STS NEXUS
SUPPLEMENT

The Impact of Information Technology on Globalization Supplement: Intellectual Property and Social Needs in a Networked World

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Intellectual Property and Social Needs in a Networked World: Supplement Overview and Commentary

Howard C. Anawalt

Interlaced economies and silicon-based ICT (Information and Communication Technologies) have combined to produce much of what we understand as "globalization." ICT exist because clever and innovative people figure out how to harness nature's principles and put them to work. They invent. The inventors may be individuals or small research groups, or they may be employees of corporations or universities. In any event, what they invent creates value, value which their employers or they themselves wish to own and control.

Because of this quest for control, Intellectual Property Rights (IPRs) have now become a particularly important area of consideration in business and in law. These rights also figure prominently in international trade and in recent treaties, such as the TRIPs ("Trade Related Aspects of Intellectual Property Rights") appendix to the WTO (World Trade Organization) treaty, and recent enhancements treaties administered by WIPO (World Intellectual Property Organization). Readers interested in more detail on international IPRs, should see H. C. Anawalt and E. Enayati Powers, *IP Strategy—Complete Intellectual Property Planning, Access, and Protection*, (New York:West, 2002), sections 1:99-1:104.

By their nature private property rights exclude some or many people from the use or enjoyment of a thing, place, or activity, for example, conflicting claims of access, on the one hand, and control, on the other. Furthermore, when treaties or trade pressure impose intellectual property regimes on nations, these regimes are bound to have economic and social impacts that can be far ranging.

In this *STS NEXUS 3.2 Supplement* four scholars address different aspects of the intellectual property legal doctrines in panels and papers presented at the *Networked World: Information Technology and Globalization* international conference special sessions on legal challenges. These scholars ar e: Peter K. Y u, Doris Estelle Long, Hector Postigo, and Jacqueline Lipton. In the paragraphs that follow, I summarize their conclusions briefly and intersperse comments of my own.

In his article, "Dis-networking Rules," Peter K. Yu emphasizes the gap between developed and less developed countries. In order to have intellectual property systems succeed in the sense of serving broader communities, he sees three components which need international recognition as part of international intellectual property laws or systems: 1) accommodating the dif fering preferences of nations; 2) partnerships among nations, rather than competition, in framing intellectual property arrangements, and 3) international partners must become "stakeholders" in the system.

Doris Estelle Long urges in her essay, "Intellectual Property on the Internet," that "unless the Net-connected world reconsiders its chauvinistic belief in the global benefits of technological homogenization, its promises may stumble." She argues that intellectual property operates to balance access and control rights. This notion, she says "reflects a cultural bias" that favors a debate over private rights at the expense of broader public concerns. She concludes that when major public choices are made, as by treaties, these choices should take into account that "different cultures approach the Net in uniquely different ways."

Hector Postigo, focuses on how technologies such as DVDs (Digital Video Disks) challenge copyright enforcement in "Copyright Violations on the Internet." Policy makers ought to recognize that certain technologies themselves have capacity to become the regulators. He urges that in some sense, "technologies cease to be simply technologies and become socio-technological structures (i.e. both artifact and social order.)" He cites the scrambling systems used to protect the content of DVDs as such an artifact. He concludes that he would "like to see copyright stakeholders embrace the communications network available through the Internet to cheaply and efficiently distribute their media."

One of the areas addressed by these papers is the effectiveness of intellectual property laws. As noted above, the primary function of property is to reserve for a few certain benefits. When one divvies up such valuable rights as control of information or inventions, one is bound to have a great impact on people's welfare. One of the approaches to dealing with the allocation of such rights in the past two decades is to create ever more forceful *international* intellectual property institutions. That is, intellectual property rights have become increasingly the subject of international treaty obligations.

Jacqueline Lipton surveys a variety of contexts of these international arrangements in her paper, "Can Intellectual Property Law Survive?" She concludes that traditional intellectual property systems "based on international treaties enacted into domestic law" do not suffice. She sees some degree of promise in private arrangements, such as contracts, which governments monitor as "guardians of the global public domain."

Much depends on the resolution of intellectual property questions both domestically and internationally. Public inter est and well-being depend on a combination of innovation, priority selection, and fair distribution of the gains of innovation. At the heart of the matter lies the concept of the social good. In fact, the United States Constitution commits our own laws to pursuit of that good. The sole justification for granting patents and copyrights is a social good: "to promote the Progress of Science and useful Arts."

International intellectual property rules and procedures cut very deeply into the fabric of different national cultures. This is especially true when those rules become part of such modern necessities as membership in clubs of trading partners—e.g. the WTO and NAFTA. Nations may with very good reasons differ on where they wish to spend precious law enforcement resources. They may determine that innovation receives sufficient incentive with shorter terms of software protection or mandatory licensing of certain patented technologies. They may decide it is far more important to give priority to legal efforts that protect the environment, safety, families, or children, rather than devote them to expensive patent litigation. They may determine that forms of property other than traditional private property are appropriate. These forms of property include ones familiar in our country—public ownership of parks and the broadcast airwaves, community property in marriages as in Louisiana, California and some other western states.

In conclusion, I add my voice to those who ask for far greater accommodation to national cultures in the area of intellectual property rights. W orldwide rules should emerge to curtail war and enhance human rights. But uniformity is not needed when it comes to intellectual property rights. Let the nations discuss such things as "harmonizing" patent laws without the pressure of trade sanctions . ●

About the Author

Howard C. Anawalt is Professor of Law at Santa Clara University. He has researched and written extensively in the area of intellectual property law and was instrumental in establishing Santa Clara University's High Technology Law Program. Before coming to Santa Clara he received his J.D. from the University of California (Boalt Hall, 1964) and his B.A. from Stanford University in 1960. He has been a visiting scholar at Boalt Hall, Stanford, and the University of Washington; Chair of the Computer Law section of the Santa Clara Bar Association; and is a member of the bars of the states of California and Washington and of the United States Supreme Court. His legal practice has included transactional work as well as major involvement in litigation. He and his wife, Susan, have spent the better part of four summers in Japan, where he directed a law program and lectured on intellectual property.

Dis-networking Rules in a Networked World

Peter K. Yu

Introduction

Globalization is the catchphrase of the twenty-first century. With the advent of the Internet and new communications technologies, the world has become increasingly networked. Within a few clicks on your computer, you can chat with a friend in France, purchase a hand-weaved basket from Peru, conduct research on Malawi, and publish a paper online discussing the rule of law developments in China.

As the world becomes increasingly globalized, harmonization is badly needed to provide stability, certainty, and efficiency. In the past decade, the international community has devoted substantial efforts to design an intellectual property system that offers uniform protection to countries around the world. Examples include the TRIPs (Trade-Related Aspects of Intellectual Property Rights) Agreement, the 1996 WIPO Internet Treaties, and the Patent Cooperation Treaty.

Although this multilateral system was designed with a networked society in mind, the resulting laws, unfortunately, have created an opposite effect—a disconnected society. Rather than promoting harmony within the international community, the system enlarges the gap between developed and less developed countries, reduces cultural diversity, and widens the global digital divide.

The Dis-networking Rules

Countries differ in terms of their levels of wealth, economic structures, technological capabilities, political systems, and cultural traditions. Policymakers face different political pressures and make different value judgments as to what would best promote the creation and dissemination of intellectual works in their own countries. These uncoordinated judgments eventually result in a conflicting set of intellectual property laws around the world.

However, as the world becomes increasingly globalized, intellectual property lawmaking has moved from domestic political arenas to the international forum. As a result, the control of national governments over the adoption and implementation of domestic intellectual property laws has been greatly reduced. International lawmaking has begun to replace country-based assessments and domestic policymaking as the predominant mode of intellectual property lawmaking.

Dis-networking Less-Developed Countries

In the name of harmonization, the international intellectual property system often includes "universal templates" that seek to provide one-size-fits-all solutions to problems in the intellectual property field. Unfortunately, these solutions are usually modeled after laws in developed countries. They therefore ignore the diverging conditions, needs, and aspirations of less developed countries and, in turn, undermine the ability of these countries to compete in the global economy.

Even worse, the international lawmaking process has become increasingly vulnerable to influences from multinational corporations, trade associations, and value-driven interest groups. The resulting laws also ignore such important issues as consumer interests, national sovereignty, cultural diversity, ecological sustainability, and human rights.

Moreover, global trading institutions, like the World Trade Organization (WTO), suffer from significant structural defects. The major disappointments of the WTO include the lack of transparency of the institution, limited access by non-members to the dispute settlement bodies, technical and financial difficulties confronting less developed countries in their implementation of treaty obligations, the insensitivity and undemocratic nature of the decision-making process, and the lack of accountability of policymakers to the global citizenry.

