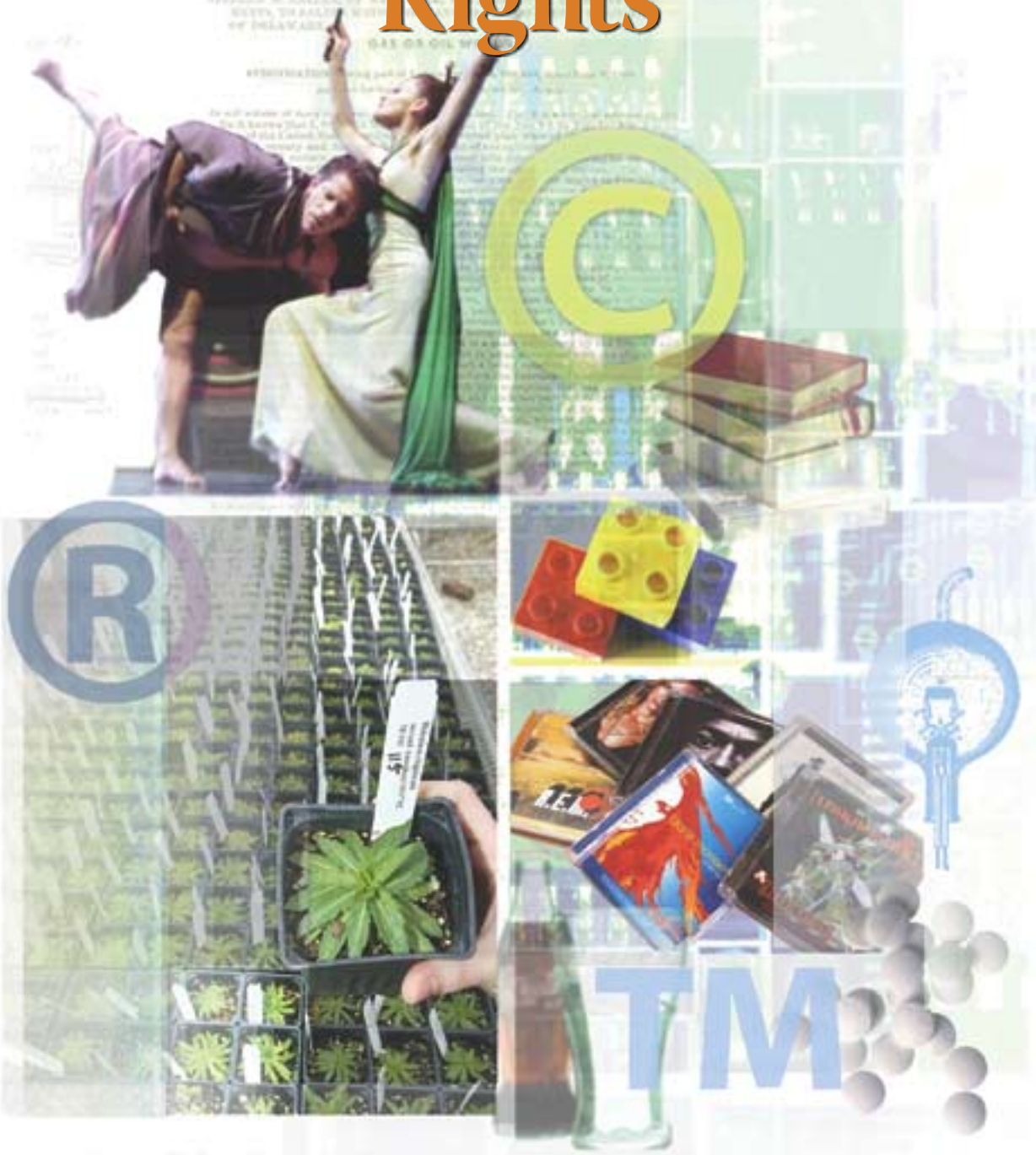
FOCUS

ON

Intellectual Property Rights



FOCUS ON Intellectual Property Rights

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What Is Intellectual Property?

By Thomas G. Field Jr.

THE BOTTOM LINE

"Rum and Coca-Cola," perhaps the best-known Calypso song of all time, became a big hit for the Andrews Sisters in the 1940s. It also sparked a famous U.S. court case brought to establish the authorship of Trinidad musician Lionel Belasco, who had written the song several decades earlier under the title "L'Année Passée." The lawyer acting for the man who published Belasco's original score proved to the court that "Rum and Coca-Cola" was the Creole musician's work and no one else's.

Belasco won recognition for his creation and also received compensation for the unauthorized use of his work because the United States has laws that protect the intellectual property of talented individuals like him and enforces those laws against those who would violate them. If his publisher had sued in a country with weak or non-existent protections, Belasco's search for recognition and compensation would not have had a happy ending.

WHAT IS INTELLECTUAL PROPERTY?

Why do countries such as the United States, Japan, and The Netherlands protect inventions; literary and artistic works; and symbols, images, names, and designs used in commerce: the information and original expressions of creative individuals known as intellectual property (IP)? They do so because they know safeguarding these property rights fosters economic growth, provides incentives for technological innovation, and attracts investment that will create new jobs and opportunities for all their citizens. The World Bank's *Global Economic Prospects Report* for 2002 confirmed the growing importance of intellectual property for today's globalized economies, finding that "across the range of income levels, intellectual property rights (IPR) are associated with greater trade and foreign direct investment flows, which in turn translate into faster rates of economic growth."

In the United States alone, for example, studies in the past decade have estimated that over 50 percent of U.S. exports now depend on some form of intellectual property protection, compared to less then 10 percent 50 years ago.

Intellectually or artistically gifted people have the right to prevent the unauthorized use or sale of their creations, just the same as owners of physical property, such as cars, buildings, and stores. Yet, compared to makers of chairs, refrigerators, and other tangible goods, people whose work is essentially intangible face more difficulties in earning a living if their claim to their creations is not respected. Artists, authors, inventors, and others unable to rely on locks and fences

Left, the cover for the original sheet music for "Rum and Coca-Cola," before Lionel Belasco's publisher won his lawsuit. Below, intellectual property symbols in the United States: copyright (©), registered trademark (®), and trademark (™).

to protect their work turn to IP rights to keep others from harvesting the fruits of their labor.

Beyond making it possible for innovators and artists to be compensated fairly and for countries to attract foreign investment and technology, intellectual property protection is critical to consumers. Most advances in transportation, communications, agriculture, and health care would not exist without strong IP support.

Increased recognition and support of intellectual property also has much to do with the rapidly rising standards of living in countries like China and India. Just a few years ago, India was losing the battle to retain the best and the brightest of its engineers and computer scientists. The lack of protection for their intellectual property was forcing those scientists and technicians to emigrate to countries where their hard work could be protected and kept safe from unfair exploitation by competitors seeking easy advantages. The Indian Parliament finally passed a law in 1999 to protect the intellectual creations of its computer scientists. The result: a burgeoning high-tech industry producing some of the world's

most advanced software and employing thousands of workers who might otherwise have left India for more lucrative parts of the world.

KEY FORMS OF INTELLECTUAL PROPERTY

The key forms of intellectual property are patents, copyrights, trademarks, and trade secrets. Because intellectual property shares many of the characteristics of real and personal property, associated rights permit intellectual property to be treated as an asset that can be bought, sold, licensed, or even given away at no cost. IP laws enable owners, inventors, and creators to protect their property from unauthorized uses.

Copyright

Copyright is a legal term describing the economic rights given to creators of literary and artistic works, including the right to reproduce the work, to make copies, and to perform or display the work publicly. Copyrights offer essentially the only protection for music, films, novels, poems, architecture, and other works of cultural value. As artists and creators have developed new forms of expression, these categories have expanded to include them. Computer programs and sound recordings are now protected, too.

Copyrights also endure much longer than some other forms of IP. The Berne Convention, the 1886 international agreement under which signatory states recognize each other's copyrighted works, mandates that the period of copyright protection cover the life of the author plus 50 years. Under the Berne Convention, literary, artistic, and other qualifying works are protected by copyright as soon as they exist. No formal registration is needed to protect them in the countries party to that convention.

However, the Berne Convention permits copyright to be conditioned, as it is in the United States, upon a work having been created in fixed form. Also, many countries have national copyright centers to administer their copyright systems. In the United States, for example, the Constitution gives Congress the power to enact laws establishing a system of copyright, and this system is administered by the Library of Congress' Copyright Office.

The U.S. Copyright Office serves as a place where claims to copyright are registered and where documents relating to copyright may be recorded when the requirements of the U.S. copyright law are met. For all works, however — even foreign ones — prompt U.S. registration confers important remedial advantages at little cost.

Ready access to those remedies has spawned enormous U.S. entertainment industries. According to the 2004 edition of *Copyright Industries in the U.S. Economy*, by Stephen Siwek, the "core" U.S. copyright industries accounted for 6 percent of the U.S. Gross Domestic Product, or $626.2 billion, in 2002. The report defines "core" copyright industries as newspapers, book publishing, recording, music, periodicals, motion pictures, radio and TV broadcasts, and computer software. In the 2004 report, bookstores and newsstands were added to "core" industries.

Only an author or those deriving their rights through the author — a publisher, for instance — can rightfully claim copyright. Regardless of who holds them, however, rights are limited. In the United States, for example, strangers may reproduce a portion of works for purposes of scholarship, criticism, news reporting, or teaching. Similar "fair use" provisions exist in other countries, too. The scope of this exception is discussed in more detail in the article "What Is 'Fair Use'?" on page 59.

Copyright protects arrangements of facts, but it does not cover newly collected facts as such. Moreover, copyright does not protect new ideas and processes; they may be protected, if at all, by patents.

Patents

One might say that a patent is a contract between society as a whole and an individual inventor. Under the terms of this social contract, the inventor is given the exclusive right to prevent others from making, using, and selling a patented invention for a fixed period of time — in most countries, for up to 20 years — in return for the inventor's disclosing the details of the invention to the public.

The works of composers, writers, and choreographers — such as Martha Graham, the renowned American dancer — are protected by copyright laws. Here, her company performs one of her dances, *Night Journey.*

Legendary blues master B.B. King, left, plays his guitar. His recorded performances are copyrighted, as is most of the music he plays.

This newspaper reader in Belgrade, Serbia and Montenegro, can choose among a large number of newspapers and magazines, all of which are covered by the copyright laws of most countries.

A worker hangs a seven-story Spider-Man on the side of a hotel in Las Vegas, Nevada. Copyright laws protect this superhero character, although the name Spider-Man™ now is also a trademark of Marvel Comics.

Chairman of Open Port Technology, Inc., Randy Storch holds a patent granted to his company for least-cost routing (LCR) technology. His company says LCR reduces the cost of routing messages over the Internet.

Many products would not exist without patent protection, especially those that require substantial investments but, once sold, can be easily duplicated by competitors. At least since 1474, when first granted by the Republic of Venice, patent protection has encouraged the development and distribution of new technologies.

When patents are not available, technology is closely held. If inventors had to rely on secrecy to protect their inventions, much important but undisclosed information often would die with them.

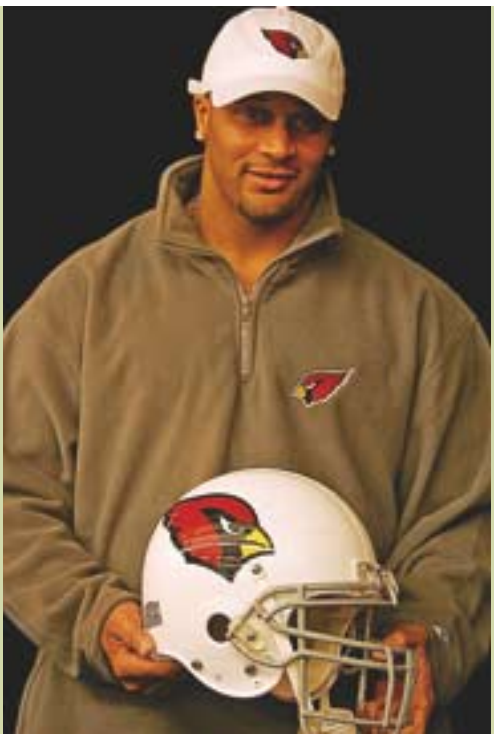
Patents, however, are not easily obtained. Patent rights are granted not for vague ideas but for carefully tailored claims. To avoid protecting technology already available, or within easy reach of ordinary artisans, those claims are examined by experts. Because patent claims vary as much in value as the technologies they protect, applicants must negotiate claims of appropriate defensible scope. (Defensible scope means that applicants must be careful in setting the boundaries of what their invention consists of and what can be protected from infringement in their invention.) This often takes two or more years and is expensive.

Trade Secrets

Any information that may be used in the operation of a business and that is sufficiently valuable to afford an actual or potential economic advantage is considered a trade secret. Examples of trade secrets can be formulas for products, such as the formula for Coca-Cola; compilations of information that provide a business with a competitive advantage, such as a database listing customers; and even advertising strategies and distribution processes.

Unlike patents, trade secrets are protected for a theoretically unlimited period of time, and without any procedural formalities. Trade secrets, however, tend to escape, and protection is not free. Under the best of circumstances, firms must restrict access to premises and documents, educate key employees and government inspectors, and closely monitor publications and trade show presentations. Although secrecy is expensive to maintain, large companies rely heavily on it when patents are not available. The larger the company, the more it needs legal protection for its commercial secrets.

Companies that cannot rely on a country's courts to help preserve important secrets must rely on self-help. They may, for example, severely limit the number of people with access to competitively important information. More likely, information needed for critical



Above, the California Institute of Technology makes money out of patents for the rovers it created for NASA by licensing their image to toymaker Lego for commercial use. Right, Arizona Cardinals football team's running back Marcel Shipp displays his team's trademark-protected new logo on a helmet, hat, and fleece.

operations will be shared only if adequate trade secret protection is available. If not, few, if any, local employees will be trained beyond the level necessary to perform essentially unskilled assembly tasks.

Trademarks

Trademarks are commercial source indicators, distinctive signs that identify certain goods or services produced or provided by a specific person or enterprise. In villages, cobblers' names used to serve that function. Trademarks are especially important when consumers and producers are far away from one another. Children ask for Barbie dolls, Lego building blocks, and Hot Wheels toy cars. Some adults dream of Ferrari automobiles, but more can afford to buy Toyota or Honda brands. These consumers need trademarks to seek or avoid the goods and services of particular firms.

Throughout most of the world, trademarks must be registered to be enforceable, and registrations must be renewed. Yet, while copyrights and patents eventually expire, names of companies that treat customers well become increasingly valuable over time. If trademark rights were to expire, consumers would be collectively harmed as much as owners. Imagine the confusion if unaffiliated firms could sell products under another company's trademark. And consider, for example, the dubious quality of counterfeit and fake drugs and their potential for causing great harm, if not death, to unsuspecting users.

Trademark protection is also widespread in sports, estimated to account for 2.5 percent of world trade. Much support for the Olympics, for example, derives not from copyrighted broadcasts, but from merchandising rights protected by trademarks.

At an earlier time, purchasers of products bearing the names or logos of famous sports teams or events would probably have assumed no connection, much less an endorsement of quality between the sports team and, say, the baseball cap bearing the team's symbol. Increasingly, however, consumers assume both. As early as 1993, U.S. baseball teams alone licensed uses of their trademarks on $2.5 billion in goods.

Other Forms of Intellectual Property

Within the basic forms of intellectual property, many variations and special kinds of protection are possible. Geographical indications, which identify a good as originating in a locality where a given quality, reputation, or other characteristic of the good is essentially attributable to its geographic origin, are an example. Some countries separately protect geographical indications for goods such as French cognac or Scotch whiskey. In

Above, although the ingredients in these soft drinks are public knowledge, the "recipes" for making Pepsi or Coke constitute trade secrets closely held by the Coca-Cola and Pepsi companies. Left, Barbie dolls, here dressed as astronauts, have been popular with young girls for decades. Barbie™ is one of toymaker Mattel's most successful trademarks.

the United States, geographical indications are protected with collective marks and certification marks. They are treated as a subset of trademarks to prevent consumer confusion, as well as to protect business interests. Similarly, in the United States, famous athletes and performers are able to license or to forbid fraudulent or misleading commercial uses of their names and images. Based on trademarks or related, still-developing rights of publicity, well-known figures often earn more from endorsements than from activities underlying their fame.

Also, the ornamental or aesthetic aspects of electrical appliances, chairs, and the like are protected in a variety of ways. Many industrial designs are protected in the United States, Japan, and South Korea as design patents. Other countries — notably in Europe — offer copyright-like protection. In the United States, works having purely aesthetic appeal, such as jewelry or patterns that may be applied to fabrics, are protected by copyright. Moreover, the United States offers two specific types of statutory protection for new plant varieties, as well as protection unique to boat hulls and computer chips. Designs that serve no purpose other than to indicate commercial source may be protected under trademark law.

Bangalore Bio 2005, a three-day biotechnology trade show featuring discoveries by Indian scientists and business opportunities. India's increased support of IPR has helped lift the country's living standards.

EMERGING IP ISSUES: DOMAIN NAMES

The need for new forms of IP sometimes arises, and the assignment of Internet addresses has posed particularly difficult issues. Like telephone numbers, Internet addresses have the basic form "123.456.123." If that were the end of it, there would be no problem.

Because useful directories are so far unavailable, however, most addresses also have an alphanumeric form such as "BBC.uk", "BBC.com", or "yale.edu". The unique part of each ("BBC" or "Yale") is registered as a "domain name." Just as postal addresses indicate unique physical locations, domain names indicate unique locations in "cyberspace."

Various entities control the registration, renewal, and transfer of domain names depending on the final portion of any alphanumeric address. Addresses ending with country codes "fr" or "uk" are subject to the laws of France and the United Kingdom, respectively. Those ending with "edu" are controlled, under agreement with the U.S. Department of Commerce, by Educause, a non-profit U.S. organization. Those ending with "com" and a few other terms have a global reach. They are governed by rules established by the Internet Corporation for Assigned Names and Numbers (ICANN), also under agreement with the U.S. Department of Commerce.

Because domain names often comprise celebrities' or companies' names, trademarks, and the like, few people regard them as merely addresses. In the early days of the Internet, individuals quick to understand this registered many ".com" domain names for sale at hefty premiums. For example, a tourist agency registered "Barcelona.com" as its domain name, a move denounced by the Spanish city of Barcelona, which went on to

establish its superior claim to that domain name. Holders of domain names intending to suggest unauthorized affiliations were condemned as "cybersquatters." Procedures were soon established to prevent misleading registrations or have ownership transferred to others with superior claims of legitimacy.

Under the most favorable circumstances, however, time and money must be spent to have a domain name transferred. Also, many addresses may falsely suggest sponsorship by the same person or firm. Experience has shown that cancelling them is insufficient if others can then re-register. But maintaining registrations of possibly hundreds of spurious addresses is a major waste of money.

Such problems have been alleviated by imposing significant civil and criminal penalties on cybersquatters. Still, some remain beyond reach, and further measures will be needed to halt activities that often mislead computer users throughout the world.

IP MATTERS, VERY MUCH

Although the first international treaties protecting intellectual property rights — the Paris Convention for the Protection of Industrial Property and the Berne Convention for the Protection of Literary and Artistic Works — were reached in the 1880s, coordination across countries for IPR protection remained inadequate until recently.

Intellectual property rights were first included in the Uruguay Round negotiations of the General Agreement on Tariffs and Trade (GATT), 1986-1993, with the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS). TRIPS requires signatories to make it easier for their citizens and others to obtain and enforce IP rights, although it does not deal with domain names as such.

TRIPS member countries should be aware that if their IP laws seem, on paper, to support innovation and protect IP, but in practice do not, they generate little besides cynicism. Conversely, cost-effective means to secure, transfer, and enforce IP rights boost cultural development and standards of living, as well as promote public health and safety.

Although effective IP enforcement serves important economic ends, it also promotes a variety of other common social goals. By providing the opportunity for pharmaceutical companies to recoup investments in research, enforcement of IP rights can help eliminate serious health risks. Besides encouraging the creation of new technologies, patent and trademark laws are useful as well to prevent serious, well-documented harm posed by counterfeit goods. For example, those who consciously palm off medical products under false labels are apt to be unconcerned about whether their goods are worthless or toxic to unsuspecting users.

Local cultures are also at stake. Works by local artists, authors, musicians, and others are often supported in ways that are relatively independent of the need for private risk capital. Yet, even when that is true, they are often displaced by the illegal sale of cheap or free music, movies, and books originating abroad, works that would cost far more if copyrights in such works were locally enforced.

People everywhere who are concerned about cultural growth and preservation, as well as improved health and economic well-being, should understand how IP protection serves those ends. ❧

Professor Thomas G. Field Jr. helped launch the Franklin Pierce Law Center in New Hampshire in 1973. He credits much of his general understanding of intellectual property to students who attend from abroad. The casebook, Introduction to Intellectual Property, *is among his more recent publications. For more information, see: http://www.piercelaw.edu/tfield/tgf.htm.*

Why Protecting Intellectual Property Rights Matters

By E. Anthony Wayne

Intellectual property issues are getting more and more attention these days. Unfortunately, far too often the issues are framed in such a way as to highlight controversy and polarize debate. In fact, there is much about intellectual property protection on which everyone can agree.

To arrive at a fuller understanding of the issue, it is worth spending some time considering how intellectual property rights (IPR) developed and what role they play in achieving widely shared objectives. What comes out of such an examination is the conclusion that intellectual property protection is a vital part of social, cultural, and economic development. Protection of intellectual property rights alone will not necessarily bring about this development. But it is hard to imagine that a country could ever reach these goals in the absence of such protection.

COPYRIGHTS AND CULTURE

We can credit 17th century England with the concept of a "copy right," a law that protects the creative products of authors, artists, singers, and, to reflect developments since the 1600s, filmmakers and software developers. This concept even has been enshrined in the U.S. Constitution, whose Article I, Section 8, Clause 8 reads, "the Congress shall have power . . . to promote the progress of science and useful arts, by securing for limited times to authors and inventors the exclusive right to their respective writings and discoveries."

The essential idea behind a copyright is simple: Artists and creators should be able to enjoy the fruits of their labor for a specified time period, after which the material becomes available for public use. Society benefits because this incentive to create will yield a rich and varied cultural menu for its citizens. Indeed, one can say that copyright protection is a necessary ingredient for ensuring cultural wealth in our societies.

But if copyright protection is important for reaching cultural objectives, then it is equally true that the theft of these copyrighted goods — that is, the pirating of cultural works — is a threat to the creative sectors in our societies. Many international institutions, such as the World Bank, the World Intellectual Property Organization (WIPO), and even the United Nations Educational, Scientific, and Cultural Organization (UNESCO), recognize this link. In fact, if you visit UNESCO's web site (http://www.unesco.org), you will find an entire section devoted to the issue and a list of programs and publications that explain the benefits of copyright to educational, scientific, and cultural policies and provide help in finding ways to fight piracy.

Today's bicycle manufacturers build on the patented work of several 19th century inventors. Here, a tobacco label showing a man riding a "velocipede," the French term for a precursor of the bicycle in the late 18th century.

An illustration by Theodore R. Davis in *Harper's Weekly* magazine (July 10, 1869) shows examiners at work at the U.S. Patent Office in Washington, D.C.

Policemen display some of the hundreds of fake works of art they seized in Milan in 2005, including counterfeit paintings of renowned Italian artists. Governments support artists by conducting raids of counterfeiters' facilities and destroying their fake products.

While there has been much press play recently regarding on-line downloading of music and movies in developed countries like the United States, in fact it is in the developing world that much of the serious damage is being done. Many new musical voices, new authors, and new stories on film around the world have never been made available, simply because the incentives were not there for these artists to take a risk. They have known that whatever they produce will be immediately pirated — stolen — and they will not be provided the means to develop their talent.

This is not an abstract argument: It has happened on all continents. A good example is Hong Kong, where a thriving movie industry was so hurt by rampant piracy that, just a few years ago, observers were predicting it would disappear from the filmmaking map. Today, the industry is in better shape and moviegoers around the world enjoy new and exciting releases primarily because Hong Kong authorities took decisive action to combat the piracy problem. Studios in Bangladesh's "Dhaliwood" movie industry went on strike in March 2004 to protest the problem of piracy and demand action by the government. Similar developments have taken place in the world of music. Ethiopian musicians went on a seven-month strike in 2003 to press for better anti-piracy measures from the government. These artists all understood the importance of protecting their works from pirates.

PATENTS AND INNOVATION

Patents protect diverse inventions such as industrial designs, manufacturing processes, high-tech products, and molecular compounds. Like copyrights, patents were recognized in the U.S. Constitution. The Constitution granted Congress the powers to promote "the progress of science and useful arts" by providing inventors the limited but exclusive right to their "discoveries."

The concept of a patent is based on a trade-off. The inventor or innovator is given the exclusive right to make or use the invention for a limited period of time. In exchange, most countries' rules require the inventor to reveal the method behind the invention so that others may understand and learn from it. After the exclusive period of time elapses, anyone can make, use, or sell the invention. The inventor is granted an economic incentive to take risks and create; the public receives the benefit of the invention, as well as the inventor's knowledge for application in other uses.

Americans have always prided themselves in being a nation of innovators and inventors, willing to try something new, whether in industry or politics. As a result, patents are an important part of America's history. While most American schoolchildren probably do not know that patents are mentioned in the U.S. Constitution, many of them do know from their studies that one of the first patents issued was for Eli Whitney's cotton gin, a machine that was to have a critical influence on America's subsequent development.

But if this is true for America's experience, then it is just as true for other countries, including developing ones. Strong intellectual protection will not only encourage innovation, it will provide the level of confidence in an economy needed to attract foreign investment and spur technology transfer. This has been shown in a number of studies looking at the relationship between intellectual property, especially patents, and development. For example, a study highlighted in the World Bank's *Global Economic Prospects Report 2002* found that "across the range of income levels, intellectual property rights are associated with greater trade and foreign direct investment flows, which in turn translate into faster rates of economic growth." Another 2002 World Bank publication, *Development, Trade, and the WTO: A Handbook*, noted a number of studies which, despite the lack of clear-cut results, did indicate that stronger patent regimes could: 1) lead to increased global trade; 2) attract more foreign direct investment; 3) lead to increased licensing of technologies to, and possibly more local production; and 4) contribute to higher growth rates.

A good example of this today can be found in Jordan, where strengthened patent protection has been linked to tangible economic benefits (see story on p. 28). The International Intellectual Property Institute (IIPI) released a comprehensive report in August 2004 that looked at the establishment of globally competitive pharmaceutical and biomedical technology industries in Jordan. The report found that "Jordan's economy has benefited greatly from the recent adoption of better intellectual property protections," according to an IIPI release. The report noted that the strengthened intellectual property regime, particularly for patents, "spurred a new focus on research-based innovation for Jordanian pharmaceutical companies."

This was reflected in a jump in the health-service contributions to the Jordanian GDP from 2.8 percent in 1997 to 3.5 percent in 2001. Employment in the health-services sector has increased 52 percent since 1997. The report also found that "the pharmaceutical industry represents Jordan's second leading sector, and from 1999 to 2002, drug exports from local firms grew by 30 percent."

TRADEMARKS AND CONSUMER PROTECTION

A trademark is a word, phrase, symbol, or design, or a combination of words, phrases, symbols, or designs, that identifies and distinguishes the source of the goods of one party from those of others. They thus identify the producer of a product and serve as an indicator of quality. They also inform consumers where to seek recourse if the product fails. Some forms of trademarks

A plate from the catalogue of the 1871 London International Exhibition shows an Elias Howe sewing machine, invented in 1845. Howe patented the machine in the United States in 1846, and was able to sue other companies for infringement of his patent rights.

