORDER

Before examining the new challenges, it is worth noting that a “need” to radically change intellectual property seems to resurface regularly in response to technological progress.¹¹² Historically, however, intellectual property has always adapted to important technological changes without any major problems.¹¹³ The inventions of broadcasting, cinema and cable and satellite television,

¹¹¹ See generally Erwin F. Berrier Jr., *Global Patent Costs Must Be Reduced*, 36 IDEA 473 (1996).

¹¹² A thought from former WIPO Director General Arpad Bogoch:

Throughout the changing circumstances of their existence, [the Berne and Paris] Conventions have known a permanence and a stability which few international agreements can match. Certainly, they have been revised a number of times to allow for political, economic and social changes, but their continuity has been a noteworthy feature.

C. MASOUYÉ, GUIDE TO THE BERNE CONVENTION 3 (1978); see also Daniel Gervais, *Electronic Rights Management Systems*, 3 J.W.I.P. 77, 78 (2000); *Digital Rights and Wrongs: Computers Were Supposed to Be Threatening Copyright; Instead They May End Up Making It Stronger*, THE ECONOMIST, July 17, 1999, at 75.

¹¹³ See Gervais, *supra* note 113; Jennifer S. Light, *New Technologies and Regulation: Why the Future Needs Historians*, 2001 L. REV. MICH. ST. DET. C.L. 241.

for example, has led to changes in the copyright laws and treaties but has not altered the very essence of copyright protection.¹¹⁴

When computer programs were invented, policy makers had the option of either proposing a new form of intellectual property protection *sui generis*, or using an existing protection system. Prompted by court decisions in the United States, and legislative changes in the United States, France and other European countries, a decision was made to consider computer software as a “literary work” protected by copyright.¹¹⁵ It was reasoned that software was “written.”¹¹⁶ With or without legislative changes, it rapidly became clear that the fact that copyright applies to the *form* of an artistic or literary expression, not to the underlying ideas and algorithms, makes it difficult to fit software into the copyright mold.¹¹⁷ It is too easy to change a few lines of code or recode a program in a different language. Courts then had to resort to a number of legal theories to make the new protection work, including the protection of the “look and feel” or of the “structure sequence and organization” of software.¹¹⁸ In certain cases, courts were in fact considering the possibility that a buyer or consumer could be confused by a program visually similar when executed to the program of another supplier, a

¹¹⁴ See Gervais, *supra* note 113.

¹¹⁵ See Anne Moebes, *Negotiating International Copyright Protection: The United States and European Community Position*, 14 LOY. L.A. INT'L & COMP. L. J. 301, 309-10 (1992); Fred M. Greguras, *Computer Software Protection 1997 Update: International Legal Protection for Software*, 479 PLI/Pat 855, 872 (1997).

¹¹⁶ The category of literary works in the Copyright Act is defined as including “works expressed in words, numbers, or other verbal or numerical symbols or indicia, regardless of the nature of the material objects.” 17 U.S.C. § 101 (1994). In 1980, a definition of “computer program” was added to section 101 by Pub. L. No. 96-517, 94 Stat. 3015, 3028, which describes a computer program as a set of statements or instructions to be used directly or indirectly in a computer in order to bring about a certain result.” Article 10(1) of the TRIPS Agreement, *supra* note 8, states that “computer programs, whether in source or object code, shall be protected as literary works under the Berne Convention.” *Id.* art 10(1).

¹¹⁷ For a good overview of the criticism, see CONGRESS OF THE UNITED STATES OFFICE OF TECHNOLOGY ASSESSMENT, FINDING A BALANCE: COMPUTER SOFTWARE, INTELLECTUAL PROPERTY AND THE CHALLENGE OF TECHNOLOGICAL INNOVATION 8 (1992).

¹¹⁸ The seminal “structure sequence and organization” case is *Whelan Assoc. v. Jaslow Dental Lab. Inc.*, 797 F.2d 1222, 1248 (3d Cir. 1986); see also *Plains Cotton Co-op v. Good Pasture Computer Serv., Inc.*, 807 F.2d 1256, 1262 (5th Cir. 1987). On the issue of the “look and feel,” see 1 PAUL GOLDSTEIN, COPYRIGHT—PRINCIPLES, LAW AND PRACTICE, § 2.15.2 (1989).

concept familiar to trademark lawyers but relatively new in the copyright world.¹¹⁹ In retrospect, and in spite of these shortcomings, it seems that the use of copyright to protect computer software has been reasonably successful, especially if one considers the enormous growth of the software industry.¹²⁰ Adding software to the list of works protected by copyright also meant that copyright protection was available worldwide and immediately for computer programs, without the need to make major changes to existing treaties or laws.¹²¹ At the same time, however, several national and regional patent offices, including the United States Patent and Trademark Office, have issued a number of patents for software-related inventions.¹²² The approach taken for software contrasts with the

¹¹⁹ There are English cases in equity where courts have refused to assist an author whose works are intended to deceive the public. See *Wright v. Tallis*, 1 C.B. 893, 906 (1845); *Slingsby v. Bradford Patent Truck*, W.N. 122 (Ch. D. 1905), *aff'd* W.N. 51 (C.A. 1906); see also Robert G. Howell, *Copyright and Obscenity: Should Copyright Regulate Content?*, 8 INTELL. PROP. J. 142, 184-87 (1994).

¹²⁰ According to the Software & Information Industry Association, the industry grew from \$4.5 billion in 1990 to \$10.5 billion in North America alone:

The worldwide packaged software industry for all platforms is placed by International Data Corp. at \$140 billion in 1998, with a 15% growth rate over 1997 revenues. Of this, the United States is estimated to hold approximately a 70% share. U.S. software companies lead the world in development and production of original, effective and efficient products for business, homes and schools. The packaged personal computer software market in the United States is estimated at nearly \$30 billion—of this, \$24 billion is business software, \$5 billion is home use products and \$800 million worth of software is designed for schools.

Growth rates for the packaged software industry have been extremely vigorous through the '90s, with an average growth rate of 12% per year. Projections are always fraught with difficulties, but the growth of software has in the past been closely tied to the placement of new computers. Bear, Stearns & Co. forecasts 18% worldwide annual growth for global PC shipments through the year 2000.

Packaged Software Industry Revenue and Growth, at <http://www.siiia.net/divisions/research/growth.asp> (2002).

¹²¹ Article 10(1) of the TRIPS Agreement, *supra* note 8, makes it clear that software must be protected "as literary works under the Berne Convention." See György Palos, *Author's Right Protection of Computer Software*, in WORLDWIDE FORUM ON THE IMPACT OF EMERGING TECHNOLOGIES ON THE LAW OF INTELLECTUAL PROPERTY 93 (1988).

¹²² See *Diamond v. Diehr*, 450 U.S. 175, 191-93 (1981); see also Karl F. Mild, Jr., *Life After Diamond v. Diehr: The CCPA Speaks Out on the Patentability of Computer-Related Subject Matter*, 64 J. PAT. & TRADEMARK OFF. SOC'Y 434 (1982). But see OFFICE OF TECHNOLOGY ASSESSMENT, *supra* note 118; Seth Shulman, *Software Patents Tangle the Web*, MIT TECH. REV. ONLINE (May 2000), at <http://209.58.177.220/articles/ma00/shulman.htm>. For an overview of the current debates in Europe, see generally Robert

protection of computer chips (“masks”), which were protected by a *sui generis* regime with limited international success until the adoption of the TRIPS Agreement.¹²³

More recently, the same set of questions arose with respect to databases. The European Union opted for a *sui generis* protection of databases by creating a right of “extraction,” not subject to national treatment but rather to reciprocity.¹²⁴ Protection will be available to nationals of other countries that offer a similar level of protection for databases.¹²⁵ In the United States, the most recent proposals concern the application of the misappropriation doctrine to databases.¹²⁶

Hart, *The Economic Impact of Patentability of Computer Programs*, at http://europa.eu.int/comm/internal_market/en/intprop/indprop/studyintro.htm (Oct. 2000).

¹²³ In the United States, the Semiconductor Chip Protection Act of 1984, 17 U.S.C. § 9 (1994). As already mentioned, the Washington Treaty (Treaty on Intellectual Property in Respect of Integrated Circuits), which was open for signature on May 26, 1989, never entered into force due to insufficient ratifications. See Robert W. Kastenmeir & Michael J. Remington, *The Semiconductor Chip Protection Act of 1984: A Swamp or Firm Ground?*, 70 MINN. L. REV. 417, 427-70 (1985).

¹²⁴ See Directive 96/9/EC of the European Parliament and of the Council of 11 March 1996 on the Legal Protection of Databases, 1996 O.J. (L 077) 20 [hereinafter Database Directive]. Article 7(1) reads as follows:

Member States shall provide for a right for the maker of a database which shows that there has been qualitatively and/or quantitatively a substantial investment in either the obtaining, verification or presentation of the contents to prevent extraction and/or re-utilization of the whole or of a substantial part, evaluated qualitatively and/or quantitatively, of the contents of that database.

Id. art. 7(1). Article 7(2)(a) defines “extraction” as “the permanent or temporary transfer of all or a substantial part of the contents of a database to another medium by any means or in any form.” *Id.* art. (7)(2)(a) Interestingly, in the United States it was decided to protect marine or maritime maps in order to promote the obtaining and collection of useful and original information in that field. See Jane Ginsburg, *Discussion on the Concept of Originality in Common Law Countries*, in COPYRIGHT AND INDUSTRIAL PROPERTY: CONGRESS OF THE AEGEAN SEA II 222-24 (1991).

¹²⁵ See Database Directive, *supra* note 125, preamble ¶ 56, art. 11(1).

¹²⁶ Databases are currently protected by a mixture of copyright, trade secret and contract. Other legal theories such as unfair competition (see *S. Bell Tel. & Tel. Co. v. Associated Tel. Directory Publishers*, 756 F.2d. 801, 809 (11th Cir. 1985)), conversion (see *Feist Publ'n, Inc. v. Rural Tel. Serv. Co.*, 499 U.S. 340 (1991)), appropriation and pre-emption may apply, but may be pre-empted by copyright law. On January 19, 1999, a bill was introduced to amend Title 17 to provide protection for certain collections of information. H.R. 354, 106th Cong. (1999). It uses the theory of misappropriation as a basis for the protection of certain databases. See *id.* At the time of this writing, action by the 107th Congress is still pending.

These examples and the many others that could be mentioned here show that the fundamental aspects of copyright protection, just like the other forms of intellectual property rights such as patents and trademarks, have not changed. These rights are: (a) granted to one or many identified creators or inventors (or other rightsholders); (b) on a specific work invention or other “object”; (c) in the nature of a monopoly; and (d) include a right to authorize or prohibit others from performing certain restricted acts in respect of the intellectual property object in question.¹²⁷ In certain cases, exceptions are provided which may include a right to perform some of the restricted acts without seeking permission but with an obligation to pay “remuneration” to the rightsholder(s).¹²⁸ This system, known as compulsory licensing, is used mostly for copyrights and patents in cases where individual use of the exclusive right seems impracticable.¹²⁹

The expansion of intellectual property up until now has therefore been limited to adding to the list of protected subjects, to the list of restricted acts and to the list of exceptions thereto, including new compulsory licenses. There has been no fundamental rethinking of the system itself. The new challenges facing the intellectual property

¹²⁷ These are the only common characteristics of the rights known as “intellectual property.” Registration, deposit and other formalities are not common to all rights. The expression “intellectual property” is officially defined in Article 2 of the Convention Establishing the World Intellectual Property Organization as:

includ[ing] the rights relating to: literary, artistic and scientific works, performances of performing artists, phonograms and broadcasts, inventions in all fields of human endeavor, scientific discoveries, industrial designs, trademarks, service marks, and commercial names and designations, protection against unfair competition, and all other rights resulting from intellectual activity in the industrial, scientific, literary or artistic fields.