Dis-networking Indigenous Cultures

So far, the international intellectual property regime is largely modeled after the Western regime. It gives zero value to raw materials used in the production of intellectual property. It also ignores such precious, valuable raw materials as folklore, traditional knowledge, indigenous creations, native innovations, and cultural practices. Because less developed countries often supply the raw materials, the current system disproportionately favors developed countries over their less developed counterparts for contributions to world science and culture.

While it might be hard to convince developed countries to protect raw materials that are neither original nor creative under current definitions in their intellectual property laws, it is equally difficult to explain why less developed countries and indigenous cultures need to adopt a system that is at odds with their local conditions and that threatens the survival of indigenous cultures.

After all, the current intellectual property regime does not necessarily embody universal values. Rather, as some commentators point out, it becomes universal because great economic and military might backed the system. Thus, it would not be surprising to see increasing efforts by less developed countries, in particular those in Africa and Latin America, to push for a regime that offers stronger protection to folklore, traditional knowledge, and indigenous creations and inventions.

Dis-networking the Information Have-nots

As Professor Robert Keohane and Dean Joseph Nye pointed out, "information does not flow in a vacuum, but in political space that is already occupied." In a similar vein, Professor Lawrence Lessig has pointed out that code is law and the Internet is regulatable. Thus, counter to the hopes of early cyberspace visionaries, legal regimes, norms, and rules eventually will determine what sorts of communities would thrive in cyberspace, how information will diffuse from one country to another, and ultimately how much and how fully a country can participate in the New Economy.

Unfortunately, many of the intellectual property laws today fail to strike the balance between the interests of the intellectual property rightsholders and the need for public access to protected materials. Access to information therefore has become increasingly difficult and unaffordable, and the gap between the information haves and information have-nots has widened.

Consider the United States, for example. Critics have discussed at length how copyright term extension has reduced public access to information and how the Digital Millennium Copyright Act has created a chilling effect that prevents publishers from releasing information that might result in legal liabilities. They also have criticized the inexpediency and unconstitutionality of proposed database protection legislation. In addition, as they cautioned us, intellectual property laws might provide pretexts for search engines and content providers to delete materials that compete commercially against their products and services.

Thanks to the Internet and the networked society, information has become more widely and efficiently disseminated. Yet, the poor and disadvantaged remain excluded from the networked world.

The Economic Implications of the Dis-networking Rules

Intellectual property protection involves a fundamental debate about economic development strategy. As economists have shown, the type of protection a country needs depends on such factors as the elasticity of demand, the social rate of discount, and the rate of returns from research and development efforts. Because markets in different countries differ in their levels of income and preferences, different countries have different elasticities, discount rates, and research and development productivities. Even if we ignore the special needs of less developed countries, indigenous cultures, and the information have-nots, the current one-size-fits-all system would be unlikely to result in an optimal production of intellectual property in the world.

Moreover, as international relations theorists have pointed out, international regimes are needed to correct market failures. In world politics, information is extremely costly and difficult to obtain. Because countries are autonomous, they are reluctant to reveal to others their preferences unless others do the same. By facilitating communication among countries, international regimes therefore improve the quantity and quality of information available to policymakers. These regimes also reduce uncertainty and risk in the international system by making government policies more predictable and by laying down clear, transparent rules that make evasion of obligations difficult.

Unfortunately, the current intellectual property rules do the exact opposite. By dis-networking less developed countries, indigenous cultures, and the information have-nots from the larger community, the current system creates instability and uncertainty. Worse, due to this disconnect, countries become more reluctant to reveal to others their preferences and the quantity and quality of information available to policymakers become greatly limited. As commentators have noted during the recent anti-globalization protests in Seattle, Washington, Prague, Quebec, and Genoa, the disconnected increasingly develop resentment toward developed countries and multinational corporations. If we do not pay attention, this resentment eventually might spill over to the international intellectual property system and other trade-related areas, thus creating a legitimacy crisis within the international trading system.

Finally, the dis-networking rules undermine one of the biggest benefits of the Internet—the network effect. Like all communication technologies—such as telephone, television, cable, and fax machines—the Internet exhibits powerful network effects. Put differently, the value of the Internet connection increases as more computers are connected as more information technology is deployed. An increase in Internet penetration in less

developed countries, therefore, not only would increase the benefits of Internet users and service providers in developed countries, but also would increase the worldwide value of the Internet. After all, the practical speed of any network is limited by the slowest link on that network regardless of the network's maximum capacity. Moreover, a networked society would allow the Internet to maximize its capacity and to balance its access load by enabling users from other communities to take advantage of the different rush hours and varying time zones. Unfortunately, the opposite happens. By dis-networking less developed countries, indigenous cultures, and the information have-nots, the current intellectual property rules reduce the network effect and stifle Internet development.

Some Networking Solutions

The current international intellectual property system is designed with a networked world in mind. Yet it has disnetworked many disadvantaged communities. The gap between developed and less developed countries grows. Cultural diversity is reduced. And the global digital divide is widened. To remedy the situation, this article proposes three networking solutions.

First, countries must adopt a "nonzero-sum approach" to global intellectual property dispute resolution. In game theory terms, a zero-sum game is a game in which a player's gain must result in another player's loss. If one wins, the other must lose. By contrast, in a nonzero-sum game, a player's gain will not necessarily result in another player's loss. Instead, there will be a win-win solution. Rather than forcing countries to accommodate others' preferences and make compromises, a nonzero-sum approach would result in the creation of forward-looking solutions that provide mutual benefits to all the parties involved.

Second, countries must consider themselves as partners, rather than competitors, or even adversaries. Today, a large number of partnerships exist in the airline industry, between multinational corporations, and among nonprofit organizations. As Akio Morita, the former chairman of Sony Corporation, once observed: "No company is an island. In an interdependent world, every company has to think in terms of working with others if it wants to compete in the global marketplace." A partnership not only allows countries to share unique resources and overcome market barriers, but also helps create synergy and enables them to learn from each other. These partnerships allow countries to achieve objectives through cooperation, rather than competition or confrontation.

Finally, countries must understand the crux of the piracy and counterfeiting problem. As I discussed elsewhere, an "intellectual property divide" exists between those who have stakes in the current intellectual property regime and those who do not. Based on this conceptual framework, piracy and counterfeiting can be seen as the battle between the stakeholders and nonstakeholders over the change and retention of the status quo. While the stakeholders will be eager to protect the current intellectual property regime, the nonstakeholders neither understand intellectual property laws nor have a stake in the current system. Unless the nonstakeholders understand why copyright needs to be protected and until they become the stakeholders or potential stakeholders, they will not be eager to abide by copyright laws and consent to stronger copyright protection.

True, the stakeholders will always be eager to protect what they own, while the nonstakeholders will be eager to enlarge their share and become stakeholders. However, not everybody steals and uses illegal means to enlarge their share. Most people do so only when they do not understand the law or when they do not believe in the system—for example, when they feel the system is grossly unfair. Thus, the intellectual property divide is not inevitable, and there are indeed ways to bridge the divide.

For example, countries can educate the nonstakeholders about the intellectual property system, telling them what the system protects and why and how the system would benefit them in the long run. They also can help the nonstakeholders develop a stake in the system, thereby transforming the nonstakeholders into stakeholders or potential stakeholders. Moreover, they can help develop intellectual property laws and strengthen enforcement mechanisms. Finally, it might be helpful for countries to work together to develop an honest pricing mechanism and facilitate affordable alternatives, especially concerning products that are badly needed by the local people—such as AIDS drugs in the case of South Africa.

Conclusion

With the advent of the Internet and new communications technologies, the world has become increasingly networked. Harmonization is therefore badly needed to provide stability, certainty, and efficiency. Unfortunately, although the current intellectual property system was designed with a networked society in mind, the resulting laws have created an opposite effect—a disconnected society. Rather than promoting harmony within the international community, the system enlarges the gap between developed and less developed countries, reduces cultural diversity, and widens the global digital divide. By proposing solutions that emphasize the importance of a networked society, this article hopefully reconnects the international community and corrects the

misguided path of intellectual property law development. ●

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Intellectual Property on the Internet and the Cultural Digital Divide

Doris Estelle Long

Introduction

Unless the Internet-connected world reconsiders its chauvinistic belief in the global benefits of technological homogenization and provides adequate tools to begin to bridge the cultural divide of the Internet, its promise, like the promise of globalization, may stumble on its own excesses (Long, 2001). Present Internet protection standards must do more than simply "foster Internet growth." They must address the negative impact the choices and assumptions made about such Western concerns as the protection and use of traditional forms of intellectual property have upon the cultural accessibility of the Internet. To ignore the cultural digital divide by treating these concerns as separate from the issue of intellectual property protection is to continue to marginalize them and their potential negative impact on the growth of the global digital marketplace. If the "divide" becomes a "chasm," digital trade may sink into the abyss.