A sketch of Eli Whitney, who invented the cotton gin and patented it in 1793.

A patented device that has brightened our world: American inventor Thomas Edison's filament lamp (1879), with the first practical lightbulb.

A phony Pokemon card, left, held up next to a real one at Nintendo's Redmond, Washington, offices. To fight counterfeiters, Nintendo is training customs officials and police in the United States how to tell the difference between real and fake cards.

Enduring quality: Visitors to the Great Wall in China can still see the original brick maker's mark on some of its bricks. These marks were assurances of quality and accountability to the emperors who ordered the building of this cultural wonder.

When consumers buy counterfeit and pirated goods — in this case, pirated music compact discs (CDs) and movie digital video discs (DVDs) — they lose the authentic manufacturers' assurance of quality and accountability.

Some old packages and containers of Bayer Aspirin, a well-known brand for this pain reliever. The German company Bayer was granted a patent for this wonder drug and launched it on the market in 1899. Aspirin® is a Bayer AG Company registered trademark.

In the United States, copyright protection lasts for the life of the author plus an additional 70 years for works such as books and movies created after January 1, 1978.

The first children's crayons ever made, in 1903, came from Crayola®, now a registered trademark of Binney & Smith.

have been around for thousands of years. Visitors to the Great Wall in China can still see the original producer's mark on some of its bricks. This mark allowed the emperors of that time to be assured of quality and, if needed, accountability.

This assurance of quality and accountability is completely lost when counterfeiters illegally use a trademark and deceive consumers with their goods. When many people think of counterfeit goods, they might bring to mind items such as fake Rolex watches, Zippo lighters, or Louis Vuitton handbags. The counterfeiting of these goods does inflict serious harm on legitimate companies, and it deprives governments of lost revenues. But counterfeiting of trademarks has another serious consequence. It can threaten the health and safety of the public.

The United States is not immune to this aspect of the counterfeiting epidemic. In testimony before the U.S. Senate Judiciary Committee in March 2004, U.S. Assistant Attorney General Christopher Wray provided examples of trademark violations. He noted that, in early 2004, a man from the state of Alabama pled guilty to 28 counts of counterfeiting and pesticide misbranding charges. He sold mislabeled and adulterated pesticides needed to control mosquitoes and, indirectly, West Nile virus, to municipalities and private businesses in a number of U.S. states. The defendant falsely identified the brand name of the pesticide, the manufacturer, and the active ingredients. In another case in 2002, the U.S. Department of Justice convicted a California man on federal charges involving a conspiracy to sell counterfeit baby formula. After exposing thousands in our most vulnerable population to counterfeit baby formula, the defendant fled to Canada in 1995. He was arrested there in 2001 and in 2002 was brought to the United States to stand trial.

Counterfeiting is a serious public health and safety threat in the developing world as well. One of the more tragic stories comes from China. In May 2004, the Associated Press reported from Beijing that 47 people had been accused of selling fake infant formula, an act that authorities said led to the deaths of dozens of children. According to the report, subsequent police raids uncovered thousands of bags of counterfeit milk powder with the labels of 45 different brands.

Counterfeit pharmaceuticals also have become a serious and deadly problem around the globe, especially in the developing world. No one knows this better than the head of Nigeria's National Agency for Food and Drug Administration and Control, Dorothy Akunyili. Her story, which was detailed in a May 2004 front-page article in the *Wall Street Journal*, seems to come straight from an action novel. Unfortunately, it is fact, not fiction. Her work to expose and combat counterfeit pharmaceuticals has led to assassination attempts against her life and arson attacks against her facilities. But she has bravely continued her work, spurred on in part by the personal experience of losing her sister, who died because of a counterfeit insulin injection. She, like many others, has understood the dangers and threats posed by counterfeiting.

IP AND SOCIETY

There is a common thread that runs through the above discussion of copyrights, patents, and trademarks. Promoting cultural development, fostering innovation and growth, and protecting public health and safety are all commonly held goals. We all want to live in societies where these values are cherished and fostered. In the current debate surrounding intellectual property, it is worth remembering the role of intellectual property protection in our daily lives.

The United States believes strongly in the value of protecting intellectual property rights, for the reasons outlined above and more, and stands ready to work with others to promote such protection.

E. Anthony Wayne is U.S. Assistant Secretary of State for Economic and Business Affairs.

A Short Guide to International IPR Treaties

By Paul E. Salmon

Strong protection for intellectual property rights (IPR) worldwide is vital to the future economic growth and development of all countries. Because they create common rules and regulations, international IPR treaties, in turn, are essential to achieving the robust intellectual property protection that spurs global economic expansion and the growth of new technologies.

The international community, however, did not have a single source for intellectual property obligations and norms until the 1994 Uruguay Round of the General Agreement on Tariffs and Trade created the World Trade Organization (WTO) and included the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS).

The significance of the TRIPS Agreement is three-fold:

1) It is the first single, truly international agreement that establishes minimum standards of protection for several forms of intellectual property;
2) It is the first international intellectual property agreement that mandates detailed civil, criminal, and border enforcement provisions; and
3) It is the first international intellectual property agreement that is subject to binding, enforceable dispute settlement. TRIPS, in effect, lays the groundwork for a strong and modern IPR infrastructure for the world community.

As a strong adherent of the TRIPS Agreement and all other international IPR treaties discussed below, the U.S. government encourages other countries to join and implement them.

TRIPS

The TRIPS Agreement came into force in 1995, as part of the Agreement Establishing the World Trade Organization. TRIPS incorporates and builds upon the latest versions of the primary intellectual property agreements administered by the World Intellectual Property Organization (WIPO), the Paris Convention for the Protection of Industrial Property, and the Berne Convention for the Protection of Literary and Artistic Works, agreements that go back to the 1880s.

TRIPS is unique among these IPR accords because membership in the WTO is a "package deal," meaning that WTO members are not free to pick and choose among agreements. They are subject to all the WTO's multilateral agreements, including TRIPS.

TRIPS applies basic international trade principles to member states regarding intellectual property, including national treatment and most-favored-nation treatment. TRIPS establishes minimum standards for the availability, scope, and use of seven forms of intellectual property: copyrights, trade-

The home web page for the World Intellectual Property Organization (WIPO), the international body for the protection of IPR and the administering agency for most international IP agreements.

marks, geographical indications, industrial designs, patents, layout designs for integrated circuits, and undisclosed information (trade secrets). It spells out permissible limitations and exceptions in order to balance the interests of intellectual property with interests in other areas, such as public health and economic development. (For the complete text of the TRIPS Agreement, as well as an explanation of its provisions, see the WTO web site at http://www.wto.org.)

According to TRIPS, developed countries were to have implemented the agreement fully by January 1, 1996. Developing-country members and members in transition to a market economy were entitled to delay full implementation of TRIPS obligations until January 1, 2000. Least-developed members were given until January 1, 2006, to implement their obligations, with the possibility of further transition upon request. Developing countries that did not provide patent protection for particular areas of technology on their date of application were given an additional five years, until January 1, 2005, to provide such protection.

At the 2001 WTO Ministerial Conference in Doha, least-developed countries were given an additional 10 years to implement TRIPS patent and "undisclosed information" provisions as they relate to pharmaceuticals.

Because the TRIPS Agreement is a decade old, however, it does not address several new developments, such as the Internet and digital copyright issues, advanced biotechnology, and international harmonization, the process of creating uniform global standards of laws or practice. It sets the floor for minimum IPR protection, not the ceiling.

Since the conclusion of the TRIPS Agreement, the World Intellectual Property Organization has addressed digital copyright issues in the so-called Internet Treaties, namely the WIPO Copyright Treaty (WCT) and the WIPO Performances and Phonograms Treaty (WPPT).

What follows are summaries of other WIPO treaties that complement the TRIPS Agreement, particularly in addressing new technological developments. For texts of the WIPO treaties discussed below, see: http://www.wipo.int/.

TRADEMARK LAW TREATY

The Trademark Law Treaty (TLT), adopted on October 27, 1994, entered into force on August 1, 1996. Thirty-three states, including the United States, are party to the TLT as of July 1, 2005. The TLT was enacted to simplify procedures in the application and registration process and to harmonize trademark procedures in different countries. The TLT harmonizes procedures of national trademark offices by establishing the maximum requirements a contracting party can impose.

The TLT gives service marks — the distinctive identifiers of businesses that offer a service, as opposed to goods — "equal" status with trademarks. Previously, many foreign countries treated trademarks and service marks differently. The TLT requires member nations to register service marks and treat them as they would trademarks.

From the trademark owner's perspective, the TLT saves time and money in the preparation and filing of documents for the application. It streamlines the process for post-registration renewals, recording assignments, changes of name and address, and powers of attorney. Member countries to the TLT are now required to permit the use of multi-class applications, enabling trademark owners to file a single application covering multiple classes of goods and services.

Another significant feature of the TLT that benefits trademark owners is its prohibition of requirements by national offices for authentication or certification of documents as well as signatures on trademark applications and correspondence. Many countries had required that any signatures submitted in support of registration of a mark be notarized or otherwise legalized in accordance with the laws of that nation. Under the TLT, it is no longer necessary in most instances to go through these procedures. This feature enables trademark owners to complete and file trademark documents more quickly, at less cost.

An additional advantage of the TLT is the harmonization of the initial and renewal terms of trademark registration among signatory countries: The TLT provides for an initial 10-year term, with 10-year renewals.

Other key features of the TLT include the introduction of an intent-to-use application system (with proof of use prior to registration); streamlined renewal procedures; minimization of the elements to obtain an application filing date; and simplified procedures for recording changes in name and ownership of trademark applications and registrations.

Overall, the TLT is intended to facilitate international trade: It is of particular importance to individuals and small businesses looking for markets in other countries. Currently, WIPO's Standing Committee on Trademarks, Industrial Designs, and Geographical Indications (SCT) is conducting negotiations on proposed revisions to the TLT. This standing committee recommended that the WIPO General Assembly hold a diplomatic conference March 13-31, 2006, to consider adoption of the revised TLT.

PATENT LAW TREATY

The Patent Law Treaty (PLT), adopted by WIPO in June of 2000, entered into force on April 28, 2005. The PLT is the product of several years of multilateral negotiations on harmonizing global patent systems. The PLT harmonizes certain patent application procedures in order to reduce or eliminate formalities and the potential for loss of rights. The PLT does not harmonize substantive patent law, that is, the laws of each country that set forth the conditions that must be met in order to receive a patent for an invention in that country. WIPO, however, is holding discussions regarding harmonization of substantive patent law.

The PLT will make it easier for patent applicants and patent owners to obtain and maintain patents throughout the world by simplifying and, to a large degree, merging national and international formal requirements associated with patent applications and patents.

William Hedley developed the system that gave locomotives with smooth wheels sufficient traction. He patented this in 1813, the same year he unveiled his famous steam locomotive, "Puffing Billy," here seen outside of London's Patent Museum (today's Science Museum).

The first Benz motor car, 1888. The German imperial patent 5789 was granted to Karl Benz in 1886 for the design of an "oil spirit motor tricycle."

Berliner gramophone, 1890. Emile Berliner patented a form of recording in which sound waves were photoengraved on a zinc disc in 1887. Eventually, his invention became the basis for the record industry.

The PLT:

- simplifies and minimizes patent application requirements to obtain a filing date;
- imposes a limit on the formal requirements that Contracting Parties may impose;
- eases representation requirements for formal matters;
- provides a basis for the electronic filing of applications;
- provides relief with respect to time limits that may be imposed by the Office of a Contracting Party and reinstatement of rights where an applicant or owner has failed to comply with a time limit and that failure has the direct consequence of causing a loss of rights; and
- provides for correction or addition of priority claims and restoration of priority rights.

PATENT COOPERATION TREATY SYSTEM

The roots of the Patent Cooperation Treaty (PCT) go back to 1966, when the Executive Committee of the Paris Convention for the Protection of Intellectual Property called for a study of how to reduce, for applicants and patent offices, the duplication of effort involved in filing and obtaining patent applications for the same invention in different countries. The resulting WIPO treaty, the PCT, was signed in Washington, D.C., in 1970 and entered into force in 1978. The treaty was amended in 1979, 1984, 2001, and 2004. As of September 15, 2005, there are 128 Contracting Parties to the PCT.

By simplifying patent application filing, the PCT assists innovators in obtaining patent protection throughout the world. It also encourages small businesses and individuals to seek patent protection abroad.

Under this WIPO-administered treaty, nationals or residents of a contracting state file a single patent application, called an "international" application, with their national patent office or with WIPO as a receiving office. This automatically lodges the application for patent protection in all 128 Contracting Parties of the PCT.

The treaty provides a longer period of time, 30 months, before applicants must commit themselves to undertake the expenses of translation, national filing fees, and prosecution in every country in which they

want protection. By providing applicants with more time and information to evaluate the strength of their potential patent and to determine marketing plans, the 30-month period allows applicants to be more selective as to the countries in which they will file. This is a major improvement over the 12-month priority period provided under the Paris Convention for patent applicants.

Under the PCT, WIPO publishes the "international application," together with a nonbinding indication as to the potential patentability of the invention. This nonbinding indication is a preliminary search and/or examination by an "International Authority," one of 11 patent offices designated by WIPO that currently meet the treaty's minimum staffing and documentation requirements. The nonbinding indication helps applicants decide whether to proceed with their patent applications in national or regional offices. Patent offices also benefit from these nonbinding indications of patentability when deciding whether to grant national or regional patents based upon PCT applications. Foreign search reports identify relevant documents that help patent offices to conserve resources in the examination process and to improve the quality of examination.

MADRID SYSTEM FOR THE INTERNATIONAL REGISTRATION OF MARKS

The Protocol Relating to the Madrid Agreement Concerning the International Registration of Marks — the Madrid Protocol — was adopted in Spain's capital on June 27, 1989, and entered into force on December 1, 1995. The protocol is one of two treaties comprising the Madrid System for international registration of trademarks. The first treaty, the 1891 Madrid Agreement, provides for the registration of trademarks in several countries through the filing of one international trademark registration with WIPO in Geneva.

The Madrid Protocol, developed because some countries had problems with the operation of the Madrid Agreement, is seen as an improvement to the system for international registration of trademarks. As a result, more and more trademark owners are using the Madrid Protocol every year to protect their trademarks in foreign countries. As of September 15, 2005, there were 66 contracting parties to the Madrid Protocol.

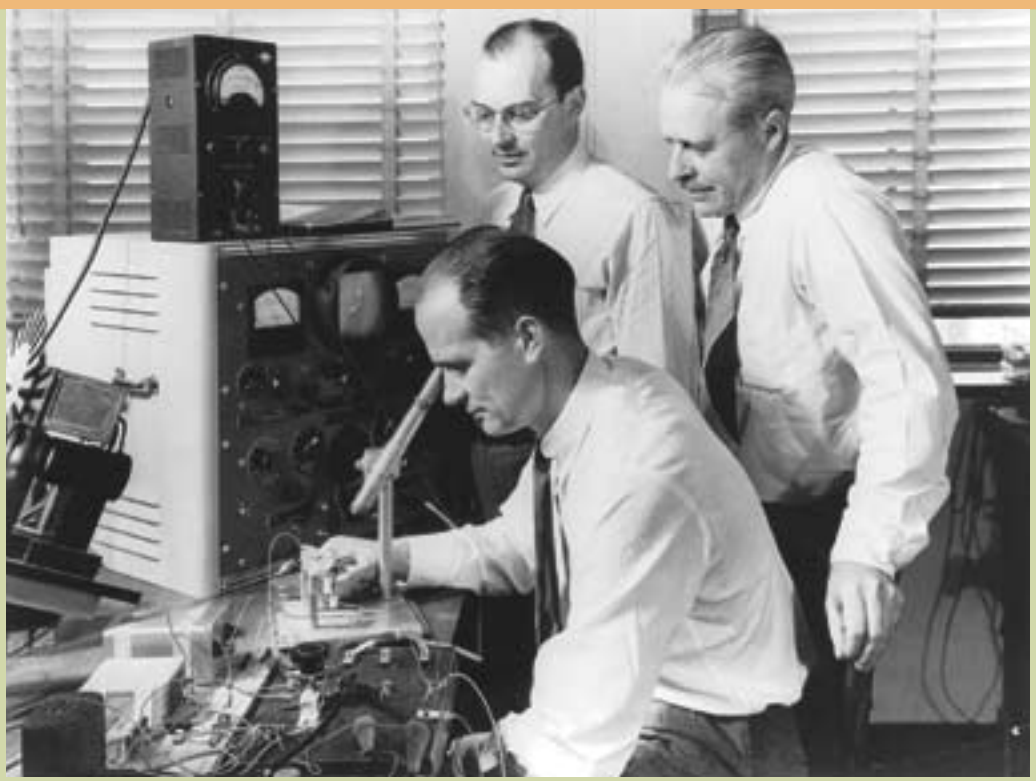
The Madrid Protocol is a filing treaty and not a substantive harmonization treaty. It provides a cost-effective and efficient way for trademark holders — individuals and businesses — to ensure protection for their marks in multiple countries through the filing of one application with a single office, in one language, with one set of fees, in one currency. Moreover, no local agent is needed to file the application. Applications may be filed in English, French, or Spanish.

An application for international registration has the same effect as a national application for registration of the mark in each of the countries designated by the applicant. Once the trademark office in a designated country grants protection, the mark is protected just as if that office had registered it.

The Madrid Protocol also simplifies the subsequent management of the mark, since a simple, single procedural step serves to record subsequent changes in ownership or in the name or address of the holder with WIPO's International Bureau.

Before the protocol was enacted, burdensome administrative requirements for the normal transfer of business assets often made it difficult for trademark owners to carry out valid assignments of their marks internationally. The protocol allows the holder of an international registration to file a single request with a single payment, in order to record the assignment of a trademark with all the member countries. Registration renewal also involves a simple, single procedural step. International registration lasts 10 years, with 10-year renewal periods.

Trademark owners may designate additional countries if they decide to seek protection in more member countries or if new countries accede to the protocol.



Nobel Prize winners Drs. William Shockley (seated), John Bardeen (left), and Walter H. Brattain at the Bell Telephone Laboratories in 1948. Their invention of the transistor spawned the Information Age and, ultimately, the need for new or revised IP treaties to deal with issues such as domain names.

A woman looks at Microsoft® products at a shop in Brussels. Thanks to the Madrid Protocol's improvements to the system for international registration of trademarks, it is easier for companies like Microsoft to protect their marks in foreign countries.

Bakers from Dresden, Germany, have kept the trade secret of the exact components of their Christmas cake for more than 100 years. Only about 130 bakeries and cake shops in that city are allowed to produce these cakes with a seal of quality under a registered trademark, "Echter Dresdner Christstollen."

One of Italy's culinary delights, Parmesan cheese, is typical of the products that the TRIPS Agreement protects under the rubric of geographical indications.

The so-called Internet Treaties — the WIPO Copyright Treaty and the WIPO Performances and Phonograms Treaty — address digital copyright issues that cropped up with the development of the Internet.

IPR protections reward the ingenuity of breeders of new plant varieties.

If the basic application — or registration upon which the international registration is based — is cancelled for any reason in the first five years, the Madrid Protocol gives the holder of the international registration the opportunity to turn the international registration into a series of national applications in each designated country. This series of applications keeps the priority date of the original international registration in each country. The holder also preserves the rights acquired in each member country, even if international registration fails.

THE HAGUE SYSTEM FOR THE INTERNATIONAL DEPOSIT OF INDUSTRIAL DESIGNS

The Hague System is an international registration system that enables owners to obtain protection for their industrial designs with a minimum of formality and expense. A single international application filed with WIPO's International Bureau replaces a whole series of applications previously required in a number of states and/or intergovernmental organizations party to the Hague System. The subsequent management of the international registration is considerably easier under this system. For example, one single step is all that is needed to record a change in the name or address of the holder, or a change in ownership for some or for all of the designated contracting parties.

The Hague System had 42 contracting parties as of April 26, 2005.

BUDAPEST TREATY ON THE INTERNATIONAL RECOGNITION OF THE DEPOSIT OF MICROORGANISMS FOR THE PURPOSE OF PATENT PROCEDURE

The Budapest Treaty on the International Recognition of the Deposit of Microorganisms for the Purpose of Patent Procedure, signed on April 28, 1977, was amended on September 26, 1980. The Budapest Treaty eliminates the need to deposit microorganisms in each country where patent protection is sought.

Under the treaty, the deposit of a microorganism with an "international depositary authority" satisfies the deposit requirements of treaty members' national patent laws. An "international depositary authority" is capable of storing biological material and has established procedures that assure compliance with the Budapest Treaty. Such procedures include requirements that the deposit will remain available for the life of the patent and that samples will be furnished only to those persons or entities entitled to receive them.

The establishment of "international depositary authorities" offers several advantages to both patent applicants and contracting states. Patent applicants benefit because the need to deposit in many countries in which they seek patent protection is dramatically reduced. Since a single deposit in any "international depositary authority" will satisfy the national disclosure requirements of any member state, patent applicants' costs are much lower. Using a single authority as a deposit increases the deposit's security, and provides a mechanism of distribution of the deposit. Contracting states benefit because they can rely on the treaty's uniform standards to assure effective deposit and public availability. They no longer need to independently establish a 'recognized' depositary to meet national patentability disclosure requirements.

As of May 2005, there are 60 Patent Offices that abide by the terms of the Budapest Treaty and 35 "international depositary authorities" in 22 different countries.

INTERNATIONAL CONVENTION FOR THE PROTECTION OF NEW VARIETIES OF PLANTS

The International Convention for the Protection of New Varieties of Plants (UPOV) established an internationally recognized intellectual property system for the protection of new plant varieties. The UPOV Convention encourages and rewards the ingenuity and creativeness of breeders developing new varieties of plants. Anyone who develops a new variety of plant that may be disease resistant, drought resistant, cold tolerant, or simply aesthetically more pleas-

In 2001, WTO gave least-developed countries another 10 years to implement TRIPS patent and "undisclosed information" provisions on pharmaceuticals. Here, a scientist in a lab conducts quantitative analysis of medicine tablets.

TRIPS covers seven forms of IP, including trademarks and patents. Below, the recently updated logo for the Zenith Electronics Corporation. Right, SnifferSTAR, a patented device from Sandia National Laboratories in Albuquerque, New Mexico, intended to detect airborne blister agents and nerve gases.

ing is no less an inventor than someone who improves an automobile engine or develops a new medicinal drug. The only difference is that the plant breeder works with living material, rather than inanimate matter.

The process of creating a new plant variety is often long and expensive. Reproducing an existing plant variety, however, can be quick and relatively easy. Thus, an effective system of intellectual property protection needs to reward innovation by permitting inventors to recover their investment and, at the same time, disseminate the knowledge of that innovation for others to improve upon. The UPOV system establishes basic legal principles of protection that reward breeders for their inventiveness by providing exclusive rights to their plant invention, while encouraging the development of new plant varieties.

Under the 1991 UPOV system, the most recently concluded of these, the exclusive rights granted to the inventor (commonly referred to as "breeder's rights") require that another party other than the owner of the breeder's rights receive the breeder's authorization to:

- produce or reproduce the protected variety;
- condition the variety for propagation purposes; and
- offer to sell or market, import, export, or to stock the protected variety.

To receive a breeder's right, a breeder must invent a plant variety that is new, distinct, uniform, and stable. Under the UPOV Convention, however, a plant breeder generally does not need breeder authorization to use protected plant varieties for noncommercial or experimental acts or acts done for the purposes of breeding new plant varieties. The UPOV Convention also allows each member nation to restrict the breeder's right in relation to any variety to allow farmers to use part of their harvest for subsequent plantings in their own land. These restrictions, however, must be within reasonable limits and subject to the safeguarding of the legitimate interests of the breeder.

UPOV member states hold biannual meetings of the Council, a permanent body of the convention. Other UPOV bodies include the Consultative Committee, the Administrative and Legal Committee, and the Technical Committee, made up of several Technical Working Parties (TWPs) across several agricultural sectors. The TWPs meet periodically to share and discuss observations and advancements in agricultural sectors, which helps to standardize examination standards among member states. These TWP meetings benefit breeders as well, since more uniform standards lead to greater consistency of application filings in different territories.

As of June 29, 2005, there were 59 member States to the UPOV Convention. UPOV membership is expected to continue to increase in the next several years.

For more information on UPOV, see: http://www.upov.int.

CONCLUSION

In the information age, with technology advancing at an accelerating rate, simply implementing the TRIPS Agreement is not enough to establish a robust intellectual property system. While it was the first comprehensive IPR agreement of its time, it is a decade old, and reflects a "snapshot" in time. Technological advances in information technology, biotechnology, and other fields require the updating of national and international laws that protect IP. Fortunately, WIPO has led the way in developing new international norms to meet these challenges.

WIPO also has led the way in simplifying and streamlining the procedures for seeking, obtaining, and maintaining rights in multiple countries. Through its "Global Protection Services" and its harmonization treaties, it saves creators and national IP offices a great deal of time and effort. WIPO also makes available its excellent technical assistance for establishing and improving IPR systems worldwide. Countries should look to both the WTO and to WIPO when crafting their IPR systems.

Paul E. Salmon is a patent attorney in the U.S. Patent and Trademark Office's Office of International Relations. Mr. Salmon also served as the Intellectual Property Attaché in Geneva, Switzerland, where he represented the U.S. government in meetings of WIPO and the WTO. He lectures frequently on the subject of international patent law.

Intellectual Property

Training and Technical Assistance Programs

By Allison Areias

Countries with effective intellectual property (IP) protection reap the benefit of protecting their own intellectual property, as well as creating a positive foreign investment environment. But many countries face serious obstacles to IP protection, such as a lack of IP awareness, inadequate laws, and ineffective enforcement mechanisms, and many do not have the resources to address these issues.

The U.S. government and U.S.-based IP private industries provide extensive training for foreign officials and nationals. During 2003 and early 2004, U.S. trainers sponsored 295 programs, ranging from optical disc forensic training in the Philippines to prosecution and investigation techniques in Egypt. U.S. government IP training providers include the Patent and Trademark Office, the Department of Commerce Commercial Law Development Program, the Department of Justice, the Department of Homeland Security divisions of Customs and Border Protection and of Immigration and Customs Enforcement, and the Library of Congress' Copyright Office. The U.S. State Department funds many training programs, either through the Agency for International Development (USAID), the Bureau of International Narcotics and Law Enforcement, or the Bureau of Educational and Cultural Affairs. These programs include, for example, prosecutorial training, led by the Justice Department, with hands-on instruction on how to try an IPR case and operational training by the Department of Homeland Security to help customs officers to better identify and seize counterfeit goods at ports and border crossings.

U.S. embassies abroad also provide and coordinate IP training programs, as well as public awareness and outreach activities. The State Department invests significant resources to develop the necessary IP expertise in its officer corps overseas, so as to enable them to support our overall training efforts in addition to recognizing IP issues and addressing them through diplomatic channels.