Convention Establishing the World Intellectual Property Organization, *opened for signature* July 14, 1967, *as amended at* Stockholm Sept. 28, 1979, art. 2, 21 U.S.T. 1749, 828 U.N.T.S. 3. The United States deposited its instrument of accession to this Convention on Aug. 25, 1970. As of March 22, 2001, WIPO had 175 member States.

¹²⁸ For example, countries that impose a compulsory license on patent rights must ensure that the rightsholder is paid “adequate remuneration in the circumstances of each case, taking into account the economic value of the authorization.” TRIPS Agreement, *supra* note 8, art. 31(h). Other examples include cable retransmissions and the mechanical reproduction of sound recordings. See 17 U.S.C. §§ 111(c)-(d), 115 (1994).

¹²⁹ See William Fisher III, *Reconstructing The Fair Use Doctrine*, 101 HARV. L. REV. 1659, 1748-50 (1988).

community worldwide may push these concepts beyond their point of adaptability.

The first new challenge comes from the emerging need to protect so-called traditional knowledge. It is the "very old" coming to the forefront in large part due to concerns expressed by several developing and other nations whose support will be needed to ensure the success of the next round of global trade talks.¹³⁰ Indeed, should a new WTO Round be launched to update the TRIPS Agreement, it may not be possible to move forward without the support of developing countries. Historically these decisions have been taken according to consensus.¹³¹ If it should come to a vote, developing countries could probably muster a majority. In addition, there are already a number of important international instruments, adopted or in draft form, that recognize the rights of indigenous peoples in traditional knowledge, providing a legal basis on which to base their claims for protection in WTO instruments.¹³²

Next to this challenge from the very old comes a challenge from the very new: the Internet. The sheer growth factor and quintessential global nature of the network, and its ability to transport music and video to the four corners of the earth may change the fundamentals of copyright. What these challenges have in common is the possibility of wreaking serious havoc in the intellectual property system by forcing us to confront both its limitations and its inadequacies.

¹³⁰ See *Trade and Poverty Reduction in the 21st Century*, *supra* note 9.

¹³¹ One explicit reference to this historical principle is: "The WTO shall continue the practice of decision-making by consensus followed under GATT 1947. Except as otherwise provided, where a decision cannot be arrived at by consensus, the matter at issue shall be decided by voting." WTO Agreement, *supra* note 8, art. IX (1).

¹³² See, e.g., *Draft United Nations Declaration on the Rights of Indigenous Peoples*, in *Report of the Sub-Commission on Prevention of Discrimination and Protection of Minorities*, 46th Sess., U.N. Doc. E/CN.4/1995/2, E/CN.4/Sub.2/1994/56 (1994) [hereinafter *Draft U.N. Declaration*], reprinted in SHARON HELEN VENNE, *OUR ELDERS UNDERSTAND OUR RIGHTS: EVOLVING INTERNATIONAL LAW REGARDING INDIGENOUS PEOPLES* 205 (1998).

A. A Challenge from the Very Old: Traditional Knowledge

1. Defining the Issues

i. The Importance of Traditional Knowledge

The expression “traditional knowledge” is a shorter form of “traditional knowledge, innovations and practices.”¹³³ It includes a broad range of subject matters, for example traditional agricultural, biodiversity-related and medicinal knowledge and folklore.¹³⁴ In the Model Provisions for National Laws on the Protection of Expressions of Folklore Against Illicit Exploitation and Other Prejudicial Actions,¹³⁵ the WIPO and UNESCO define folklore as “productions consisting of characteristic elements of the traditional *artistic* heritage developed and maintained by a community . . . or by individuals reflecting the traditional artistic expectations of such a community. . . .”¹³⁶ The protection of traditional knowledge is progressively taking center stage in global discussions concerning intellectual property and trade.¹³⁷

¹³³ See Convention on Biological Diversity, June 5, 1992, art. 8(j), 31 I.L.M. 818, available at <http://www.biodiv.org/convention/articles.asp>. The Draft U.N. Declaration, *supra* note 133, uses the expression “indigenous knowledge, cultures and traditional practices.” In its more recent documents, WIPO uses the expression “traditional knowledge, innovations and creativity.” See Intellectual Property Needs and Expectations of Traditional Knowledge Holders, WIPO Report on Fact-finding Missions on Intellectual Property and Traditional knowledge 21-22 (1998-1999) [hereinafter WIPO Report], at http://www.wipo.int/globalissues/traditional_knowledge/report/final/ (Apr. 2001).

¹³⁴ See WIPO Report, *supra* note 134, at 21-27.

¹³⁵ UNESCO & WIPO, Model Provisions for National Laws on the Protection of Expressions of Folklore Against Illicit Exploitation and Other Prejudicial Actions [hereinafter Model Provisions], at <http://users.ox.ac.uk/~wgtrr/modprovs.htm> (1985). For a history of the Model Provisions, see Joseph W. Githaiga, *Intellectual Property Law and the Protection of Indigenous Folklore and Knowledge*, 5 MURDOCH UNIV. ELEC. J. OF L. (June 1998), at http://www.murdoch.edu.au/elaw/issues/v5n2/githaiga52_body.html.

¹³⁶ Model Provisions, *supra* note 136, § 2.

¹³⁷ See Chakravarthi Raghavan, *Asean For Protecting Indigenous/Traditional knowledge*, THIRD WORLD NETWORK (May 5, 2000), at <http://www.twinside.org.sg/title/rampant.htm>; John Mugabe, *Intellectual Property Protection and Traditional*

There are several reasons for the issue's sudden move to the forefront. First, a large number of countries believe that up to now they have not derived great benefits from "traditional" forms of intellectual property, yet find themselves rich with traditional knowledge, especially genetic resources and folklore.¹³⁸ They would like to exploit these resources, and several major companies share this interest.¹³⁹ The second reason is the growing political importance of aboriginal communities in several countries.¹⁴⁰

The statement issued by the WIPO Inter-Regional Meeting on Intellectual Property and Traditional Knowledge organized in Chiangray, Thailand from November 9 to 11, 2000, makes the point quite clearly:

With the emergence of modern biotechnologies, genetic resources have assumed increasing economic, scientific and commercial value to a wide range of stakeholders; . . . traditional knowledge, whether or not associated with those resources, has also attracted widespread attention from an enlarged audience; . . . other tradition-based creations, such as expressions of folklore, have at the same time

knowledge: An Exploration in International Policy Discourse, at <http://www.acts.or.ke/paper%20-%20intellectual%20property.htm> (Dec. 1998) [hereinafter Mugabe Report]; Aaron Cosbey, *The Sustainable Development Effects of the WTO TRIPS Agreement: A Focus on Developing Countries*, at <http://iisd1.iisd.ca/trade/trips.htm> (Mar. 1999).

¹³⁸ See the WIPO Report, *supra* note 134, at 213-15.

¹³⁹ See *id.*; Mugabe Report, *supra* note 138.

¹⁴⁰ Signs of this growing political clout include the signing of a CAN\$3.5 billion agreement between the government of Quebec and the Crees of Northern Quebec. See Rhéal Séguin, *Crees, Quebec Sign Historic Deal*, THE GLOBE AND MAIL, Feb. 8, 2002, at A7. This agreement was hailed as:

the first agreement in Canada that not only gives Indians management of their natural resources but recognizes their full autonomy as a native nation It is also the first agreement to follow the principles of native self-government outlined in the United Nations Declaration on Native Human Rights, which the U.N. will adopt in 2004.

Id. Another sign is precisely this work on rights of indigenous peoples currently ongoing within various United Nations committees. See, e.g., *Third Committee Turns To Issue Of World's Indigenous Peoples*, U.N. Press Release GA/SHC/3594 (Oct. 16, 2000), at <http://www.un.org?News/Press/docs/2000/20001016.gashc3594.doc.html>.

taken on new economic and cultural significance with a globalized information society.¹⁴¹

While pharmaceutical and biotechnological companies are looking at ways to exploit indigenous medicinal knowledge, plants and other resources that are often found in developing countries, the Internet is progressively allowing creators of folklore or folklore-based copyrighted material to disseminate their material worldwide at very low cost.¹⁴²

ii. *The Nature of the Challenge*

Why is traditional knowledge such a challenge for the intellectual property framework? Expressions of folklore and several other forms of traditional knowledge do not qualify for protection because they are too old and are, therefore, in the public domain.¹⁴³ Providing exclusive rights of any kind for an unlimited period of time would seem to go against the principle that intellectual property can be awarded only for a limited period of time, thus ensuring the return of intellectual property to the public domain for others to use.¹⁴⁴ That way, it promotes the constitutional objective of progress in science and the useful arts.¹⁴⁵ In other cases, the author of the material is not identifiable and there is thus no "rightsholder" in the usual sense of the term.¹⁴⁶ In fact, the author or inventor is often a

¹⁴¹ WIPO Inter-Regional Meeting on Intellectual Property and Traditional knowledge, Meeting Statement: A Policy and Action Agenda for the Future, at http://www.wipo.int/eng/meetings/2000/traditional_knowledge/statement.htm (Nov. 9-11, 2000).

¹⁴² There are considerable archives of folklore on the Internet. The Smithsonian Institution's Center for Folklife and Cultural Heritage already put a list of its impressive collection available on the Internet. See <http://www.folklife.si.edu/CFCH/aboutarc.htm> (last visited Feb. 15, 2002).

¹⁴³ See Michael F. Brown, *Can Culture Be Copyrighted?*, 39 CURRENT ANTHROPOLOGY 193 (1998).

¹⁴⁴ See WIPO Report, *supra* note 134, 148 & 216; Bogumil Jewsiewicki & Madeleine Pastinelli, *The Ethnography of the Digital World, or How to Do Fieldwork in a "Brave New World,"* 22 ETHNOLOGIES (2000), at <http://www.fl.ulaval.ca/celat/acef/222a.htm>.

¹⁴⁵ See *Feist Publ'n v. Rural Tel. Serv. Co.*, 499 U.S. 340, 349-50 (1991).

¹⁴⁶ An invention must have an inventor, even if he/she is not the rightsholder. See 35 U.S.C. § 102 (f). A work must have an author to be protected by copyright. See 17 U.S.C. §

large and diffuse group of people and the same “work” or invention may have several versions and incarnations.¹⁴⁷ Textile patterns, musical rhythms and dances are good examples of this kind of material.¹⁴⁸ Additionally, expressions of folklore are refined and evolve over time.¹⁴⁹

Apart from the above-mentioned reasons for excluding some forms of traditional knowledge, there is clearly a lot of tradition material that is unfit for protection as intellectual property in any form. Examples include spiritual beliefs, methods of governance, languages, human remains and biological and genetic resources in their natural state, i.e., without any knowledge concerning their medicinal use.¹⁵⁰ With the exception of these types of material not proper subject matter for protection per se, however, most other forms of traditional knowledge *could* qualify for copyright or patent protection if they had been created or invented in the usual sense.¹⁵¹ In response, holders¹⁵² of traditional knowledge argue that the current intellectual property regime was designed by Western countries for Western countries.¹⁵³ It is certainly true that the main intellectual property agreements, including the Berne Convention, the Paris Convention and the more recent TRIPS Agreement were negotiated among mostly industrialized nations.¹⁵⁴

Often, an author outside of the group that created the folklore will create a *derivative* work using folklore as a basis but with enough

201(a).

¹⁴⁷ See WIPO Report, *supra* note 134, at 219-20; Mugabe Report, *supra* note 138.