Cyberspace has been described as a new borderless frontier, offering unprecedented opportunities for the exchange of information across time and space. This new technologically created world is home to a virtual community, with its own standards, its own ability to regulate errant members, and a virtually barrier-free cost of entry. New web pages, the coin of this new realm, double every nine-minutes (Gould, 2002). Tracking something so changeable as "the Net" is virtually impossible, yet current statistics estimate that the Net now boasts over 554 million users, spanning nearly every country in the world (Anonymous, 2002, *How many on-line*?). Cyber cafes have sprung into existence in the most remote regions of the world, while traditional intellectual property doctrines have become outmoded as access is prized over creation and the "public domain" seems to be synonymous with "anything capable of being communicated in digital form." This new, low cost, global information source, a bastion of unrestrained free speech, seems too good to be true. It is.

Cultural Bias on the Internet

In the developed world, discourse on Internet public policy focuses largely on the Westernized concern over the balance to be struck between private rights (generally protected under copyright and trademark laws) and public access to "information." This focus itself is emblematic of a greater problem on the Net than who owns what is being distributed. It reflects a cultural bias that excludes or marginalizes most of the world's cultures in favor of the same debate over private rights that has marginalized many cultures' non-technological innovation and creativity.

To justify the expense and investment associated with building required Internet infrastructure, supporters rely on the myth of the digital network as a "culturally neutral" medium that has been build to support a larger global community, one that transcends the problems of race, geopolitical borders, national interest and culturally specific values that hinder communication, free exchange, and shared understanding (Hawisher and Selfe, 2000, 8). Yet this purportedly culturally neutral medium with its reliance on reading and writing as main social, communicative acts denigrate and often isolate communities where oral, face-to-face interactions are prized.

As Gail Hawisher and Cynthia Selfe demonstrate in their introduction to *Global Literacies and the World-Wide Web*, cyberspace is largely Anglo-centric in nature. Although over 59 percent of the on-line world is composed of non-native English speakers, (Anonymous, 2002, Global Internet Statistics), only 14 percent of all Internet sites are in a language other than English (Linday, 2002). This Anglo-centricity also is evidenced by "the economic and political ordering of Web resources at the service of capitalism, democracy and other free market sources" and the "reliance on Westernized instantiations of authorship, visual design, text and representations" (Hawisher and Selfe, 2000, 9).

In a study of the impact of Greek cultural practices on Internet use, Aliki Dragona and Carolyn Handa found that Greek culture relies strongly on interpersonal communications. These interpersonal communications are particularly important in the context of the extended family network, in the areas of economic and moral support. As a result, the Net serves largely as a source for "professional information" (Dragona and Handa, 2000, 60). This "professional" use underscores another undeniable feature of the Internet. Its access is limited to

those who share a relatively advanced educational and economic milieu. Those who cannot afford the luxury of a personal computer, or at least the price of connectivity charges for a cybercafe cannot hope to participate in the "advantages" of the global digital network.

Advertising for the Internet emphasizes the glories of reducing the world to a single "global village," speaking the same language ("computer speak") and outlawing any sense of "otherness" that does not fit within this homogenized space. (Nakamura, 2002) We may be free to create our own websites, reflecting our own personal points of view, but those websites reside in a world for which some level of English is generally required, and for which regulation on the basis of content which may be offensive to other than white, English speaking, heterosexual males remains largely non-existent. Perry Barlow's virtual community has become a mass of cyber- communities, many of which are using the Internet as a source of power to re-create the lost imperialistic (and racist) bygone eras of the 19th Century (McPherson, 2000). While the recent Additional Protocol to the Convention on Cyber-crime, Concerning the Criminalisation of Acts of a Racist and Xenophobic Nature Committed Through Computer Systems is a small step towards altering the racist nature of many Internet sites, its ultimate effectiveness remains doubtful. In the face of strong free speech doctrines in the United States, as evidenced by the refusal to enforce a French court order blocking the sale of Nazi paraphernalia on the French Yahoo website, hate sites may merely transfer to the safe harbor of the United States.

Cultural Exclusion and Exploitation

The unwelcome nature of cyberspace is not limited to content-based exclusionary practices. Virtual regulation through "netiquette" and acronyms have become merely another way to create barriers that make the Internet a less-than-welcoming territory for marginalized "Others." The self-regulating nature of these virtual communities has given way to an unfriendly terrain for those who stumble into its midst (Bailey, 1996).

It is axiomatic that the more welcoming a media is to disparate voices, the greater use of that media will be made by those voices. Unless the Internet is made culturally available, exclusion from the global information economy it represents may lead to greater dislocations and violent responses by the excluded.

For those who value free speech, cultural exclusion from the Internet has far more serious ramifications as the voices and experiences of the "Other" are eliminated from one of the fastest growing global information sources. Intellectual property debates that fail to consider protection for non-Western ways of developing and sharing information will only serve to continue the imperialistic marginalization of the "other" from yet another domain of literacy. Continued exclusion of the "other" from the Internet will not merely diminish its richness as a source of information. It will reduce the vibrancy of the digital marketplace by discouraging a majority of potential customers from participating.

Just as non-Western cultures find it difficult to protect their innovative and creative endeavors under current intellectual property regimes that reward technological and individual creativity over non-technological and commutarian efforts, so too the debate over Internet policy favors technology over culture. Worse, by denigrating the value of protecting intellectual property on the Net because of its relatively easy accessibility, legal policy threatens to undermine current efforts to fashion international remedies that protect traditional knowledge, folklore and other forms of indigenous innovation and cultural expression (WIPO, 2000). If works of individual authors, which fit within the narrow constraints of traditional forms of intellectual property, are no longer worthy of protection, and should (in the view of many "Netizens") be freely exploitable without constraint, how can the cultural expressions of indigenous peoples be safe from de-culturizing exploitation?

To suggest that such exploitation is either appropriate or unlikely to occur due to some innate respect for another's culture ignores the imperialistic nature of the Internet. The "virtual community" has demonstrated a surprising ability to model the worst in human nature in the "hard world," including racism, hate speech, child pornography, and the same imperialistic attitudes toward developing countries that divided the world of our ancestors in the 19th Century, and whose effects we are still feeling today.

Legal regimes must be developed to resolve the question of the international treatment of racist and hate speech and images on the Net. The *Report on Legal Instruments to Combat Racism on the Internet* by the European Commission against Racism underscores the growing use of the Internet by individuals and groups to disseminate racists messages and the unfortunate fact that many of these sites originate in the U.S. While international issues should not drive domestic Constitutional law, required availability of voluntarily used, non-proprietary filtering software, with fully-disclosed filtering architecture, may provide a beneficial accommodation of conflicting domestic policy norms. As we develop policies for the treatment of intellectual property on the Net, we must keep in mind that any domestic policies will have undoubted international implications.

Information Access, Distribution, and Protection

Professor Lessig has repeatedly pointed out that code is law and the Internet is regulatable (Lessig, 1999). If this is true, legal regimes and norms will help determine which communities are allowed to thrive in cyberspace. Such laws must be fashioned to require governments and others to provide the funds, training, and more importantly the technology necessary to create a multi-cultural information network. Access must be available on a non-discriminatory basis at an affordable price. Such access includes enabling the creation and running of personal websites so that public participation on an international, and more significantly multicultural, basis is encouraged. To facilitate such multicultural participation, new standards and paradigms for Internet communication need to be explored that incorporate non-English structures for accessing and disseminating information.

Western debates over the usefulness of replacing outdated modes of distribution for records, films, software, books and other copyrighted works to meet the challenge of digital piracy ignore the multinational impact of the elimination of traditional media. Increasingly, defenders of Internet piracy assert that the creation of digital distribution systems is the answer to Net piracy. Setting aside the unproven assumption that end users who are used to obtaining digital music for free would suddenly be willing to pay for it, the assumption that digital distribution should replace hard goods distribution systems ignores a fundamental truth of the Internet. If "hard" sources of goods and information are removed or significantly reduced in favor of the lure of cyber-information, the *economic* have-nots will be rapidly transformed into *informational* have-nots, with catastrophic results in today's increasingly globalized information economy. With the increasing amount of information on employment, health and educational opportunities being published on the Net, the non-connected in all countries will fall further behind. As Kofi Anan recognized in a speech before the Telecom 99 Conference in Geneva, Switzerland: "People lack many things: jobs, shelter, food, health care and drinkable water. Today, being cut off from basic telecommunications service is a hardship almost acute as these other deprivations, and may indeed reduce the chances of finding remedies to them" (Anan, 1999).

Beyond providing the tools for Internet access, international protection standards for Internet content must be created with sensitivity to the impact such standards have upon non-Western cultures. Current debates over such topics of ISP liability, content regulation under intellectual property regimes, and uses of technological protection measures to prohibit unauthorized access to digital media focus almost exclusively on technology over culture, with little concern for the cultural digital divide.