The U.S. private sector is also very active. The Recording Industry Association of America, the Motion Picture Association of America, the Business Software Alliance, the Pharmaceutical Research and Manufacturers of America, the International Intellectual Property Institute, the International Anti-Counterfeiting Coalition, and their member companies and contributors all provide training worldwide. For instance, in December 2004, the International Intellectual Property Institute paired with the U.S. Patent and Trademark Office to hold a three-day seminar in West Africa for over 70 participants, including judges, attorneys, public health experts, and business people from Nigeria, The Gambia, Senegal, Ghana, and Burundi. The participants learned about

U.S. trainers recently sponsored an optical disc forensic training program in the Philippines. Here, Filipino officials from the Videogram Regulatory Board and security forces confiscate boxes of pirated video compact discs from stalls during a raid in Manila.

Web site for the U.S. government IPR Training Programs Database.

the role IP plays in economic development for West Africa, the problems of counterfeit medicines in their region, and how IP acts as a catalyst for the film and music industries in their countries.

Training programs focus on all aspects of IP enforcement, as well as intragovernmental coordination and the importance of strong relationships between the police, IP officials, judicial authorities, and rights holders. Focusing IP enforcement training efforts on smuggling trends and routes is also critical, especially for areas where porous borders facilitate international trafficking in counterfeit and pirated products. With the commercialization of the Internet and the rise of Internet piracy, U.S. trainers also help countries develop the legislative and enforcement framework necessary to address this growing problem.

U.S. government and industry training is catalogued at http://www.training.ipr.gov. The site includes brief descriptions of the training programs and contact information for the training providers. Although many of these programs are for foreign government officials, some are open to the public and offered free of charge.

For more information about IP training, please contact the Office of International Intellectual Property Enforcement, U.S. Department of State, at (202) 647-3251, or at EB/TPP/IPE, Room 3638, 2201 C Street, Washington, D.C., 20520.

Allison Areias is a U.S. Foreign Service officer who served in the State Department Economic Bureau's Office of International Intellectual Property Enforcement.

Jordan Benefits from Intellectual Property Reforms

By Jeanne Holden

Intellectual property rights (IPR) protection can be a powerful tool for economic growth. In Jordan, for example, recent intellectual property reforms have greatly benefited that country's economy in general and its pharmaceutical sector in particular. Jordan's pharmaceutical sector has gained new export markets and has started to engage in innovative research. New health sectors, such as contract clinical research, have emerged, and health-sector employment has grown.

Jordan joined the World Trade Organization (WTO) in 2000, becoming its 136th member. In 2001, it entered the U.S.-Jordan Free Trade Agreement (FTA), the first such agreement between the United States and an Arab trading partner. Through these agreements, the government of the Hashemite Kingdom of Jordan continued a process of comprehensive economic reforms that had been underway for about a decade. In fact, Jordan passed several new laws to improve protection of intellectual property rights prior to its accession to the WTO. "The government of Jordan has embarked on an aggressive program to transform the country from a dependence on foreign aid to success in the era of globalized trade. Trade agreements, legal reforms, and a strong IPR protection regime are all a part of that strategy," according to U.S. Embassy Chargé d'Affaires David Hale in Amman, Jordan.

Laws consistent with the WTO Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS) now protect trade secrets, plant varieties, and semiconductor chip designs in Jordan. Registration of copyrights, patents, and trademarks is required. Copyrights are registered at the National Library and patents are registered with the Registrar of Patents and Trademarks, both part of Jordan's Ministry of Industry and Trade. Jordan has signed the Patent Cooperation Treaty and the protocol relating to the Madrid Agreement Concerning the Registration of Marks, but ratification was still pending in early 2005. Jordan has also acceded to the World Intellectual Property Organization (WIPO) treaties on copyrights (WCT) and performances and phonographs (WPPT).

Jordan's pharmaceutical industry abides by the new TRIPS-consistent patent law. In addition, with the signing of the U.S.-Jordan FTA, Jordan committed to even stronger enforcement of intellectual property rights, particularly in the pharmaceutical sector. According to Economic and Trade Officer Greg Lawless at the U.S. Embassy in Amman, intellectual property rights enforcement has improved in Jordan. "Effective enforcement mechanisms and legal procedures, still not completed, are undergoing further refinement," he said. Although significant challenges remain, Jordan's enforcement action

against audio/video and software piracy is growing in quantity and improving its capability to target problem areas, he added.

According to the Pharmaceutical Manufacturers Association of America (PhRMA), the U.S.-Jordan FTA has made Jordan's market more appealing for pharmaceutical research and development, as well as for sales and licensing agreements. The benefits of the U.S.-Jordan FTA for industry include expanded data protection, elimination of exclusions from patentability for biotechnology inventions, and limitations on compulsory licensing.

In October 2001, PhRMA established an office in Amman to serve the Middle East and North Africa region. It was PhRMA's first presence in the region. Jordan's commitment to free trade and high-standard business practices were decisive factors in the decision, according to Susan Finston, PhRMA's associate vice president. "Jordan was the place where in less than 45 business days we could open an office, get credentials, and have all of the infrastructure and the legal permits that we needed for business," she said.

Many PhRMA members have established or expanded their commercial activities in Amman, including American Home Products, AstraZeneca, Sanofi-Aventis, Bristol-Myers Squibb, Eli Lilly, GlaxoSmithKline, Janssen-Cilag, Merck Sharp & Dohme, Novartis, Organon, Roche, Pfizer, and Schering-Plough.

Several PhRMA members are conducting clinical trials and entering into co-marketing and/or licensing agreements with Jordanian companies. According to the International Intellectual Property Institute (IIPI), a nonprofit economic development organization and think tank based in Washington, D.C., Bristol-Myers Squibb initiated a three-year, 5,000-patient cardiovascular risk factor study in Jordan in 2001. Moreover, PhRMA reports that, in 2004 alone, its member companies carried out 19 clinical trials in Jordan for conditions such as cancer, osteoporosis, diabetes, and cardiovascular disease.

Through clinical trials, it is hoped that more innovative pharmaceutical products will eventually be made available to Jordan's citizens. Rapid introduction of new products would also benefit Jordan's medical tourism sector (a term referring to people who travel to other regions or countries in search of health-care options). According to a recent IIPI report, medical tourism represents two-thirds of total tourism revenues in Jordan. The October 2004 report, *Establishing Globally Competitive Pharmaceutical and Biotechnology Industries in Jordan*, stressed that clinical trials are enhancing physician and hospital skills and, in the process, further enhancing economic growth in medical tourism. It said that a recent survey of patients identified medical expertise of physicians as the main reason medical tourists come to Jordan.

Jordan's leading Hikma pharmaceutical company was the first Arab pharmaceutical company to export one of its products — a non-steroidal anti-inflammatory drug — to the U.S. market.

IIPI produced the report in partnership with the Achievement of Market Friendly Initiatives and Results (AMIR) Program, a project funded by the U.S. Agency for International Development (USAID). According to the U.S. Embassy in Amman, USAID has provided significant amounts of technical assistance to the Jordanian public and private sectors in support of intellectual property rights improvements during the past five years, including assistance in crafting laws and regulations.

At the request of the government of Jordan, USAID also is providing technical assistance to improve the regulatory environment for patents and trademarks. USAID continues to support Jordan's implementation and enforcement of the new intellectual property laws by working with the Jordan Intellectual Property Association (JIPA). JIPA is hosting training programs for the National Library, customs authorities, and the private sector.

"The adoption of stronger intellectual property protection is helping to transform Jordan into the leading knowledge economy in the region," the IIPI report concluded. Growth in Jordan's pharmaceutical and biomedical technology industries has been strong since the implementation of a stronger intellectual property regime, it says. Health-service contributions to the Jordanian gross domestic product (GDP) grew from 2.8 percent in 1997 to 3.5 percent in 2001, and health-services employment has grown 52 percent since 1997, the report said.

The international research-based pharmaceutical industry has greatly increased direct employment in Jordan since 2000, according to the IIPI report. Pfizer said it doubled the number of its local employees. Sanofi-Aventis and Novartis tripled their local labor forces, and Merck increased its employment in Jordan by 500 percent. The IIPI report said this growing multinational presence contributes added value to Jordan's society through activities such as marketing and distribution, sales-force training, and educating health-care professionals and the public. Merck, for example, held some 75 educational programs and academic meetings in Jordan in 2004.

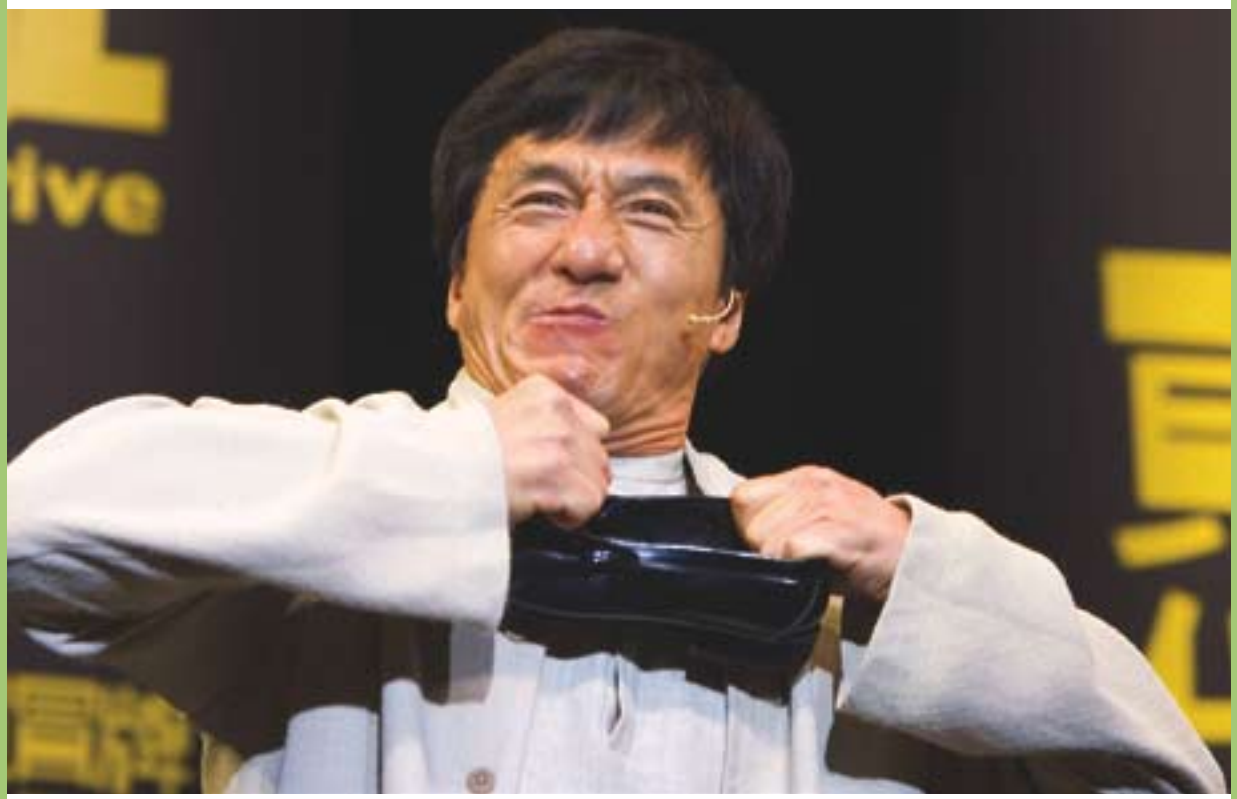
The IIPI report found that Jordan's generic pharmaceutical companies also benefited from stronger intellectual property laws, with drug exports from local Jordanian firms growing 30 percent from 1999 to 2002. Jordan's exports in pharmaceuticals in 2004 will top U.S. $200 million, according to estimates provided by the U.S. Embassy in Amman. When combined with domestic output, total production by pharmaceutical firms easily will be over U.S. $300 million. "This represents a significant improvement over 2003, a year in which economic growth was affected by regional conflicts," Lawless said.

Jordan's experience suggests that intellectual property rights protection can be a powerful tool for economic growth. "Market size, population, geography: None of these is destiny," declared Susan Finston. "Destiny resides in the political will of governments to take up the important challenge of economic reform."

Jeanne Holden is a free-lance writer with expertise in economics and IP issues. She worked as a writer-editor in the U.S. Information Agency for 17 years.

A Message from JACKIE CHAN:

"Fakes Cost More"



Jackie Chan, one of the most famous names in martial arts and action movies worldwide, in his newest role: the scourge of counterfeiters everywhere. At the launch of the "Fakes Cost More" campaign in Hong Kong on June 2, 2005, Chan showed his disdain for counterfeit goods by chain sawing a fake goods store and stripping a mock consumer of all his copied clothes and shoes. The next stops in the campaign will be Europe and the United States.

Counterfeiting is a major growth industry, with a global market valued at U.S. $500 billion. Industry sources estimate the worldwide production of counterfeit products to have soared 1,700 percent over the last 10 years. But the most surprising aspect of this growth is not in the numbers themselves, but the wide variety of industries that have become hotbeds for fakes.

These days, counterfeiting has moved well beyond DVDs — including those of movies I've made — and handbags. Fake products are becoming popular in industries such as food, medicine, toys, even cars and planes. This is enough to cause a threat to our safety, and really quite terrifying to think about it!

I was horrified to discover the existence of fake milk powder. Everyone knows just how fragile babies are, and they need to be protected. These criminals even use fake milk powder to exploit the public to boost their own gain: Selling fake milk powder whilst buying the real milk powder at home. When these people are caught they really need to be punished heavily and made an example of for such terrible crimes.

This is why I am taking part in "Fakes Cost More," a global campaign organized by the International Trademark Association (INTA), in hopes of raising awareness around the world in regards to the level of counterfeit goods infiltration and the danger this poses to all societies. You can do your part, too, by refusing to buy fakes — because they do cost more, for all of us.

TAKING ACTION: How Countries Are Fighting IPR Crime

PERFORMING ARTISTS GROUP WINS IN BELGIAN COURT

A Brussels court ruled against an Internet service provider (ISP) in a lawsuit brought by SABAM, a Belgian group responsible for collecting royalties due performing artists. SABAM claims that this is the first such successful judgment of its kind in Europe. The November 30, 2004, ruling requires that Tiscali, a small but popular ISP, block certain net services that permit Internet web surfers to download music protected by copyright. The judge did not fault Tiscali management for the activity of its site users, but did find that Tiscali had an obligation to halt such infractions of copyright.

SABAM says its goal is to turn off the peer-to-peer trading of data from users' hard drives when on line, a system used by popular sites to facilitate music downloads. Defenders of the Internet users and music traders claim that compliance with the judgment is technically impossible. They liken it to asking for an interdiction of CD writer technology because it could be misused for pirating copies of music. Sources at Universal Music in Brussels, one company that has suffered heavily from Internet piracy, assert that the screening technology does exist, and that ISP companies could filter transmissions made over their systems.

Universal Music estimates that up to 85 percent of the blank recordable digital media sold in Belgium is used for downloads of protected intellectual property, be it music, videos, movies, or software. The Belgian Anti-Piracy Federation, supported by the Motion Picture Association of America, estimates that 250,000 protected movies or videos are downloaded daily in Belgium.

BURKINA FASO TARGETS COPYRIGHT PIRACY

Burkina Faso, which has a vibrant and significant local music industry under assault by cut-rate imported pirated music products, is fighting back. In the fall of 2004, the Ministry of Culture, Arts, and Tourism and the Copyrights Office kicked off a three-day meeting to discuss anti-piracy strategies against the more than 10 million pirated cassettes that enter the country each year, 80 percent of them from neighboring countries. The meeting ended with the incineration of 17,000 pirated cassettes and CDs seized by the Copyrights Office and the Gendarmerie in Ouagadougou and Bobo-Dioulasso.

Before reporters covering the meeting, Mahamoudou Ouedraogo, minister of culture, arts, and tourism, called piracy "a cancer" for Burkina Faso and insisted that pirates should be prosecuted for their crimes.

South Korea's pop band, Shinhwa, performing in Japan. Seoul amended its Copyright Act so as to stem a drastic slide in its music industry's revenues.

A percussionist from Burkina Faso performs at the Saint Louis Jazz Festival in northern Senegal. Burkina Faso's vibrant music industry is suffering from an onslaught of cut-rate imported pirated music products.

Pirated compact discs are flooding many countries' markets, hurting local and international artists. These are confiscated CDs at Pakistan's Federal Investigation Agency in Karachi.

People shop for music, movies, and other goods at a bazaar in New Delhi. A New Delhi court issued a warrant in August 2005 that gives police broad powers to search for and seize pirated movies in any part of the city.

Tallinn, Estonia: The Estonian Organization for Copyright Protection is partnering with other groups to teach the younger generation about the importance of IPR.

More than one million pirated CDs and DVDs were confiscated and then destroyed in this September 15, 2005, anti-piracy crackdown in Jakarta, Indonesia.

The director general of the government's Office for the Rights of Authors, in turn, outlined Burkina Faso's anti-piracy strategy. The strategy will include setting up an independent anti-piracy organization; issuing a common policy with the neighboring countries to secure the borders against pirated goods; setting up a subregional court in charge of copyrights; providing intellectual property rights (IPR) training to judges, gendarmes, police, and customs agents; and pressing criminal charges against pirates and sellers of pirated goods, of which there are an estimated 100,000 in Burkina Faso. The majority of these sellers are street hawkers.

SUPPORTING IPR THROUGH IMPROVED GOVERNMENT-NGO COOPERATION IN ESTONIA

Estonia's Police Board and its Customs and Tax Board signed a cooperative agreement on December 27, 2004, that allows them to improve Estonia's IPR regime through the exchange of information on operations, investigations, and procedures. Both boards also are working more closely with the country's leading IPR nongovernmental organization (NGO), the Estonian Organization for Copyright Protection (EOCP), in gathering information and securing evidence on specific cases of IPR infringement.

EOCP and other Estonian NGOs also work independently to teach the younger generation about the importance of IPR. According to EOCP's managing director, Ilmar Harg, Internet piracy is a more worrisome problem than pirated CDs in Estonia, with an average of 50 web sites closed each month because of pirated content. In November of 2004, the NGO organized a media campaign in Estonia's leading newspapers explaining the criminal nature of IPR infringement on the Internet. The campaign materials reported that, beginning in 2005, the Estonian Police will step up its investigations and prosecutions of Internet piracy, and noted that the Estonian penal code calls for up to three years of imprisonment for those found guilty of Internet piracy.

The Estonian Computer Club, another local NGO that boasts about 4,500 members, is using a U.S. Embassy grant to organize several IPR-related seminars and Local Area Network (LAN) parties for young computer users. The seminars will be held in cooperation with EOCP and the Business Software Alliance.

IN INDIA, A LAW FIRM COMBATS PIRACY WITH NEW STRATEGY

The Mumbai-based law firm of Krishna & Saurastri's new strategy for combating copyright infringement in India is to use the legal system to inconvenience the pirated material manufacturer through persistent search-and-seizure tactics and with recurrent civil and criminal litigation.

According to Sunil Krishna of Krishna & Saurastri, their strategy combats violations in the pharmaceutical, software, audio, and music industries. Owing to what Krishna describes as "the reluctance of local police to pursue" complaints about counterfeited goods, his firm now has turned to the "Anton Pillar" order along with other means to fight piracy. The "Anton Pillar" order allows for the appointment of court receivers to search and seize suspected counterfeit property for custodial purposes without any prior notification to the alleged perpetrator. The court also orders the police to provide protection to the receiver of the goods. Krishna claims that this method has proved extremely successful with pirated software.

After the seizure, Krishna says, he can obtain an injunction against the alleged perpetrator. This will prevent additional manufacturing and/or trading of the counterfeit products. Violating the court injunction is punishable by a minimum of six months to a maximum of three years' imprisonment. Krishna argues that this sentence serves as a deterrent against future counterfeiting operations.

The attorney cites two cases where both civil and criminal statutes were used in successfully eradicating a spurious pharmaceutical product. Krishna said this process is time-consuming, and involves filing hundreds of cases against the manufacturers of

the fake goods. Convinced that it is a successful strategy "guaranteed" to make the manufacturer or trader of illegal goods close up shop permanently, Krishna says that the cost for this approach is less than 5 percent of the legitimate turnover of the company whose goods are being copied.

Krishna believes the government of India could make a few changes that would make his job easier. He favors the continual education of law enforcement officers about piracy. He recommends that Indian Customs be empowered to destroy counterfeit goods, something they cannot do now. He also suggests that pirated goods coming into or going out of India could be prosecuted under the Conservation of Foreign Exchange and Prevention of Smuggling Activities Act. The act allows for a one-year imprisonment without bail for the illegal import or export of any good.

OPTICAL DISC REGULATIONS NOW LAW IN INDONESIA

Former Indonesian President Megawati Soekarnoputri signed Indonesia's first-ever optical disc regulations on October 5, 2004. The long-awaited regulations require producers to register their production facilities, maintain and report production records, and open their factories to unannounced police and/or civil service investigators, among other measures. Then Minister of Industry and Trade Rini Soewandi signed the accompanying implementing ministerial regulations on October 19, her last day in office. In anticipation of a decision by incoming President Susilo Bambang Yudhoyono to split the Ministry of Industry and Trade into two separate ministries, Soewandi issued two separate implementing regulations, dividing issues and responsibilities between the two future ministries.

According to a local Indonesian Motion Picture Association consultant, who worked with Indonesian officials in drafting the new regulations, these will require existing and future companies with optical disc production facilities to:

- Register each of their production facilities, the production capacity at each facility, and manager names at each facility with the Ministry of Industry.
- Hang company signs outside factories in a manner that makes them clearly visible to the public.
- Use and have in their possession only those production molds that are engraved with government-approved source identification codes (SID).
- Keep records of orders, the quantity of polycarbonate (the material used to make discs) purchased, numbers of disc copies produced, samples of each batch of discs produced, and copyright agreements.
- Register with an internationally accredited organization that issues SID codes, such as the International Federation of the Phonographic Industry (IFPI).

The regulations provide for the possibility of administrative sanctions, specifically the removal of a producer's registration. Since the optical disc regulations fall under Indonesia's copyright law, they call for criminal penalties of up to five years' imprisonment. These new regulations went into effect on April 18, 2005.

PARAGUAY: USE OF LAWS, ENFORCEMENT TO PROTECT IPR

Paraguay moved forcefully in 2004 with legislation and enforcement actions that strengthen IPR protection. For instance, the government worked with the private sector and supported the introduction of two draft laws that increase penalties in criminal cases of IPR violations, one law for copyright piracy and the other for counterfeiting. The draft laws increase penalties to five years or more, avoiding provisions for crimes with lower penalties that provide the option of paying a fine in lieu of jail time.

Paraguay's Specialized Technical Unit, designed to act as an intelligence and interagency coordination unit for IPR enforcement, became part of the Ministry of Industry and Commerce, and gained a stronger focus on copyright piracy and falsification. This unit has participated in a significant number of enforcing actions, often in coop-

eration with private sector groups. Reviews of company registration data following increased cooperation (including data sharing) between the ministry and the Customs Service led to the closure of 56 importing companies and the cancellation of 73 import licenses.

A report prepared by the ministry in February 2005 states that between December 2003 through January 2004, for instance, action by the Paraguayan authorities resulted in: 11 million virgin CDs confiscated; 1,600 CD burners confiscated; five cigarette factories raided that were suspected of producing counterfeit cigarettes; three printers raided that were producing cartons and labels for counterfeit cigarettes; four warehouses raided where counterfeit cigarettes were stored; 15 operations resulting in the seizure of various counterfeit products, such as watches, toys, and cell phones; raids of 10 TV cable operator companies engaged in piracy of cable signals; two raids in Market 4 in Asunción, with 11 stores raided and the confiscation of thousands of pirated CDs and DVDs; and the investigation of five major organized crime groups that imported CDs for sound-recording piracy.

The ministry reached agreement in August 2004 with Fox Sports Latin America to cooperate in ending the theft of Fox's programming, among the most popular in Paraguay. The first such agreement signed by Fox in Latin America, it allows Fox and the ministry to use the powers of the country's communications regulator (CONATEL) to revoke the licenses of companies providing pirated cable signals, a more efficient method than relying solely on the courts. Since the agreement was reached, at least four cable TV providers have reached accords with Fox and stopped pirating the signals.

SOUTH KOREA: BRINGING SOUND RECORDING PROTECTION ON THE INTERNET INTO THE PUBLIC EYE

South Korean media headlines in January 2005 on the government's new action to protect sound recordings grabbed the attention of the Korean public. A drastic slide in revenues over the last three years for the music industry in South Korea, including both domestic and foreign rights holders, prompted the government to push through amendments to the country's Copyright Act that require prior permission from rights holders before anyone can download music from the Internet. In an effort to protect the "cultural future" of Korea — especially the

A can of authentic Tsingtao beer (right), from China, displayed beside two similar products marketed in Taiwan. A dispute over alleged piracy erupted when the manufacturer of the product on the left, under a cooperation accord with Tsingtao, argued that the bottle in the center was violating his trademark.

Paraguayan workers unload boxes containing smuggled CDs confiscated during a police action in Asunción, Paraguay.

Taiwan's former Premier Yu Shyi-Kun holds a model of a compact disc as he attends an anti-piracy protest in Taipei. The protesters said rampant piracy of CDs is threatening the survival of the island's music industry.

Taiwan pop singer "Black" shows off his anti-piracy badge.

"Korea wave" of popular music, TV dramas, and films that permeates Asia — the government has been very aggressively raising public consciousness about the new rules.

The Ministry of Culture and Tourism posted information on its web site to inform and educate the public regarding the practical consequences of the new amendments, which went into effect January 17. The web site unequivocally states that only performers and phonogram producers themselves can transmit their performance or phonograms over the Internet or other networks. If the general public, the users, want to transmit phonograms over the Internet, they must seek prior permission from the rights holders. The site lists acts now illegal in Korea, including uploading music files and other copyrighted works onto web sites, mini-homepages, Internet cafes, or blogs, and uploading music files with the purpose of file sharing to closed web sites, mini-homepages, Internet cafes, or blogs. The government's campaign seems to be bearing fruit: Recording companies report that they already have received inquiries from some of the smaller on-line music services asking for a meeting to discuss contract details.

In addition, three National Assembly members are sponsoring a bill to revise Korea's Copyright Act yet again. The bill would grant significant additional rights to producers and performers, including the right of communication to the public. The Ministry of Culture and Tourism's Game and Music Division, in turn, drafted a new Music Promotion Bill for consideration by the National Assembly that would introduce additional protections for sound recordings, as well as authorize the ministry to set up and run an inspection team to investigate and handle illegal phonogram cases.

SRI LANKA'S BIGGEST RAID DISCOVERS ILLICIT DISC-PRINTING PLANT

Although the sale of counterfeit CDs and DVDs is common in Sri Lanka, authorities assumed discs on sale were being imported to Sri Lanka from other parts of Asia. Then, on the night of October 9, 2004, Sri Lankan police investigating other criminal activities raided a previously unknown CD manufacturing plant, Optical Media Pvt. Ltd. Owned and operated by Malaysian nationals, the plant had been in operation since early that year, ironically as a company approved by the Board of Investment, the government of Sri Lanka's foreign investment promotion agency. The police also raided the main bazaar in Colombo and confiscated a large number of optical media products. The news of the raids spread to other counterfeit CD sellers, and most of the shops have stopped displaying counterfeit copies of the Eagle brand produced by the plant.

The plant had counterfeited music, movie, and software products and produced CDs using polycarbonate resin, which will make it possible to calculate the number of CDs and DVDs that were pirated. Informants told the police that a truck had removed approximately 175,000 discs and some stampers the night before the raid. Officials assume that, because of the large number of discs involved and the presence of several hundred Chinese Microsoft discs, the plant must have manufactured illegal discs for export as well as local consumption.