¹⁴⁸ See WIPO Report, *supra* note 134, at 134.

¹⁴⁹ See *id.*

¹⁵⁰ See WIPO Report, *supra* note 134, at 216.

¹⁵¹ For example, they would be artistic, musical or literary works or inventions. See *supra*, note 146.

¹⁵² The term “keepers” is also widely used in this context.

¹⁵³ See McGrath, *supra* note 63; WIPO Report, *supra* note 134, at 217.

¹⁵⁴ With respect to WIPO Conventions, see *supra* note 67. With respect to the TRIPS Agreement, developing countries have shown a high degree of interest in the new Doha Round, as evidenced by the insistence on developmental issues in the next Round of intellectual property discussions. See the WTO Ministerial Declaration, *supra* note 9; see also Ruth L. Gana, *Prospects For Developing Countries Under The TRIPS Agreement*, 29 VAND. J. TRANSNAT'L L. 735, 739-40 (1996); GERVAIS, *supra* note 16, at 10-21.

derivative originality to benefit from copyright protection.¹⁵⁵ For example, sound recordings using traditional music are common.¹⁵⁶ Many creators of folklore find this situation doubly unacceptable: while they are unable to benefit financially and otherwise from their creative efforts, others are “using” the intellectual property system not only gainfully, but in fact, against the original folklore creators who may be prevented from using their own material if, as it evolves, it comes to resemble the derivative work.¹⁵⁷ To traditional knowledge holders, this is a perverse, if an unintended, result.

The same set of problems occurs with patents. While discoveries and other forms of traditional medicinal knowledge based on plants or animal parts or fluids generally cannot be patented either because they are obvious or because they are in the public domain, drugs derived from such plants and animals are generally patentable.¹⁵⁸ The companies that developed and refined the molecule will own the patents.¹⁵⁹ However, the research and development efforts concerning traditional medicinal knowledge and products is often inspired by holders of traditional knowledge, who may directly instruct Western scientists or teach them by letting them observe their traditional practices.¹⁶⁰ There have been allegations that using this knowledge, and then obtaining a patent, which will be the exclusive property of the company that conducted the additional research and expended efforts to refine the molecule, is unfair to the

¹⁵⁵ See 17 U.S.C. § 103 (1994); *United States v. Taxe*, 540 F.2d 961, 965 (9th Cir. 1976), *cert. denied*, 429 U.S. 1040 (1977).

¹⁵⁶ See *supra* note 142.

¹⁵⁷ See WIPO Report, *supra* note 133, at 7.

¹⁵⁸ See *Diamond v. Chakrabarty*, 447 U.S. 303 (1980); *Merck & Co. v. Olin Mathieson Chem. Corp.* 253 F.2d 156, 164 (4th Cir. 1958); *In re Schechter*, 205 F.2d 185 (C.C.P.A. 1953); see also *CTS Corp. v. Electro Materials Corp. of Am.*, 469 F. Supp. 801, 818-22 (S.D.N.Y. 1979); IAN MUIR, ET AL., *EUROPEAN PATENT LAW: LAW AND PROCEDURE UNDER THE EPC AND THE PCT* 122-24 (1999).

¹⁵⁹ See *Goodyear Tire & Rubber Co. v. Miller*, 22 F.2d 353, 355-56 (9th Cir. 1927); *Martin v. Tenn. Copper & Chem. Corp.*, 66 F.2d 187, 187 (3d Cir. 1932), *cert. denied*, 290 U.S. 588. The owner of the underlying traditional knowledge would not have rights to the patent under 35 U.S.C. § 261 (1994).

¹⁶⁰ Sometimes referred to as “bioprospection.” See Someshwar Singh, *Rampant Biopiracy of South’s Biodiversity*, THIRD WORLD NETWORK (July 20, 2000), at <http://www.twinside.org.sg/title/rampant.htm>.

holders of traditional knowledge.¹⁶¹ Adding insult to injury, holders of traditional medicinal knowledge often see their knowledge referred to as “primitive,” and its practitioners as quacks or witch doctors, when in fact this very knowledge is the source of several important patents in the pharmaceutical and biotechnological fields.¹⁶² Many holders of traditional knowledge are thus adamant about obtaining some form of protection for their creations and innovations.¹⁶³

In sum, the *negative* exclusionary effect of the current intellectual property system (which generally does not protect traditional knowledge as such for the reasons mentioned above) is compounded by a *positive* exclusionary effect because intellectual property rights are acquired by non-traditional knowledge holders to exclude their pre-existing rights.¹⁶⁴

These views about the intellectual property system have led certain academics to reject the current system in its entirety.¹⁶⁵ They argue that the protection of traditional knowledge requires the establishment of an entirely new system.¹⁶⁶ “Intellectual property rights provide indigenous peoples with few legal courses of action to assert ownership of knowledge because the law simply cannot accommodate complex non-Western systems of ownership, tenure and access.”¹⁶⁷

¹⁶¹ See *id.*

¹⁶² See *id.*

¹⁶³ See WIPO Report, *supra* note 134, at 69-70; see also TERRI JANKE, OUR CULTURE, OUR FUTURE: PROPOSALS FOR THE RECOGNITIONS AND PROTECTION OF INDIGENOUS Cultural And Intellectual Property (1997), available at <http://www.icip.lawnet.com.au>.

¹⁶⁴ See James Tunney, *E. U., I. P., Indigenous People and the Digital Age: Intersecting Circles?*, 20 EUR. INTELL. PROP. REV. 336 (1998).

¹⁶⁵ See Githaiga, *supra* note 135, ¶ 9; JANKE, *supra* note 164, at 28. *Yumbulul v. Reserve Bank of Australia* (1991) 21 I.P.R. 481, 490 (Austl.); *Milpurruru v. Indofurn Pty Ltd.* (1994) 30 I.P.R. 209, 239 (Austl.) both illustrate the inadequacy of copyright law and statutory remedies to recognize and remedy infringement of communal ownership rights under Aboriginal law.

¹⁶⁶ See Githaiga, *supra* note 135, ¶¶ 3, 31; Tunney, *supra* note 165.

¹⁶⁷ Darrell A. Posey, *Protecting Indigenous Peoples' Rights to Biodiversity*, ENVIRONMENT, Oct. 1996, at 7; see also Tunney, *supra* note 165, at 336.

Property rights, as they are understood in Western legal systems,¹⁶⁸ often do not exist in indigenous and local communities that hold traditional knowledge.¹⁶⁹ In fact, because of its exclusionary effect, they now tend to see the attempt to obtain property rights on derivatives of their traditional knowledge as “piracy.”¹⁷⁰ Regarding the pharmaceutical, seed and agrochemical industries, they coined the term “biopiracy” to denote the extraction and utilization of traditional knowledge, associated biological and genetic resources, and the acquisition of intellectual property rights on inventions derived from such knowledge or resources without providing for benefit-sharing with the individuals or community that provided the knowledge or resources.¹⁷¹

iii. Assessing the Criticism

Some of the criticism leveled at the current intellectual property system concerning its exclusionary effect is fair, but may be dealt with by relatively minor changes to current practices. For example, for applications for patents concerning drugs or other products that are derived from traditional knowledge sources, prior art searches could include traditional knowledge sources to ensure that the invention is indeed novel and non-obvious as required by patent laws worldwide.¹⁷² That said, cases in which patents should not have been granted are examples of bad patents, not of a bad patent system.¹⁷³ Clearly, in that respect a dialogue has to be established

¹⁶⁸ See Kamal Puri, *Cultural Ownership and Intellectual Property Rights Post-Mabo: Putting Ideas into Action*, 9 INTELL. PROP. J., 293, 310 (1995); see also Githaiga, *supra* note 135.

¹⁶⁹ See Githaiga, *supra* note 135; see also Michael Blakeney, *Protection for Indigenous or Traditional Works (e.g., Folklore): Has the Time Come?*, in INTERNATIONAL INTELLECTUAL PROPERTY LAW & POLICY, *supra* note 14, at 52-56.

¹⁷⁰ See Githaiga, *supra* note 136, ¶ 79; WIPO Report, *supra* note 134, at 108 & 136.

¹⁷¹ See Graham Dutfield, *The Public and Private Domains: Intellectual Property Rights in Traditional Knowledge*, 21 SCIENCE COMM. 274, 278 (2000), available at <http://www/oiprc.ox.ac.uk/EJWP0399.html>.

¹⁷² It would be difficult to define what exactly are inventions derived from traditional knowledge sources, but we believe an appropriate questionnaire/affidavit could be devised which would have to accompany any patent application concerning a pharmaceutical product (or process).

¹⁷³ See WIPO Report, *supra* note 133, at 11.

among holders of traditional knowledge, the private sector and governments. “Greater awareness-raising may assist to dispel certain misconceptions concerning intellectual property and result in more technical, finely-calibrated and nuanced assessments of the traditional knowledge/intellectual property nexus.”¹⁷⁴

Arguments used to show that the current intellectual property system cannot protect traditional knowledge are not all convincing either.¹⁷⁵ The fact that a community owns traditional knowledge does not in itself exclude all forms of intellectual property protection.¹⁷⁶ The example of collective marks and geographical indications show that in certain cases, rights can be granted to “representatives” of a group or a community.¹⁷⁷ There are also real property law concepts that would most closely match the needs of the traditional knowledge community and could perhaps be applied to intellectual property.¹⁷⁸ The best example is probably the concept of “communal property.”¹⁷⁹

There is, first and foremost, a need to explain “Western” property concepts to traditional knowledge holders who, very often, do not use and are thus not familiar with them.¹⁸⁰ As the Four Directions

¹⁷⁴ *Id.* at 12.

¹⁷⁵ See ROSEMARY COOMBE, THE CULTURAL LIFE OF INTELLECTUAL PROPERTIES: AUTHORSHIP, APPROPRIATION, AND THE LAW 204-6, 381 n.103 (1998); Rosemary J. Coombe, *Critical Cultural Legal Studies*, 10 YALE J.L. & HUMAN. 463 (1998). It is pointed out that “some of the criticism leveled at the IP [intellectual property] system appears generalized and not founded upon a strong technical knowledge of IP law and practice and of the specifics of concrete uses of traditional knowledge.” WIPO Report, *supra* note 134, at 218-23.

¹⁷⁶ See WIPO Report, *supra* note 134, at 139 & 219.

¹⁷⁷ See Shri Sundaram Varma, *Traditional knowledge: A Holder’s Practical Perspective*, WIPO/Etraditional knowledge/SOF/01/3/11 (October 19, 1999), available at <http://www.uncad.org/en/docs/c/em/3d2en.pdf>.

¹⁷⁸ For example, joint ownership of patents and copyrights may be granted to representatives of a group or a community.

¹⁷⁹ We found a definition that seems to prove the point. The Communal Property Act, Rev. Stat. Alberta, 1970, c. 59, s.2, defines communal property as “land held by a colony in such a manner that no member of the colony has any individual or personal ownership or right of ownership in the land, and each member shares in the distribution of profits or benefits according to his needs or an equal measure with his fellow members.”