Conclusion

As public policy choices are made, we must remember that different cultures approach the Net in uniquely different ways. Some see the Net as a continuation of imperialistic exclusion. Others see it as a gateway to the world. Cultural inclusiveness requires that these different groups be included in any policy making process and their concerns fully raised. Failure to do so will only serve to strengthen the cultural digital divide until it becomes an impassable chasm. Driving potential customers from the global digital marketplace serves no one's interests. ●

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Copyright Violation on the Internet

Hector Postigo

Introduction

The Internet as a contemporary Information Communication Technology (ICT) is a potent characteristic of globalization. The emergence of interconnectivity among the world's peoples provides for an unprecedented opportunity to cheaply and easily transfer crucial and useful information in business and culture between many of the world's nations. As Manuel Castells has written, the Internet is a place where civil society, community, and democracy can potentially take form (Castells, 2001). Yet the Internet poses a significant challenge to global governance, especially with regards to global Intellectual Property Rights (IPR) regimes. This article seeks to identify what some of the challenges to copyright on the Internet are, propose a theoretical framework for understanding those challenges and draw some conclusion about legal and technological means designed to ensure copyrights on the Net.

As technological forms of copyright protection become central to maintaining the current IPR regime, counter technologies have arisen producing what Stuart Biegel has called "code wars" (Biegel, 2001). The emerging "code wars" give technologies on both sides of the debate political underpinnings focusing on divergent conceptions of how information should be regulated on the Internet. From a social norms perspective, it appears that at the level of individual users both the will and the technology exist to ignore institutional or governmental demands for adherence to the expanding IPR embodied in international law.

Copyright Management and Protection

Why and how this is the case are questions that should be foremost in the minds of those designing policy for copyright management on the Internet. At first blush it appears that individual content consumers and those providing them with circumvention tools do not share the ideological vision of intellectual property that is embodied in the law. Therefore, various groups within the Internet deploy their technological resources to circumvent both legal and technological restraints resulting in mass violations of copyright law across the Internet. While it is evident that organizations with vested interests in copyrights over intellectual property have the determination and the resources to mount both legal and technological campaigns against illicit digital copying and sharing of copyrighted material, the process will certainly become increasingly costly.

As the Internet expands across the globe, with more people gaining more efficient and reliable access, it will only become more difficult to enforce the current intellectual property regime on the Internet at the level of the individual. An increased investment in regulation may not be necessary or desirable, since it is still unclear whether individual copying significantly impacts the industries in question and since it is unclear what affect currently proposed regulation may have on the overall nature of the Internet. What is clear, however, is that current trends to regulate behavior on the Internet may result in: 1) the creation of institutionally imposed systems of law that are far removed from what individuals are willing to recognize as legitimate, and 2) the creation of technologies that are dangerously undemocratic in design.

Current international IPR rights are first and foremost dictated by the Trade Related Aspects of Intellectual Property Rights (TRIPs) of the World Trade Organization (WTO). The TRIPs agreement is considered to be a vast improvement on previous treaties and agreements meant to protect intellectual property in the global market. Previous treaties were generally weak, depended on various levels of enforcement, and did not accommodate the increasing speed at which digital and information technology, used both for distribution and pirating of intellectual property, were being developed. While not addressing copyright on the Internet directly, TRIPs sets up general obligations for all its member states that include strengthening copyrights and specifically singles out software and databases as protectable under copyright. But there are important technological and social barriers to maintaining the level of protection dictated by TRIPs in both industrialized and developing nations (Maskus, 2001).

Challenges Posed by the Internet

The presence on the Internet of media, copyright circumvention technologies, hacker-ware, and in-

formation on how to hack various entertainment technologies, from Sony PlayStations, to digital videodisk (DVD) players, poses significant technical challenges to maintaining the copyright standards set by TRIPs. For example, when Norwegian hacker Jon Johansen generated an algorithm to crack the Content Scrambling System (CSS) of DVD players, he made it available to thousands of users on the Internet, how, then, can legal regimes be efficiently enforced? Certainly some hackers such as Johansen are caught and arrested, but thousands of others exist. These hackers generate technologies that are potentially as disruptive to the IPR regime as Johansen's CSS hack. In any given month, for example, users of Usenet post: the full compliment of Adobe imaging products, most movies that premiere that month *prior to the actual release* dates, Windows XP with a crack included that turns off the "phone home" function which XP uses to validate the operating system, many commercial video games also including cracks to circumvent copy protection, as well as a host of other audio, video, and software.

From a social cultural perspective, aspects of the hacker sub-culture pose a significant challenge to the underlying natural right/common good assumption about the legitimacy of intellectual property. The "hacker ethic" as put forth by Steven Levy and expanded upon by Pekka Himanen and many of the open source software proponents can be understood as being in opposition to the protection of information as property. While many commentators as utopian, or fringe, have dismissed the "information wants to be free" credo, it informs much of the technology designed to undermine copyright (Levy, 1984; Himanen, 2001; Thomas, 2002; and Raymond, 1999). Can we continue to ignore the hacker ethic as we consider the design of policies and technologies that protect copyright? If hackers are the toolmakers of copyright infringement, what are we to make of the millions of casual infringes who use their tools? Are we to say that once a few of them are prosecuted under the American "No Electronic Theft" Act, for example, the rest will discontinue their practices? Will we have to surrender our privacy on the Internet to be able to accommodate enforcement of strict copyright law? Given the global nature of the current IPR regime and the ease with which individuals can access information, intellectual property owners in electronic media have grown to rely on technological means of managing access and use of intellectual property by individuals. These means include property rights management systems, "click through licenses," and copy protection through encryption. What we see emerging are "code wars" brought on by a gap between infringers' beliefs, or understandings of copyright and the law. This gap is rooted in the inaccessibility of the process by which current law is formulated and the law's inability to control behavior on the Net.

The Politics of Technology

In a 1985 article, Science and Technology Studies (STS) scholar, Langdon Winner, seeking to understand not only how technologies are socially shaped but also simultaneously how they shape society, developed a theory to answer the question, "Do artifacts have politics?" (Winner, 1985). In a sense his theory on the politics of technology is a fusion of the social construction approach to the analysis technological development and the technological deterministic approach to the analysis of the effects of technology on society. For Winner, technology matters and it does so because it reinforces the distribution of power in society to the extent that even if social relations change as society's beliefs change, the power relations of previous social orders continue to haunt us, embodied in artifacts and their politics. Further, Winner proposes that some technological systems require particular kinds of political relationships; that the adoption of a particular technology creates a given social order. In this sense technologies cease to be simply technologies and become socio-technological structures (i.e. both artifact and social order). I contend that the current IPR regime, as it confronts divergent conceptions of the legitimacy of copyright on the Internet both with legal measures and with software artifacts, is such a structure.

Take the case of DVDs and their copyright protection technology, the Content Scrambling System (CSS). From a purely social constructionist standpoint one can say that the understandings of fair use held by media corporations are embodied in CSS, even as that understanding is challenged in the courts or established differently in legal precedent. That is to say, despite the fact that the debate about fair use continues, the technologies that consumers use have already settled the issue. From a technological deterministic point of view, should the concept of fair use be fixed, either as perceived by those that feel fair use should be constricted or as perceived by those that feel it should be expanded, the technology remains as an enduring shaper of the relationship between consumers and copyright stakeholders. For example, the copyright on movies on DVD will expire over time, changing the relationship between the media consumer and producer. Yet the technologies that enforce the old relations remain intact. CSS will not shut itself off once copyright expires.

Thus while the nature of the social relations that govern the user and media companies shifts after a certain number of years, the technologies remain, continuing to uphold those power relations where one stakeholder's definition of fair use still prevails over

another's. This technological system is more than just an artifact because laws are introduced to protect the technologies protecting copyright. The socio-technological structure that emerges is one that positions individuals in a matrix of power, making criminals out of those posting circumvention technologies on the Internet and shifting the meaning of hacker from tinkerer to a form of terrorist. The IPR regime, as a socio-technological structure, is an organizing set of laws and technologies restructuring the way in which we consume media. "Code wars," characterized by the emergence of copyright protection technologies, distribution technologies, and circumvention technologies, are in fact political battles for power over such consumption.

Conclusions

But how does this model help us understand the interplay between individual consumers, technology, and the law? How can it inform more intelligent and democratic IPR policy design for the Internet? It does so by situating technologies as structuring influences between stakeholders in copyright. In the field of Internet law Larry Lessig's "code is law" has become one of the dominant paradigms for understanding how the architecture of the Internet will shape social interaction therein. For Science, Technology, and Society scholars, these ideas have been in the air for quite some time, Lewis Mumford and Langdon Winner have at some point or another talked about the political economies of technological systems (Mumford, 1934; Winner, 1977). With one foot in the determinist camp and another in the social constructivist camp Mumford and Winner have also looked to the norms, ideologies, and practices of the groups and people that shape technology. Thus, using the framework developed above, we can begin to identify the combatants in the "code wars."