The U.S. Embassy in Colombo reports that its public/private IPR Working Group is helping to coordinate private sector support, including that of Microsoft, for Sri Lankan authorities' continuing investigations.

TAIWAN STRENGTHENS COPYRIGHT LAW

A new law passed by Taiwan's Legislative Yuan on August 24, 2004, closes loopholes in the version they passed in 2003. The new bill makes any technology or information used for circumventing "anti-piracy measures" a crime punishable by up to one year in prison and/or a fine of up to approximately U.S.$8000. It also allows Taiwan Customs to impound goods, pending determination of their authenticity. However, rights holders must still take measures to apply for attachment and/or initiate criminal or civil proceedings to protect their intellectual property rights within three days, or Customs is required to release the goods.

The 2003 law eliminated minimum sentences for counterfeiters, giving judges the discretion to allow violators to pay a fine instead of serving jail time. Most intellectual property pirates saw paying these minimal fines as a justifiable cost of doing business. The new law mandates that those involved in the sale or rent of copyright-infringing optical discs must be imprisoned between six months and five years, and also may be fined between U.S.$16,100 to U.S.$161,000.

The U.S. Approach:

Traditional Knowledge, Genetic Resources, and Folklore

By Jeanne Holden

A U.S. agency negotiates a collaborative agreement with a university research organization in Brazil to study plants in that country as potential sources of drugs to fight cancer.

Members of a Native-American tribe create a digital database in which they record all of their community's cultural knowledge, history, practices, and arts.

A U.S. corporation seeking to study microorganisms in Yellowstone National Park enters a Cooperative Research and Development Agreement with the U.S. government, stating that any benefits of commercialization will be shared.

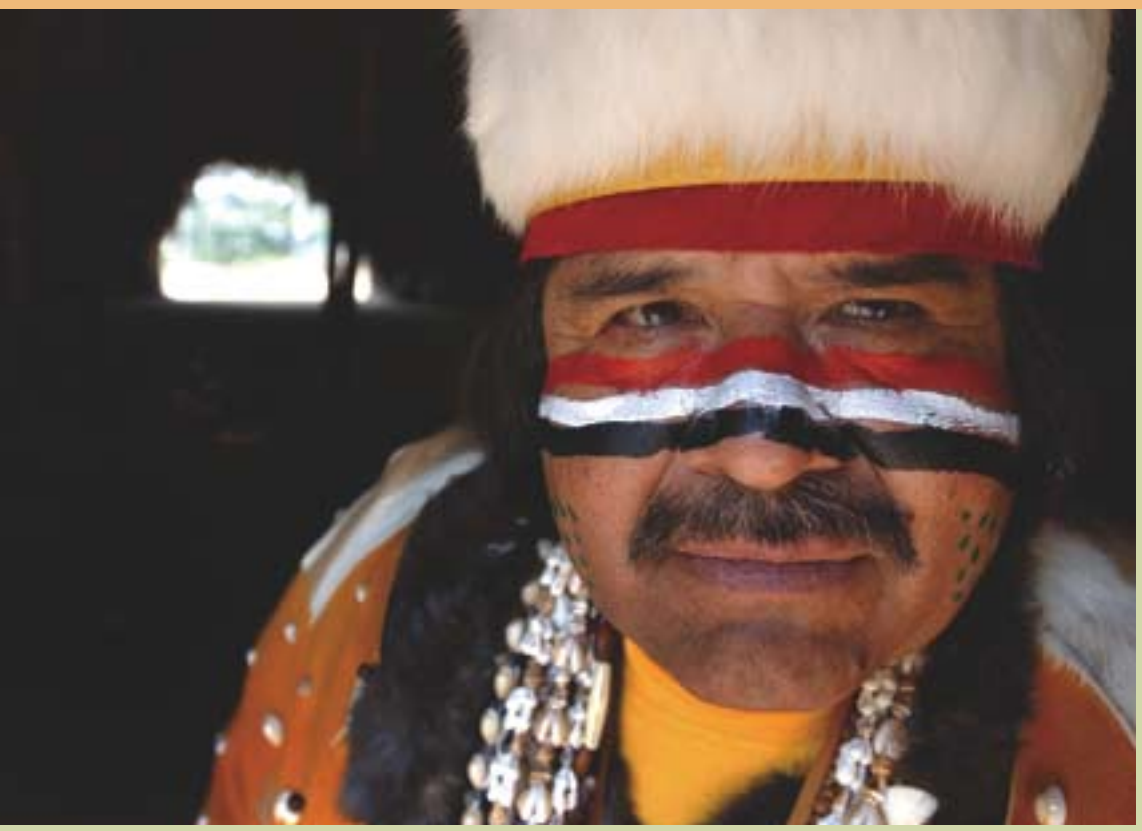
Though these situations may seem unrelated, they have something in common: All are mechanisms aimed at protecting the value of genetic resources, traditional knowledge, and folklore, three elements that are often intertwined in daily life in indigenous communities. A traditional healing remedy, for example, may involve preparing a local plant according to a recipe passed down from generation to generation and consuming it as part of a cultural ceremony.

The United States respects and recognizes the importance of protecting genetic resources, traditional knowledge, and expressions of folklore by facilitating equitable benefit sharing, eliminating erroneously issued patents, eliminating misappropriation of traditional knowledge, and preserving expressions of folklore, says Linda Lourie, an attorney with the U.S. Patent and Trademark Office's (USPTO) International Relations Office.

As a country composed of people from all over the globe, as well as more than 560 Native-American tribes, the U.S. government has had to handle a myriad of concerns regarding these often-complex matters. "We've resolved these issues by national means," Lourie stressed. Some of these solutions utilize existing U.S. intellectual property laws, while others do not. Tribal businesses, for example, use established intellectual property laws, while Native-American expressions of folklore are protected by other types of laws, programs, and even museums.

In the international arena, the United States is at the forefront in developing benefit-sharing agreements with source countries regarding their genetic resources. "We have consistently led the world in negotiating these kinds of arrangements," she said, "and we certainly would encourage other countries to do so."

The United States is eager to share its experiences with other countries in international fora, said Lourie. "But," she cautioned, "each country has different issues that need to be resolved differently. One size does not fit all."



Anthony Morales of the Gabrieleno Native-American tribe, at a powwow in California. The United States has developed a host of solutions to preserve its tribes' traditional knowledge, folklore, and genetic resources.

A variety of herbal remedies, some of which have been traditional healing remedies for centuries.

WHAT ARE THE ISSUES?

In 1993, the Convention on Biological Diversity (CBD) came into force. It represents a commitment by nations to conserve biological diversity, to use biological resources sustainably, and to share the benefits arising from the use of genetic resources fairly and equitably. Article 8(j) of the convention draws a connection among traditional knowledge, folklore, and genetic resources by calling on nations to "respect, preserve, and maintain knowledge, innovations, and practices of indigenous and local communities" and to promote wider application with the approval of the holders of such knowledge and practices.

Since 1993, the international community has been working to better understand and implement Article 8(j) within the framework of the World Trade Organization (WTO) and the World Intellectual Property Organization (WIPO), among others. In these discussions, several developing countries have advocated creating new forms of legal protections for these resources at WIPO. In response, WIPO member states established an Intergovernmental Committee (IGC) as an international forum for discussing the relationship between intellectual property and genetic resources, traditional knowledge, and folklore.

But what is meant by these three terms? Ultimately there is no uniformity in definitions. The term "genetic resources" is defined in the Convention on Biological Diversity, Article 2, as "genetic material of actual or potential value." Genetic material refers to any material of plant, animal, microbial, or other origin containing functional units of heredity.

According to the International Bureau of WIPO, "traditional knowledge" refers to systems of knowledge, generally passed from generation to generation, pertaining to a particular people or territory, and including their creations, innovations, and cultural expressions. By definition, some form of traditional knowledge has existed for a long time. However, such knowledge is not static and can be constantly evolving in response to a changing environment. Traditional knowledge may focus on natural elements such as mineral deposits, location of salmon, healing properties of local plants, land management practices, or agricultural technologies.

The term "expressions of folklore" has also been defined by WIPO for purposes of its discussions. WIPO says this term refers to characteristic elements of "traditional artistic heritage" developed and maintained by a community or by individuals who reflect the traditional artistic expectations of such a community. Expressions of folklore may be oral, as in folktales; musical, as in songs; actions, as in folk dances, plays, or rituals; or tangible expressions, such as drawings, paintings, carvings, sculptures, pottery, woodwork, metal ware, jewelry, basket weaving, needlework, textiles, carpets, costumes, musical instruments, and architectural forms, among others.

The concerns of traditional knowledge holders within the United States and other countries include: loss of traditional knowledge; lack of respect for traditional knowledge; the misappropriation of traditional knowledge, including use without benefit sharing and offensive use; and the need to preserve and promote the use of traditional knowledge. Indigenous communities have many similar concerns regarding their traditional artistic expressions.

Holders of genetic resources worldwide also are largely focused on the issues of "protection," "preservation," and "equity," although even those terms have not been defined uniformly.

There have been calls for the creation of new international legal protections for these resources, but many questions remain unanswered. Who would be the beneficiaries of any protection measures created for genetic resources, traditional knowledge, or folklore? No country, international intergovernmental organization, or person has been able to identify the intended beneficiaries of these sought-after protection measures. Similarly, none has determined what the scope of such protection might be, what would constitute "fair use" or other exceptions of limitations, or even what enforcement mechanisms could be applied. How would an expatriate of an indigenous community from one country profit from, or have the right to use, genetic resources, traditional knowledge, or folklore from her past in her new home? How would combinations of traditions be protected? What about traditions or knowledge that span borders or continents or are universally practiced?

Some countries want to prevent others from using their traditions while others want to commercialize or profit from such use. How could any one system encompass all these interests? And, to make matters even more complex, there is no agreement as to what actual harm would be remedied by new means of protection.

In the United States, tribal enterprises can and do avail themselves of U.S. intellectual property laws, said Eric Wilson, an international program analyst with the U.S. Department of the Interior. The Mississippi Band of Choctaw, for example, holds annual seminars for tribal government and tribal industry managers on intellectual property. The tribe is engaged in manufacturing enterprises and wants to be able to avail itself of relevant intellectual property rights (IPR), he explained.

The current laws of intellectual property rights are not enough to cover all the concerns of indigenous peoples, and such laws alone cannot be expected to do so, Wilson

The National Dance Company of Korea in the traditional dance *Janggochum*. Some countries want IP protection for dances and other expressions of folklore. In the United States, other types of laws also protect folklore.

A Cambodian troupe that performs Khmer classical and folk dance and music.

A worker near Trombetas, Brazil, with new sprouts of native vegetation that will be used to reforest and replenish the country's rich genetic resources.

An ethnobotanist examines a specimen from the Brazil nut at the New York Botanical Garden, which for years collected plants in Latin America under a program that developed benefit-sharing with source countries.

Cecilia Bearchum goes over a binder used to teach Walla Walla Native-American vocabulary and grammar at the Umatilla Indian Reservation in Oregon.

Staff at the University of North Carolina in Chapel Hill's Southern Folklife Collection — one of many U.S. institutions that preserve, protect, and distribute American expressions of folklore.

stressed. "Indigenous values," as they are sometimes called, are quite broad and vary among the tribal communities, with some interests belonging to an entire tribe, a clan, or an individual.

In order to achieve protection of intellectual interests, Wilson suggested that some of the solutions will need to come from the indigenous communities themselves. He said that it would be appropriate for national governments to give legal recognition to customary indigenous law.

TRADITIONAL KNOWLEDGE

One approach taken to respond to traditional knowledge holders, said Linda Lourie, consists of ensuring that patents are not granted on known products or processes, including those that are considered traditional knowledge.

A patent is a grant by a national government to an inventor for the right to exclude others from making, using, or selling his or her invention. To qualify for patent protection in most countries, an invention must be new, it must be useful, and it must not be a trivial extension of what is already known. Some holders of traditional knowledge fear that others will seek patents based on their long-held knowledge and reap the benefits from it. But an applicant trying to patent traditional knowledge likely cannot meet the three necessary requirements, Lourie said. "Traditional knowledge is already known, so if it has been documented; it's no longer new."

According to the U.S. Patent Act (Title 35 U.S. Code, Section 102), if an invention a) was known or used by others in the United States, or patented or described in a printed publication in this or a foreign country before the invention thereof by the applicant for patent, or b) was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of the application for patent in the United States, then it is not entitled to a patent.

"However," Lourie explained, "if our patent examiners in Virginia do not know about traditional practices overseas, they cannot protect them."

Lack of information about a traditional remedy led to a problem in 1995 when a U.S. patent covering the use of the turmeric plant in healing wounds was mistakenly granted to Indian nationals from the University of Mississippi Medical Center. Turmeric has been used for a long time in India to heal wounds, and this had been documented in Indian publications. The Indian Council for Scientific and Industrial Research requested a reexamination of the patent, and the U.S. Patent and Trademark Office revoked the patent for lack of novelty. The ability of a third party to request reexamination and the eventual cancellation of the claims when a mistake has occurred demonstrate that the current patent system works well to correct itself.

The importance of publishing traditional knowledge and making that information available to patent examiners internationally cannot be overemphasized, said Lourie. "If traditional knowledge is documented, that knowledge may not be the subject of a patent, even if it is not widely known in an industrialized country."

The United States is encouraging other countries to create digital databases to catalog their traditional knowledge and protect it from patent attempts. Digital databases would allow patent examiners all over the world to search and examine traditional knowledge. Several developing countries are working toward this end. India and China have been very involved in developing searchable digital libraries of their traditional knowledge, Lourie said. U.S. patent examiners regularly check the international databases that are already in use.

Lourie acknowledged that some traditional knowledge holders might want to keep certain aspects of their knowledge secret or limited to specific individuals or groups. If so, she said, they may want to take steps to guard their knowledge as a trade secret. In the United States, infringement of a trade secret is considered a type of unfair competition.

Within the United States, some Native American tribes are cataloging their tribal values in a way that fulfills the need for documentation and the need to limit outsiders' access to information. According to Eric Wilson, the Tulalip Tribes in the U.S. state of Washington, for example, have developed a sophisticated digital computer inventory, named "Cultural Stories," that delineates who is to have access to what traditional information about their knowledge, history, culture, or practices. Some users have unlimited access, while others, such as U.S. patent examiners, may have limited access.

Some holders of traditional knowledge want to be sure that any new discoveries derived from their traditional knowledge include an equitable sharing of benefits. These communities may want to negotiate contractual benefit-sharing agreements regarding new products or processes created through research using their traditional knowledge. Lourie cautioned, however, that it could be a mistake to expect a windfall from such contracts; to date, very few financial benefits have accrued from commercialization of traditional knowledge.

FOLKLORE

In the United States, expressions of folklore are protected in a variety of ways, ranging from standard U.S. intellectual property laws to laws and programs specifically designed to protect and preserve the cultural heritage of its indigenous peoples.

One mechanism is the Indian (Native American) Arts and Crafts Act, a federal law enacted in 1935 and amended in 1990. This truth-in-advertising law prohibits the marketing of products misrepresented as Native American-made. It covers all Indian and Indian-style traditional and contemporary arts and crafts, such as baskets, jewelry, masks, and rugs. An individual or business violating the act can face civil penalties or criminal penalties or both.

The Database of Official Insignia of Native-American Tribes was established at the USPTO in 2001 in response to Native-American concerns about the preservation of expressions of folklore. Official insignia are not trademarked designs; they are insignia that various federally and state-recognized Native-American tribes have identified as their official tribal emblem. Inclusion of official insignia in the database ensures that an examining attorney will be able to identify

Left, a woman from Almolonga, Guatemala, using a traditional design in her weaving. Above, young students from the Beijing Shaolin Kung Fu School. Monks from the Shaolin monastery in Henan province — considered the cradle of Chinese martial arts — are trying to protect the Shaolin trademark from encroachment by marketers who use it to push products ranging from medicine to cars and furniture.

any official insignia that may preclude registration of a mark where the mark suggests a false connection with the tribe.

In addition, all trademark applications containing tribal names, recognizable likenesses of Native Americans, symbols perceived as being Native American in origin, and any other application that the USPTO believes suggests an association with Native Americans are examined by an attorney at the USPTO who has developed expertise and familiarity in this area.

The U.S. government has taken several other steps to protect and preserve its peoples' expressions of folklore. The American Folklife Center in the Library of Congress was created in 1976 by the U.S. Congress "to preserve and present American folk life" through programs of research, documentation, archival preservation, live performance, exhibition, public programs, and training. The center incorporates the Library's Archive of Folk Culture, established in 1928 as a repository for American folk music. The center holds more than 1,000,000 photographs, manuscripts, audio recordings, and moving images.

The U.S. government also maintains the Smithsonian Center for Folklife and Cultural Heritage to promote the understanding of grassroots cultures in the United States and abroad. Its collection includes many thousands of commercial discs, audiotapes, compact discs, still images, videotapes, and motion picture film. It produces annual folklife festivals, recordings, exhibitions, documentary films, and educational materials.

The newest U.S. effort to protect and preserve Native-American culture is the Smithsonian Institution's National Museum of the American Indian, which opened in Washington, D.C., on September 21, 2004. It is the first national museum in the United States dedicated to the preservation, study, and exhibition of the life, languages, history, and arts of Native Americans.

GENETIC RESOURCES

Throughout the world, many communities are focusing on issues of equity as well as protection and preservation of resources. Those communities have expressed their concern that industrialized-country companies could utilize source-country natural resources for agricultural and pharmaceutical products and assert intellectual property rights claims.

The National Museum of the American Indian in Washington, D.C.

The Jefferson Building of the Library of Congress. Congress created the Library's American Folklife Center "to preserve and present American folklife."

Many others believe that such concerns have been overstated. Where the U.S. government, including the National Cancer Institute (NCI), is involved in genetic resource research in other countries, it enters into benefit-sharing agreements with those countries to gain fair access to genetic resources and/or traditional knowledge, said Linda Lourie. "There are many success stories" involving collaborative agreements and contracts for cooperation negotiated on mutually beneficial terms.

"NCI was ahead of the Convention on Biological Diversity by about three or four years" in negotiating agreements with source countries regarding their resources, says scientist Dr. Gordon Cragg.

Cragg, chief of the Natural Products Branch of NCI's Developmental Therapeutics Program, explained that, in the 1980s, NCI started developing policies for collaborating with source countries on the use of their genetic resources in research aimed at finding more effective treatments for cancer. These agreements provided the source countries with short-term benefits that would accrue without having to wait and see whether promising discoveries were derived from their resources. The benefits included training source-country scientists in NCI laboratories or U.S. universities' laboratories and technology transfer, he said.

"The chances of a discovery becoming a commercial product is usually said to be one in 10,000," said Cragg, adding, "I think that is optimistic."

NCI, part of the U.S. National Institutes of Health, one arm of the U.S. Department of Health and Human Services, functions much like a non-profit pharmaceutical company. Established in 1937, NCI had evolved by the 1950s into a drug research and development center, collecting plants mostly in the United States, Mexico, Canada, and parts of Africa and Europe. In the 1980s, NCI began a collection program for plants and marine organisms in tropical regions.

This was the program in which NCI first developed policies for benefit-sharing with source countries. "We began letting out contracts to high-quality research organizations in the United States for collections overseas," explains Bjarne Gabrielsen, senior advisor for drug discovery and development in NCI's Technology Transfer Branch. "The Missouri Botanical Garden collected plants in Africa, the New York Botanical Garden collected in Latin America, the University of Illinois in Chicago collected in South Asia," he said. "The collections were done mainly in tropical and subtropical countries, mainly developing countries."

At this stage, Cragg's program started using Letters of Collection, agreements among NCI, a U.S. contractor organization, and a collecting organization in the source country. "The U.S. contractor goes into an area, obtains the necessary permits, and collects plants and marine organisms for us" with the source country organization, said Gabrielsen. "The NCI does the extraction and testing." In addition to short-term benefits, NCI requires that, if a promising potential drug is discovered and licensed to a pharmaceutical company, the company must negotiate an agreement so that benefits, such as part of the royalties, will be returned to the country.

Over time, in response to the Convention on Biological Diversity and to greater awareness on the part of source countries about the value of their resources, research organizations and pharmaceutical companies increasingly have adopted policies of equitable collaboration and compensation.

In this, too, NCI has been a leader. In the 1990s, NCI de-emphasized its collections in its plant-derived drug discovery program in favor of expanding closer collaboration with qualified source-country scientists and organizations under agreements called Memoranda of Understanding.

"Where source-country organizations have the skills, expertise, and knowledge and some reasonable infrastructure in their labs, we support them by helping them further their own drug discovery research programs," said Cragg. For example, he said, NCI's Developmental Therapeutics Program

has provided a research organization at the Federal University of Ceara in Fortaleza, Brazil, with the training and cancer cell lines to establish their own cancer drug discovery program. This group is now screening materials from research programs all over Brazil.

"We have five such agreements in Brazil," said Cragg, as well as collaborations with organizations in Australia, Bangladesh, China, Costa Rica, Fiji, Iceland, South Korea, Mexico, New Zealand, Nicaragua, Pakistan, Panama, Papua New Guinea, South Africa, and Zimbabwe.

Through this type of collaboration, the developing-country organization may make a promising discovery in-country, said Cragg. Even if they send NCI a sample for more extensive testing, such testing is regarded as routine and NCI makes no intellectual property claim, he said. "The results are sent back to them and the source-country organization can take out the patent, if appropriate.

"To our minds," stressed Cragg, "it is an ideal process. ... If a pharmaceutical company wants to use the discovery and the source-country organization has the patent, it must negotiate a licensing agreement and the source-country organization can dictate [the] terms.

"By establishing these close collaborations aimed at developing promising treatments for the U.S. and global cancer population, we achieve NCI's mission and also the goals of the Convention on Biological Diversity," said Cragg. "The source country is deriving significant benefit."

Linda Lourie pointed out that the U.S. government also requires a contract when companies want to collect genetic resources from federally owned lands or from the approximately 56 million acres of land the federal government holds in trust for U.S. tribes and individual Native Americans. For example, in order to study unique microorganisms in the hot springs of the U.S. government-owned Yellowstone National Park that can withstand great heat, researchers must enter into a Cooperative Research and Development Agreement (CRADA) with the U.S. government that includes benefit sharing, with milestone payments if the results are commercialized, she said.

"The U.S. view of protection of genetic resources," Lourie said, "is to encourage other countries to establish appropriate access and benefit-sharing regimes that provide benefit sharing on mutually agreed terms." Some countries develop policies limiting access by creating so many barriers as to almost prohibit collaboration, thus ruling themselves out of the potential benefits of collaboration, said Cragg.

CONCLUSION

The United States has developed a wide variety of mechanisms to respond to concerns regarding the protection of traditional knowledge, folklore, and genetic resources. In the U.S. view, intellectual property laws are and should continue to be available to indigenous individuals and peoples who meet the appropriate criteria for such legal protection.

The U.S. government supports the exchange of views on traditional knowledge, expressions of folklore, and genetic resources in international fora, particularly in WIPO, which has the necessary expertise and resources to tackle these complex and technical issues. WIPO activities have included fact-finding missions, case studies and surveys, sample contractual clauses, and examples of databases.

U.S. experts agree that intellectual property protections do not offer a solution for all of the issues involved in the protection, preservation, promotion, and use of traditional knowledge, expressions of folklore, and genetic resources worldwide. In the U.S. view, however, the key to resolving these issues satisfactorily is a solutions-oriented approach rooted in each country's national context.

The Challenge of Copyright in the Digital Age

By Marybeth Peters

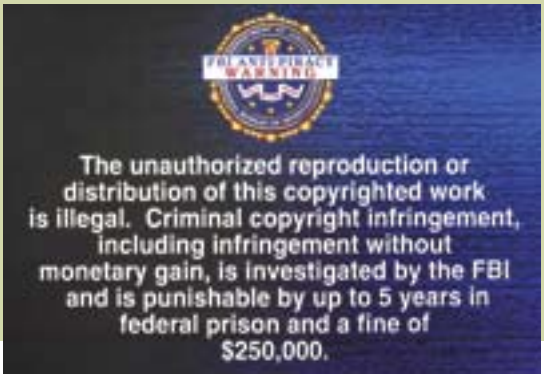
Since its inception, copyright law has responded to technological change. Today, the changes that are grabbing all the headlines relate to digital technology and digital communications networks, such as the Internet and personal computers. These technologies, like many innovations, are both promising and potentially harmful to various parties interested in the use and exploitation of works of authorship, from books and music to films and web pages. There is no doubt that the issues related to achieving the right balance between these interests in light of recent developments are daunting and justifiably can be described as "new" or "unique." But, at the same time, they are merely one step in a journey of continual and successful adaptation that characterizes the history of copyright law. This article examines some of the digital issues faced by copyright law today.

CHARACTERISTICS OF DIGITAL TECHNOLOGIES WITH COPYRIGHT IMPLICATIONS

The technologies that presently are raising issues for copyright law are those related to digital storage and transmission of works. There are a number of aspects to these technologies that have implications for copyright law, including the following:

- **Ease of Reproduction:** Once a work is rendered in digital form, it can be reproduced rapidly, at little cost, and without any loss of quality. Each copy, in turn, can be further reproduced, again without any loss of quality. In this way, a single copy of a work in digital form can supply the needs of millions of users. We have seen how the compact discs (CDs) containing the original digital versions of recorded music and sold to consumers in the '80s and '90s have become the "masters" from which billions of copies have been made and distributed on computers and on the Internet in this decade.
- **Ease of Dissemination:** The emergence of global digital networks allows the rapid, worldwide dissemination of works in digital form. Like broadcasting, digital networks allow dissemination to many individuals from a single point (although, unlike broadcasting, digitized materials need not reach each individual simultaneously). However, digital networks allow each recipient on the network to engage in further dissemination of the work, which can cause the work to spread at a geometric (sometimes called "viral") rate of increase. This, combined with the ease of reproducing works, means that a single

Copyright law in the United States and in other countries is coming to grips with new digital technologies and communications networks, such as the Internet and personal computers.



U.S. Federal Bureau of Investigation (FBI) anti-piracy warning text, for display on digital and software intellectual property.

digital copy of a work can be multiplied many thousands of times around the world within a few hours. When transmitted through high-speed transmission lines, like coaxial cable networks or even fiber optic lines, the process is even faster, and the capacity for the transmission of works grows as well.

- **Ease of Storage:** Digital storage is dense, and it gets denser with each passing year. Ever-increasing quantities of material can be stored in a smaller and smaller amount of space. In the early 1990s, CDs, which can store over 600 megabytes of data, were perhaps the predominant form of digital storage used by commercial pirates for storing entire libraries of computer programs or sound recordings with aggregate retail values in the millions of dollars. Today's popular iPod portable music player can store nearly 70 times that amount (around 10,000 songs) in a device the size of a cigarette pack.

NEW FORMS OF EXPLOITATION ... AND ILLICIT COMPETITION

The revolution in the way new technology can reproduce, disseminate, and store digital information, including copyrighted works, is truly a double-edged sword for authors and rights holders. On the one hand, it can provide for new and exciting ways for authors to provide copies of their

works in convenient, inexpensive ways to a much larger audience than in the past. For example, a recording artist can put his or her music on a web site that can be accessed by fans from around the globe, without a large investment in manufacturing, packaging, and shipping physical products to these remote locations. On the other hand, these new technologies make it easier for pirates and those who want to compete illicitly with that author to make and distribute infringing copies of the work.