¹⁸⁰ Western (or Eurocentric) property concepts of property are individualistic in nature. Individuals have rights to private property to the exclusion of all others. The law recognizes individual interests over those of the community or the collective unit. On the other hand,

Council, a Canadian indigenous peoples trade association, indicated, "indigenous peoples possess their own locally-specific systems of jurisprudence with respect to the classification of different types of knowledge, proper procedures for acquiring and sharing knowledge, and the rights and responsibilities which attached to possessing knowledge, all of which are embedded uniquely in each culture and its languages."¹⁸¹ In fact, as pointed out in the WIPO report, "proprietary systems do exist in many traditional societies but, equally, any assumption that there is a generic form of collective/community IPRs ignores the intricacies and sheer diversity of indigenous and traditional proprietary systems."¹⁸² A good example is Indian peoples in Mexico who have struggled to retain a certain form of communal property known as "ejidos."¹⁸³

Authors analyzing the customs of Indian society have concluded that certain property concepts were "philosophically difficult" to apprehend from their perspective.¹⁸⁴ They say that property rights are inextricably intertwined with self-interest, which in the Hobbesian political philosophy had to be restrained by the exercise of authority.¹⁸⁵ This theory of the "unstoppable self-interest" is

Aboriginal property rights are communal in nature, and thus, are vested in the community rather than the individual. See JANKE, *supra* note 164, at 28.

¹⁸¹ Four Directions Council, *Forests, Indigenous Peoples and Biodiversity: Contributions of the Four Directions Council* (1996), quoted in Graham Dutfield, *Between a Rock and a Hard Place: Indigenous Peoples, Nation States and the Multinationals*, at <http://www.fao.org/docrep/W7261E/W7261e06.htm> (last visited Feb. 15, 2002).

¹⁸² WIPO Report, *supra* note 133, at 13; see also Dutfield, *supra* note 171, at 281.

¹⁸³ *Ejidos* comes from the Latin *exitus* and designated the land at the exit of villages that was used in common by Spanish peasants in the sixteenth century. It has some resemblance to the Anglo-Saxon commons. When the Spaniards came to the American continent, they found a variety of social institutions and land tenure systems and had no other word but *ejido* to refer to them. The Indian peoples were forced to use that word to deal with the Spanish Crown and trying to reclaim their own physical and cultural spaces. Another term used in this context is "*ambitos de comunidad*." See Gustavo Esteva, *The Revolution of the New Commons*, in *ABORIGINAL RIGHTS AND SELF-GOVERNMENT* 186 (Curtis Cook & Juan D. Lindau eds., 2000).

¹⁸⁴ See WIPO Report, *supra* note 134, at 134, 148 & 217.

¹⁸⁵ Hobbes believed that people were naturally selfish and could not be trusted to govern their own affairs. He argued that if left alone, individuals would act impulsively and therefore, should not be trusted to make decisions on their own. Hobbes wrote, "All mankind [is in] a perpetual and restless desire for power . . . that stops only in death." Consequently, mankind must be protected from its own evil. The best way to do this is through an authority figure, such as a Monarch, who could provide the masses with the

unknown to many traditional knowledge holders.¹⁸⁶ According to author Michael Melody, “whereas Western-liberal philosophies define men in terms of individualism, competition, and self-interest, traditional Indian philosophies define men in terms of spiritual unity, consensus, cooperation, and self-denial.”¹⁸⁷ As explained by authors Menno Boldt and J. Anthony Long, “the Western-liberal tradition and native American tribal philosophies represent two very different theories of the nature of mankind.”¹⁸⁸ Or, as WIPO put it, “the point, therefore, is not that traditional knowledge holders do not recognize intellectual property concepts, but rather that the formal intellectual property system is a *type* of intellectual property system [with] which they are not familiar.”¹⁸⁹ In other words, in rejecting the conceptual origin of the current system, traditional knowledge holders do not want to reject the entire system.¹⁹¹ In fact, they believe there is a “fundamental threshold” above which incorporeal property in the nature of copyrighted works or patentable inventions should be protected “in some way.”¹⁹⁰

Interestingly, certain forms of common law property rights seem to have emerged from sources similar to those of traditional knowledge.¹⁹¹ Explaining the English common-field system of cultivation, Williams writes:

A common field in its last stage of development may be shortly described as a large open field of arable land, divided into long

appropriate direction and governance.

¹⁸⁶ See Githaiga, *supra* note 136, ¶¶ 4, 18.

¹⁸⁷ Michael Melody, *Lakota Myth and Government: The Cosmos as the State*, 4 AM. INDIAN CULTURE & RES. J. 1-19 (1980).

¹⁸⁸ Menno Boldt & J. Anthony Long, *Tribal Philosophies and Canadian Charter of Rights and Freedoms*, in *THE QUEST FOR JUSTICE: ABORIGINAL PEOPLES AND ABORIGINAL RIGHTS* 165, 167 (Menno Boldt & J. Anthony Long eds., 1985).

¹⁸⁹ WIPO Report, *supra* note 133 at 14; see also Duffield, *supra* note 171, at 298.

¹⁹⁰ Mongane Wally Serote, *Initiatives for Protection of Rights of Holders of Traditional Knowledge, Indigenous Peoples and Local Communities*, WIPO Doc. WIPO/INDIP/RT/98/4C (June 30, 1998), available at http://www.wipo.org/eng/meeting/1998/indip/rt98_4c.htm. Dr. Serote is the Chairman of the Committee on Arts, Culture, Languages, Science & Technology of the South African Government and author of *GODS OF OUR TIME* (2000).

¹⁹¹ See JOSHUA WILLIAMS, *PRINCIPLES OF THE LAW OF REAL PROPERTY* 450-62 (21st ed. 1910).

strips, which were held in severalty by different owners. The field was cultivated in a rotation of crops determined by the rules of the community, which were founded on immemorial custom. The earliest form of common-field husbandry seems to have been the common ploughing of wasteland temporarily occupied by a tribal community, whose mode of life was pastoral rather than agricultural, and whose habits were migratory.¹⁹²

Would a renewed form of “copyhold” accommodate some of the concerns of traditional knowledge holders? These concepts have not been applied thus far to intellectual property rights, a gap that may prove difficult to bridge, as we will see below.

2. *How Can Traditional Knowledge Be Protected?*

The above analysis shows that while not impossible, protecting all or most forms of traditional knowledge by copyright or patent would be very difficult under the current system. It is also essential to ask on what basis traditional knowledge *should* be protected. In the United States, the Constitution gives Congress the power to protect copyrights and patents and states that the purpose is to “promote the progress of science and useful arts.”¹⁹³ The expression “science and useful arts” could be interpreted liberally to include most forms of traditional knowledge. Whether it can be extended to the “collective” subject matter of traditional knowledge that resembles copyrighted works and patented inventions is unclear, however. In *Mazer v. Stein*, the Supreme Court stated that the economic philosophy behind this Clause was the conviction that encouragement of *individual* effort by *personal* gain is the best way to advance public welfare;¹⁹⁴ a very Hobbesian view of the matter, some would say.

The challenge of protecting traditional knowledge forces one to think about what intellectual property actually is. An “intellectual property-like” system could be adopted, but this would beg the question of *what it is*, if *not* intellectual property. In other words,

¹⁹² *Id.* at 451.

¹⁹³ U.S. CONST. art. I, § 8, cl. 8.

¹⁹⁴ 347 U.S. 201, 219 (1954) (emphasis added).

why is it not intellectual property? If we look at the constitutional “requirement” that intellectual property promote the progress of science and useful arts, why would certain forms of traditional knowledge not be protected by intellectual property?¹⁹⁵ Put differently, in the absence of a statutory exception, should intellectual property be defined by the common characteristics of current forms of intellectual property, namely (a) identifiable authors or inventors, (b) an identifiable work or invention or other object, and (c) defined restricted acts in relation to the said object without the authorization of the rightsholders? Or are these historical accidents, as it were, of the nineteenth century world in which these forms of intellectual property emerged? And yet, even if that is the case, how can one protect amorphous objects or categories of objects and grant exclusive rights to an ill-defined (and ill-definable) community or group of people?

These are the questions coming from traditional knowledge holders.¹⁹⁶ They are not easy to answer but we can ill-afford to ignore those concerns, if only because the traditional knowledge community clearly intends adoption of an international protection system in the next round of global trade talks in the WTO, for at least certain forms of traditional knowledge.¹⁹⁷ Traditional knowledge is already on the draft agenda for “TRIPS II,” the intellectual property negotiations that would form part of the next global trade round.¹⁹⁸ There are two items closely related to traditional knowledge, namely biotechnological inventions and the protection of plant varieties according to the UPOV system.¹⁹⁹ Additionally, efforts are underway to try to enforce certain customary practices and “laws” at

¹⁹⁵ The constitutional clause referred to is obviously not the only basis for a Congress to act. The Commerce Clause is usually invoked as a proper basis.

¹⁹⁶ See JANKE, *supra* note 164, ch. 4.

¹⁹⁷ See WIPO Report, *supra* note 134, at 51.

¹⁹⁸ See *supra* notes 9-10 and accompanying text.

¹⁹⁹ UPOV stands for “Union pour la Protection des Obtentions Végétales,” or “Union for the Protection of Plant Varieties.” As of August 6, 2001, forty-nine States had ratified the UPOV Convention protecting plant varieties in the signatory countries. The United States joined UPOV in 1981 and ratified the 1991 (latest) Act on February 22, 1999. See *UPOV Status of Ratification*, at <http://www.upov.int/eng/ratif/index.htm> (last visited Feb. 15, 2002).

the international level²⁰⁰ and these efforts may be reflected in proposals to update the TRIPS Agreement in the next round.²⁰¹

3. Possible Ways Forward

The traditional knowledge/intellectual property interface forces us to re-evaluate intellectual property fundamentals. Can we make intellectual property a truly global system recognizing various forms of traditional creations and grant some protection to collective rightsholders? Otherwise, there may be a risk that intellectual property will continue to be perceived as a collection of nineteenth-century Western concepts that certain nations are forcing on others. Clearly, it is not a valid argument to say that because the protection of traditional knowledge is difficult, it should not exist. There are several ways in which traditional knowledge could be protected.

i. Existing Intellectual Property Rules

Because it is unlikely that new international norms will be adopted quickly, it is most likely that certain countries will soon take steps to protect traditional knowledge with national intellectual property legislation.

There are two forms of intellectual property that seem adaptable to traditional knowledge without major changes: trade secrets and geographical indications.²⁰² Because trade secret protection usually depends on the common law or civil law rules of each country, it is

²⁰⁰ See Convention Concerning Indigenous and Tribal Peoples in Independent Countries, ILO Conv. 169, entered into force Sept. 5, 1991, art. 8, reprinted in 28 I.L.M. 1382 (1989), available at <http://www1.umn.edu/humanrts/instreet/r1c1cip.htm>; Draft U.N. Declaration, *supra* note 132, arts. 12 & 33; Discrimination Against Indigenous Peoples: Protection of the Heritage of Indigenous People, U.N. Commission on Human Rights, 47th Sess., Agenda Item 15, Principle 4, at 9, U.N. Doc. E/CN.4/Sub.2/1995/26 (1995). On the ILO Conv. 169, see Russel Lawrence Barsh, *An Advocate's Guide to the Convention on Indigenous and Tribal Peoples*, 15 OKLA. CITY U. L. REV. 209 (1990); Lee Sweptson, *A New Step in the International Law on Indigenous and Tribal Peoples: ILO Convention 169 of 1989*, 15 OKLA. CITY U. L. REV. 677 (1990).

²⁰¹ See *supra* notes 9-10 and accompanying text.

²⁰² See WIPO Report, *supra* note 134, at 220, 221 & 224.

relatively difficult to imagine fully harmonized rules in this area.²⁰³ Efforts to protect trade secrets in the TRIPS Agreement resulted in a very limited and loosely worded obligation to offer:

[n]atural and legal persons shall have the possibility of preventing information lawfully within their control from being disclosed to, acquired by, or used by others without their consent in a manner contrary to honest commercial practices as long as such information . . . is secret, . . . has a commercial value because it is secret; and has been subject to reasonable steps under the circumstances to keep it secret.²⁰⁴

The problem with traditional knowledge and especially medicinal knowledge is that usually the steps to keep the information secret may not be sufficient under established common law or civil law rules.²⁰⁵ In fact, secrecy usually follows from the fact that only few people have access to the information based on customary laws and practices.²⁰⁶ No contract or other “hard” evidence exists.²⁰⁷ Therefore, to protect traditional knowledge, not only in the country of origin, but also in foreign countries, rules concerning the protection of trade secrets would have to be reviewed.