We can understand, for example, that casual Internet copyright infringers simply disregard copyright law because the technological structures are not yet strong enough to make them obey it, and since they are not players in the design process of laws and technologies, they become generally detached and, in a way, reverse adapt their practices to fit the socio-technological structures imposed from elsewhere.

We can also say that hackers, as a technological elite that may be committed to the "information wants to be free" credo, are creating discursive spaces for themselves, a political voice through technological means that in a sense imposes a counter-structure on the current IPR techno-legal regime. The Internet is the perfect place for creating counter-structures because it is difficult to control, regulatory response times are usually slow and by the time a given hack or circumvention technology is removed from its original post site, copies have been made and posted to other servers that may be beyond the reach of regulators. One can imagine a process that slowly finds and eliminates offending technologies, but how efficient is a brute force attack against counter socio-technological structures?

"Code wars" can be won if one is willing to commit sufficient resources to monitor and prosecute offenders and develop protection technologies complex enough to make casual infringers' investment of time into acquiring and learning to use circumvention technologies inefficient. However, these modes of regulation would include extending the "code wars" to the architecture of the Internet and will negatively affect the nature of the Web, putting at risk our privacy, fair use, and the free exchange of information that gives the Internet its value in the first place. Continued criminalization of casual infringers that cannot be efficiently dealt with only undermines the IPR regime as a whole. Also, if the "code wars" continue, the few proprietary interests with the resources to shape technology along their ideological vision will necessarily dictate the architecture of the Internet and of media access technologies. Once these technologies become prevalent, it will become increasingly difficult to point out their biased tendencies as they fade into being part of our every day experience. Like other scholars, I would like to see copyright stakeholders embrace the communications network available through the Internet and use it to cheaply and efficiently distribute their media. For example, by creating partnerships with Internet Service Providers (ISPs), copyright stakeholders could charge a subscriber an extra service fee along with the regular ISP charges for access to libraries of content.

Making access to digital media a standard part of the online experience that users pay for would direct users to legal channels of distribution, cut down on copy protection costs, and most importantly add a whole new source of revenue for digital media companies. Further, it is necessary to include consumer fair use rights into the formulation of copyright regulation on the Internet and strike a balance between emerging understandings of the legitimacy of IPR (based on natural right philosophy and the notions of the common good) and the "hacker ethic" governing information and informing the creation of many copyright circumvention technologies. ●

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Can Intellectual Property Law Survive the Global Information Age?

Jacqueline Lipton

Summary

This article reviews ways in which intellectual property laws have been developing throughout the global information age with particular reference to the decreasing international harmonization of these laws. The suggestion is made that national governments may need to re-think their role in relation to the regulation of Intellectual Property Rights (IPR) in information assets in the digital information age. Importantly, national governments might need to start thinking more about systems for monitoring and limiting the reach of IPR in information products in circumstances where the private creation and enforcement of those rights might have undesirable impacts on one or more sectors of society. It is suggested that intellectual property law in the traditional sense may not survive the global information age because of the inherent limitations on national governments dealing with an increasingly globalized system. However, national governments can still protect the basic framework of the intellectual property system, as well as preserving the public domain of information and ideas.

Introduction: Information Property Law in the Global Information Age

It is now almost trite to say that the global information age creates unprecedented new challenges for the legal system, particularly in relation to the area of intellectual property law. Prior to the advent of digital technologies, intellectual property laws, though not a perfect example of uniform international law, were at least reasonably well harmonized. Various treaties on patents, copyrights, and trademarks, for example, had been successfully negotiated, and a real worldwide intellectual property community was emerging.[1] The global information age has created significant new challenges for national intellectual property laws and may have strained some aspects of these domestic systems to the breaking point.

The following discussion attempts to illustrate where the intellectual property system is becoming increasingly dis-harmonized in the global arena, and to highlight some of the limitations inherent in recent national government initiatives in relation to various aspects of intellectual property law in the information age. It is suggested that national governments may need to re-think their role in relation to intellectual property systems in the global information age, as the balance between government-run intellectual property regimes and private ordering of information property rights changes. The idea is that "intellectual property law as we know it" may not survive the information age, but that new paradigms and balances between government and private ordering might lead to new approaches that may be beneficial to the global information society overall.

New Challenges for the Existing Intellectual Property System

The advent of digital technologies and the developing global marketplace have caused some of the standard principles of intellectual property law accepted throughout most of the 20th century to start splintering apart. This is largely because of the challenges of applying traditional intellectual property paradigms to new information technologies on a global scale. Some examples of this phenomenon include: (a) Internet domain name disputes; (b) queries about the reach of copyright law in relation to new information products such as computer software[2] and electronic databases;[3] (c) concerns about how laws might prevent unauthorized access to copyright works stored electronically;[4] (d) questions about the extent to which there should be separate intellectual property protection for valuable electronic—and perhaps other—databases;[5] and, (e) concerns about the patentability of Internet business methods[6] and software.[7]

Issues such as these have been, and some continue to be, addressed by the legal systems in different jurisdictions. However, during the course of this process, the harmonization of the world intellectual property legal system has arguably begun to break down. Briefly taking each of the above issues in turn to demonstrate this decreased international harmonization of intellectual property laws in the digital age, we might observe the following:

(a) Although a relatively harmonized international policy in relation to domain name *dispute resolution* appears to have been reasonably successfully implemented in 1999 under the auspices of the Uniform Domain Name Dispute Resolution Policy (UDRP),[8] which did not prevent the United States Congress from enacting its own measures in relation to contested domain name registrations.[9] The two measures can work together. The UDRP does not oust the jurisdiction of national courts.[10] However, the United States is the only jurisdiction to date to enact specific "domain name" provisions in its federal trademark legislation. This potentially causes disharmonization amongst jurisdictions, particularly because there appears to be an implicit assumption under the United States legislation that domain names are a distinct form of intellectual property,[11] a proposition that has not been universally accepted on a global scale to date.[12] The resolution of this question clearly has significant implications for the future of domain names in commerce generally,[13] and it arguably needs more serious global consideration than has been given to it in the enactment of the American legislation.

(b) Although most jurisdictions have accepted that computer software code may be the subject of copyright,[14] there is no international consensus about the extent to which copyright law should apply to electronic databases. Despite the fact that jurisdictions such as England and Scotland have always accepted a relatively "low" standard of originality in a work to protect it as copyright (thus protecting many unoriginal compilations under copyright law), many European jurisdictions historically required a higher standard of originality. This ultimately led to the drafting and transposition into domestic law of the European Union (E.U.) Database Directive.[15] Like many European jurisdictions, the United States has rejected the "sweat of the brow" test for copyright protection in unoriginal compilations and databases.[16] However, unlike the position in the E. U., there are no special intellectual property protections in the United States for databases. Australia, on the other hand, has retained copyright protection for even unoriginal compilations such as a white pages telephone directory.[17] The reach of copyright to various digital data products is thus becoming increasingly dis-harmonized in the modern world.

(c) There is also some dis-harmonization of law with respect to the extent to which copyright law should include provisions to prevent unauthorized *access* to copyright works that have been digitally encrypted, although now many nations are following the lead of the United States, the first jurisdiction to incorporate anti-circumvention provisions in its copyright law.[18] The Digital Millennium Copyright Act (DMCA)[19] prohibits circumventing a technological protection measure that effectively prevents access to a copyright work,[20] as well as trafficking in a device that could circumvent such a technological protection measure.[21] The DMCA was said to be enacted to comply with Article 11 of the WIPO Copyright Treaty of 1996 ,[22] although some commentators suggest that the DMCA goes much further than was necessary to implement the Treaty.[23] The E.U. Copyright Directive[24] attempts to achieve similar results to the DMCA, although a number of E.U. member states have not yet transposed the Directive into domestic law, in many cases because of concerns about how appropriately to draft the "anti circumvention" provisions. Australia has enacted similar legislation to the DMCA,[25] but arguably it has been enforced somewhat more flexibly than the DMCA to date.[26]

(d) As noted above, jurisdictions are currently widely divergent on their approach to the legal protection of digital (and other) databases as forms of intellectual property. Some jurisdictions, such as Australia, allow copyright protection for unoriginal databases,[27] while others, such as the United States, require a higher level of originality for copyright protection.[28] The E.U. has created a new *sui generis* intellectual property right in databases under the E.U. Database Directive[29] which has attracted much criticism over the last few years.[30] This is one reason why the United States Congress has so far resisted implementing similar measures in America. Databases can be protected in the United States (as in Europe and Australia) by other means, such

as restrictive contractual licenses and technological protection measures.[31] However, effective reliance on these measures would suggest that the intellectual property system may in fact be outmoded here, and that there is no need for internationally harmonized intellectual property law for databases in the traditional sense.