The challenge of copyright in the digital age is to preserve the author's and rights holder's incentive to create new works and use new technologies to distribute them to users and consumers in the face of such a competitive threat from the illicit use of technology by infringers. It also involves making sure that beneficial uses of works are not being needlessly stifled by a copyright system rendered inefficient by the advance of new technology. This article describes how the United States has met this challenge in the past, and how it may meet it in the future.

COMMON THEMES

This article mentions several common themes in the approach that the copyright law of the United States took to past technological changes, and how challenges posed by those once-new technologies were addressed.

Embracing New Forms of Expression:

Time and again over the last two centuries, the subject matter of copyright has embraced new forms of authorship. Photography, cinematography, electronic databases, and computer programs are some examples. In each case, policy-makers ultimately were able to look beyond the particular technology or medium of expression in order to recognize the common thread of creative authorship that runs through all of copyright.

Maintaining the Framework of Exclusive Rights:

A fundamental tenet of both national and international systems of copyright is that authors are entitled to exclusive rights over certain activities (e.g. reproduction, distribution, or performance) involving their creative

U.S. official William Lash III shows pirated copies of DVD movies to journalists. Once a movie is rendered in a digital form, it is easy for commercial pirates to reproduce it rapidly and at little cost.

A billboard for the Apple iPod, which can store around 10,000 songs, nearly 70 times the amount that CDs can hold.

works. These rights allow the author to preserve both his economic and non-economic interests in his creative works, which, in turn, promotes literary and artistic creativity and benefits the public welfare. This same principle is recognized in a provision of the U.S. Constitution authorizing Congress to grant exclusive copyrights "To promote the Progress of Science and useful Arts." As new technologies have expanded the means by which works may be exploited, policy-makers periodically have had to reexamine the exclusive rights granted to authors under copyright, to ensure that authors and owners of copyright continue to exercise exclusive control over their works.

On occasion, a more expansive interpretation of existing rights is the answer. In the United States, for example, an existing right of public performance was interpreted to include radio and television broadcasts. On other occasions, new rights have been added to the copyright bundle, as when rights of communication to the public were added to the primary international copyright treaty, the Berne Convention, in response to the advent of broadcasting.

At the same time, legislators have had to examine the nature and scope of exemptions from exclusive rights. For example, the limited exemptions for reproduction of computer programs contained in Section 117 of the U.S. Copyright Act were considered an appropriate means of tailoring exclusive rights to the need of that technology, namely, the need to make copies in the course of authorized use and the need to make backup copies to guard against mechanical failure or accidental erasure. Similarly, in 2002, the United States revised and adapted exemptions for educational use of works to accommodate new "distance learning" technologies that allow teachers to reach students via communications networks like the Internet.

In short, new technologies often prompt debate about whether the set of exclusive rights granted to authors and rights holders should be modified, either with new or broadened rights or new or broadened exemptions, to continue to serve the purpose of copyright.

U.S. rapper Ludacris surveying his songs on a pay-for-download music site.

Market-Driven Solutions:

One reason that a system of exclusive rights like copyright has been so successful throughout history at providing the means to support creative activity is that it allows copyright owners to rely on the marketplace to find financial support for their creative endeavors. In particular, where technological change is very rapid, the flexibility of the marketplace is often the most efficient way to make sure that works continue to be created and disseminated to the public.

Any marketplace will have its inefficiencies, however, and it is a challenge for countries to try to address them. For example, an exclusive right does not necessarily benefit a rights holder if inefficiencies in the marketplace make the exercise of the right impracticable. The exploitation of public performance rights in musical works is a classic example in the United States. Typically, the value of any single public performance of a musical work is small. The class of users, which includes broadcasters, bars, restaurants, supermarkets, and the like, is extremely large. In aggregate, the value of this form of exploitation is substantial, but so is the cost of administering rights over such a large base of users.

This inefficiency of the marketplace has largely been overcome in the United States through a familiar market-driven solution: collective administration of the right of public performance. In this system, collecting societies collect license fees from each user and then distribute these payments to the writers and publishers. For example, in the United States, performing rights societies such as the American Society of Composers, Authors, and Publishers (ASCAP) and Broadcast Music, Inc. (BMI), grant blanket public performance licenses to many venues and distribute the income from these licenses to their members.

A similar approach is being attempted for administering reproduction rights — photocopying, electronic copying — with some success. For example, in this area the Copyright Clearance Center has filled a void in the marketplace and acts as mediator to license a wide range of uses. Compulsory licensing, where the government creates and administers a license for the use of copyrighted works, is another approach to purported inefficiencies of the marketplace. For example, in the United States, Sections 111 and 119 of the Copyright Act grant compulsory licenses for the retransmission of broadcast television signals because of the high transaction costs associated with obtaining necessary permission for such retransmissions.

The U.S. experience in this area has shown, however, that the best forms of collective management of copyright are those that retain as many characteristics of a marketplace of exclusive rights as possible. This requires that any system of collective administration be voluntary, non-exclusive, and responsive to market forces (including market forces brought on by technological change). All three of these factors point toward private entities operating within a competitive environment for collective administration of rights. In addition, the third factor suggests that collective administration of rights should be decentralized in order to account for different market conditions in different countries.

Moreover, the imposition of a compulsory license administered by the government can be costly to society. First, a compulsory license is a significant derogation from the norm of exclusive rights. Second, a compulsory license can cause significant distortions in the marketplace, since it serves to control prices, both directly through the mechanisms for setting royalty rates and indirectly through the control of supply. Third, once a compulsory license has become established, a web of reliance interests builds up around it, making it extraordinarily difficult to eliminate even after the conditions that justified its adoption cease to exist.

For all of these reasons, compulsory licenses are permitted sparingly under international copyright treaties and should be approached with great caution at the national level. Market failure, such as in the cable and satellite retransmission market where transaction costs are prohibitively high, may be one justification for use of a compulsory license.

Members of the rock band Transmatic, who signed a deal with Virgin Immortal Records after being "discovered" in cyberspace.

A digital camera from Kodak, one of the many companies that are offering new products and services for the digital age, including Picture CD software and on-line photo-sharing services.

Chinese pop singer Zhang Jie in Beijing April 19, 2005, during an event to promote a Chinese music distribution platform that adheres to international IPR standards by promoting distribution of legitimate products.

EARLY CHALLENGES

The advent of digital technology posed a number of challenges to the international copyright community.

Maintaining the Framework of Exclusive Rights

Because of the degree to which advances in digital technology have facilitated rapid, widespread reproduction and dissemination of works, the international community has paid significant attention in recent years to the need to adjust the existing framework of exclusive rights to address issues of new technology. The conclusion internationally has been that the existing framework is generally adequate to accommodate the new technologies and needs minor revisions rather than a major overhaul. This is reflected in the modest, though important, scope of the WIPO Copyright Treaty (WCT), concluded shortly after digital technology started to become prevalent.

The WCT requires member countries to recognize certain exclusive rights designed for activity that takes place over new digital communications networks like the Internet. Among other things, it requires that authors enjoy a right of communication to the public, including the right of "making available" their works, such as providing downloads from an Internet web site. While many existing copyright laws provide such a right through the more traditional rights of reproduction or performance, the WCT made clear that such a right, in whatever form, must be granted to authors.

Technological Adjuncts to Copyright Protection

While the WCT leaves the existing framework of exclusive rights largely intact, it does contain provisions, relatively new to international copyright agreements, on technological adjuncts to copyright protection. These adjuncts are intended to further the development of digital networks by ensuring that copyright can be meaningfully enforced and licensed online.

Under the WCT, countries must put effective legal remedies in place against the circumvention of technological measures that owners use to safeguard their rights. Countries must also provide legal remedies against persons who delete or alter rights management information attached by the copyright owner to the work. In the United States, the principal change to U.S. law in the legislation implementing the WCT was the addition of provisions on technological adjuncts to copyright protection. Title I of the Digital Millennium Copyright Act (DMCA) created a new form of liability for circumventing technological measures that restrict access to protected works, or that control reproduction, distribution, public performance, or public display of protected works.

The WCT, therefore, recognizes that owners cannot rely on technological measures alone to protect their works, because every technical device can be defeated by someone who is determined to access a work. In other words, while the framework of existing property rights continues to be appropriate, the meaningful exercise of these rights in the context of new uses, such as those on the Internet, requires supplementing them with legal rules that prohibit the compromise of their technology.

Markets and Management of Rights

As discussed above, collective management of rights is a market response to the inefficiencies of individually licensing rights to large numbers of works to large numbers of users, where the value of any individual use is relatively small. Traditionally, individually licensing such works would result in transaction costs that exceed the value of the license.

At first blush, collective management of rights appears to be an attractive approach to managing rights to at least some works on digital networks. It's unclear, however, to what extent the same conditions apply. The information infrastructure that permits rapid, inexpensive dissemination of works may also enhance the ability of rights holders to manage rights individually. The private sector currently is working to create technolo-

gies that facilitate individual transactions between rights holders and users. The intensive use of automation could reduce the cost of such a transaction to levels that would make individual rights management economically feasible. Alternatively, or additionally, such technologies could be used within a framework of collective management as a supplement to traditional blanket licenses.

For these technologies to meet their full potential in the marketplace, however, they must be allowed to develop with minimal interference. Market forces — and not governments — must determine whether collective management of rights, individual management of rights, or some combination prevails.

FUTURE CHALLENGES

Determining the Proper Scope of Secondary Liability in the Digital Age

Another interesting facet of the rapid evolution of digital technologies in the past decade is the personal nature of the new technology. A single individual, with very little investment, now can copy and distribute millions of copies of works over the Internet, especially works that can be digitized easily, like music or motion pictures or photographs. In the United States, we have seen companies deploy peer-to-peer networking technology to take advantage of this fact, essentially enlisting millions of consumers into a network of copyright infringement on a scale never seen before. The fact that the activities of many individuals can cause massive, large-scale infringement raises serious questions about enforcement. It is quite difficult for copyright owners to identify, locate, and bring enforcement actions against the vast number of individuals who might be infringing their works. And even if the owners could bring such actions, it is unlikely that such individuals would be able to pay for the damage their actions have caused.

In an effort to address efficiently the infringement in these circumstances, U.S. copyright owners have turned to doctrines of secondary liability to hold the facilitators of these networks liable for the infringement. These companies, such as the old Napster, Aimster, Grokster, Morpheus, and Kazaa, provided software and services to users, and earn advertising dollars based on the size of the audience the infringing activity attracts. Secondary liability doctrines have long been part of the U.S. common law of copyright. They provide an effective means of enforcement by placing liability on those who are benefiting from the infringement and are in a position to control or restrain it. These doctrines may play a much more important role in copyright in the future, as more and more technological developments permit companies to take advantage of individuals' infringing activity.

The various cases brought against such companies suggest the courts may be having trouble finding the appropriate standard for secondary liability in the digital age. In the United States, the prospect of secondary liability for copyright infringement traditionally was an important safeguard that discouraged businesses from using copyrighted works as a "draw" for customers without permission. This prospect of liability, however, had to be balanced by the courts with freedom to engage in largely unrelated areas of commerce.

The U.S. Supreme Court addressed these issues more than 20 years ago in the case of *Sony Corp. of America v. Universal Studios, Inc*. Ever since then, this case has guided the courts in the proper application of the doctrine of contributory infringement. *Sony* involved the sale of the Betamax videocassette recorder, which purchasers used to "time-shift," that is, to record broadcast television programming for viewing at a later time. The Court found no contributory liability, saying that there would be no such liability as long as a product was capable of "commercially significant" or "substantial non-infringing uses." Since the Court found that the predominant use of the Betamax was non-infringing, it did not need to further clarify what it meant by "substantial non-infringing uses." However, the Court did acknowledge that copyright owners are entitled to effective, not "merely symbolic," copyright protection.

Most recently, in *MGM Studios v. Grokster*, the U.S. Supreme Court addressed whether the providers of peer-to-peer software could be held liable under secondary copyright liability theories. The Court ruled unanimously that such providers could be held liable if they "distribute a device with the object of promoting its use to infringe copyright, as shown by clear expression or other affirmative steps taken to foster infringement." In other words, if a technology provider induces its customers to infringe copyrights, it can be held liable for that infringement. The Court instructed lower courts to examine all the facts and circumstances to determine whether such inducement took place, and held that the rule in the *Sony* case does not prevent liability where the defendant has been found to have induced infringement. This rule should allow copyright owners to obtain effective enforcement of their copyrights against software and service providers who seek to encourage and profit from copyright infringement. Many commentators have already called this case one the most important in the history of U.S. copyright law.

As an international matter, there is very little uniformity among national laws as to secondary liability, whether it be liability for a company that uses peer-to-peer technology to encourage infringement, or, as the United States addressed in Title II of the DMCA, an Internet service provider that provides facilities used by others to infringe. This may be an area that warrants examination concerning international standards for such liability, especially given the global nature of the Internet, where a company can set up an infringement-facilitating operation that serves customers throughout the world from one country. Maintaining effective protection for copyright in the digital age might require such international standards.

Reducing Inefficiencies for Subsequent Users

As we have seen over the past decade, the Internet provides the individual with access to a vast reservoir of information of all types, from text to photographs to music to audiovisual works. Moreover, digital technology also provides that individual with the ability to become an author by creating and disseminating her own works. Often that author would like to use some of the material he or she might find, but is unsure of the copyright status of a work or whom to ask for permission. As we described above, collective licensing of works can help such an author by providing efficient mechanisms so he or she can obtain permission to use works.

There may be, however, some or even many works for which the author cannot find an owner or an administering collective agency, and he or she cannot resolve the question of whether the copyright law permits or prohibits using such works. One challenge for the future is how the law should treat these so-called "orphan works." If it is truly the case that the copyright owner of such a work no longer cares about its subsequent use, then such use should not be restrained merely because of uncertainty about a work's status. This result would deprive the public of access to a new and productive use of the work, which is ultimately the goal of any efficient copyright system.

In the United States, the Copyright Office has begun an inquiry into the orphan works question to determine the nature and scope of the problem and what legal or regulatory solutions might be needed to address it. Other countries, including Canada, have already developed mechanisms for issues related to orphan works. Part of the challenge in addressing such a problem is ensuring that it is fully consistent with and does not derogate from the legitimate interests of authors and rights holders, and that it complies with international copyright rules that prohibit the imposition of formalities that are a condition to the enjoyment and exercise of copyright.

Marybeth Peters is the Register of Copyrights, U.S. Copyright Office, Library of Congress.

WHAT IS "FAIR USE"?

"Fair use" is an exception to the exclusive protection of copyright under American law. It permits certain limited uses without permission from the author or owner. Depending on the circumstances, copying may be considered "fair" for the purpose of criticism, comment, news reporting, teaching (including multiple copies for classroom use), scholarship, or research.

The 1961 Report of the Register of Copyrights on the General Revision of the U.S. Copyright Law cites examples of activities that courts have regarded as "fair use": "quotation of excerpts in a review or criticism for purposes of illustration or comment; quotation of short passages in a scholarly or technical work, for illustration or clarification of the author's observations; use in a parody of some of the content of the work parodied; summary of an address or article, with brief quotations, in a news report; reproduction by a library of a portion of a work to replace part of a damaged copy; reproduction by a teacher or student of a small part of a work to illustrate a lesson; reproduction of a work in legislative or judicial proceedings or reports; incidental and fortuitous reproduction, in a newsreel or broadcast, of a work located in the scene of an event being reported."

To determine whether a specific use under one of these categories is "fair," courts are required to consider the following factors:

- the purpose and character of the use, including whether such use is of a commercial nature or is for nonprofit educational purposes;
- the nature of the copyrighted work;
- the amount and substantiality of the portion used in relation to the copyrighted work as a whole (is it long or short in length, that is, are you copying the entire work, as you might with an image, or just part as you might with a long novel); and
- the effect of the use upon the potential market for or value of the copyrighted work.

The distinction between "fair use" and infringement may be unclear and not easily defined. There is no specific number of words, lines, or notes that may safely be taken without permission. Acknowledging the source of the copyrighted material does not substitute for obtaining permission.

Keep in mind that, even in an educational setting, it is not "fair use" to copy for a "commercial motive" or to copy "systematically," that is, "where the aim is to substitute for subscription or purchase." No factor by itself will determine whether a particular use is "fair." All four factors must be weighed together in light of the circumstances. See the U.S. Copyright Office's Copyright Information Circulars and Form Letters for "Circular 21 — Reproductions of Copyrighted Works by Educators and Librarians."

FOR CLASSROOM USE, HOW DOES "FAIR USE" APPLY?

The Internet magnifies the possibility for making an infinite number of perfect copies, which changes what it means to be "fair." Be careful when using material from the Internet; keep in mind the four factors of the "fair use" test, or get permission from the owner. The National Digital Library Program goes to great effort to identify possible copyright owners for items in *American Memory*, though it is often unable to ascertain possible rights holders because of the age of the materials. When the rights holder is known to the program, it will provide that information in the Restriction Statements accompanying the collections.

This material was drawn from the Library of Congress' Copyright Office web pages, http://www.copyright.gov/fls/fl102.html and http://memory.loc.gov/ammem/ndlpedu/start/cpyrt/.

The IMPORTANCE of the Public Domain

By Anita R. Eisenstadt

The patent and copyright clause of the U.S. Constitution (Article I, Section 8, Clause 8) that provides Congress with the power "[t]o promote the Progress of Science and useful Arts," speaks of "securing for *limited* times to authors and inventors, the exclusive right to their respective writings and discoveries." The insertion of the phrase " for limited times" shows that the Founding Fathers of the United States realized that it is critical to balance the intellectual property interests of authors and inventors with society's need for the exchange of ideas. They achieved this balance by limiting the term of the exclusive right and allowing the growth of an unrestricted "public domain." Just as a functioning intellectual property system can generate significant cultural and economic benefits, a robust public domain also contributes to a democratic society, a strong economy, and the advancement of science.

The term "public domain" refers to materials and information that are not protected by intellectual property rights (IPR). Information in the public domain is available for the public to use without prior authorization or restrictions on reuse. In the United States, this includes factual information[1] and works created by federal government employees in the scope of their employment. The public domain also includes works subject to copyright protection, but for which such protection has expired, been renounced (such as information contractually designated as unprotected), or been abandoned.

Public domain is different from "open access," which typically refers to works that are copyright-protected, but whose authors or publishers have chosen to make the work freely available to the public. Even if works are in the public domain, users should still acknowledge the source of the work, since failure to do so could constitute plagiarism.

The U.S. government, producer of the single largest public body of scientific and educational information, is one of the world's greatest contributors to the public domain. Its Office of Management and Budget's Circular A-130, "Management of Federal Information Resources," recognizes that government information is a valuable national resource and that the free flow of information between the government and the public is essential to a democratic society. U.S. government practices also have promoted broad dissemination of information generated by federal government funding. Grantees who receive federal government funding are strongly encouraged to share the results of their research.

[1] Note that the European Database Directive adopted in 1996 created a new type of intellectual property protection (sui generis) for databases, restricting certain uses of factual information compiled in databases.

A customer at the U.S. Government Printing Office bookstore. The agency is the federal government's primary resource for gathering, cataloging, producing, providing, and preserving published information, most of it in the public domain.

A robust public domain also contributes to a democratic society: Much of the U.S. government's published information is now available electronically.

International and intergovernmental organizations — UNESCO, the United Nations' World Summit on the Information Society, the International Council for Science (ICSU), and the Committee on Data for Science and Technology (CODATA) — have focused on the importance of the public domain for both developed and developing countries.

Certainly, there is tension in finding the optimal balance between the public domain and intellectual property protection. It is essential to promote the broad dissemination of knowledge and information while ensuring that authors and inventors receive appropriate protection for their work. The approaches to resolving this tension are almost as diverse as the governments seeking to resolve it. However, one thing is clear: Free and forward-moving societies need both.

For additional reading on this topic, see:

- The Role of Scientific and Technical Data and Information in the Public Domain: Proceedings of a Symposium, National Research Council, http://books.nap.edu/catalog/10785.html.
- UNESCO Policy Guidelines Related to Governmental Public Domain Information, http://portal.unesco.org/ci/ev.php?URL_ID=15863&URL_DO=DO_TOPIC&URL_SECT.
- WSIS Declaration of Principles and Plan of Action, http://www.itu.int/wsis; www.CODATA.org.
- Duke Law School Conference on the Public Domain, http://www.law.duke.edu/pd/.

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Roundtable: Enforcement, a Priority for All Countries

Many countries have adopted sophisticated laws to protect intellectual property in order to join international or regional accords and organizations. By doing this, a country has taken an important first step. However, the creation of laws alone will not enable a country to effectively enforce the rights of property holders. That requires the development of appropriate enforcement mechanisms.

Why does effective enforcement often lag behind the institution of law? What are the barriers to enforcement? Will the benefits of enforcement be shared by all countries or just a few?

The State Department's Bureau of International Information Programs (IIP) invited a panel of U.S. government experts to discuss these and other questions regarding the enforcement of intellectual property rights (IPR). Led by moderator Berta Gomez, then a senior writer-editor in IIP's Office of Economic Security, the roundtable discussion included: Michael Smith, an attorney adviser in the Office of Enforcement at the U.S. Patent and Trademark Office (USPTO); Jason Gull, a trial attorney with the U.S. Department of Justice's Computer Crimes and Intellectual Property Section; and Joseph Howard, a senior attorney adviser in the Intellectual Property Rights Branch of the U.S. Customs and Border Protection Service, part of the Department of Homeland Security.

According to these experts, effective enforcement of intellectual property rights should be a priority for all countries seeking economic growth and full participation in the world economy. The following is their discussion.

MODERATOR: First, where does enforcement fit into an overall intellectual property strategy?

SMITH: As the world economy develops and as economies are more reliant on high-technology sectors, the importance of protecting intellectual property rights is rising.

When the Patent and Trademark Office began conducting overseas training in 1997, the emphasis was on advising countries about drafting legislation that would conform to obligations under the World Trade Organization's Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS). Over time, the focus has shifted from these laws to what countries actually are doing on a daily basis. We've found that many countries have laws on the books that are TRIPS-compliant, but that much remains to be done to actually enforce those rights at the borders and in the civil and criminal court systems.

Los Angeles, California, health department officials during a news conference announcing the confiscation of illegal pharmaceuticals. In the United States, a variety of federal laws and agencies protect consumers from counterfeit products that endanger health and safety.

A U.S. Federal Bureau of Investigation (FBI) "wanted" poster for an individual charged with copyright infringement.

As copyrights, trademarks, and patents become more important each year to the U.S. economy, our interest in protecting those rights abroad increases. And U.S. and other rights holders around the world are reluctant to invest in countries where, on a day-to-day basis, copyrights, patents, trademarks, and trade secrets are not adequately protected.

GULL: From our perspective at the Department of Justice, the harmonizing of intellectual property laws around the world through international agreements, going back even to the Berne Convention, is important to defining the rights of authors, inventors, and companies in products they develop. We would like to see countries come to a general agreement about what those rights should be.

But without effective enforcement, these laws are essentially empty promises. Effective enforcement of these rights is required so that authors and inventors can make rational decisions about whether they're going to publish, release, or invent something.

In the last few years, enforcement has become a much more significant issue. A combination of factors, including improvements in shipping, technology, telecommunications, and the Internet, has created markets that are increasingly global in scope.

Just as tangible things can move easily and cheaply across borders, IP problems can likewise be exported. For example, counterfeit products manufactured in East Asia have been a problem for a long time. But counterfeit production like this becomes an even greater problem as the products become less expensive and easier to ship to other parts of the world.

The Internet allows for instantaneous distribution of information around the world at essentially no cost. So, in addition to all the positive activity this technology allows, people are using the Internet to engage in massive infringement of intellectual property. This problem is growing as the digital sector of the economy is growing in the United States and in other countries.

MODERATOR: You said improvements in shipping make it easier for goods to cross borders. Is this one of the barriers to effective enforcement?

HOWARD: Perhaps the most critical obstacle to effective enforcement is the absence of a full understanding of the value of intellectual property rights to every nation that engages in international trade.

I've spoken in several countries overseas, and in each I was asked, "Why should we do this? Why are we protecting the wealthy nations or manufacturers who own these intellectual property rights?"

My response is that, first, if your country is governed by the rule of law and has signed certain international agreements, it is obligated to adhere to its agreements. Secondly, as your country develops its own sectors in which manufacturers, inventors, or artisans are creating intellectual property, it's important that you give them the full value of their rights.

Many times, people don't appreciate that protecting intellectual property is important to employment, which leads to growth and a better quality of life. If you don't respect intellectual property rights, no one wants to invest in your country. You won't attract the foreign capital that you need to improve the lifestyle of your nation's inhabitants.

Once people appreciate the value of the rule of law, then it's clearly not just benefiting the wealthy countries.

GULL: I, too, am asked by foreign audiences, "Why protect intellectual property when it's all American or rich countries' brands? Why should I do the bidding of these U.S. companies?" One answer is that, in much the same way that trademark owners must work to protect their brands, countries themselves must work to enforce IPR to protect the country's own reputation.

A trademark is simply a brand. It conveys information about the reputation of the manufacturer and the reputation of the product. If a particular trademark holder starts turning out poor-quality products, people will stop buying them. The reputation goes down.

To encourage investment, you need an effective legal regime that protects people's rights, including intellectual property rights. A country can help build its own brand image by ensuring effective IP enforcement. Conversely, countries that neglect IPR enforcement will tend to see their reputations, and the investment climate, suffer.

SMITH: Another key barrier to effective enforcement is a lack of political will. Without political will starting at the very top of the government, it's hard for enforcement authorities to look at these issues as important and to commit resources to solving them.

When the USPTO conducts technical assistance, we try to explain why enforcement is important to the local economy. For example, local music is not only an indigenous cultural heritage issue; it is a copyright issue of economic concern to local industries. We have found, particularly in Asia, that there's a link between the ability of the country to provide effective enforcement mechanisms and the growth of music made by local artists.

MODERATOR: But how does a government go about providing effective enforcement once it has decided to do so?

GULL: Although political will is certainly important, that is not to say that protecting intellectual property rights is just a matter of convincing the upper levels of government that this is an important issue, and that their decrees will trickle down to street-level enforcement.

The government also has to work on public awareness to make sure that the public agrees that intellectual property is worth protecting. Michael's point about indigenous music is an excellent one.

Of course, many pirated products are copies of goods produced by U.S. companies, such as Microsoft's software or American pop stars' CDs, which are then sold overseas. But if a country allows piracy to go unchecked, its own industries – music, or film, or software — will likely find their own products being pirated along American ones. Since the domestic creators of music, or movies, or software, tend to rely more heavily on their own domestic markets for their livelihoods, a high level of piracy at home may hurt these domestic producers most of all.

Foreign media in China were invited to this IPR case being heard in Beijing's highest court. In many countries, low damage awards are not a deterrent to pirates and counterfeiters.

A soil compressor destroys counterfeit CDs and tapes in Brasilia on Brazil's National Counterfeit Fighting Day. Governments should make sure that their publics agree that IP is worth protecting.

A police officer throws a box of pirated CDs into the fire near Jakarta. Indonesia has imposed harsher laws providing fines and jail terms for copyright violators.

Sheriff Deputies in Whittier, California, check counterfeit Microsoft registration hologram stickers seized following an undercover investigation. A criminal investigation can be initiated through the complaint of a rights holder, but this should not be a requirement before police can act.

In Cressier, Switzerland, officials crush counterfeit Swiss watches. To support one of its most famous industries, Switzerland's border control confiscates thousands of counterfeit watches every year.