In the case of geographical indications, the main difficulty would reside in finding the appropriate rightsholder(s), a problem arising in part from the absence of “communal” rights grants under current intellectual property legislation.²⁰⁸ International treaties already accommodate the possibility of creative lawmaking in this field.²⁰⁹ For example, Article 22(2) of the TRIPS Agreement states:

²⁰³ See WIPO Report, *supra* note 134, at 197.

²⁰⁴ TRIPS Agreement, *supra* note 8, art. 39(2).

²⁰⁵ See *id.*

²⁰⁶ See *supra* note 194.

²⁰⁷ See *id.*

²⁰⁸ See *supra* notes 164, 165 & 178.

²⁰⁹ TRIPS Agreement, *supra* note 8.

[i]n respect of geographical indications, Members shall provide the legal means for interested parties to prevent the use of any means in the designation or presentation of a good that indicates or suggests that the good in question originates in a geographical area other than the true place of origin in a manner which misleads the public as to the geographical origin of the good.²¹⁰

The use of the term “interested parties” seems broad enough to allow countries to designate who their proper rightsholder(s) should be. However, current TRIPS Agreement obligations only apply to “goods” and this would not cover several forms of traditional knowledge, in particular medicinal knowledge and certain forms of artistic creation.²¹¹

In the field of copyright, in addition to the application of moral rights to recognize the “authorship” of expressions of folklore, the concept of *droit de suite* (resale right) could be used to implement benefit-sharing obligations on the resale of artistic works that contain traditional knowledge material.²¹² A *domaine public payant* (literally “paying public domain”) could also be established to collect funds to compensate holders of traditional knowledge.²¹³ In these two examples, however, the main difficulty would be identifying the proper rightsholders and the uses to cover, especially in light of the importance of public domain principles.²¹⁴ A *domaine public payant* solution would, at least in the eyes of certain groups of users, take

²¹⁰ *Id.* at art. 22(2) (emphasis added).

²¹¹ See MICHAEL BLAKENEY, TRADE RELATED ASPECTS OF INTELLECTUAL PROPERTY RIGHTS: A CONCISE GUIDE TO THE TRIPS AGREEMENT § 6.07 (1996).

²¹² See PAUL GOLDSTEIN, INTERNATIONAL COPYRIGHT: PRINCIPLES, LAW, AND PRACTICE 26 & 260 (2001). The Berne Convention, *supra* note 7, art. 14*ter*(1), (2) provides an optional provision for *droit de suite*.

²¹³ See Githaiga, *supra* note 136, ¶ 53.

²¹⁴ See Feist Publ'n v. Rural Tel. Serv. Co., 499 U.S. 340, 350-54 (1991); Laurence Lessig, *Copyright's First Amendment*, 48 UCLA L. REV. 1057, 1072 (2001) (“The Framers’ view was balance. Limited protections, a vibrant public domain. And a public domain not filled just with facts, or elements of copyrighted works; rather, a public domain filled with the stories themselves.”); and John R. Therien, *Exorcising The Specter Of A ‘Pay-Per-Use’ Society: Toward Preserving Fair Use And The Public Domain In The Digital Age*, 16 BERKELEY TECH. L.J. 979, 1007-10 (2001).

the form of a “tax,” which may be politically difficult to establish in certain countries, particularly the United States.

ii. Sui Generis Protection

There is clearly a temptation to legislate a *sui generis* system to match identified needs of traditional knowledge holders. A *sui generis* system should be a solution of last resort, because it usually indicates that instead of finding out why the system does not work, a “tailored” system is legislatively put in place without necessarily thinking about its impact on the existing system. For example, what will be the impact of the *sui generis* protection of databases in the European Union beyond the copyright protection of such systems, in spite of all the statements that the *sui generis* protection is supposed to be without prejudice to copyright?²¹⁵

What would be the possible elements of this *sui generis* protection? In the case of artistic and literary creations such as textile patterns, music, choreographic productions and the like, it may make sense to establish a system similar either to the collective and authentication marks, or to the moral right aspect of copyright.²¹⁶ A 1981 report²¹⁷ on this point prepared by the Australian Department of Home Affairs and Environment mentioned the following:

- A prohibition on non-traditional uses of sacred-secret materials;
- Prohibitions on debasing, mutilating and destructive use of folklore;
- Payments to traditional owners of folklore on items used for commercial purposes;

²¹⁵ See *supra* note 126.

²¹⁶ See Visual Artists Rights Act of 1990, Pub. L. No. 101-650, tit. VI, 104 Stat. 5128 (1990).

²¹⁷ Department of Home Affairs and Environment, Report of the Working Party on the Protection of Aboriginal Folklore 73-75 (1981). The recommendations were not implemented.

- Development of a system of clearances for prospective users of folklore;
- Establishment of an Aboriginal Folklore Board to advise the Minister on policy issues; and
- Establishment of a Commissioner for Aboriginal Folklore to issue clearances and negotiate payments.

These proposals include a mixture of “intellectual property-like” rights, referred to in the report as “indigenous intellectual property.”²¹⁸ The first prohibition above would recognize a right similar in certain respects to the moral right to oppose use that prejudices the author’s reputation,²¹⁹ but somehow combined with a limitation on expressions that offend, e.g., a particular religious group.²²⁰ The second prohibition recognizes a right close to the moral right allowing an author to oppose any “mutilation” of his or her work.²²¹ The third proposal would require direct governmental intervention to impose a collective remuneration system.²²²

More recent proposals better illustrate the intricacies of the traditional knowledge/intellectual property interface. For example, authors Terri Janke and Michael Frankel²²³ suggested *inter alia*:

- A provision recognizing the perpetual duration of indigenous folklore and knowledge; and

²¹⁸ *Id.*

²¹⁹ The Ontario High Court, in a rare case dealing with this right in North America, concluded that the words “prejudicial to the author’s honor or reputation” found both in the Canadian Copyright Act (R.S.C. 1985, ch. C-42) and the Berne Convention; “involve a certain subjective element or judgment on the part of the author so long as it is reasonable.” *Snow v. Eaton Ctr.*, 70 C.P.R.(2d) 105, 106 (1982).

²²⁰ This would of course raise significant First Amendment concerns in the United States. In May 1995, a French court issued an injunction to force a publisher to modify parts of a “revised” Bible that the clergy found offensive. See Menahem R. Macina, *Les Intouchables*, 29/8 LES ECHOS DE L’INSTITUT SEPHARADE EUROPEEN, available at <http://www.sefarad.org/publication/echos/029/8.html>.

²²¹ Berne Convention, *supra* note 7, art. 6bis.

²²² For instance, this could be accomplished by setting up a collective administration system that would administer the rights of owners of Indigenous folklore.

²²³ See JANKE, *supra* note 164, at 42.

- Exemptions of folklore from the requirements of originality and material form.

The earlier mentioned perpetual duration proposal seems to clash head-on with the public domain component of intellectual property,²²⁴ making its adoption in the United States unlikely. The second item (exemptions with respect to the originality criterion) would denature the very core of copyright: copyright is granted precisely because a work is original. Without originality, copyright dies.²²⁵ What Janke and Frankel intended is probably more in the nature of a *sui generis* right that, like the EU protection of databases, does not protect works or inventions, but a specific subject-matter (certain compilation) against specific acts. In the end, *sui generis* protection may be the only viable option, but its impact on existing rights deserves a thorough analysis.²²⁶ There are other applicable rights outside of intellectual property that may bridge some of the existing gaps.

iii. Communal Property

From the WIPO report, it is evident that the dominant preoccupation of traditional knowledge holders is not the prevention of the use of their material—although there are cases where this is the intention—but rather to find a way to let these holders enter into the intellectual property system and to establish, where appropriate, benefit-sharing arrangements consonant with notions of communal, as opposed to individual or private, property.²²⁷ *A priori*, and in light of the discussion above,²²⁸ there is no fundamental conceptual reason to exclude *intellectual* property from the realm of *communal* property.²²⁹ Inclusion would, however, represent a major change in

²²⁴ See *supra* note 215.

²²⁵ See MELVILLE B. NIMMER & DAVID NIMMER, NIMMER ON COPYRIGHT 2-6 (1993); Ginsburg, *supra* note 124; see also *Du Puy v. Post Tel. Co.*, 210 F. 883 (1914); *Feist*, *supra* note 146, at 347.

²²⁶ See Jerome H. Reichman, *Of Green Tulips And Legal Kudzu: Repackaging Rights In Subpatentable Innovation*, 53 VAND. L. REV. 1743, 1751-52 (2000).

²²⁷ See WIPO Report, *supra* note 134, at 228-31.

²²⁸ See *id.* at 22-25.

²²⁹ See Paul Kuruk, *Protecting Folklore Under Modern Intellectual Property Regimes: A*

the legal regime of intellectual property ownership and possibly its enforcement.²³⁰

iv. Unjust Enrichment

Could the notion of unjust enrichment be used to obtain the functional equivalent of an intellectual property right? The doctrine has been invoked as the basis for equitable estoppel²³¹ and could perhaps be used in that context in the case of unauthorized users of some traditional knowledge. In many cases, enrichment by the traditional knowledge user can be established (e.g., from the sale of textiles, traditional music, pharmaceuticals, etc.).²³² In the United States, the fundamental question is whether the user's enrichment is justly and equitably retained or appropriated.²³³ If, as is the case in English law, a corresponding deprivation of the traditional knowledge holder and the absence of any valid reason for the enrichment (required) has to be established, the case may be harder to make.²³⁴

Unfortunately, due to its limited scope, this paper cannot review the entire scope of the unjust enrichment doctrine to determine precisely how it could apply in certain traditional knowledge cases, but it should be seriously considered as a possible basis for the protection of certain forms of traditional knowledge. The doctrine seems to address a number of needs identified by traditional knowledge holders.²³⁵ In theory, a case can be made when someone

Reappraisal Of The Tensions Between Individual And Communal Rights In Africa And The United States, 48 AM. U. L. REV. 769, 778 (1999).

²³⁰ Australian Attorney General's Department, *Stopping The Rip-Offs—Intellectual Property Protection for Aboriginal and Torres Strait Islanders* 6-7 (1994).

²³¹ See *Waltons Stores (Interstate) v. Maher*, 64 CLR 387 (1987).

²³² See, e.g., *Bulun Bulun v. Nejlam Pty. Ltd.*, Federal Court of Appeal, Darwin, 1989 (unreported), referred to in Colin Golvan, *Aboriginal Art and Copyright: The Case for Johnny Bulun Bulun*, 10 EUR. INTELL. PROP. REV. 346 (1989).

²³³ See *Everhart v. Miles*, 422 A.2d 28 (Md. 1980); *L & A Drywall, Inc. v. Whitmore Constr. Co.*, 608 P.2d 626 (Utah 1980); *Tulalip Shores, Inc. v. Mortland*, 511 P. 2d 1402 (Wash. Ct. App. 1973).

²³⁴ See *infra* note 242.