(e) Finally, the area of software and Internet business method patents also evidences disharmony amongst major trading jurisdictions. Basically, the United States has permitted such patents,[32] and the E.U. has prohibited them.[33]

Alongside these concerns about current moves away from international harmonization in relation to much intellectual property law in the digital age, additional concerns might also be raised about what is happening to intellectual property law at its very core. The above survey of problematic areas in relation to digital information property also evidences the fact that intellectual property laws are being molded and stretched in directions into which they were arguably never intended to go; for example, the increasing impetus to include digital "lock-picking" provisions in the copyright legislation is certainly a new phenomenon. These provisions have been included in the DMCA and in the E.U. Copyright Directive without much thought as to what the incorporation of such provisions does to the fundamentals of copyright law. Was copyright law ever supposed to be about access or was it intended to be about permitted uses of copyright works? In the "real world" of physical property rights, unauthorized lock-picking laws tend to fall under the heading of tort and criminal law, and not under the law of real property or personal property.

The examples about Internet domain names and digital databases raise similar concerns. In different jurisdictions, different attitudes have been taken about the extent to which these information age "items" should be regarded as forms of intellectual property. Although the United States Congress was happy to enact the Anti-Cybersquatting Consumer Protection Act (ACPA),[34] which appears to assume that Internet domain names are a form of intellectual property because *in rem* actions can be taken against them under the Act,[35] not everyone has taken the same approach. Indeed, most of the standard Internet domain name registration agreements take the position that the agreement creates a service contract and not a property right.[36] This does matter when Congress starts creating legal rights in relation to domain names under the assumption that they are a form of intellectual property deemed to be located in the state in which they are registered.[37]

Digital databases raise similar problems. It has been assumed in the European Union that there is a need to deem such information assets to be a new form of intellectual property, while the experience in the United States suggests that this may not be necessary at all. Contract and technological protection measures may prove adequate here without the need to erect formidable intellectual property fences around collections of information, particularly when the "fair use" provisions in relation to that information are relatively meager,[38] and there are no compulsory licensing provisions in relation to sole source information providers.[39]

While these laws are being promulgated in different directions in different jurisdictions, problems also arise as to their effective enforcement. The DMCA, for example, would certainly appear to be having an unfortunate chilling effect in some quarters, notably encryption research.[40] However, even its aggressive enforcement in early cases does not necessarily achieve the ends for which plaintiffs may be hoping. In the Reimerdes case,[41] for example, the plaintiff movie studios were able to obtain an injunction to prevent a particular website operator from continuing to publish Digital Video Disk (DVD) decryption software on its website and from hyperlinking to other websites containing the software. The software in question is nevertheless still widely available from other sources as indeed it was at the time Judge Kaplan made the initial injunction order,[42] which was later upheld on appeal. Additionally, the DMCA provided no remedy against the person who originally cracked its DVD encryption code and wrote the decryption software, as that person was a 15 year old high school student in Norway, and outside the jurisdictional reach of the DMCA.[43] This evidences yet another significant limitation of unharmonized national intellectual property laws in the global information age.

Thus, measures such as the DMCA really do appear to be creating a "worst of all possible worlds" scenario in the sense that the legislation: (a) appears to confuse the aims of copyright law by including anti "lock picking" provisions in legislation that is supposed to be about uses of copyright works; (b) potentially creates a chilling effect in many areas related to the development of decryption technology because of legitimate fears of litigation; and, (c) does not achieve the aims of the plaintiff copyright holders particularly well in any event, as noted above.

So what does all of this tell us? What questions should we now be asking about intellectual property law in the global information age? It is now time to discuss the question raised in the title of this article: "Can Intellectual Property Law Survive the Global Informa-

tion Age?" It appears that recent attempts to deal with new digital information age problems under existing intellectual property paradigms have proved problematic in the sense of international harmonization, and in terms of the efficiency and effectiveness of laws.

Clearly, many of the laws enacted in a piecemeal manner to deal with specific problems arising in the information age have raised as many, if not more, problems and criticisms than they have resolved. Additionally, in some contexts, private ordering methods such as contractual and technological measures, and private dispute resolution arrangements, are proving to be preferable to, and more effective than, reliance on government-mandated intellectual property schemes alone.[44]

The Possibility of Private Ordering

This obviously raises the question of private ordering versus government regulation as the most effective method for dealing with information age problems in relation to valuable information assets. The story of Internet domain names is a good example of ways in which private ordering can be faster and more effective than government regulation with respect to some aspects of the regulation of information products in the digital age.

Internet domain names are also a good example of where some measure of private ordering was necessary because of the way in which they initially challenged traditional intellectual property paradigms. Internet domain names are privately registered by contract[45] between the applicant for the domain name and one of the available registering authorities.[46] Registration of a domain name gives an individual the right to use a name while the registration is maintained and registration fees are paid. There is no formal link between the domain name registries and national trademark systems, although obviously it is possible for a domain name to correspond with one or more nationally registered trademarks. Most domain name registration agreements require the applicant for registration to be responsible for ensuring that registration of the domain name does not infringe another person's registered trademark.[47]

Ultimately, courts started to be faced with disputes concerning rights in domain names between parties, often geographically situated in different jurisdictions, and with different justifications as to why each had a better claim to the name. Some of the cases involved "bad faith" registrations of domain names to extort money from a trademark holder or capitalize on that person's goodwill.[48] Others involved competing claims between two bona fide trademark holders with similar marks registered in different markets and/or different jurisdictions, where only one of those holders could register the domain name because it is only possible for one person to register a given domain name at a particular time.

Initially, courts had little guidance as to the appropriate legal principles to apply to such disputes. As noted above, there was, and is, no international consensus as to whether Internet domain names are a new kind of intellectual property or merely the subject of a contractual license between the registering authority and the registrant.[49] Whether or not they are regarded as a new form of intellectual property, principles need to be developed on a global scale to arrange priority rights between trademark holders and holders of corresponding domain names.

Attempts at resolving domain name disputes had been somewhat piecemeal prior to the enactment of the UDRP. In the absence of an international treaty, international trademark/domain name register, or any detailed international legal guidance on how to approach these problems, different countries have taken different approaches. Most national courts were faced with trying to modify standard principles of trademark law to apply to disputes involving Internet domain names associated with registered trademarks. This was the obvious approach to take, but it certainly brought with it problems relating to jurisdiction that do not generally arise under traditional trademark law,[50] as well as problems where two parties appeared to have competing legitimate rights to the same Internet domain name.[51]

The most effective approach to domain name disputes appears to have been the UDRP. This is international in scope, but is hardly conventional in approach, as it is a large scale private method of dispute resolution to which parties registering domain names agree to adhere as a condition of registration of a name.[52] It is quicker and cheaper than litigation. However, it is limited to decisions about who has the better right to the name. Orders made are based on this determination: that is, a name will be transferred or not depending on who the arbitrator(s) think(s) has the better right to the name based on stated criteria.[53] The dispute resolution procedure does not affect the ability of parties involved to bring the dispute before a national court.[54]

The apparent success of this procedure, coupled with increasing difficulties in achieving internationally harmonized laws on "information age" assets might point the way to some conclusions about the effectiveness of traditional intellectual property legal regimes in the global economy. It may be that traditional government focused regulatory approaches to intellectual property will no longer be as effective or appropriate in a truly global community than some of the new private approaches that are beginning to develop.[55]

Limitations on Traditional Intellectual Property Approaches

Reasons for the inability of traditional models of intellectual property law to meet the needs of the global community include: (a) divergent views on appropriate uses of intellectual property law in relation to digital age information products amongst different national governments, and (b) lack of developed domestic or international norms relating to some of the new intellectual property issues arising in the digital information age. It may take time, and perhaps lengthy international debates, for such norms to develop and be identified by law and policy makers.

What is occurring now is an increasingly piecemeal patchwork of national case law and legislation amongst different countries on issues like those identified above. There is no sufficient level of certainty about appropriate policy approaches to some of these problems that will meet the needs of all, or at least most, of the affected players in the information society. Different national governments react to pressures brought to bear on them by different lobby groups, and this results in varying priorities and approaches amongst different countries to intellectual property issues in the digital information age.