Piracy can make it even tougher for domestic industries to compete with large foreign companies. In countries where every kind of CD, DVD, or software is available for a couple of dollars per disc, a local film studio or software publisher will find it very difficult to compete, based on price, with the latest Silicon Valley software or Hollywood blockbuster.

Ironically, countries that want to avoid being overrun by American goods might consider strengthening their protection of intellectual property. That would serve local industry in the long run by allowing that industry to grow and encouraging investment.

If the public is on board with protecting intellectual property, then police officials will be willing to shut down street vendors selling pirated and counterfeit products. Prosecutors will be willing to pursue those cases because they won't face the wrath of an unhappy public. Judges will be more willing to mete out deterrent penalties, whether prison time or monetary damages.

HOWARD: It is particularly important for a country to have a mechanism whereby a foreign rights holder can bring a problem to the attention of authorities and have a realistic chance of receiving enforcement activity on his or her behalf. This overcomes the inertia that otherwise is present. It encourages the authorities to enforce rights.

MODERATOR: Can you describe the training or speaking that you do overseas?

HOWARD: I've gone to other countries, looked at legislation, and talked to people about what we do. I explain that it's reasonable, if you don't have the resources to have a database of all the intellectual property rights that might be infringed, to at least have a mechanism so that others can bring information to your attention. Many countries thought that that was useful.

The U.S. Customs Service also enforces exclusion orders (legally binding commands barring entry into the United States of goods that allegedly violate U.S. intellectual property rights) issuing from the U.S. International Trade Commission (USITC). Just as with intellectual property rights that are recorded with us, information about exclusion orders issued by the USITC is entered into the IPR module for dissemination to field officers. The public version of the IPR module[1] can be easily accessed. The web address is http://www.cbp.gov. Click on the "Quick link" at that page for "Intellectual Property Rights," and at the next page click on "Intellectual Property Rights Search (IPRS)." The web site also contains a wealth of information about our intellectual property rights border enforcement program.

MODERATOR: And this is a case in which new technology actually helps enforcement?

HOWARD: Yes. But as my colleagues have pointed out, people have to want to do it. That's crucial.

MODERATOR: Do you have examples of countries in which you've seen progress and growing interest in protecting IPR?

HOWARD: I was in Egypt when they were talking about IP enforcement issues, and the people I spoke with said that they wanted a customs system like that in the United States. It seems people from all over the world look to our government for guidance on how to do certain things. They might not like what we say in some instances, but they're open to considering what we have to say.

[1] The Intellectual Property Rights Module (IPR module) is the U.S. Customs Services's automated system containing information about recorded intellectual property rights. The IPR module currently contains over 25,000 recordations. It provides a systematic listing and detailed information, including images, to assist Customs officers in providing adequate protection on a timely basis. The IPR module is an extension of the Customs recordation process. Recordation refers to bringing a valid, federally registered intellectual property right, a trademark or copyright, to the IPR Branch, Office of Regulations and Rulings, Bureau of Customs and Border Protection and recording that right with the IPR Branch. Information about that intellectual property right is entered into the IPR module and made available to field officers. A public version of the IPR module is available to those outside of Customs.

SMITH: I think most countries would agree that the U.S. system for protecting intellectual property rights at the border is one of the most efficient systems in the world. But a lot of what is done in the United States is not practical for most countries. Certainly developing and least developed countries don't have nearly the resources that the U.S. government has. Also, most countries don't have as many border crossing points as the United States.

The customs services in these countries have to decide how best to utilize the resources that they have. In technical assistance programs overseas, the Patent Office uses that as a starting point to encourage compliance with a country's obligations under the TRIPS agreement. TRIPS provides minimum standards, such as establishing a system so that rights holders can go and record and seek enforcement of their rights.

Having said that, a country can be fully in compliance with the minimum obligations of the TRIPS agreement and still have a huge problem at its borders. For instance, the TRIPS agreement requires countries to provide for protection against imports of pirated copies of goods and goods bearing counterfeit trademarks. It does not require countries to provide protection at the border with regard to exportations of such goods or movements of such goods within the country that might be exported later.

So a primary concern of the U.S. government is the exportation of pirated and counterfeit goods that are produced in one country to other countries, for instance, within Europe or Asia. In that case, we would advocate for "TRIPS-plus" provisions. We do this in bilateral negotiations as part of the free trade agreements negotiation process. In training, we would emphasize why, although these are not TRIPS requirements, they are often needed in order to have an effective enforcement system.

MODERATOR: Are countries receptive to this?

SMITH: Definitely now more than 10 years ago. I think that, as countries have become more comfortable with their obligations under the TRIPS agreement and have had legislation in place for a while, they become more receptive.

A growing problem for governments and rights holders: Massive infringement of IP through the Internet is growing. To check cybercrime, India is requiring identity proof from cybercafé customers.

A steamroller crushes a pile of counterfeit Winnie-the-Pooh dolls during Thailand's annual destruction of seized counterfeit items.

Of particular importance to the U.S. government right now is regulating optical disc (i.e., CDs, VCDs, DVDs, etc.) piracy in countries where the production exceeds the amount of legitimate demand. Obviously, this overproduction of pirated material can't be supported by the local economy, so the product is being exported. In these instances, we would advocate export controls at the border and optical disc regulations.

MODERATOR: How big a problem is corruption as it relates to IPR?

GULL: Corruption is a significant problem in a number of countries around the world that are trying to enforce intellectual property rights.

Part of this is related to just how much money is at stake. When there's a lot of money involved in an illicit activity, there is bound to be some corruption.

Another aspect of intellectual property piracy and counterfeiting is organized crime. Criminal gangs, both within the United States and in many other parts of the world, are involved in the production and distribution of pirated and counterfeit goods at all different levels. Of course, corruption of public officials is by no means unique to intellectual property issues. But in those places where corruption is widespread, it's going to affect intellectual property enforcement.

SMITH: You asked, "What are the barriers to effective enforcement?" I think it depends on whether you are talking about civil, criminal, or border enforcement.

Criminal enforcement and border enforcement can be grouped together in that they are actions taken by the government. On the civil side, it's a private litigant going in and redressing harm in a civil courts system.

The problems on the civil side are similar in many countries around the world. The USPTO found that, although lots of countries have legislation and a civil procedure code that provides for a rights holder to go into court and get interim relief or a temporary restraining order, those laws are not applied in practice.

We've also found that the damage awards that many courts give are so low that they are not actually a deterrent to those who engage in piracy or counterfeiting and do not adequately compensate rights holders for the harm they have suffered.

Finally, we've found that, in some countries, the infringing goods and the machinery used to produce those goods are not actually destroyed. They can enter back into the stream of commerce. That's obviously not in the best interest of the rights holders or the public.

On the government side, one barrier to border enforcement is that it's labor-intensive. You need customs officials at the border who are good consumers, familiar with the trademarks that have been recorded, and who have an interest in enforcing the rights of trademark holders. Without knowledgeable customs inspectors, you're going to have a problem with effective enforcement at the border.

On the criminal side, another problem is that countries initially might prosecute numerous cases of vendors selling pirated or counterfeit goods on the street. Although this might get the infringers off the street, it's not going to the source of the activity. In many countries, the infringement of intellectual property rights has its base in organized crime. Therefore, a more efficient use of a government's time and money would be to use their organized crime statutes to prosecute these cases at the source of the funding.

GULL: Yes, it's more effective to go after "big fish" than small ones because you cut off the supply. Generally, the biggest effect of going after street vendors is that piracy gets pushed a little off the street. That is, instead of a table full of pirated optical discs, you'll have one guy with a sign saying CDs and DVDs, and he'll burn you a copy or get you a counterfeit copy from a van or an apartment down the street.

Michael touched on the critical importance of having effective civil remedies. In the United States, the vast majority of enforcement is done by copyright holders or trademark owners who initiate actions. The United States has effective civil remedies: injunctions, seizures of counterfeit goods, and monetary damages. One has a realistic chance of actually obtaining those types of remedies here, and in many other countries with more established civil law mechanisms.

In some places, there isn't as mature a civil enforcement system. In those areas, for now at least, criminal and related border-enforcement mechanisms are the only realistic chance of making a dent in intellectual property infringement.

In some countries, a criminal prosecution or investigation cannot be initiated unless there is a complaint from a rights holder. This is a serious impediment because it's not practical for the rights holder to make a complaint in every instance. It means that, in some countries, police aren't empowered to seize offending goods that they recognize on the street or at a criminal enterprise. We encourage countries to eliminate this kind of requirement, whether it's in their actual law or merely a policy on the part of the police and prosecutors.

Also, some countries erect or maintain artificial barriers that make it more difficult to show ownership of a trademark or copyright. A court may require that there be testimony from the actual copyright owner, rather than simply allowing a certificate from a copyright office as "prima facie" (Ed. Note: Latin for "on its face," as it seems at first sight) evidence of copyright ownership. This sort of excessive formality can impede an effective enforcement regime. Often it's little things like this that persist even after the large steps of signing on to TRIPS, for example, have been accomplished.

MODERATOR: How important is participation on the part of the rights holder?

HOWARD: The U.S. Customs and Border Protection Program relies heavily on the rights holder who has recorded something with us to bring information about potential problems to us. Often the rights holder can pinpoint the date when infringing goods are going to arrive, the port or ship they're going to be on, or the mode of entry into the United States. That helps us to focus our efforts and not waste our limited resources.

Intellectual property rights holders also might help themselves by educating the consumer to understand that not all decisions should be based merely on price alone. A counterfeit product may be sold at a lower price, but may not have the same features as the actual product, or it may not be as safe or last as long. Equally or perhaps more important, you may not get the support that you would get from a legitimate manufacturer if the product is defective.

MODERATOR: Do health authorities have a role in telling consumers that counterfeit products may be unsafe or dangerous?

GULL: In the United States, a variety of federal laws and agencies protect against the kinds of counterfeit products that endanger health and safety. Selling a counterfeit drug on the Internet, like the fake Viagra advertised by "spammers" through e-mail, would likely be a violation of Food and Drug Administration laws regarding drug safety, as well as a federal trademark violation. It might violate laws in the individual 50 U.S. states as well.

When something is counterfeit, there's no way of tracing it to the true manufacturer. For example, counterfeit liquor is prevalent in a number of Eastern European countries. When genuine liquor violates health and safety standards, the origin of the product can be traced. The factory where it was made can be inspected and forced to improve. But with counterfeit goods, that's not possible because, by definition, the origin of the product is unknown.

SMITH: This ties in with public awareness. The government can play a role in educating the population that intellectual property protection is not only an economic issue, but also a health and safety issue. Counterfeit food products and counterfeit pharmaceuticals have resulted in deaths. Either they don't contain the components that they're supposed to or they contain components that are lethal to people, and people purchase them unwittingly.

Or consider airplane parts, where a pirated or counterfeit product is labeled as meeting laboratory standards of safety, but actually contains faulty components.

Health and safety issues can bring the discussion to a more personal level than the economic aspects of intellectual property protection. This is about people's lives.

New Tools for Fighting Optical Disc Piracy

By Laura Lee with Bonnie J. K. Richardson

Digital technology has turned into reality the promise of innovative ways of distributing creative works on a global scale. With digital technology, a film enthusiast anywhere in the world can view movies from India, Mexico, or Egypt, and music lovers can download the unique sounds of Russian, Chinese, or Zairian music at the click of a button.

These same technological advances, however, have also given rise to serious forms of piracy. Every industry that depends on copyright protection, including the movie, music, and software industries, is facing tremendous losses from optical disc piracy. Countries put their economic future in jeopardy when they fail to adequately protect these industries' intellectual property rights (IPR) from both optical disc and traditional forms of piracy. Piracy hinders the development of these industries in many countries and thus discourages potential investors, innovators, and the creation of valuable new jobs.

Optical discs include formats such as digital versatile discs (DVD), DVD-Recordables (DVD-R), compact discs (CD), CD-ROM, compact discs with recording cores of dye instead of metal (CD-R), video compact discs (VCD), and laser discs (LD). Optical discs are inexpensive to manufacture and easy to distribute, two features that make them highly vulnerable to piracy. Unlike traditional piracy involving analog technologies, the quality of a digital pirated disc is as high as the original, and a production facility can churn out a huge volume of illegal discs in a relatively short time. In 2003, the U.S. motion picture industry, working with law enforcement agencies around the world, seized more than 52 million pirated optical discs.

In order to tackle this fast-growing crisis effectively, it is essential to develop and implement innovative tools for controlling piracy at the source of production. One useful way of doing so would be to adopt optical disc regulations along the lines of the "Effective Practices" adopted by government leaders at the APEC (Asia-Pacific Economic Cooperation) conference in October 2003.

The "Effective Practices" are designed to identify and control all facilities that replicate optical discs by requiring that authorities strictly license optical disc producers and manufacturing equipment. A well-enforced licensing scheme will provide legal grounds for the immediate closure of unlicensed facilities. The regulations also require that licensed optical disc producers retain production records and add source identification codes (SID) to each disc produced, measures that will help ensure that licensed facilities are producing only legal optical discs.

Fighting pirates: These DVD-Audio discs offer a higher sound quality than common music CDs, but also contain a digital watermark that prevents the owner from making perfect copies of the content.

Steamrollers crush confiscated pirated music and movie CDs, VCDs, and DVDs in Manila, the Philippines. In 2003, the U.S. motion picture industry, working with law enforcement agencies around the world, seized more than 52 million pirated optical discs.

An inventor in Israel, Amos Loewidt, believes he has found a solution to the worldwide problem of CD piracy by placing a slender, plastic-covered electronic card with an electronic chip, a unique serial number, and two optical detectors onto a CD.

An official from Thailand's Commerce Ministry inspects a pirated DVD from a shelf showing pirated movies during a raid at a shopping mall in Bangkok.

A foreign tourist browses the selection of pirated CDs in a stall in Phnom Penh. Governments have to remain flexible and develop new tools to deter pirates.

In Sofia, Bulgaria, workers prepare movie, music, and software discs for destruction. The "Effective Practices" discussed in this article endorse a government's authority to conduct surprise inspections of optical disc producers' facilities.

A peddler in Moscow, Russia, showing pirated and authentic copies of CDs, videos, and computer software to a prospective customer. The U.S. government is working with Russia to adopt vital optical disc regulations.

The "Effective Practices" also make the cross-border traffic in manufacturing equipment and raw materials used to make optical discs, such as optical-grade polycarbonate, subject to reporting requirements that facilitate the tracking of these materials. Furthermore, the "Practices" endorse a government's authority to conduct surprise inspections and to seize and destroy machinery used to produce pirated materials.

We believe that every country whose optical disc production facilities are producing significant quantities of pirated products should create and enforce this type of specialized regulatory framework for controlling the production of optical discs. Pirate syndicates are constantly migrating optical disc production from jurisdictions with anti-piracy regulatory regimes to countries still lacking sufficient protection. To date, China, Bulgaria, Malaysia, the Philippines, and Taiwan employ optical disc regulatory regimes, and Singapore is in the process of completing a similar system. The U.S. government is also working with the governments of Russia, Pakistan, and Thailand to adopt these vital optical disc regulations.

An increasingly troublesome facet of optical disc piracy is its association with criminal organizations. Organized crime has been quick to realize that piracy, with its potential for high profits and minimal penalties in many countries, is one of the most lucrative and low-risk criminal businesses. Law-enforcement authorities, such as Interpol, have identified counterfeiting of optical discs as a valuable source of funding to criminal syndicates and terrorist groups.

An effective means to sever this tie between criminal syndicates and optical disc piracy is the use of laws designed to combat organized crime. The welfare of the copyright industries depends upon the coordinated efforts of all countries to dedicate the same kinds of legal tools to fighting piracy that they bring to other kinds of organized crime. Among others, these tools may include money laundering statutes, surveillance techniques, and revamped organized crime laws.

Pirates aim to be always one step ahead of current regulatory regimes. In order to stem the tide of piracy in an effective manner, it is imperative that governments remain flexible and develop new legal tools on a continuing basis. It is only with a truly international approach — one that adopts and enforces tailored optical disc regulations — that optical disc piracy rates can be significantly diminished on a local and global scale.

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A Trade Association at Work

By Patricia L. Judd

Books are everywhere around us. Popular titles, such as the Harry Potter® series or Nobel Prize winner V.S. Naipaul's *A House for Mr. Biswas*, can be found in bookstores all over the world. Books serve as tools for entertainment and education, as well as professional, personal, and societal development.

Unfortunately, legitimate authors, publishers, printers, distributors, and retailers are often denied the opportunity to satisfy the world's appetite for books because rampant print piracy, commercial photocopying, illegal translations, and digital piracy work to destroy the market for legitimate materials. Symptoms of this phenomenon abound:

- In and around universities and schools, copyshops that make it easy to illegally photocopy works often have lines out the door.
- English-learning programs and other language courses advertise use of high-quality materials and display original products, but then use illegally photocopied versions in their lessons.
- Medical book pirates conduct door-to-door sales, without fear of reprisal.
- Pirates marketed fifth, sixth, seventh, and eighth books, supposedly in J.K. Rowling's Harry Potter® series, at a time when the author had written only four!

These activities — often seen by many book consumers as harmless — hurt legitimate creators, foreign and domestic producers and — ultimately — every national economy. Every country has students who may be primarily users of information now, but who will be creators in the near future. Every country has writers and scholars, and most also have publishing or printing industries that are suffering from the same type of piracy encountered by U.S. publishers. Creators will more likely stay in their home countries if they are able to produce an income from their talents there. Protecting their ability to do that serves them and their countries as well as their publishers.

The Association of American Publishers (AAP), the principal trade association of the U.S. book publishing industry, estimates that its members lose over $600 million dollars a year because of global piracy. This number, unfortunately, is a gross underestimate, based on calculations of losses in just a few countries and territories. Nevertheless, this figure alone underscores the need for improved enforcement in many places, and adherence to international copyright standards by all countries, since copyright pirates prey on authors, businesses, and consumers around the globe. Proof of this is that AAP raids abroad almost always uncover illegal copies of local materials.

Winners of the U.S. National Book Awards Kevin Boyle, Lily Tuck, and Jean Valentine read from and sign their award-winning books at a New York City bookstore.

With today's technologies, pirates find it easy to copy whole books, robbing authors of their intellectual property and the right to make a living from their work.

A new device that works as a printer, scanner, and copier. The Association of American Publishers works within the United States and with other countries to spread the message about illegal commercial photocopying.

The millions of Harry Potter fans include this nine-year-old in Denmark. Pirates, however, marketed fifth, sixth, seventh, and eighth books, supposedly in the series, even though at the time J.K. Rowling had written only four.

Because of IPR protection, authors in the United States and in the rest of the world can enjoy an income from the sale of their books and of subsidiary rights for translations, movies, and TV serials.

AAP supports the international fight against copyright pirates by partnering with local counsel, investigation firms, member company offices, and government officials to ensure that both the public and private sectors are doing everything possible to stamp out these crimes. AAP projects include legal action, data collection, training, and media efforts to educate governments and consumers about the harms inflicted by piracy.

AAP and its members also work, where appropriate, with local publishers to identify projects for possible collaboration. Currently, AAP has active programs in Hong Kong, Malaysia, the People's Republic of China, the Philippines, Singapore, South Korea, Taiwan, and Thailand. The association also works closely with its international counterparts in Pakistan, India, and several other countries.

On the policy side, AAP cooperates with U.S. and foreign government agencies to promote passage and enforcement of stringent intellectual property laws. The association also monitors developments in legal or practical market access. AAP contributes significantly to the annual "Special 301 Report on Global Copyright Protection and Enforcement," submitted to the Office of the U.S. Trade Representative (USTR) by the International Intellectual Property Alliance® (IIPA) every February. IIPA, of which AAP is a founding member, uses this report to update the status of copyright protection in 50 to 60 countries and territories worldwide. Finally, AAP regularly discusses intellectual property rights (IPR) issues at book fairs, seminars, and conferences in the United States and overseas.

In all of this, AAP works to educate the public about the ways in which copyright protection promotes creativity, which in turn is essential to the development of markets, not only for U.S. publishers, but for each and every country's creators and related industries.

AAP members and staff are interested in work that benefits creators and publishers in all countries and territories, and would welcome your input.

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Intellectual Property Rights and the Pharmaceutical Industry

By Judith Kaufmann

Many claim that more people do not have access to life-saving drugs because of high prices and that patent rights both increase prices and stand in the way of getting treatment to those who need it.

Both of these claims are false.

Drugs that cure AIDS and many other diseases are available precisely because of patent protection. Patent protections encourage research and development by offering the possibility that a pharmaceutical company's investment will be repaid, a powerful incentive to companies to invest millions and millions of dollars into risky research and development of these medications. Without patent protection, other manufacturers could copy new drugs immediately. Since their costs are minimal, they can offer their versions at a reduced price, seriously hurting the ability of the company that developed the drug to recoup its costs.

In addition, those years in which a company's patented products are protected can help generate the funding that makes research into the next generation of drugs possible.

Drug companies are not only doing the research that has helped so many, they are ensuring that drugs reach those most in need through donations. In 2003 alone, the U.S. pharmaceutical industry donated more than $1.4 billion in medicines and services to people in more than 40 least developed countries.

Drug companies also are helping poorer countries through a variety of innovative public-private partnerships. These partnerships include the African Comprehensive HIV/AIDS Partnership in Botswana, in which the government of Botswana, the Bill & Melinda Gates Foundation, and the Merck Co. support prevention programs, healthcare access, and treatment of HIV/AIDS, with Merck donating two antiretroviral drugs for treatments. The Onchocerciasis Control Program, in turn, has greatly reduced transmission of "river blindness" throughout West Africa by combining a spraying program and the donation of the drug Mectizan by Merck & Co.

These are but some examples of the ways in which the research-based drug industry has regularly lowered its prices to the poorest nations of the world and has increased drug companies' partnership with governments and with nongovernmental organizations to ensure that drugs reach those in need.

Generic medicines and copycat drugs are not always the answer for those seeking an alternative to a patent-protected drug. Generics, independently developed drugs that contain the same active substance as the original brand-name drug, are marketed in accordance with patent law and identified

Chinese Vice Health Minister Wang Longde (right) shakes hands with the executive vice president of Merck & Co. Inc., Judy Lewent, after announcing a comprehensive HIV/AIDS public-private partnership — with $30 million from the Merck Foundation — on May 11, 2005.

A worker on the assembly line of Laboratorio Cristalia, a maker of anti-retroviral generic drugs in Sao Paulo, Brazil. Makers of generic drugs normally have not invested the millions that research companies spend to find new drugs.

Two bottles of a medicine for liver patients, Epogen, one real (left) and one counterfeit.

Employees of Aspen Pharmaceutical Research Laboratories, producers of generic AIDS drugs, in Port Elizabeth, South Africa. GlaxoSmithKline has licensed three more South African companies, in addition to Aspen, to manufacture generic versions of its AIDS medicines.

either by their own brand name or by their internationally approved nonproprietary scientific name. Copycat drugs usually simply copy the original drug manufacturer in the countries with weak intellectual property protection.

Patented drugs often have passed much more rigorous licensing requirements than so-called generics. Why "so-called"? Because not all drugs that claim to be so are identical and not all are subject to the stringent inspection process that guarantees that they contain the same amount of active ingredients and work in the same way. Manufacturers of some of these drugs have not had to invest in the extensive testing required of the research-based industry even before their drug can be marketed. Of course, there are many reliable manufacturers of generic drugs. The United States, for instance, has a thriving generic drug industry, fully regulated and inspected by the U.S. Food and Drug Administration.

Building on the enormous investment already made by the research-based pharmaceutical industry, copycat drugs can lower drug prices, but they do nothing to guarantee that new drugs will be available when they are needed. Copycat drugs do nothing to ensure that scientific innovation translates into new treatments that may be less toxic and more effective. Rather, they reduce incentives to research and thus discourage new products. And make no mistake: The manufacturers of generic or copycat drugs are not in business to be generous; they, too, are reaping profits. Their profits, however, are not being used to further scientific knowledge and find new cures.

Patents are not the problem that people assume them to be, either. A recent study published in *Health Affairs* found that "in 65 low- and middle-income countries, where four billion people live, patenting is rare for 319 products on the World Health Organization's Model List of Essential Medicines. Only 17 essential medicines are patentable, although usually not actually patented." If this large amount of life-saving drugs is either off-patent (meaning that the company that originally invented them no longer has an exclusive claim because the patent has expired) or not patented, then patents cannot be the problem in getting drugs to people.

Price is not always the issue, either. When people cite prices as a problem, they often are comparing apples and oranges. Prices include various factors: training of health care personnel in the use of the drug, explanatory materials to make it safer for the consumer,

A technician in a pharmaceutical plant in Ahmadabad, India. Patenting is rare for 319 products on the World Health Organization's Model List of Essential Medicines.

A woman inquires about a drug at a street-side shop in Lagos. Surveys indicate that more than 60 percent of medicines on sale in Nigeria are counterfeit, substandard, or expired.

even shipping and handling can be included or not. If one drug seems cheaper but shipping costs are not included, the effective cost may be identical to that of a patented drug. Certainly, a government-sponsored drug company can provide lower prices to the citizens of that country, since the government is paying a large percentage of the actual cost.

There are issues that need to be addressed, including how to encourage even more innovation, especially for drugs with limited markets or which treat diseases mostly prevalent in low- and middle-income countries. Developed countries can offer tax incentives to encourage innovation in such areas, much as the Orphan Drug Bill in the United States does. (This U.S. law, administered by the Food and Drug Administration, deals with medications used to treat diseases and conditions that rarely occur. Since there is little financial incentive for the pharmaceutical industry to develop such medications, "orphan drug status" gives a manufacturer specific financial incentives to develop and provide such medications.) Government research dollars can be used to do basic research, as the National Institutes of Health does in the United States.

Public-private partnerships are showing the way in innovation: The Medicines for Malaria Venture (MMV — see p. 84) and the International AIDS Vaccine Initiative (IAVI) are two good examples of such partnerships. MMV, for instance, has 21 drug development projects to ensure that the next generation of treatment is available when drug resistance overtakes current malaria treatment options.

As an article in the *Washington Post* recently suggested, "These entities are in effect nonprofit virtual drug companies configured to discover and develop drugs and vaccines for neglected diseases."

Cheap drugs are no bargain, if they do not cure the disease and if they contribute to drug resistance that may make the drug useless for everyone. Violating or bypassing patent protections is a short-term solution that threatens the long-term health of the world's citizens by removing the incentives and discouraging the innovation we need.

Judith Kaufmann is a retired foreign service officer, who served as the director of the U.S. State Department's Office of International Health Affairs.

A University of Chicago field station foreman examines a Rauvolfia serpentina plant. The university's field station in Downers Grove, Illinois, is part of a program to search for new plant-based medicines.

The Cost of Developing a New Drug

By Neal Masia

Many of us know a family member or friend who has benefited from a new medicine: Advances in treating cancer, HIV/AIDS, cardiovascular disease, and a broad host of other afflictions have been nearly continuous in recent decades, thanks to — in many instances — new drug discoveries. Economists estimate that almost half of the increase in life expectancy achieved over the past 15 years in the industrialized world can be attributed to new drugs. In the United States alone, the economic gains from medical innovation are estimated at more than $500 billion per year.

Finding new cures is an extremely expensive and risky proposition, however. Estimates about the cost of developing a new drug vary widely, from a low of $800 million to nearly $2 billion per drug. Even the high end of those estimates may soon be considered a bargain. Recently, the Pfizer pharmaceutical company announced that it is investing $800 million just for a set of Phase III trials for a single drug.

Where does all the money go?