²³⁵ Appropriation of Indigenous arts, cultural expression, and cultural objects; unauthorized use of secret or sacred material; appropriation of Indigenous languages and

derives a benefit from traditional knowledge, appreciates (or knows) the benefit and accepts (or retains) the benefit “under such circumstances as to make it inequitable for the defendant to retain the benefit without the payment of its value.”²³⁶ These principles should apply when traditional music, medicinal knowledge or other forms of well identified indigenous science or arts are appropriated by third parties without knowledge or consent of traditional knowledge holders.²³⁷

v. *Misappropriation*

In most cases, traditional knowledge holders do not want to prevent others from gaining access to their material.²³⁸ They want recognition and a revenue- or benefit-based sharing system. The fact that *something valuable*, yet incorporeal, created by one person or group, is used without authorization or compensation by another is perceived to be unfair.²³⁹ It is thus not surprising that equitable remedies come to mind. In this context, the misappropriation doctrine could play an increasingly important role in the protection of traditional knowledge at the border of intellectual property.²⁴⁰ The doctrine is eminently flexible and would allow “intellectual property-like” protection in cases of unfair exploitation of the creative or inventive work of others, without endangering the canons of the intellectual property system.²⁴¹ There is, however, a significant hurdle. Contrary to physical property, when a third party

spirituality; appropriation of Indigenous biodiversity knowledge; retention of ancestral remains; inappropriate use of human genetic material; non-disclosure of research and impact of new technology. See Executive Summary for JANKE, *supra* note 164, at http://www.icip.lawnet.com.au/executive_summary.html (last visited Feb. 18, 2002).

²³⁶ Everhart v. Miles, *supra* note 235, at 136.

²³⁷ See *id.*

²³⁸ See WIPO Report, *supra* note 134, at 134.

²³⁹ Traditionally, the doctrine applies to the taking or use of another’s property for the purpose of making a profit (capitalizing) for the good will or reputation of another. Here, it is argued that it can be extended to apply to the use of the good will or reputation (and hence, the value) of certain forms of traditional knowledge.

²⁴⁰ As it may also in respect of databases. See *supra* note 126.

²⁴¹ In fact, it may be that, conceptually, the unfair appropriation of the labor of another is the common denominator of all forms of intellectual property, even though it is not often used as such to interpret statutory protection.

appropriates intellectual property, its owner usually is not deprived.²⁴²

vi. Contracts

In the absence of other common law or statutory protection, traditional knowledge holders may try to negotiate benefit-sharing arrangements, as some already do with large pharmaceutical companies.²⁴³ This may solve some inequities but until and unless a market practice develops, the fact that traditional knowledge holders often have no clear “right” to trade away genetic resources and other forms of traditional knowledge means that the situation offers too little in terms of guarantees for traditional knowledge holders.

4. Traditional Knowledge: A Tentative Conclusion

While certain forms of intellectual property could apply to certain forms of traditional knowledge with only minor legislative changes, a maximum effort to adapt the intellectual property regime “to promote the progress of science and the useful arts” embodied in traditional knowledge inescapably leads to a re-examination of much more fundamental aspects of intellectual property rights. In order to avoid stretching the current intellectual property canvass beyond what is reasonable, a *sui generis* regime could be established and extended through a new international instrument. This could happen much more easily once countries, most advanced in the consideration of this issue, have adopted and tested certain forms of protection of traditional knowledge and shown that these new forms of protection

²⁴² Unlike appropriations of physical assets, the appropriation of information or other intangible asset does not ordinarily deprive the originator of simultaneous use. The recognition of exclusive rights may thus deny to the public the full benefit of valuable ideas and innovations by limiting their distribution and exploitation. In addition, the principle of unjust enrichment does not demand restitution of every gain derived from the benefit of others.

RESTATEMENT (THIRD) OF UNFAIR COMPETITION, § 38, cmt. b (1995).

²⁴³ See, e.g., “Biological Collecting Agreement and Know-How License” entered into between Searle and Aguaruna communities, *reprinted in* WIPO Report, *supra* note 134, at 181-82.

actually work and meet the needs and expectations of traditional knowledge holders. But as discussed above, such a system should not be put in place before a thorough analysis of its impact on other forms of intellectual property is completed.²⁴⁴

The greatest challenge posed by traditional knowledge is the fact that it forces us to ask ourselves what the historically malleable intellectual property concept actually is. If traditional knowledge or certain forms thereof are integrated into the current system, the limits of the current system will be tested. If, on the other hand, a *sui generis* approach is preferred in the medium term, then it will be negative evidence that the current intellectual property system was unable to protect these forms of creation or innovation. It is also clear, in the face of mounting international pressure, that the debate on the protection of traditional knowledge will take place, at least in part, during the next round of global trade talks.

B. A Challenge from the Very New: The Internet

1. Defining the Issues

As traditional knowledge forces us to reconsider a number of key questions about the “components” of intellectual property, a similar challenge is posed by a much newer source: the Internet. The fact that most forms of copyrighted material are digitized²⁴⁵ and can be stored and transmitted over the Internet, has led several user groups to question whether exclusive property rights, such as copyright, are still adapted or adaptable to this brave new world.²⁴⁶ In *A & M Records, Inc. v. Napster, Inc.*,²⁴⁷ Napster’s claim turned the

²⁴⁴ See discussion *supra* § II.A.3(iii).

²⁴⁵ They are directly created in digital form, can be digitized, or, in the case of three-dimensional structures, represented in digital form.

²⁴⁶ For instance, 35% of Napster users are between the ages of 15 and 24, 28% are between the ages of 25 to 34. Still, 40% of all users are students. See Tom Mainelli, *Traffic Surges at Napster despite Controversy* (July 18, 2000), at <http://www.cnn.com/2000/TECH/computing/07/18/napsters.boom.idg/>.

²⁴⁷ *A & M Records, Inc. v. Napster, Inc.* 114 F. Supp. 2d 896 (N.D. Cal. 2000), *aff’d in*

traditional intellectual property equation, that intellectual property was established to facilitate the development of technology and business, on its head.²⁴⁸ Napster argued that an injunction would significantly impede the development of useful technology that could greatly enhance the value of the Internet, a claim with which a group of copyright protection technology companies as *amici* entirely disagreed.²⁴⁹ The Ninth Circuit affirmed the district court's injunction in part.²⁵⁰ In the case of copyright, the original need was to protect publishing houses from "piracy" by other publishers. This rationale is still valid today.²⁵¹

Copyright in its most traditional form is illustrated in *Fox Film Corp. v. Doyal*,²⁵² in which the Supreme Court stated, "The owner of the copyright if he pleases may refrain from vending or licensing, and content himself with simply exercising the right to exclude others from using his property."²⁵³ Is this reasoning applicable to the Internet? Once a work has been made available on the Internet (or anywhere, for that matter), in digital form, can copyright indeed be exercised to exclude all others from using it? One should bear in mind also that in certain countries even more "extreme" forms of copyright protection exist. In the French Intellectual Property Code, for example, authors are granted *droit de repentir*²⁵⁴ (literally translated as "a right to repent"), which allows the author to

part, rev'd in part, 239 F.3d 1004 (9th Cir. 2001).

²⁴⁸ See Information Infrastructure Task Force, *Intellectual Property and the National Information Infrastructure: The Report of the Working Group on Intellectual Property Rights* 10-11, at www.uspto.gov/web/offices/com/doc/ipnii/index.html (last modified Nov. 15, 1995).

²⁴⁹ See Brief for Amici Curiae Alliance Entertainment Corp. et al. at 30 *et seq.*

²⁵⁰ See *Napster*, 239 F.3d at 1011.

²⁵¹ A good example can be found in a Bill introduced in the 106th Congress to promote electronic databases. The term "database" was defined in § 101 as a "large number of discrete items of information that have been collected and organized in a single place, or in such a way as to be available from a single source, *through the investment of substantial monetary or other resources.*" (emphasis added). H.R. 1858, 106th Cong. § 101 (1999), available at <http://www.techlawjournal.com/cong106/database/hr1858ih.htm>.

²⁵² 286 U.S. 123 (1932).

²⁵³ *Id.* at 127.

²⁵⁴ See Intellectual Property Code of July 1, 1992, Art. L-121-14. See ANDRÉ LUCAS & HENRI-JACQUES LUCAS, *TRAITÉ DE LA PROPRIÉTÉ LITTÉRAIRE ET ARTISTIQUE* § 390-400 (1994).

withdraw every existing copy from circulation, subject to certain obligations to compensate third parties.²⁵⁵ How can this right be exercised in the Internet era? Is copyright as we know it, or a part thereof, outdated?

Finally, another aspect of the Internet, which has yet to emerge and at present may seem far-fetched, is the possibility that certain new works will be created online by a group of people from several countries participating in a "chat" type creation process.²⁵⁶ Individual contributions will be hard to identify. It is unlikely that the notion of collective work could apply in practice.²⁵⁷ Otherwise, work done to protect traditional knowledge and its objects created by sometimes-undefined groups and communities might be applicable.

2. *Copyright Will Survive*

With the successful conclusion of the negotiations on the WIPO Copyright Treaty and the WIPO Performances and Phonograms Treaty in December 1996, and legislation such as the Digital Millennium Copyright Act, it seems that John Perry Barlow's world without copyright or an equivalent is not the most realistic scenario.²⁵⁸ Nor in our view is the scenario of a separate legal order including separate enforcement agencies realistic.²⁵⁹ However, within a very short time-frame, unless electronic copyright management systems (hereinafter the "ECMS") can be put in place in a way that will allow commercial activity without unduly irritating users or violating their privacy, it is not clear that the traditional

²⁵⁵ *See id.*

²⁵⁶ A chat room is any site on the World Wide Web where multiple computer users can chat; i.e., converse online by typing messages to one another in real time. Text messages appear next to the user's nickname on the screen. Some chat rooms have particular topics that the users are expected to discuss, whereas other chat rooms are designed for meeting new people.

²⁵⁷ *See* 17 U.S.C. § 201(c) (1994).

²⁵⁸ *See* John Perry Barlow, *The Economy of Ideas*, WIRE, March 1994.

²⁵⁹ *See* David R. Johnson and David Post, *The Rise of Law in Cyberspace*, 48 STAN. L. REV. 1367 (1996). *But see* Jack L. Goldsmith, *Against Cyberanarchy*, 65 U. CHI. L. REV. 1199 (1998).

“exclusionary” copyright rights will survive.²⁶⁰ Yet, in order for creators of artistic and literary material to survive, and for the survival of companies that depend on their input, such as publishing houses, record and film companies, funds have to flow through the distribution chain in one form or another. Arguments to the effect that merchandising and concert ticket sales would fully compensate music rightsholders are unconvincing.

Intellectual property rights and, in this case, copyright, will gradually lose their edge as a *right to prevent* or exclude others from using material, unless major changes to technology are made in a very short time. Intellectual property should, and will, allow users to access material available on the Internet, but proper systems should be in place to ensure that remuneration is paid. Will it make sense to try to apply or allow the application of a different price for each different use for each different class of users of a particular copyrighted work? Perhaps not, but if so, it would require intervention by governments and possibly legislators (e.g., to apply a compulsory licensing system). Such a system could take the form of a complex set of technologies that would remunerate rightsholders when their works are used (i.e., similar to the mechanical license fees paid when sound recordings are made). It could also be a compulsory license and the funds would then be sent to a collective management organization for further distribution based on surveys, (i.e., similar to the public performance fees paid for the broadcasting of musical works).

There are several scenarios now being considered to adapt copyright to the Internet.²⁶¹ Examples include peer-to-peer systems such as Freenet²⁶² and Gnutella.²⁶³ In fact, the days of the absolute

²⁶⁰ Exclusionary rights are rights granted by the government to protect original works of authorship. The government grants exclusive rights to sell, reproduce, or otherwise use created works for a fixed period of time, during which the author is afforded legal recourse against anyone found infringing the owner’s exclusive right to his or her creation. Users of protected material must obtain permission from the copyright holder. See 2 PAUL GOLDSTEIN, COPYRIGHT § 5. (2d ed. 2002).