While this is happening, it is becoming apparent to many that some of these intellectual property laws are poorly conceived, poorly drafted,[56] and/or generally ineffective in practice,[57] as well as potentially creating a situation of less international harmonization of intellectual property laws than has been the case in the recent past. Additionally, a number of these measures are arguably not as effective as their "private ordering" counterparts. Probably the UDRP is more effective than ACPA in that it incorporates many of the same principles, but is a faster and cheaper method of resolving a dispute. Contractual and technological protection measures for information assets will arguably also continue to be an effective private ordering method of protecting rights in those assets without the need for legislation such as the DMCA or the E.U. Database Directive.

This leads to the question as to what intellectual property law should look like in the global information age. Who should be responsible for what? Surely, even if we assume that private ordering is effective in many circumstances, there must nevertheless be some kind of a role for governments, at least in relation to monitoring the private ordering systems and ensuring that they are achieving appropriate results in practice. The final section of this discussion addresses these questions. In particular, it suggests that the new intellectual property system for the information age should incorporate a clearly thought out balance, preferably at the international level, between the role of private markets and the role of national governments in regulating and monitoring the global intellectual property system.

Intellectual Property Law for the Global Information Age

One obvious issue that the domain name example shows us is that regulating and monitoring the intellectual property system in the global age is increasingly becoming a job for enhanced private and government cooperation. The type and amount of disputes that might arise in relation to dealings with information age intellectual property are going to have too great a scope for national governments to deal with effectively on their own, particularly if, in so doing, it is incumbent upon those governments to attempt to achieve some measure of international harmonization. Those governments will have to take their cue from watching the realities of private markets perhaps much more than has been the case in the past.

Additionally, national governments should realize that an important part of their role in relation to intellectual property rights in the information age might relate to *monitoring* the commercial exploitation of those rights to prevent unfair monopolies and undesirable impacts of the creation of information property rights on the public domain of information and ideas.[58] It may be that players in private markets are able to protect their interests in information products to a greater extent than ever before by utilizing available contractual and technological measures, now bolstered with legislative rights such as those granted under the DMCA, the E.U. Copyright Directive, and the E.U. Database Directive. These private market players may, in fact, need less assistance from governments and legislators than those people concerned with the public domain of information and ideas, such as scientists, educators, and reporters on current events. Thus, the role of domestic and international governments should perhaps now encompass, on a more global scale, issues like ensuring that unfair monopolies are not becoming the norm.

It might thus be the case that in the global information age, governments do not have to legislate domestically or globally to create increasingly restrictive intellectual property rights in digital information products. Perhaps governments could leave this largely to the forces of developing technology and sophisticated contractual drafting. Governments might also be able to leave some of the dispute resolution mechanisms in the hands of private parties, as evidenced by the domain name example above.

However, on a local and global scale, the role for the governments in relation to the intellectual property system might increasingly be to act as "guardians" of the global public domain and as monitoring agencies

in relation to how intellectual property rights are being exploited in the modern world. Rather than supporting the creation of restrictive contractual provisions[59] and technological protection measures[60] in relation to information assets, governments might become more concerned with ensuring that those contracts and technical measures do not create an imbalance between private rights and the need for a vibrant public domain in relation to information and ideas.[61]

Conclusion

Returning then to the starting point and to the question whether intellectual property law can survive the information age, there are now a number of possible responses in light of the above discussion. It seems clear that traditional intellectual property systems, based on international treaties enacted into domestic law and enforced in a relatively harmonized way, do not seem to meet the needs of the global information age. They are too slow to respond to fast-paced advances in digital technologies that create new forms of information products and new ways of protecting them against unauthorized interference. Additionally, national governments are increasingly taking divergent approaches on how new international principles are being enacted into domestic law.

It also seems that intellectual property is more and more being protected and regulated through private means so there is less need for this "old fashioned" public international law approach to the regulation of intellectual property in the information age. However, what governments might effectively contribute, in addition to maintaining the basic framework treaties that they have always provided to the global community, is an enhanced local, and ultimately global, monitoring system to ensure that appropriate balances are struck between the creation and exploitation of intellectual property rights in the modern world and the preservation of a sufficient public domain of information and ideas. ●

About the Author

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End Notes

[1] The texts of a number of these treaties are available at the World Intellectual Property Organization (WIPO) website. See http://wipo.org/treaties/ip/index.html.

[2] See, for example, WIPO Copyright Treaty of 1996, art. 4. The full text of this treaty is available at: http://www.wipo.int clea/docs/en/wo/wo033en.htm#P57_5418.

[3] See, for example, J H Reichman and Pamela Samuelson, "Property Rights in Data?" Vanderbilt Law Review, 51 (1997); J.H. Reichman and Paul F. Uhlir, "Database Protection at the Crossroads: Recent Developments and Their Impact on Science and Technology." 14 *Berkeley Technical Law Journal* (1999), 793.

[4] See, for example, 17 U.S.C. 12, §1201; E.U. Copyright Directive 2001/29/EC, art. 6; Jacqueline Lipton, "Copyright in the Digital Age: A Comparative Survey." 27(2) *Rutgers Computer & Technical Law Journal* (2001), 333.

[5] Reichman and Samuelson, supra note 3; Jacqueline Lipton, "Balancing Private Rights and Public Obligations: Reconceptualizing Property Rights in Databases." Forthcoming, *Berkeley Technnical Law Journal (*2003).

[6] See, for example, Matthew Wells, Internet Business Method Patent Policy, 87 VA L REV 729 (2001); State Street Bank & Trust Co v Signature Financial Group, Inc, 149 F 3d 1368 (Fed Cir, 1998); Amazon.com, Inc. v. Barnesandnoble.com, Inc, 73 F Supp 2d 1228 (WD Wash 1999); Amazon.com, Inc. v. Barnesandnoble.com, Inc, 239 F 3d 1343 (Fed Cir 2001).

[7] See, for example, Julie Cohen and Mark Lemley, "Patent Scope and Innovation in the Software Industry." 89 *California Law Review* 1 (2001).

[8] Available at: http://www.icann.org/dndr/udrp/policy.htm, last viewed on March 9, 2003.

[9] 15 U.S.C. 22, §1125(d) (also known as the "Anti-Cybersquatting Consumer Protection Act").

[10] UDRP, *supra* note 8, at ¶4(k).

[11] *See* the *in rem* provisions of the Anti-Cybersquatting Consumer Protection Act: 15 U.S.C. 22, §1125(d)(2)(a); Xuan Thao N. Nguyen,"*The Digital Trademark Right: A Troubling New Extraterritorial Reach of United States Law."* Forthcoming, North Carolina Law Review (2003)—a critical analysis of the *in rem* provisions.

[12] On property rights in domain names generally, *see* Anupam Chander, "*The New, New Property*," 81 *Texas Law Review* 715 (2003); , I. Nathenson, *"Showdown at the Domain Name Corral: Property Rights and Personal Jurisdiction Over Squatters, Poachers and Other Parasites."* 58 *University of Pittsburg Law Review* (1997), 911; (1997); Jacqueline Lipton, "What's in a (Domain) Name? Web Addresses as Loan Collateral." 2 *The Journal of Information, Law and Technology* http://www.law.warwick.ac.uk/jilt 99-2/lipton.html (1999).

[13] See Raymond Ku, Michele Farber and Arthur Cockfield, *Cyberspace Law: Cases and Materials* (2002), 330-336 **.**

[14] World Intellectual Property Organization Copyright Treaty (December 20, 1996), Art. 4 (available at: http://www.wipo.int/clea/docs/en/wo/wo033en.htm#P88_11974, last viewed on March 8, 2003).

[15] See following discussion.

[16] Feist Publications v Rural Telephone Service Co, 499 U.S. 340 (1991) (holding that the expenditure of significant time, effort, resources, etc. in compiling a database did not, in and of itself, meet the "original expression" test for copyright protection).

[17] Telstra v Desktop, FCA 612 (2001); FCAFC 112 (2002). This case is currently on appeal to the High Court of Australia, Australia's highest court of appeal.

[18] 17 U.S.C. §1201.

[19] *id*.

[20] 17 U.S.C. §1201(a)(1).

[21] 17 U.S.C. § 1201(a)(2), 1201(b).

[22] World Intellectual Property Organization Copyright Treaty (December 20, 1996) (available at: http://www.wipo.int/clea/docs/en/wo/wo033en.htm#P88_11974, last viewed on March 8, 2003).

[23] Pamela Samuelson, "Intellectual Property and the Digital Economy: Why the Anti-Circumvention Regulations Need to be Revised." 14 *Berkeley Technical Law Journal* (1999), 530.

[24] Directive 2001/29/EC of the European Parliament and of the Council of 22 May 2001 on the harmonisation of certain aspects of copyright and related rights in the information society (available at: http://europa.eu.int/smartapi/cgi sga_doc?smartapi!celexplus!prod!CELEXnumdoc&numdoc=32001L0029&lg=EN, last viewed on March 9, 2003). Article 6 of this Directive mirrors the idea behind the DMCA.