In the United States and most other countries with pharmaceutical industries, private industry undertakes or funds virtually all discovery and development of new medicines, often building on basic medical hypotheses developed through university and publicly funded research. Industry scientists searching for a new drug typically must sort through 5,000 to 10,000 new chemical inventions that look promising, in order to identify a pool of 250 compounds that then enter into preclinical laboratory and animal testing. Of those 250 unique compounds, fewer than 10, on average, will show enough potential to qualify for Phase I human testing to establish basic safety.

Phase 1 trials usually include a very small group of healthy volunteers who are tested to determine whether the candidate drug is both safe and effective. A compound or drug candidate that makes it through Phase I then enters small-scale Phase II trials in patients with a specific condition to test whether the compound has the intended effect on the disease. If it shows promise, it graduates to Phase III trials, which are wide-scale tests involving thousands of patients in carefully controlled clinical testing. Some drug candidates undergo several different types of Phase III trials in order to test for different kinds of effects. On average, for every five compounds that make it into human trials (of the original 5,000 to 10,000 studied), U.S. government authorities will grant the pharmaceutical company approval to market just one.

Overall, the discovery and development of a new medicine takes about 12 to 15 years. Patents are granted along the way, and it usually takes at least a few years between the granting of patents and marketing approval. This means that, despite the standard 20-year

A laboratory at the U.S. biotech company Avigen, where they are investigating new treatments for hemophilia B.

Two researchers at the Oklahoma Medical Research Foundation, testing an Alzheimer's drug for a new pharmaceutical company.

patent life, the average *effective* patent life for a new drug — the amount of time where the product is sold under patent protection — is roughly 10 to12 years. In addition to the direct costs of development, firms must pay returns on the capital they invest on behalf of shareholders over the course of a decade or more, a cost that increases as development times increase.

At current levels of reimbursement, economists estimate that only about 30 percent of new medicines actually earn enough revenue during their patented product lifecycle to cover the average upfront cost of development. If a firm incurred the average cost of drug development and only invented "average" drugs, it would quickly go out of business.

The enthusiasm and support among investors for pharmaceutical companies to find new cures depends on the expected returns of a relative handful of products. A society that guarantees strong patent protection helps give investors confidence that their high-risk investments might pay off down the road. Conversely, without confidence that discovery of a new cure can produce a potentially large payout, investors in pharmaceutical firms, as well as pharmaceutical firms looking to expand in other countries, will demand that their funds be returned or invest them elsewhere.

If investors made the decision to pull out today and pharmaceutical research investments stopped, consumers would not necessarily notice the absence of new medicines for a decade or more, given the decade-long drug-development-cycle time. Smaller firms and biotechnology companies would certainly notice, however, since they would have more difficulty raising investment capital if expected returns were lower. Capital-starved companies would soon disappear, along with the promise they hold for new treatments.

Continued investor confidence has enabled large-scale research and development to continue in the pharmaceutical industry, in the United States and in other countries. Pfizer alone is investing over $8 billion this year and employing more than 12,000 scientists in the search for new cures, with significant investments in cardiovascular disease, cancer, HIV/AIDS and other infectious diseases, central nervous system (CNS) afflictions, and a wide range of other chronic and acute diseases. New discoveries in these areas are dependent on both the ingenuity of scientists and the confidence of the investors who fund their investigations.

The support of the international community for strong intellectual property rights regimes is a key ingredient in bolstering that confidence.

Dr. Neal Masia is director of economic policy at Pfizer, Inc.

MALARIA: Partnering to Find a Cure

By Richard Wilder and P. V. Venugopal

Every year, 300 to 500 million people around the world are infected with malaria, and more than one million people die of the disease. In Africa, the burden of malaria is on the rise for the first time in 20 years, fueled by the rapid spread of resistance to widely used malaria drugs like chloroquine. As a result, malaria is the leading cause of death for children in Africa, killing 3,000 every day. These statistics represent an international disaster and a public health failure.

Despite the massive burden malaria represents for developing countries, only four of almost 1,400 new medicines developed worldwide between 1975 and 1999 were antimalarials. This is not enough to tackle the problem, since new drugs are needed to offset the malaria parasite's pattern of developing resistance to the ones in use.

In 1999, talks between the World Health Organization (WHO) and the International Federation of Pharmaceutical Manufacturers Associations (IFPMA), in collaboration with a number of institutions, such as the World Bank and the Rockefeller Foundation, led to the creation of the Medicines for Malaria Venture (MMV). MMV is a nonprofit organization that brings public, private, and philanthropic sector partners together to fund and manage the discovery, development, and registration of new medicines for the treatment and prevention of malaria.

After just five years of operation, MMV is managing the largest-ever portfolio of malaria drug research, with 21 projects in various stages of development. Such a rapid advance was made possible by MMV's pioneering collaboration with nearly 40 public and private institutions around the world. MMV, for example, looked to pharmaceutical companies doing anticancer therapy research that has led to the development of compounds that are highly active against the malaria parasite. These companies share their knowledge with MMV project teams once they enter into agreements with MMV.

An integral part of agreements negotiated by MMV is its innovative management of the intellectual property that its partners bring to the table. MMV manages the ownership and licensing of intellectual property so that the partner's interests — whether academic, commercial, or purely in the public interest — are reflected in the terms of agreements. Depending on the circumstances, MMV may own the intellectual property outright, retain licenses to the intellectual property, or have conditions in its agreements that, if not met, cause the intellectual property rights (IPR) to be transferred back to MMV.

In many cases ownership of the intellectual property rights is not necessary, since MMV is working with a company to both discover and develop a promising compound as an antimalarial. In those cases, for

In Africa, malaria is on the rise for the first time in 20 years. It is now the leading cause of death for children in that continent.

Artemisia annua plants, used to produce anti-malaria medications, on the outskirts of Arusha, Tanzania.

A 19th century bottle containing quinine. It was the primary drug in the treatment of malaria until supplanted by synthetic drugs, such as chloroquine, which are becoming less effective against this disease.

example, the company may retain ownership of the intellectual property rights and use them while performing their obligations to MMV to develop and bring an antimalarial to market. The agreement will specify certain conditions that have to be met, including price specifications and other conditions relating to access to the antimalarial by people in poorer countries. It is only in cases where the partner company cannot — or will not — fulfill its obligations that MMV needs the rights to be returned to it, so as to go forward with the project with a different partner.

Regardless of the nature of the intellectual property rights held by MMV, the determining factor is its ability to carry out its mission. Consequently, the focus is not on the intellectual property rights *per se*, but on the path that MMV must take to ensure that the new antimalarials being developed under its supervision are brought to market and made affordable and accessible to those who need them in the developing world. The intellectual property rights, then, are a tool to bring the partners in a given project together for a common goal and to ensure that the path that MMV must take to achieve its goals is clear.

One of MMV's most promising drug candidates is a synthetic peroxide, first discovered by scientists from the University of Nebraska Medical Center, Monash University in Australia, the Swiss Tropical Institute, and Roche Pharmaceuticals. The drug resembles plant-derived artemisinins, today's most effective antimalarials. Through an agreement arranged by MMV, Roche Pharmaceuticals has transferred more than three years of research results on synthetic peroxides to the Indian pharmaceutical firm Ranbaxy, to speed the drug's development at the lowest possible cost.

Today, the drug is moving into clinical development, and could become the most important new weapon against malaria in a generation. This illustrates the result of innovative management of intellectual property rights by MMV to accomplish its goal — and that of its partners — of bringing modern medicines to market to treat malaria.

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Protecting Trademarks on the Internet

By Angelo Mazza

With the expansion of e-commerce through auction[1] and stand-alone[2] Internet web sites that sell a wide range of products, trademark holders in every country face a daunting enforcement challenge. While legitimate businesses can prosper on the Internet, their survival is threatened by unscrupulous rivals who exploit loopholes to gain unfair advantages, pass off counterfeit goods as legitimate, and evade enforcement. Many of these rogue sites, though they appear to be unrelated to each other or to be small operations, easily can achieve gross revenues in the millions of dollars by exploiting weaknesses in current laws and enforcement techniques.

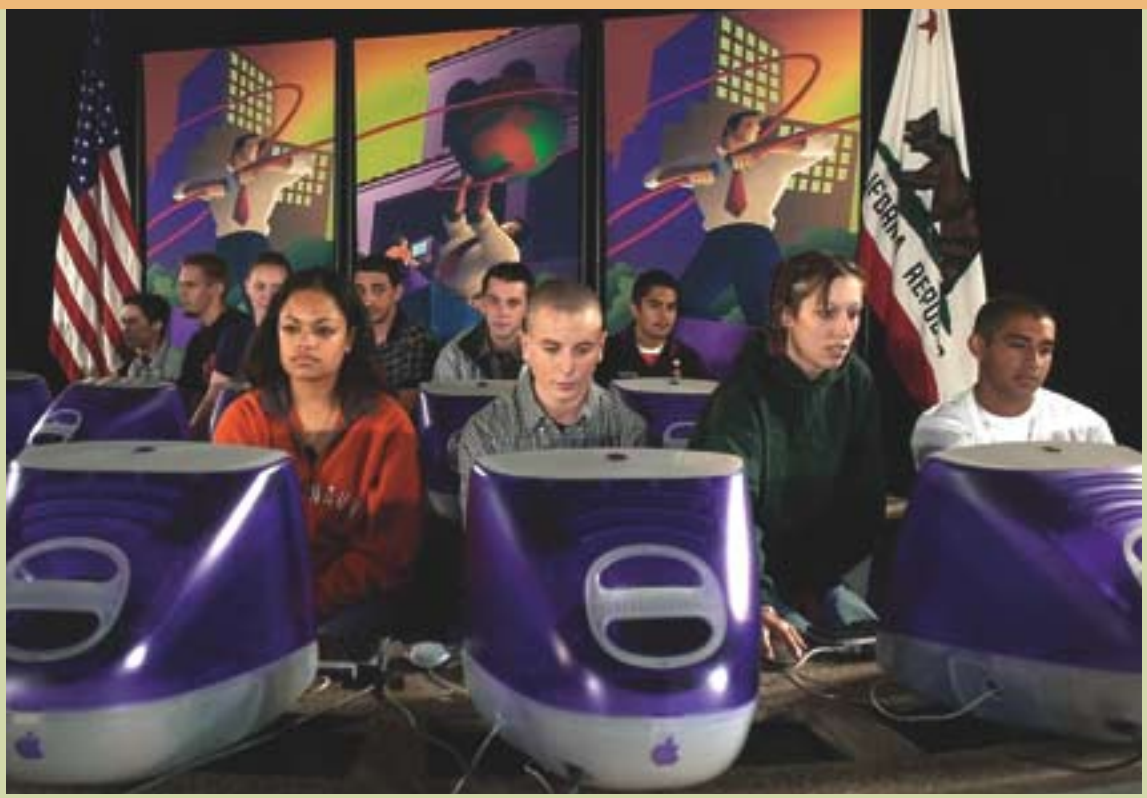
An international legal framework to protect legitimate trademark holders on the Internet does not exist yet. As a result, enforcement by the private sector and supportive governments requires persistence and vigilance. Governments and rights holders should be aware that they can take steps to protect their marks in an Internet world filled with round-the-clock sales by sellers from many nations.

We can divide these enforcement strategies into two general areas, one to address auctions sites and another for stand-alone sites. Auction sites present special challenges to enforcement and raise site liability issues. (Site liability refers to the legal responsibility and culpability of the web site.) Since the laws and policies of each country and/or auction site vary dramatically, the topic is too complex for this short article. Currently, however, the preferred approach is to notify the offending auction site and offer an opportunity to cure the violation by removing the offending offers. If the violation continues, responsible site operators close repeated violators' auction accounts.

This article will limit itself to a general overview of the issues related to stand-alone sites selling counterfeit products. Focusing on current practices in the United States, we will examine the scope of the problem, outline the steps that need to be taken, review the pitfalls that each type of action brings, and determine what methods may succeed.

[1] Auction web sites allow users to bid for items sold by independent sellers. The sites offer a variety of goods that range from the mundane to the specialized. Examples of such sites include eBay, Yahoo!, Sell.com, and iOffer, to name only a few.

[2] Stand-alone web sites are independent retail sites that offer goods for sale via the Internet. While there are many legitimate merchants, there are also many sites that offer only counterfeit goods for sale. The sites offer clothing, medicines, luxury goods, and anything else that can be copied for sale.



Widespread use of the Internet has sparked a revolution for sellers and customers. With E-commerce sites, buying almost any product is just a few clicks away.

E-buyer beware: As of yet, there is no international legal framework to protect customers or legitimate trademark holders on the Internet.

The private sector must remain committed to pursuing Internet violators, in order to protect both trademarks and unsuspecting customers.

The process of dealing with web sites selling counterfeit goods can be very time-consuming and, unfortunately, deprives the rights holder of immediate relief. Success requires persistence and expertise. The Internet presents special challenges for rights holders since, in many cases, the infringing web sites provide false or incomplete "Registrant" information. This lack of accurate information presents a major obstacle to rights holders trying to locate the site and to police the sale of goods on the Internet.

Many legitimate companies employ teams of in-house personnel, specialized software, and outside service providers to locate and track sites selling counterfeit goods. Once a rights holder identifies a site offering counterfeit goods for sale, the holder can begin to collect data, review databases, and gather Whois[3] information, so as to identify those responsible for the site.

In almost every instance, the site information gathered from the Whois database is woefully inadequate or completely false. Given the lack of any penalties in the United States for providing false or misleading information to a database, counterfeiters fill their Whois information with periods, dashes, names of dead personalities, and addresses that have them living in Atlantis or other improbable locations. Although there has been talk of amending the applicable U.S. laws to require more accurate information when registering a domain name, those efforts have yet to bear fruit.

Once a site selling counterfeit goods has been identified, however, the rights holder prepares cease-and-desist letters and sends them to the Internet Service Provider (ISP) and to the site itself. In most instances, the site will ignore the letter. However, the site is now on notice of violation and can no longer claim ignorance as to its illegal activities.

Typically, ISPs are cooperative when contacted, although, under the current system, they are not required to verify any of the information they collect. Law-abiding ISPs will remove infringing sites from their servers. However, this is not the case when the site selling counterfeit products becomes its own ISP and ignores all correspondence. In addition, there are instances of rogue ISPs that become safe harbors for infringing sites. The unintentional side effect of cooperative ISPs is that many infringing sites eventually migrate to ISPs located outside the United States, where laws differ and ISPs are often less cooperative.

If contacting the site fails and the counterfeiter engages in a game of moving to alternative ISPs, the rights holder may take additional action. The rights holder may do more research and, in some instances, hire outside investigators to make purchases that may lead to the source of the items or of the site. These investigations often reveal a variety of sources for the counterfeit goods.

Home pages of some major auction web sites.

Although many sites are in English and conduct business in U.S. currency, more often than not they operate outside the borders of the United States. In other instances, they collect money in the United States, but ship counterfeit items to the purchasers from overseas locations. This creates additional enforcement problems for the rights holder, who must retain overseas counsel and investigators to advance the investigation. Now the rights holder faces mounting costs and the peculiarities of enforcement in a foreign jurisdiction.

The rights holder may initiate legal action once enough information is gathered. The legal action allows the rights holder to subpoena ISP records related to the operation of the site in question. Often, the ISP records are outdated or no longer available. If the site is part of a larger series of sites under common ownership, it may merit a referral to law enforcement for criminal prosecution. However, given the lack of resources and specialized cybercrimes units, criminal actions represent a small percentage of enforcement actions. The owners of replica sites[4] are acutely aware of this lack of criminal enforcement as well.

The enforcement problems outlined in this article will be reduced only when governments create laws that level and harmonize the Internet playing field and support private enforcement efforts. The private sector, in the meantime, must remain committed to pursuing Internet violators.

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[3] The Whois database provides contact and registration information for domain names.

[4] Replica sites openly sell copies of established or widely coveted goods.

Left, auction sites present special enforcement challenges. Right, the Whois database, which provides contact and registration information for domain names.

Glossary of Intellectual Property Terms

A

APPELLATION OF ORIGIN [trademark-unfair competition]. A term that refers to both a product's geographic origin and to its distinctive product characteristics caused by particular geographic conditions or methods of production. Some distinguish an appellation of origin from an "Indication of Source," which refers solely to the geographic origin of production. Roquefort cheese is an example of an appellation of origin because it designates both geographic origin and product characteristics. "Paris" perfume is an indication of source, which refers only to geographic origin. The term "Geographic Denomination" encompasses both categories.

ASSIGNMENT [patent-trademark-copyright]. A transfer of rights in intellectual property. An assignment of a patent, for example, is a transfer of sufficient rights so that the recipient has title to the patent. The assignment can be a transfer of all rights of exclusivity in the patent, of an undivided portion (for example, a 50 percent interest), or of all rights within a specified location (for example, a certain area of the United States). Transfer of anything less is considered to be a "license."

AUDIOVISUAL WORK [copyright]. A copyrightable work consisting of images that are related, presented in a series, and intended to be shown by the use of a machine, as well as any sound accompanying the work. A common example of an audiovisual work is a slide show, such as that used in a sales presentation, a lecture, or an introduction to a museum.

AUTHOR [copyright]. Either the real person who creates a copyrightable work or the employer, corporate or individual, of a person who creates a copyrightable work within the scope of employment, or, in some circumstances, the commissioning party of certain specified types of works. "Author" in copyright law includes not only writers of novels, plays, and treatises, but also those who create computer programs, arrange data in reference books, choreograph dances, take photographs, sculpt stone, paint murals, write songs, record sounds, and translate books from one language to another. (See WORK MADE FOR HIRE, JOINT AUTHORS.)

B

BERNE CONVENTION [copyright-international]. The major multilateral copyright treaty, signed in Berne, Switzerland, in 1886. The Berne Convention, whose members form the Berne Union, is adhered to by nearly 150 nations, including the United States. The World Intellectual Property Organization (WIPO) serves as the administering agency for the activities of the Berne Union.

BEST MODE [patent]. A condition for the grant of a valid patent. An inventor must describe the best method he or she knows for carrying out the invention.

C

COMMUNITY TRADE MARK (CTM) [trademark-international]. A trademark registration granted by the European Union's Office for Harmonization in the Internal Market and enforceable throughout EU member nations.

COMPILATION [copyright]. A copyrightable work consisting of a collection and assembly of preexisting material. The assembly must exhibit at least minimal originality in the selection, organization, and arrangement of the material without making any internal changes in it.

CONTRIBUTORY INFRINGEMENT [patent-trademark-copyright]. Indirect infringement of intellectual property rights in which one person contributes to the direct act of infringement of another. Contributory infringement of a trademark, for example, occurs when a manufacturer of goods aids or encourages its distributors to pass off its goods as those of another manufacturer.

COPIES [copyright]. As a noun, "copies" means the material objects that store or fix copyrightable information other than sounds; as a verb, the act of copying.

COPYING [copyright-patent-trademark]. In copyright law, "copying" denotes two separate but interrelated concepts. To constitute an infringement of copyright, a work must be a "copy" in the sense that it is substantially similar to a copyrighted work, it must have been "copied" from the copyrighted work as opposed to being the result of coincidental, independent production or from being taken from the same source as the copyrighted work. Legal standards for infringement of copyright differ from those for patents and trademarks, neither of which require proof of copying.

COPYRIGHT [copyright]. An exclusive right granted or conferred by the government on the creator of a work to exclude others from reproducing it, adapting it, distributing it to the public, performing it in public, or displaying it in public. Copyright does not protect an abstract idea; it protects only the concrete form of expression in a work. To be valid, a copyrighted work must have originality and possess a modicum of creativity.

COUNTERFEITING [trademark]. The act of producing or selling a product containing a sham mark that is an intentional and calculated reproduction of the genuine mark. A "counterfeit mark" is identical to or substantially indistinguishable from the genuine mark. Often, counterfeit goods are made to imitate a popular product in all details of construction and appearance, so as to deceive customers into thinking they are purchasing the genuine merchandise.

CYBERSQUATTING [trademark]. "Cybersquatting" and "cyberpiracy" are synonymous terms that refer to the same type of unfair competition for web sites. The typical "cybersquatter" is one who knowingly reserves with a registrar a domain name consisting of the trademark or name of a company for the purpose of selling the right to that domain name back to the legitimate owner.

D

DEPENDENT claim [patent]. A claim in a patent that refers back to a previous claim and defines an invention that is narrower in scope than that in the previous claim. A dependent claim must be written so as to be more restricted than the technology defined in the previous claim.

DERIVATIVE WORK [copyright]. A work based on a preexisting work that is changed, condensed, recast, or embellished in some way.

DESCRIPTIVE MARK [trademark]. A word, picture, or other symbol that describes something about the goods or services in connection with which it is used, such as purpose, their size or color, the class of users, or the end effect on users. A descriptive term is not considered to be inherently distinctive; to establish validity for registration or protection in court, it needs proof of acquired distinctiveness, known as "secondary meaning." (See SECONDARY MEANING, SUGGESTIVE MARK).

DESIGN PATENT [patent]. A government grant of exclusive rights in a novel, nonobvious, and ornamental industrial design. A design patent confers the right to exclude others from making, using, or selling designs that closely resemble the patented design. A design patent covers ornamental aspects of a design; its functional aspects are covered by a utility patent. A design patent and a utility patent can cover different aspects of the same article, such as an automobile or a table lamp.

DIGITAL MILLENNIUM COPYRIGHT ACT [copyright]. A major piece of U.S. legislation adopted in 1998 that extensively amended the copyright laws, in part to conform U.S. law to various treaty obligations, and in part to modernize the law to take into account various new digital technologies.

DILUTION [trademark]. A type of violation of a strong trademark in which the defendant's use, while not causing likelihood of confusion, blurs the distinctiveness or tarnishes the image of the plaintiff's mark. To possess the selling power and recognition protected by the antidilution statutes, the mark must be relatively strong and famous.

DISTRIBUTION RIGHT [copyright]. One of the six exclusive rights held by a copyright owner, under which the copyright owner has the exclusive right to distribute copies or phonorecords of the work to the public by sale, lease, or rental. Unlike the other rights of copyright, the distribution right is infringed merely by a transfer of copies of the work, whether those copies were unlawfully or lawfully made, except under the "First Sale Doctrine." (See FIRST SALE DOCTRINE.)

DOMAIN NAME [trademark]. The names and words that companies designate for their registered Internet web site addresses, also referred to as a "URL." For example: <www.coca-cola.com > is a domain name identifying the site of The Coca-Cola Company. Technologically, each domain name is unique and cannot be shared. Domain names are registered on a first-come, first-served basis.

DURATION [patent-trademark-copyright-trade secret-right of publicity]. The term or length of time that an intellectual property right lasts. As a result of the Uruguay Round Agreements Act, U.S. law was changed, effective June 8, 1995, to adopt a patent term of 20 years from the date on which the patent application was filed. A trademark continues in duration as long as there is no abandonment of rights by nonuse or by acts that cause the term to lose its significance as an indicator of origin and to become a generic name. The basic duration of a copyright is the life of the author plus 70 years. Protection of information as a trade secret lasts as long as the information remains secret.

E

ECONOMIC ESPIONAGE ACT (EEA) [trade secret]. A U.S. statute, adopted in 1996, which provides criminal penalties for the theft of trade secrets. The EEA makes it illegal to steal or fraudulently obtain trade secrets for the benefit of a foreign government, instrumentality, or agent and steal trade secrets that benefit "anyone other than the owner."

EQUIVALENTS, DOCTRINE OF [patent]. A rule of claim interpretation under which a product or process, although not a literal infringement, is still an infringement if it performs substantially the same way as the patented invention.

F

FAIR USE [copyright-trademark]. A defense to a charge of copyright or trademark infringement. For copyrights, U.S. courts consider four factors in determining if a fair use defense exists: the purpose and character of the disputed use; the nature of the copyrighted work; the importance of the portion used in relation to the work as a whole; and the effect of the use on the potential market for or value of the copyrighted work. For trademarks, the secondary user must show that he or she is not using a descriptive, geographically descriptive, or personal name mark in a trademark sense but only to describe his or her goods or services or their geographic origin, or to name the person running the business.

FIELD OF USE RESTRICTION [general intellectual property-antitrust]. A provision in an intellectual property license restricting the licensee to use of the licensed property only in a defined product or service market.

FIRST SALE DOCTRINE [copyright]. An exception to the exclusive right of a copyright owner to distribute copies or phonorecords of the copyrighted work. Under this principle, the copyright owner has the right to sell a copy of a book but not the right to control subsequent sales of that copy. (See DISTRIBUTION RIGHT.)

FIRST TO FILE [patent-trademark]. For patents, a rule under which patent priority, and thus entitlement to a patent, is determined by which inventor was the first to file a patent application, rather than who was first to actually invent. This is the rule followed by almost every nation in the world except the United States. For trademarks, priority among conflicting applications to register trademarks is handled by publishing the application with the earliest filing date for possible opposition by the applicant with the later filing date. In the United States, ownership of a trademark is determined by who was first to use it, not by who was first to file an application for registration. Under the new intent-to-use system, an application for registration can be filed prior to actual use of mark. (See INTENT-TO-USE APPLICATION.)

FIRST TO INVENT [patent]. A rule under which patent priority is determined by which inventor was the first to actually invent, rather than who was the first to file a patent application. First to invent is the rule followed in the United States.

FUNCTIONALITY [patent-trademark-copyright]. That aspect of design that makes a product work better for its intended purpose, as opposed to making the product look better or to identifying its commercial source.

G

GENERIC NAME [trademark]. A word used by most people to name a class or category of product or service, such as "cellular phone." No one person may have trademark rights to a generic name.

GOOD WILL [trademark]. The value of a business or of a line of goods or services that reflects commercial reputation. A business with a well-established good will could see all of its tangible assets destroyed, yet still own its reputation, its good will. Trademark infringement is a form of theft of good will, since a trademark or service mark is a symbol of a business' good will.

I

IDEA-EXPRESSION DICHOTOMY [copyright]. The fundamental rule of law that copyright does not protect an idea; copyright protects only specific expressions of an idea.

INFRINGEMENT [general intellectual property]. An invasion of one of the exclusive rights of intellectual property. Infringement of a utility patent involves the making, using, selling, offering to sell, or importing of a patented product or process without permission. Infringement of a design patent involves fabrication of a design that, to the ordinary person, is substantially the same as an existing design, where the resemblance is intended to induce an individual to purchase one thing supposing it to be another. Infringement of a trademark consists of the unauthorized use or imitation of a mark that is the property of another in order to deceive, confuse, or mislead others. Infringement of a copyright involves reproducing, adapting, distributing, performing in public, or displaying in public the copyrighted work of someone else.

INTELLECTUAL PROPERTY [patent-trademark-unfair competition-copyright-trade secret-moral rights]. Certain creations of the human mind that have commercial value and are given the legal aspects of a property right. "Intellectual property" is an all-encompassing term now widely used to designate as a group all of the following fields of law: patent, trademark, unfair competition, copyright, trade secret, moral rights, and the right of publicity.

INTENT-TO-USE APPLICATION [trademark]. Since 1989 in the United States, an optional method of applying for federal registration of a mark on the Principal Register based upon a declared good-faith intention to use a mark on defined goods or services.

INVENTION [patent]. The human creation of a new technical idea and the physical means to accomplish or embody the idea.

J

JOINT AUTHORS [copyright]. The collaborating creators of a single copyrightable work who merge their separate contributions to the work. Joint authorship implies joint ownership of copyright in the work created. Co-owners of a copyright are treated as "tenants in common," with each co-owner having an independent right to license the use of a work, subject to a duty of accounting to the co-owners for any profits.