²⁶¹ See Damien A. Riehl, *Peer-to-Peer Distribution Systems: Will Napster, Gnutella, and Freenet Create a Copyright Nirvana or Gehenna?*, 27 WM. MITCHELL L. REV. 1761 (2001).

²⁶² The Free Network Project, or Freenet (<http://freenet.sourceforge.net>) is a peer-to-peer decentralized network designed for safe and efficient distribution of information over the

exclusive right to exclude others may be behind us unless a dramatic and successful shift in copyright-control technology is implemented, with full control over reuse by individual users.²⁶⁴ Even if technology is finally developed and put in place, some commentators believe that societal pressure against such controls will mount, especially in the wake of the Napster injunction.²⁶⁵ Additionally, to successfully implement a full ECMS, serious questions of volume and transaction costs remain to be considered.²⁶⁶ Once all television sets, radios and sound systems are permanently connected to the Internet to download music, tens of millions of transactions concerning millions of different works will take place in hundreds of territories and countries around the world and around the clock. Will it make economic sense to track each individual use and related micro payment? Would a subscription model be more preferable? There are also significant privacy concerns and, perhaps, even a constitutional right to access material anonymously.²⁶⁷ Finally, the

Internet without the fear of censorship. Freenet attempts to create an information publication system, much like the World Wide Web, but with many additional advantages. Information is inserted into the system associated with a "key." The information can then be retrieved by anyone using the appropriate key. Information on Freenet is not subject to centralized control or administration. To take part in this system, users run sever software on their computer and use a client program to insert and remove information form the system. Both authors and users of the information may remain unidentified if they so choose.

²⁶³ Gnutella is fully distributed information sharing system (<http://www.gnutella.wego.com/>). Gnutella client software is essentially a mini search engine and a file serving system combined in one. When a user runs a Gnutella software and connects to the Gnutella network, the user has control over which information he or she wants to make public for sharing and when the user wants to make it unavailable by taking it offline. When a user searches for information on the Network, the search is transmitted to everyone in the user's Gnutella horizon. If someone has the information searched by the user, he or she is notified. This is different from the World Wide Web in that the user is able to find what he or she needs without surfing all the different links on the Web.

²⁶⁴ Assuming this is constitutionally possible. See Julie E. Cohen, *A Right to Read Anonymously: A Closer Look at "Copyright Management" in Cyberspace*, 28 CONN. L. REV. 981, 1019-30 (1996).

²⁶⁵ There are several comments by high-tech experts and journalists posted on the Napster site at the time of this writing. See NapsterForums, at <http://forum.napster.com/index.html> (last visited Feb. 6, 2002).

²⁶⁶ See Daniel Gervais, *Electronic Rights Management Systems* (Sept. 1999), WIPO Doc. WIPO/EC/CONF/99/SPK/10-A, <http://ecommerce.wipo.int/meetings/1999/papers/docs/gervais.doc>.

²⁶⁷ See Cohen, *supra* note 264.

cost of monitoring each and every use by each and every user may simply be too high to justify implementing, on a global scale, technology of this type.

3. *Copyright at a Crossroads*

Copyright is at a crossroads: it must adapt to the increasing demand for legitimate online access to protected works, especially music, but also materials used for research and distance education such as scientific texts. Otherwise, peer-to-peer technology and other forms of online transmission and exchange may sound the death knell of copyright. The answer will depend in large part on how fast the so-called “content industries” are able to provide business models in tune with the demands of the various user communities. Chances are that copyright will survive. However, the way in which it is used and administered will have to change. The traditional exclusive rights to prohibit use of protected material seem almost impossible to apply in the Internet age.²⁶⁸ Yet, the copyright “concept” is still the best basis to claim financial compensation and organize markets, two essential tools for creators, publishers and producers.

The Internet is therefore forcing the rightsholder community to look for ways to ensure that they are adequately compensated for the use of their works and able to recoup the investments necessary for the production and distribution of copyrighted material in a way that does not alienate users. This can be done within the existing framework but with a shift from the current exclusion paradigm to a “compensation” paradigm, at least once a work has been made available legally. Territoriality and time-delayed releases on a country-by-country basis may become an illusion. The world is one and it is the only market.

The perception that the Internet can only be a threat to authors and content providers is false. Several large publishing houses now offer

²⁶⁸ It is difficult to enforce exclusive rights in material that is available in digital form on the Internet, since large amounts of data can be downloaded and copied within seconds without detection.

very high-quality content over the Web.²⁶⁹ For example, readers of scientific, technical and medical literature can find thousands of high-quality journals offered online, usually in addition to the print.²⁷⁰ Users seem to prefer the new format, which often includes material that could not be made available in the paper edition, such as 3D images that can be manipulated, and complete scientific tables or calculation results. Hundreds of magazine publishers are following the same path, and major newspapers in many countries are available online in full text, often on the same day as or before the paper publication.²⁷¹ One major advantage of e-content is that it can be word-searched and previously unavailable archives are often searchable as well.

Business models for providing/delivering content online vary greatly. One model is that of material made available for “free,” which can be searched and downloaded without identifying oneself.²⁷² These models are often advertisement-based and do not work for high-value content.²⁷³ This is not the only model, however. In other cases, users are required to register.²⁷⁴ This process

²⁶⁹ See, e.g., The Internet Encyclopedia of Philosophy, at <http://www.utm.edu/research/iep> (2001); The History Guide, at <http://www.historyguide.org> (last modified Feb. 10, 2002). Modern library titles are available in a variety of formats, including MS Reader, Adobe PDF and OEB (openbook), and are sold online by numerous retailers. For example, Random House, at <http://www.randomhouse.com/modernlibrary/ebooks.html> (last visited Feb. 6, 2002); Time Warner Trade Publishing comprised of Little Brown & Co., Warner Books, Bullfinch Press, and other imprints, which offer free chapters on diverse subjects as well as e-books, at <http://www.twbookmark.com> (last visited Feb. 6, 2002).

²⁷⁰ Examples range from Academic Press's IDEAL, to Science Magazine, to Elsevier's Science Direct and Springer-Verlag's LINK and dozens of other systems.

²⁷¹ Examples in the United States are *The New York Times*, *The Wall Street Journal Interactive Edition*, *The Washington Post*, *Newsweek*, *Business Week* and many others. In Canada: *Ottawa Citizen* and *Globe & Mail*. In the United Kingdom: *Online Mirror*. In India: *Prajavani*. Costa Rica: *Tico Times*. Romania: *Monitorul*. Indonesia: *Republika*.

²⁷² See Daniel J. Langin, *The Economics of the Internet: Insurance and Risk Management, Advertising and Other Business Models, Valuation and Tax Issues*, 482 PLI/PAT 447, 457 (1997). For example, see Freedownloads Center, at <http://www.freedownloadscenter.com> (last visited Jan. 23, 2002); see also Download.com, at <http://download.cnet.com> (last visited Jan. 23, 2002); Tucows, at <http://www.tucows.com> (last visited Jan. 23, 2002).

²⁷³ Search engines such as Yahoo, Google, Infoseek, etc. are good examples of this model.

²⁷⁴ See Totally Freebies, at <http://www.totallyfreebies.com> (last visited Jan. 23, 2002);

provides content owners and service providers with valuable demographics and allows them to compile possible e-mail lists for future direct marketing efforts.²⁷⁵ Sometimes only an abstract or a few seconds of the song or a film “trailer” are available to illustrate the content, but fees are charged to download/view/listen to the complete work.²⁷⁶ Another possibility, currently in use mainly in the text world, is the subscription model. This may consist of a subscription to the electronic version only²⁷⁷ or an e-subscription combined with a paper subscription²⁷⁸ (in some cases, the electronic version is offered as a bonus for subscribers to the paper version).

Most providers require users to accept a “mouse-click contract” containing terms and conditions limiting what the user can legally do with the material.²⁷⁹ Such restrictions typically limit use to a single user, who is allowed to read, listen, watch, and possibly print, a single copy.²⁸⁰ Redistribution or reuse of the material is generally prohibited, except in a super-distribution model where a user can forward a copy to a third party who in turn has to obtain a license key to use the content.²⁸¹

In the world of newspaper, journal and magazine publishing, electronic delivery is mostly based on an “honor” system supported by law and contract, not technological measures of protection.²⁸² Other industries, especially music and film, want technical solutions, such as digital containers²⁸³ and encryption systems,²⁸⁴ to enforce

see also Freeze.com, at <http://www.freeze.com> (last visited Jan. 23, 2002).

²⁷⁵ See Gervais, *supra* note 266, at 4.

²⁷⁶ See CDNow, at <http://www.CDnow.com> (last visited Jan. 23, 2002); see also Sonicnet.com, at <http://www.sonicnet.com> (last visited Jan. 23, 2002); MP3.com, at <http://www.mp3.com> (last visited Jan. 23, 2002).

²⁷⁷ For example, *The Wall Street Journal* is a subscriber-based online newspaper.

²⁷⁸ Although *The Wall Street Journal* may be subscribed to online, a paper subscription is also available.

²⁷⁹ See Langin, *supra* note 272, at 451-53; see also Gervais, *supra* note 266, at 4.

²⁸⁰ See Langin, *supra* note 272, at 458-59; see also Gervais, *supra* note 266, at 4.

²⁸¹ See Gervais, *supra* note 266, at 4.

²⁸² See *id.*

²⁸³ A digital container is an envelope around a document, which handles all processing of the document contained inside it. With the aid of this wrapper, the author or publisher of the document can set the operations that can or cannot be performed on the document. The wrapper also acts as a certificate of authenticity, so that the recipient can be sure that the contents of the document have not been modified or altered. The electronic envelope will

their copyright and the terms and conditions of user contracts.²⁸⁵ One of the most basic questions rightsholders and content providers must ask themselves is what their priority is: to minimize unauthorized uses (appropriate in some cases of mass unauthorized reuse) or to maximize authorized (paid) uses?

4. Negative v. Positive Licensing

Negative licensing is an approach that aims to minimize unauthorized reuse of copyrighted material by adding technological measures of protection to contractual limitations and combining it with an effective enforcement program.²⁸⁶ Positive licensing is an approach that seeks to maximize authorized uses by providing licensing terms as close as possible to a user's reasonable requirements.²⁸⁷

To truly limit unauthorized reuse, negative licensing tools such as encryption and digital containers are necessary.²⁸⁸ Some users may perceive these technologies as a sign that they are not trustworthy,

also make it nearly impossible to simply copy the file [several times] and give it to others. Bjorn Hermans, *Desperately Seeking: Helping Hands and Human Touch*, 3 FIRST MONDAY 11, 32-33 (1998), at http://www.firstmonday.dk/issues/issue3_11/hermans/. The digital container can also be used to take away an important fear publishers have, unpaid distribution of contents via the Internet.

²⁸⁴ Encryption is the method of changing information into a "secret code." It allows the user to encode text so that only those with the code or key can decode the information and gain access to it. The process of reversing the encrypted text or other content into plain text or content is called decryption. See generally Jeffrey H. Matsuura & George B. Delta, *Export Controls on the Internet*, 10 No. 3 J. PROPRIETARY RTS. 2 (1998); Ryan Alan Murr, Comment, *Privacy and Encryption in Cyberspace: First Amendment Challenges to ITAR, EAR and Their Successors*, 34 SAN DIEGO L. REV. 1401, 1405-13 (1997).