[25] Copyright Act, Australia (1968), §116A.

[26] Minter Ellison, "Is Encryption Enough Protection?" *Technology News*, (Sept 2002) (available at: http://203.37.30.223/pubdocs/Technology030902.pdf, last viewed on March 9, 2003); Kabushiki Kaisha Sony Computer Entertainment v Stevens [2002] FCA 906 (26 July 2002) (available at http://www.austlii.edu.au/cgi-bin/disp.pl/au/cases/cth/federal%5fct/2002/906.html?query=title+%28+%22sony+computer+entertainment%22+%29, last viewed on March 9, 2003). It should be noted here for completeness that it might be overstating the case to suggest that this case evidences the Australian equivalent of the DMCA being enforced "more flexibly" than the DMCA has been in the United States. In fact, in the Australian case, Judge Sackville avoided the entire question of interpretation of §116A of the Copyright Act as part of the *ratio decidendi* of the decision by holding that the plaintiff[']s (Sony[']s) alleged technological protection measure did not actually meet the statutory definition of a "technological protection measure" so there could be no "anti-circumvention" argument here. Judge Sackville did indicate that if he had found an effective technological protection measure to be in operation, he would have held the defendant's device to be an "anti-circumvention" device within the meaning of §116A of the Copyright Act. Thus, this may not be an example of more flexible approaches to anti-circumvention in Australia, but rather evidence that the question has not yet arisen in an Australian court.

[27] Telstra v Desktop Marketing, *supra* note 17.

[28] Feist Publications v Rural Telephone Service, *supra* note 16.

[29] Directive 96/9/EC of the European Parliament and of the Council of 11 March 1996 on the Legal Protection of Databases.

[30] Most criticisms relate to the broad duration and scope of the *sui generis* database right: Wesley L Austin, "A Thoughtful and Practical Analysis of Database Protection Under Copyright Law, and a Critique of *Sui Generis* Protection." 3(1) *Journal of Technical Law & Policy* (1997), 3; Reichman and Samuelson, *supra* note 3; Reichman and Uhlir, *supra* note 3; Lipton, *supra* note 5.

[31] *See*, for example, discussion in William W Fisher III, "Property and Contract on the Internet." 73 *Chicago-Kent Law Review* (1998), 1203.

[32] *See* Cohen and Lemley, *supra* note 7; State Street Bank & Trust Co v Signature Financial Group, Inc, 149 F 3d 1368 (Fed Cir, 1998); Amazon.com, Inc. v. Barnesandnoble.com, Inc, 73 F Supp 2d 1228 (WD Wash 1999); Amazon.com, Inc. v. Barnesandnoble.com, Inc, 239 F 3d 1343 (Fed Cir 2001).

[33] Convention on the Grant of European Patents (European Patent Convention) of October 5, 1973, Arts 52(2)(c) (available at: http://www.european-patent-office.org/legal/epc/e/ma1.html#CVN, last viewed on March 9, 2003).

[34] 17 U.S.C. § 1125(d).

[35] 17 U.S.C. § 1125(d)(2)(A).

[36] See, for example, the Network Solutions/VeriSign standard Service Agreement for registering a domain name (available at: http://www.networksolutions.com/en_US/legal/static-service-agreement.jhtml, last viewed on March 9, 2003). Clearly, it is somewhat immaterial how private parties describe a right granted under a contract in terms of whether it is a property right or a contractual licence. However, as an interesting historical note, in the early days of the Internet, registering authorities were much more prepared to describe domain names as "property rights" that would be owned by registrants on registration. The registering authorities quickly changed their tune when domain name/trademark cases began to be litigated around the world.

[37] 15 U.S.C. 22, §1125(d)(2)(a).

[38] These problems have been noted in a number of American commentaries on the E.U. Database Directive, notably Reichman and Samuelson, *supra* note 3; Reichman and Uhlir, *supra* note 3.

[39] Reichman and Samuelson, *supra* note 3, at 82 (noting that limited compulsory licensing provisions appeared only in an early draft of the E.U. Database Directive).

[40] Samuelson, *supra* note 23, at 546 (noting that the DMCA is likely to have a chilling effect on a number of legitimate activities because of its current drafting and potentially harsh criminal and civil penalties); Michael Landau, *The DMCA"s Chilling Effect on Encryption Research*, GIGALAW.COM, September 2001 (available at: http://www.gigalaw.com/articles/2001-all/landau-2001-09-all.html, last viewed on March 9, 2003); Universal City Studios v. Reimerdes, 111 F. Supp. 2d 294, 340 (2000) (Judge Kaplan acknowledging that the "possible chilling effect of a rule permitting liability for or injunctions against Internet hyperlinks [under the DMCA] is a genuine concern").

[41] Universal City Studios v. Reimerdes, *supra* note 40.

[42] *id*, at 344-345 (Judge Kaplan was mindful of the plaintiff's argument that granting an injunction against him when the software was so widely available generally was tantamount to "shutting the barn door after the horse has bolted;" however, overall, the judge felt that not granting the injunction would be sending the wrong message to the community at large).

[43] On more recent developments in relation to Jan Johansen who originally cracked the DVD encryption code, *see* "Norwegian Appeals Court to Hear 'DVD Jon' Case", Electronic Frontier Foundation Media Advisory, March 3, 2003 (available at: http://www.eff.org/IP/Video/DeCSS_prosecutionsJohansen_DeCSS_case/20030303_eff_pr.php, last viewed on March 9, 2003). The Motion Picture Association of America has basically pressured the Norwegian Economic Crime Unit to prosecute Johansen under the Norwegian Criminal Code section 145(2), which outlaws breaking into another person's locked property to gain access to data that no one is entitled to access. Johansen was acquitted at first instance and the case has now gone on appeal, although it appears that the appeal is likely to be unsuccessful.

[44] *See* Fisher, *supra* note 31.

[45] *See supra* note 36.

[46] Such as VeriSign/Network Solutions, Melbourne IT, InterNic, etc.

[47] Melbourne IT requires all ".com.au" names to correspond with the business name of the entity seeking to register the domain name: Melbourne IT, *Online Business Guide: Legal Issues with Domain Names* (available at: http://guide.melbourneit.com.au/index.php?id=7&menuid=1, last viewed on March 9, 2003).

[48] *See*, for example, Panavision Int"l, L.P. v. Toeppen, 141 F 3d 1316 (9th Cir. 1998).

[49] *See*, for example, I. Nathenson, "Showdown at the Domain Name Corral: Property Rights and Personal Jurisdiction Over Squatters, Poachers and Other Parasites." 58 *University of Pittsburg Law Review* (1997), 911; Jacqueline Lipton, "What's in a (Domain) Name? Web Addresses as Loan Collateral." 2 *The Journal of Information, Law and Technology* http://www.law.warwick.ac.uk/jilt/99-2/lipton.html (1999).

[50] This is largely because the same trademark can be registered in two different jurisdictions even in relation to the same product or service, whereas a domain name can only be owned by one person at a time.

[51] *id*.

[52] UDRP, *supra* note 8, at ¶4.

[52] UDRP, *supra* note 8, at ¶4.

[53] *id.*, at ¶4(a).

[54] *id.*, at ¶4(k).

[55] This is obviously only one example of a private ordering system, but one might also consider the increasingly widespread use of contract and technological protection measures and private ordering systems for intellectual property rights in digital information assets: Fisher.

[56] Criticisms have certainly been levelled at the drafting of legislation such as the DMCA, the *in rem* provisions of the ACPA, and the E.U. Database Directive: Reichman and Samuelson, *supra* note 3; Reichman and Uhlir, *supra* note 3; Samuelson, *supra* note 23; Lipton, *supra* note 4; Lipton, *supra* note 5; Xuan-Thao N. Nguyen, *supra* note 11.

[57] For example, the injunction granted in the Reimerdes case: *see* note 40.

[58] *See*, for example, Reichman and Samuelson, *supra* note 3, at 52-53 (on the concern about creating powerful property rights in databases in the United States); Jacqueline Lipton. "Information Wants to be Property: Legal Commodification of E-Commerce Assets." 16(1) *Interntional Review Law, Computers & Technology* (2002), 53—on moves in a number of jurisdictions towards the increasing propertization of information products); 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 Technical Law Journal* (2001), 979—on concerns that the DMCA will over-propertize digital information if courts do not take an adequate stance on protecting "fair uses."

[59] Such as arguably occurs under legislation like the recently drafted (and somewhat ill-fated) Uniform Computer Information Transactions Act in the United States.

[60] For example: 17 U.S.C. § 1201; Copyright Act, 1968 (Australia), § 116A; E.U. Copyright Directive, Art. 6.

[61] Lipton, *supra* note 5 (arguing that the government should take on more of a monitoring role in relation to database rights that can assist in protecting the public domain of information and ideas).