JOINT INVENTORS [patent]. Two or more inventors of a single invention who collaborate in the inventive process.

K

KNOCK-OFF [patent-trademark-copyright]. An identical copy of a work or product protected by patent, trademark, trade dress, or copyright. When used as a verb, the act of producing such a copy.

KNOW-HOW [trade secret]. Information that enables a person to accomplish a particular task or to operate a particular device or process.

L

LICENSE [patent-trademark-copyright]. A permission to use an intellectual property right, under defined conditions – as to time, context, market line, or territory. In intellectual property law, important distinctions exist between "exclusive licenses" and "nonexclusive licenses." An exclusive license does not necessarily mean that this is the one and only license granted by the licensor. In giving an exclusive license, the licensor promises that he or she will not grant other licenses of the same rights within the same scope or field covered by the exclusive license. However, the owner of rights may grant any number of nonexclusive licenses of the same rights. In a nonexclusive license, title remains with the licensor. A patent license is a transfer of rights that does not amount to

an assignment of the patent. A trademark or service mark can be validly licensed only if the licensor controls the nature and quality of the goods or services sold by the licensee under the licensed mark. Under copyright law, an exclusive licensee is the owner of a particular right of copyright, and he or she may sue for infringement of the licensed right. There is never more than a single copyright in a work regardless of the owner's exclusive license of various rights to different persons.

LOGO [trademark]. A graphic representation or symbol of a company name or trademark, usually designed for ready recognition. The term has no legal significance in the law of trademark.

M

MISAPPROPRIATION [unfair competition]. A common-law form of unfair competition where the defendant has copied or appropriated some item or creation of the plaintiff that is not protected by either patent law, copyright law, trademark law, or any other traditional theory of exclusive rights.

MORAL RIGHTS [copyright-author's rights]. Some European and other nations' legal systems expressly recognize certain rights of authors beyond those strictly recognized in copyright law. Moral rights generally fall into three categories: the right of an author to receive credit as the author of a work, to prevent others from falsely being named author, and to prevent use of the author's name in connection with works the author did not create; the right of an author to prevent mutilation of a work; and the right to withdraw a work from distribution if it no longer represents the views of the author.

MUSICAL WORK [copyright]. A category of copyrightable work expressed in notation or sounds. A musical work can be embodied and fixed in physical objects that are classified as either "copies" (sheet music) or "phonorecords" (e.g., compact discs or tapes). A composer's song is covered by a musical work copyright, but a recording of the song is covered by a sound recording copyright.

N

NOTICE [patent-copyright-trademark]. A formal sign or notification attached to physical objects that embody or reproduce an intellectual property right — for example, the use of the word "patent" or its abbreviation, "pat.," together with the patent number, on a patented article made by a patent holder or his/her licensees. The formal statutory notice of U.S. trademark registration is the letter R in a circle symbol ®, "Reg. U.S. Pat. & Tm. Off.," or "Registered in U.S. Patent and Trademark Office." Many firms use informal trademark notices, such as "Brand," "TM," "Trademark," "SM," or "Service Mark," adjacent to words or other symbols considered to be protectable marks. Notice of copyright consists of the letter C in a circle symbol © or the word "Copr." or "Copyright," the copyright owner's name, and the year of first publication.

NOVELTY [patent]. One of the three conditions that an invention must meet in order to be patentable. Novelty is present if every element of the claimed invention is not disclosed in a single piece of prior art.

O

OBVIOUSNESS [patent]. A condition of non-patentability in which an invention cannot receive a valid patent because a person with ordinary skill in that technology can readily deduce it from publicly available information (prior art).

ON SALE [patent]. An inventor cannot obtain a valid patent if he or she waits for more than the one-year grace period to file a patent application after a product embodying the invention has been placed "on sale."

ORDINARY SKILL IN THE ART [patent]. That level of technical knowledge, experience, and expertise possessed by the run-of-the-mill or ordinary engineer, scientist, or designer in the technology that is relevant to the invention.

P

PASSING OFF [trademark]. (1) The substitution of one brand of goods when another brand is ordered. (2) Trademark infringement where the infringer intentionally meant to mislead or deceive purchasers. (3) Trademark infringement where there is no proof of intent to deceive but likelihood of confusion is proven. (4) In British-law countries, acts illegal under the common law, apart from registered "trademark" law, and consisting of the misrepresentation of one's goods or services as those of a competitor, usually by using a similar mark.

PATENT [patent]. In the United States, a grant by the federal government to an inventor of the right to exclude others from making, using, or selling the invention. There are three very different kinds of patents in the United States: a utility patent on the functional aspects of products and processes; a design patent on the ornamental design of useful objects; and a plant patent on a new variety of living plant. Patents do not protect "ideas," only structures and methods that apply technological concepts. In return for receiving the right to exclude others from a precisely defined scope of technology, industrial design, or plant variety, which is the gist of a patent, the inventor must fully disclose the details of the invention to the public. This will enable others to understand the invention and be able to use it as a steppingstone to further develop the technology. Once the patent expires, the public is entitled to make and use the invention and is entitled to a full and complete disclosure of how to do so.

PERFORMANCE [copyright]. To recite, render, play, dance, or act a copyrighted work, including the broadcast by radio or television of a performance and the reception of such a broadcast. The exclusive right to "perform the copyrighted work publicly" is granted to all types of copyrighted works, except for pictorial and sculptural works and sound recordings.

PHONORECORDS [copyright]. The material objects that store or fix copyrightable sounds, other than soundtrack accompanying a motion picture. Phonorecords can be audiotapes, compact discs, computer chips that store sounds, and the like.

PIRACY [copyright-trademark]. The act of exact, unauthorized, and illegal reproduction on a commercial scale of a copyrighted work or of a trademarked product.

PRIOR ART [patent]. The existing body of technological information against which an invention is judged to determine if it can be patented as being a novel and nonobvious invention.

PROCESS CLAIM [patent]. A claim of a patent that covers the method by which an invention is performed by defining a series of steps to be followed. This is in contrast to a product claim or apparatus claim, which cover the structure of a product.

PRODUCT-BY-PROCESS CLAIM [patent]. A patent claim in which a product is claimed by defining the process by which it is made. The product-by-process form of claim is most often used to define new chemical compounds, since many new chemicals, pharmaceuticals, and drugs can only practicably be defined by the process of making them.

PRODUCT CLAIM [patent]. A claim of a patent that covers a structure, apparatus, or composition. This is in contrast to a "process claim," which covers a method or process.

PUBLICATION [copyright]. The distribution of copies or phonorecords of a work to the public.

PUBLIC DOMAIN [general intellectual property]. The status of an invention, creative work, and commercial symbol that is not protected by any form of intellectual property law. Items in the public domain are available for free copying and use by anyone. The copying of items that are in the public domain is not only tolerated but encouraged as a vital part of the competitive process. (See COPYING, INTELLECTUAL PROPERTY.)

R

REDUCTION TO PRACTICE [patent]. The physical part of the inventive process that completes and ends the process of invention. After a reduction to practice, the invention is complete for patent law purposes.

RENEWAL [trademark-copyright]. The extension of a registration of a trademark or the extension of a copyright.

REVERSE ENGINEERING [trade secret-copyright]. A method of obtaining technical information by starting with a publicly available product and determining what it is made of, what makes it work, or how it was produced. The engineering effort goes in the reverse direction of usual engineering efforts, which start with technical data and use it to produce a product. If the product or other material that is the subject of the reverse engineering was properly obtained, the process of reverse engineering is not infringement of any trade secrets in the data embodied in a product and it is legitimate and legal competitive behavior.

RIGHT OF PUBLICITY [general intellectual property]. The inherent right of every human being to control the commercial use of his or her identity.

S

SECONDARY MEANING [trademark]. A meaning for a trademark or service mark that customers associate with a particular brand of products or services. For trade symbols that are not inherently distinctive, distinctiveness must be acquired in order to be protected by a trademark or service mark. This acquired distinctiveness is known as "secondary meaning" because it is acquired second in time to the primary meaning of a word. For example, a word such as "best" for milk is regarded as descriptive and not inherently distinctive. The primary meaning is that milk thus described is purported to be the best. To achieve exclusive trademark rights for a product called "Best Milk," a seller using this word must use it so that it achieves a secondary meaning denoting that all milk marked "best" comes from a single commercial source.

SERVICE MARK [trademark]. A word, slogan, design, picture, or any other symbol used to identify and distinguish services (retail sales services, airlines services, insurance, investment services, and the like) as opposed to a product.

SKILL IN THE ART [patent]. An ordinary level of proficiency in the particular technology in which an invention is made.

SOUND RECORDING [copyright]. A category of copyrightable work consisting of the sounds that are recorded in a phonorecord.

SPECIAL 301 [international trade]. U.S. statutory provisions requiring annual review of trade agreement rights and foreign trade practices of U.S. trading partners that deny benefits to the United States or unjustifiably restrict or burden U.S. commerce. The Trade Act of 1974, as amended by the Special 301 provisions of the 1988 Omnibus Trade and Competitiveness Act, authorizes the U. S. Trade Representative (USTR) to identify and investigate potential violating countries, recommend the suspension of trade agreement concessions and the imposition of duties and import restrictions, and enter into agreements to eliminate the burdens or restrictions on U.S. trade.

SUBSTANTIAL SIMILARITY [copyright]. The degree of resemblance between a copyrighted work and a second work that is sufficient to constitute copyright infringement by the second work. Exact word-for-word or line-for-line identity does not define the limits of copyright infringement. U.S. courts have chosen the flexible phrase "substantial similarity" to define that level of similarity that will, together with proof of validity and copying, constitute copyright infringement.

SUGGESTIVE MARK [trademark]. A word, picture, or other symbol that suggests, but does not directly describe, something about the goods or services in connection with which it is used as a mark. A suggestive term is considered to be inherently distinctive and needs no proof of secondary meaning for registration or protection in court. For example, a polar bear for parkas and coats merely suggests the kind of protection that a polar bear has from the cold. (See DESCRIPTIVE MARK.)

T

TRADE DRESS [trademark]. The totality of elements in which a product or service is packaged or presented, such as the shape and appearance of a product or container, or the cover of a book or magazine. These elements combine to create a visual image presented to customers and are capable of acquiring exclusive legal rights as a type of trademark or identifying symbol of origin.

TRADEMARK [trademark]. (1) A word, slogan, design, picture, or any other symbol used to identify and distinguish goods. (2) Any identifying symbol, including a word, design, or shape of a product or container, that qualifies for legal status as a trademark, service mark, collective mark, certification mark, trade name, or trade dress. Trademarks identify one seller's goods and distinguish them from goods sold by others. They signify that all goods bearing the mark come from or are controlled by a single source and are of an equal level of quality. A trademark is infringed by another if the second use causes confusion of source, affiliation, connection, or sponsorship.

TRADE NAME [trademark]. A symbol used to identify and distinguish companies, partnerships, and businesses, as opposed to marks used to identify and distinguish goods or services.

TRADE SECRET [trade secret]. Business information that is the subject of reasonable efforts to preserve confidentiality and has value because it is not generally known in the trade. Such confidential information will be protected against those who obtain access through improper methods or by a breach of confidence. Infringement of a trade secret is a type of unfair competition.

U

UNFAIR COMPETITION [general intellectual property]. Commercial conduct that the law views as unjust. A person injured by an act of unfair competition is entitled to relief in a civil action against the perpetrator of the act. Trademark infringement has long been considered to be unfair competition. Other legal categories recognized as being types of unfair competition are false advertising, product disparagement/trade libel, infringement of a trade secret, infringement of the right of publicity, and misappropriation.

UTILITY [patent]. The usefulness of a patented invention. To be patentable, an invention must operate and be capable of use, and it must perform some "useful" function for society.

W

WORLD INTELLECTUAL PROPERTY ORGANIZATION (WIPO) [international]. One of the 16 "specialized agencies" of the United Nations system. WIPO, located in Geneva, Switzerland, was created in 1967 and is responsible for the promotion of the protection of intellectual property throughout the world. WIPO fulfills this responsibility by promoting cooperation among nations in intellectual property matters, administering various "unions" and other treaty organizations founded on multilateral treaties, and creating model laws for adoption by developing nations.

WORK MADE FOR HIRE [copyright]. A work prepared by an employee within the scope of his or her employment or a commissioned work that the parties agree in writing to treat as a work made for hire. The real person, partnership, or corporation for whom the work was prepared is considered to be both the "author" and the owner of copyright from the moment of creation of the work.

WORLD TRADE ORGANIZATION (WTO) [international]. WTO is the only global international organization dealing with the rules of trade between nations. Located in Geneva, Switzerland, it was created at the end of the Uruguay Round of the General Agreement on Tariffs and Trade (GATT) negotiations in December 1993 to oversee the operation of GATT. The WTO entered into force with respect to the United States on January 1, 1995. The WTO often plays much the same role in world financial and economic affairs as the United Nations does in political affairs. Activities of WTO include: administering trade agreements; acting as a forum for trade negotiations; settling trade disputes; reviewing national trade policies; assisting developing countries in trade policy issues through technical assistance and training programs; and cooperating with other international organizations. One hundred forty-eight nations are members of the WTO (as of June 2005), accounting for over 97 percent of world trade.

Sources of Information on Intellectual Property

U.S. Government

Office of the U.S. Trade Representative
600 17th Street, N.W.
Washington, D.C. 20506 U.S.A.
Tel: 1-888-473-8787
E-mail: contactustr@ustr.eop.gov
Internet: http://www.ustr.gov
Internet site includes reports, speeches, press releases, and other documentation on a range of trade-related subjects, including intellectual property (IP).

U.S. Department of Commerce
International Trade Administration
14th Street and Constitution Avenue, N.W.
Washington, D.C. 20230 U.S.A.
Tel: 202-482-3809
E-mail: tic@ita.doc.gov
Internet: http://www.ita.doc.gov/
Internet site includes periodically updated articles on U.S. intellectual property rights laws, "Special 301" enforcement activities, and the TRIPS Agreement.

U.S. Department of Commerce
Strategy Targeting Organized Piracy (STOP)
Internet: http://www.export.gov/stop_fakes_gov/index.asp
This is the Internet site for a recent U.S. initiative that helps U.S. businesses protect their intellectual property at home and abroad.

U.S. Department of Commerce
U.S. Patent and Trademark Office
P.O. Box 1450
Alexandria, Virginia 22313-1450 U.S.A.
Tel: 703-308-4357
Internet: http://www.uspto.gov
Internet site provides access to information on intellectual property as related to patents and trademarks, including rules, advice, definitions, submission forms, fees, and more.

U.S. Department of Justice
Computer Crime and Intellectual Property Section (CCIPS)
10th & Constitution Ave., N.W.
John C. Keeney Building, Suite 600
Washington, D.C. 20530
Tel: 202- 514-1026
Fax: 202- 514-6113
Internet: http://www.cybercrime.gov/ip.html
Internet site offers, among many topics, an overview of IP policy and programs, guidance to law enforcement on the investigation and prosecution of violations of federal intellectual property laws, and a comprehensive listing of federal criminal laws that pertain to the protection of IPR.

U.S. Department of State
Bureau of Economic and Business Affairs
Trade Policy and Programs
Office of International Intellectual Property Enforcement
2201 C Street, N.W.
Washington, D.C. 20520 U.S.A.
Tel: 202-647-3251
Internet: http://www.state.gov/e/eb/tpp/
Internet site provides an overview of economic and trade topics arranged by current issues; press statements; remarks, testimony, and briefings; topics; and regional information.

International Intellectual Property Rights Training Database
http://www.training.ipr.gov/
This database, maintained by U.S. government agencies and IP industry associations and sponsored by the U.S. Department of State, provides training and technical assistance relating to protecting IPR.

U.S. Immigration and Customs Enforcement
National Intellectual Property Rights Coordination Center
1300 Pennsylvania Avenue, N.W., Rm. 3.5A
Washington, D.C. 20229 U.S.A.
Phone: 202-344-2410
Fax: 202-344-1920
Internet: http://www.ice.gov/graphics/cornerstone/ipr
The National Intellectual Property Rights Coordination Center (IPR Center) is a multi-agency center responsible for coordinating a unified U.S. government response regarding IPR enforcement issues. Investigative personnel provide core staffing from Immigration and Customs Enforcement (ICE) and the Federal Bureau of Investigation (FBI). Particular emphasis is given to investigating major criminal organizations and those using the Internet to facilitate IPR crime.

U.S. Customs and Border Protection
1300 Pennsylvania Avenue, N.W.
Washington, D.C. 20229 U.S.A.
Tel: 202-354-1000
Internet: http://www.cbp.gov/xp/cgov/import/commercial_enforcement/ipr/
Internet site has information on all aspects of IPR enforcement in the United States.

U.S. Library of Congress
U.S. Copyright Office
101 Independence Avenue, S.E.
Washington, D.C. 20559-6000
Tel: 202-707-3000
Internet: http://www.copyright.gov
Internet site presents a publication titled *Copyright Basics*, as well as information on copyright, including frequently asked questions, and documents of the World Intellectual Property Organization.

International Organizations

European Patent Office
Erhardtstrasse 27
D-80331 Munich
Germany
Tel: (+49 89) 23 99 -0
Fax: (+49 89) 23 99-44 65
Internet: http://www.european-patent-office.org/index.en.php
Internet site includes general information about the European Patent Office, official communications, a patent information center, a toolbox for applicants, and patent information products.

World Intellectual Property Organization
P.O. Box 18
CH-1211 Geneva 20, Switzerland
Tel: +41-22 338 9111
Fax: +41-22 733 54 28
Internet: http://www.wipo.int
Internet site provides the history and objectives of this organization, as well as a list of its members, the texts of treaties it administers, and a list of contracting parties or signatories to these treaties.

World Trade Organization
154 Rue de Lausanne
CH-1211 Geneva 21, Switzerland
Tel: 41-22-739-5111
Fax: 41-22-731-4206
E-mail: enquiries@wto.org
Internet: http://www.wto.org/english/tratop_e/trips_e/trips_e.htm
Internet site, in addition to providing general information about the WTO, includes special sections on topics such as goods, services, environment, development, dispute settlement, and IP.

Associations and Trade Organizations

American Intellectual Property Law Association
2001 Jefferson Davis Highway
Suite 203
Arlington, Virginia 22202 U.S.A.
Tel: 703-415-0780
Fax: 703-415-0786
E-mail: aipla@aipla.org
Internet: http://www.aipla.org
Internet site provides information aimed at improving laws relating to patents, trademarks, copyrights, unfair competition, and other fields of IP.

American Society of Composers, Authors, and Publishers
One Lincoln Plaza
New York, New York 10023 U.S.A.
Tel: 212-621-6000
Fax: 212-724-9064
E-mail: info@ascap.com
Internet: http://www.ascap.com
Internet site for this membership association of over 68,000 composers, songwriters, lyricists, and music publishers provides information aimed at protecting the rights of its members by licensing and paying royalties for the public performance of their copyrighted works.

Association of American Publishers, Inc.
50 F Street, N.W.
Suite 400
Washington, D.C. 20001 U.S.A.
Tel: 202-347-3375
Fax: 202-347-3690
Internet: http://www.publishers.org
Internet site for the principal trade association of the U.S. book publishing industry contains information on copyright and electronic publishing.

Business Software Alliance
1150 18th Street, N.W.
Suite 700
Washington, D.C. 20036 U.S.A.
Tel: 202-872-5500
Fax: 202-872-5501
Internet: http://www.bsa.org
Internet site reports on the activities of software-industry organization with piracy enforcement programs in 65 countries and anti-piracy hotlines operating in nearly all nations; includes a list of international addresses of BSA offices.

International Intellectual Property Alliance
1747 Pennsylvania Avenue, N.W.
Suite 825
Washington, D.C. 20006 U.S.A.
Tel: 202-872-5500
Fax: 202-872-5501
Internet: http://www.iipa.com
Internet site includes general information on the IIPA (a coalition that represents U.S. copyright-based industries in bilateral and multilateral efforts to improve the international protection of copyrighted works), as well as reports on worldwide piracy by country and issue.

Motion Picture Association of America
1600 Eye Street, N.W.
Washington, D.C. 20006 U.S.A.
Tel: 202-293-1966
Internet: http://www.mpaa.org
Internet site for this organization and its international counterpart, the Motion Picture Association, which serve as a voice for the motion picture, home video, and television industries. It includes information on MPAA anti-piracy efforts and its positions on laws and regulations governing the industries.

Music Publishers Association
243 Fifth Avenue, Suite 236
New York, New York 10016 U.S.A.
Tel/Fax: 212-327-4044
Internet: http://www.mpa.org
Through its copyright resource centers, this association disseminates copyright information with the aim of increasing copyright responsibility; also includes links to music information resources on the World Wide Web.

National Music Publishers Association
711 Third Avenue
New York, New York 10017 U.S.A.
Tel: 212-834-0100
Fax: 646- 487-6779
Internet: http://www.nmpa.org
Internet site for this association — which is concerned with legislative, legal, and educational matters related to copyright and new technology — includes extensive frequently asked questions about copyright and licensing.

Software Publishers Association
1730 M Street, N.W.
Suite 700
Washington, D.C. 20036-4510 U.S.A.
Tel: 202-452-1600
Internet: http://www.siia.net
Internet site provides information related to fighting software piracy.

Educational Institutions (Internet Sites)

Berkeley Digital Library SunSITE
http://sunsite.berkeley.edu/Copyright/
Sponsored by the Library at the University of California at Berkeley and Sun Microsystems, Inc., this Internet site offers articles; references; lists of initiatives and projects; and links on copyright, IPR, and licensing issues.

Cornell University
Legal Information Institute
http://www.law.cornell.edu/topics/topic2.html#intellectual%20property
Includes brief summaries of IPR law topics with links to key primary source material, other Internet resources, and useful offnet references.

Franklin Pierce Law Center
The IP Mall
http://www.ipmall.fplc.edu/
Provides information and links to IP resources worldwide, including daily news, the Congressional Research Service, publications, and papers.

Stanford University
Copyright and Fair Use
http://fairuse.stanford.edu
Includes such primary materials as statutes, judicial opinions, and treaties and conventions; current legislation; and an overview of copyright law.

Stanford University
Copyright and Intellectual Property
http://palimpsest.stanford.edu/bytopic/intprop
Includes a menu of source materials on U.S. copyright law.

University of California, Los Angeles
The UCLA Online Institute for Cyberspace Law and Policy
http://www.gseis.ucla.edu/iclp/hp.html
This electronic archive offers a cyperspace law bibliography, as well as information going back 10 years, including cases involving cyberspace law.

University of Iowa
Copyright and Multimedia Law for Web Builders and Multimedia Authors
http://bailiwick.lib.uiowa.edu/webbuilder/copyright.html
Includes IP law articles, primers, and useful links to other web sites, institutions, and core documents.

University of Washington School of Law
Center for Advanced Study and Research on Intellectual Property (CASRIP)
http://www.law.washington.edu/Casrip
Includes information on the CASRIP program, as well as a newsletter issued three times a year that reports on CASRIP research and other IP-related activities and highlights IP developments around the world.

Other

Copyright Clearance Center
222 Rosewood Drive
Danvers, Massachusetts 01923 U.S.A.
Tel: 978-750-8400
Fax: 978-646-8600
E-mail: info@copyright.com
http://www.copyright.com/
Web site of an intermediary between copyright holders and content users. It facilitates the exchange of reuse rights and royalties through a wide range of licensing services that grant permission to reproduce copyrighted materials.

Digital Future Coalition
1341 G Street, N.W.
Suite 200
Washington, D.C. 20005 U.S.A.
Tel: 202-628-9210
E-mail: dfc@dfc.org
http://www.dfc.org
The Digital Future Coalition (DFC) is a collaboration among U.S. profit and nonprofit groups that deal with IPR. It is committed to striking an appropriate balance in law and public policy between protecting IP and affording public access to it.

Additional Readings on Intellectual Property

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New York: Routledge, 2005.

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Washington, D.C.: GAO, 2000.

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International Trademark Treaties With Commentary
Dobbs Ferry, New York: Oceana, 2004.

KIDS' CORNER:
Educational Materials for Children and Young Adults

Cybercitizenship.org: Just for Kids
http://www.cybercitizenship.org/index.html
http://www.cybercitizenship.org/4kids/4kids.html
The Cybercitizen Partnership Awareness Campaign offers approaches for teaching children about cyberethics, cybercrime information, and links to adult and youth resources.

Cyberethics for Kids
http://www.cybercrime.gov/rules/kidinternet.htm
U.S. Department of Justice offers teachers a lesson plan outline and exercises for K-8.

CyberPilot's License
http://etec.hawaii.edu/cpl/home.html
The *CyberPilot's License* is dedicated to the study of web ethics and the development of healthy on-line learning environments. Students, teachers, parents, and policymakers are welcome to join the discussion forums, examine on-line resources, and help create an archive of educational materials.

CyberSpacers
http://www.cyberspacers.com/
This site provides activities for kids: the CyberSpacers' oath; join the Super Cyber Team; and learn about cybercrime through on-line quizzes, comics, games and contests.

FA©E
http://www.copyrightkids.org
Friends of Active Copyright Education (FA©E) is a new initiative of the Copyright Society of the U.S.A. designed to provide a broad range of resources to foster and support copyright education.
A FA©E subcommittee developed the copyrightkids.org web site to teach school-age children the basics of copyright law.

Learn From the Past, Create the Future: Inventions and Patents
http://wipo.int/freepublications/en/patents/925/wipo_pub_925.pdf
This new on-line publication on intellectual property is the first of a new series of free offerings by WIPO aimed at schoolchildren (ages 8-14) as the creators of the future.

MENC/ASCAP Foundation
http://www.musicunited.org/10_education.html
MENC: The National Association for Music Education, with support from the ASCAP Foundation, has developed a school curriculum that teaches students at all levels about the creative community and copyright. The program is offered not only by grade level but also by teacher's class subject specialty, i.e. History, Government Affairs, English, etc.

Netmonkey
http://www.netmonkey.info/
Convicted copyright pirate Mike Nguyen has created a site to educate young people about the risks of on-line piracy. This site contains a downloadable copy of "Net Monkey Weekly," an entertaining and informative newsletter directed at children, which addresses the ills of piracy.

Parade Classroom
http://www.paradeclassroom.com/tg_folders/2003/1026/1026_info.html
Parade Classroom, a web site for professional educators, offers a Teacher's Guide titled "The Music Swapping Crackdown." The guide encourages students to research the issue and decide what's right and wrong.

Play It Cybersafe
http://www.playitcybersafe.com/
This web site provides children, parents, and teachers the opportunity to prevent cybercrime through knowledge of the law, knowledge of their rights, and the ability to avoid misuse on the Internet. The Business Software Alliance and the Hamilton Fish Institute at the George Washington University created this site. It is a Cyber Crime and Intellectual Property Theft Prevention and Education Project funded by the U.S. Department of Justice to educate the public on cybercrime and intellectual property theft.

Pro Music
http://www.pro-music.org/
Pro Music is an international web site that supports legitimate on-line services. It provides information about copyright laws and presents artists speaking out against piracy.

What's The Download?
http://www.whatsthedownload.com/
A comprehensive public education campaign created by the Recording Academy that strives to empower consumers to make informed ethical and legal decisions when getting their music through digital technology, while understanding the part they play in the future of music.

The U.S. Department of State assumes no responsibility for the content and availability of the resources from other agencies and organizations listed above, in "Sources of Information on Intellectual Property," and in "Additional Readings on Intellectual Property." All Internet links were active as of Fall 2005.

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