²⁸⁵ See Tom W. Bell, *Fair Use vs. Fared Use: The Impact Of Automated Rights Management On Copyright's Fair Use Doctrine*, 76 N.C. L. REV. 557, 578 (1998); Julie E. Cohen, *Copyright And The Jurisprudence Of Self-Help*, 13 BERKELEY TECH. L.J. 1089, 1095-96 (1998); Margaret J. Radin, *Humans, Computers, And Binding Commitment*, 75 INDUS. L.J. 1125, 1131-32 (2000).

²⁸⁶ See Michael A. Einhorn, *Digital Rights Management and Access Protection: An Economic Analysis*, at http://www.law.columbia.edu/conferences/2001/pres_einhorn.doc (last visited Feb. 20, 2002).

²⁸⁷ See *id.*

²⁸⁸ See *supra* notes 283 & 284.

and often they will act accordingly.²⁸⁹ In other words, in certain user communities, the use of protection technology, reinforced by the Digital Millennium Copyright Act,²⁹⁰ which limits legal circumvention of technical protection measures, may in fact prompt abusive behavior or be perceived as an invitation to circumvent the protection.²⁹¹

Positive licensing, on the other hand, assumes that users should be given an easy option to determine mutually acceptable terms of use, both at the time they acquire the content and later on.²⁹² This is especially useful for content used by professional or business users, less so for music, software or film used by individual consumers.²⁹³ Should the prices for a CD, to which a user only wants to listen for a few days, and that for a CD a user will be listening to everyday for the next two years, be the same? Another problem, especially in a business-to-business environment, is that users may want more rights but only *after* having received and reviewed the content. For example, a company may find a newspaper or journal article that they want to e-mail to customers, post to their Intranet or republish in their corporate newsletter or Web site. They do not know this *before* reading the article (i.e., at the time of acquisition). In most cases, it makes little sense to ask a user to acquire, in advance, a right to reuse anything in any form. If available at all, this option would likely be much too expensive. This is where positive licensing comes into play: it allows users to acquire the content on appropriate terms at the right price, and then acquire new rights as their needs change.

Though people are still adapting to the digital world, it is already extremely interesting commercially, and has the potential to greatly impact traditional financial flows and business models. To put it

²⁸⁹ For example, unauthorized decryption can be a major problem for Negative Licensing regimes.

²⁹⁰ 17 U.S.C. § 1201 (Supp. V 1999); *see also supra* note 15.

²⁹¹ Aaron L. Melville, *The Future Of The Audio Home Recording Act Of 1992: Has It Survived The Millenium Bug?*, 7 B.U. J. Sci. & Tech. L. 372, 404 (2001).

²⁹² Daniel Gervais, *Copyright and E-commerce*, in INTELLECTUAL PROPERTY IN THE GLOBAL MARKETPLACE (Melvin Simensky et al. eds., Supp. 2001).

²⁹³ Although rightsholders may want to use technology to allow peer-to-peer transmissions (with payment by recipients) through a process known as "superdistribution." *See Hermans, supra* note 283, at 33.

simply, for all content providers, digitalization is inevitable and is a resource to be harnessed, not feared. The Internet train is coming; it will not stop. As the train approaches, the paradigm shift is not as much in the way intellectual property is legislated to stop it, but rather in the way it is used and put on the right tracks. The Internet train runs on a compensation paradigm with limited control of (mostly egregious, commercial-scale) reuse. It does not accommodate incessant stop signs.

CONCLUSION

The internationalization of intellectual property began in the nineteenth century as countries started to realize that national rules to protect IPRs were inefficient.²⁹⁴ With the growth of international trade, global rules were needed. Initially, in the first phase of development, which ended in 1886, a complex web of bilateral agreements was spun round the world. Then, in the late 1880s, two major international treaties were concluded, namely the Berne and Paris Conventions.²⁹⁵ This began the second phase of the internationalization process, which saw six revisions of the Berne Convention and five of the Paris Convention, the last in 1968 in Stockholm. These revisions added new rights to both conventions and expanded their scope by adding definitions.²⁹⁶ The third phase began in the 1970s and accelerated in the 1980s when intellectual property emerged as a major trade topic. Starting from the very limited Punta del Este Ministerial Declaration²⁹⁷ in 1986, the negotiators of the TRIPS Agreement succeeded in bringing all forms of IPRs, their enforcement before national courts and customs authorities, as well as rules governing member dispute settlement under the umbrella of a single agreement.²⁹⁸ This major achievement ended the third phase of the internationalization process. We are

²⁹⁴ See AUBERT J. CLARK, *THE MOVEMENT FOR INTERNATIONAL COPYRIGHT IN NINETEENTH CENTURY AMERICA* 24-55 (1960).

²⁹⁵ See Paris Convention, *supra* note 6; see also Berne Convention, *supra* note 7.

²⁹⁶ See BERNE CONVENTION CENTENARY, *supra* note 40, at 63-78.

²⁹⁷ See *supra* note 76.

²⁹⁸ See TRIPS Agreement, *supra* note 8, arts. 42-67.

currently in the fourth phase, which, though still characterized by deep trade tensions and the need to seek global solutions to new problems, is also facing enormous challenges from the very old and the very new.

The challenges posed by the very old, the traditional knowledge, and the very new, the Internet, are oddly identical in the way they test the adaptability of the exclusive copyright right to exclude others from using material already made available. A second challenge, only applicable to traditional knowledge at this time, but which concerns both patent and copyright laws, is the need to grant rights to amorphous subject matter “owned” by a collectivity or community. Intellectual property should be adapted, not to exclude others from using creations or innovations, but rather to ensure proper recognition of authorship and appropriate, market-based compensation of the rightsholders concerned.

In the case of traditional knowledge, this task is very complex. First, certain forms of traditional knowledge such as beliefs or methods are not proper subject matter for intellectual property protection, and the policy reasons that underpin the exclusions of these categories of traditional knowledge are probably unshakable. However, most forms of traditional knowledge are excluded for seemingly benign reasons, such as the passage of time (public domain) or the fact that no identifiable author or inventor can be found.

Such challenges can be overcome by applying the following proposals:

- Certain forms of intellectual property such as geographical indications, collective, certification or authentication trademarks and trade secret protection (which depends to a large extent on the common law or civil law rules of the country concerned) could be used to protect several forms of traditional knowledge creations and innovations;
- Certain property concepts, such as communal (or common-field) property, could perhaps be applied to intellectual property rights to allow diffuse groups of “creators” or

“inventors” to obtain intellectual property protection;

- A *droit de suite* (a resale right) could be established to compensate traditional knowledge holders for the resale of artistic folklore-based works;
- Rules concerning the examination of patent applications concerning indigenous knowledge could be established and perhaps the industry could avoid unnecessary injury and possible legislative changes by negotiating appropriate arrangements with the holders concerned;
- Certain uses of traditional knowledge may also give rise to equitable remedies based on misappropriation and unjust enrichment;
- Finally, *domaine public payant* (paying public domain) could be applied to certain uses of certain forms of folklore;
- Benefit-sharing contracts may bridge short-term gaps and solve some problems, but to be a truly global solution these would require the establishment of ethics codes embodying market practices that traditional knowledge holders could rely on. We are not there yet and in the meantime, it makes sense for traditional knowledge holders to use existing legal mechanisms, including those identified in this paper, to protect their heritage and knowledge.

These proposals would meet most of the needs identified by traditional knowledge holders around the world without endangering the very structure and nature of the intellectual property system.

In the case of the Internet, the possibility of completely excluding others from using copyrighted material seems to be evaporating rapidly. Preventing access and use should not be the rightsholders' main objective.²⁹⁹ Napster,³⁰⁰ Freenet,³⁰¹ Gnutella³⁰² and others will

²⁹⁹ In which case the needs of copyright owners with respect to the Internet would resemble those of traditional knowledge holders.

³⁰⁰ Napster is a software program that connects the user's computer to a server that allows users to exchange MP3 music files over the Internet.

³⁰¹ See *supra* notes 261 & 262.

continue to make it difficult for rightsholders to keep material off the Web. While notice and takedown procedures under the Digital Millennium Copyright Act and other forms of enforcement are available to rightsholders,³⁰³ in the long run it may make more sense to establish a system that would compensate rightsholders for the use of their material without trying to stop all third parties from using such material or making it available. Again, the paradigm is shifting away from exclusion and toward compensation.

There are several options available to rightsholders. A subscription model would ensure a constant and growing source of revenue for rightsholders and could lessen the need for the identification of each individual use of each individual copyrighted work. This would also enhance the privacy of users.³⁰⁴ Alternatively, tracking and monitoring systems could be put in place that would identify and process a micro payment for each use of each work. In addition to the privacy concerns that such an approach may raise, however, the transaction costs involved would probably make this option less interesting from a business perspective. Another option would be to establish a compulsory licensing system under which all users, or at least certain categories of users, would have to pay a government-set rate to access certain categories of material on the Web. The main challenge here would be to find the proper way to distribute the funds to rightsholders, but several existing models of efficient collective management systems around the world could be used as useful precedents.³⁰⁵

³⁰² See *supra* notes 261 & 263.

³⁰³ Section 512(c)(3) deals with notice and takedown procedures. Criminal and civil remedies are also available to rights holders. See Digital Millennium Copyright Act, *supra* note 15, 17 U.S.C. §§ 512 (c)(3), 502-6 (Supp. V 1999).

³⁰⁴ Unlike advertising based models, under the subscription model, demographic information collected from the users is not used in the future for the purpose of direct marketing efforts.

³⁰⁵ Some examples of worldwide electronic copyright-management systems include the following. In the United States, the Copyright Clearance Center, Inc. ("CCC") provides a system on the World Wide Web that allows rights-holders the freedom to set their own prices, establish rules of use, and directly track their accounts. CCC also provides online licensing of specific titles for re-use and republication of text and non-text parts of printed material. In the United Kingdom, the Author's Licensing and Collecting Society offers a solution for the online syndication of newspapers and other articles. It allows users to

On the Internet, and largely for traditional knowledge as well, the exercise of true exclusive rights is difficult. The Internet-based technology for tracking and preventing use is not quite here yet. Even then, it is unclear what level of controls and checkpoints users will accept. From teenagers downloading music (and apparently still spending large sums on CD purchases)³⁰⁶ to corporate and academic research labs, there are several valid reasons to limit the reach of copyright controls.³⁰⁷ Yet, a solution must be found to maintain viable financial flows. Otherwise, certain copyright industries and the creators who earn a living from the commercial exploitation of their works may not be able to continue their livelihood. That would be a huge loss for all people worldwide, and especially for the realm of human creativity and inventiveness that intellectual property laws first set out to protect.

search and download individually priced articles by searching the ByLine database. In Japan, the Japan Copyright Information Service (J-CIS) provides contact information on copyrighted material of different types which allows users to obtain permission directly from the rightsholders. In Europe, the INFO2000 European Very Extensive Rights Data Information (VERDI) system builds infrastructure to license the use of multimedia content for European users and rightsholders. See Daniel Gervais, *Electronic Rights Management Systems*, *supra* note 113, at 92-93.

³⁰⁶ For example, in 2000, the total dollar value of the U.S. sound recording industry was \$14,323,000,000. Ten- to nineteen-year-old children contributed 21.8 per cent to this figure, purchasing \$3,122,414,000 worth of recorded music in the span of just twelve months. See The Recording Industry Association of America, *2000 Consumer Profile*, at http://www.riaa.com/pdf/2000_consumer_profile.pdf (last visited Jan. 7, 2002).

³⁰⁷ See Julie E. Cohen & Dan R. Burk, *A Fair Use Infrastructure for Rights Management Systems*, 15 HARV. J.L. & TECH. 41, 43-47 (2001).