WORLD-INFORMATION

WORLD-INFORMATION.ORG **SPECIAL IP EDITION** ®©

World Summit on the Information Society
GENEVA | 10-12 December 03

http://world-information.org

KNOWLEDGE OF FUTURE CULTURE

TABLE OF CONTENTS

GLOSSARY

The glossary covers some terms often used in the current intellectual property debates. The terms and their definition reflect an Anglo-American bias and needs to be challenged by introducing other cultural experiences into the debates.

trademark everything™
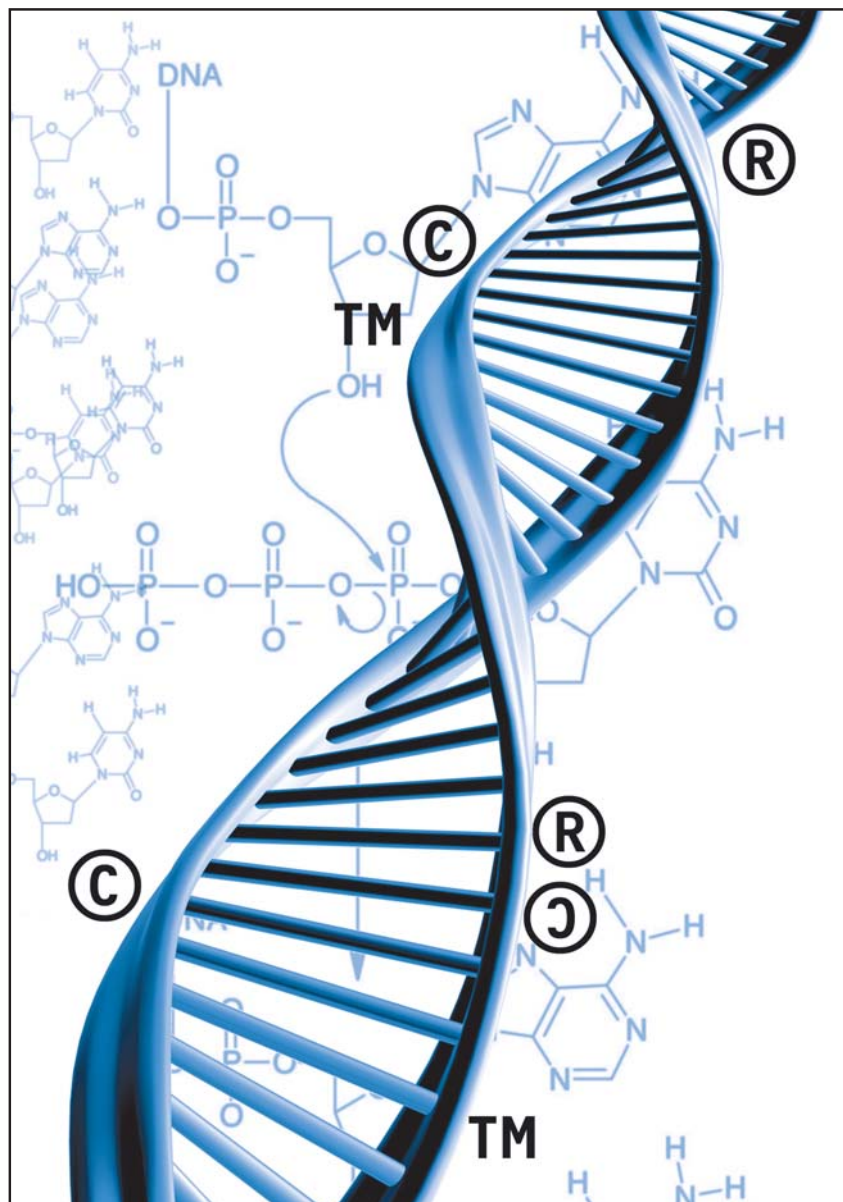
WHY DO INTELLECTUAL PROPERTY ISSUES MATTER?

One of WSIS's stated goals is to examine ways to "protect the free flow of information and communication." Electronic communication systems made the free flows of information a technical possibility on a global scale for an unprecedented, though still insufficient, number of people. Numerous initiatives work to bridge the 'digital divide', to enlarge the number of people who have access to the means of communication.

Despite these positive developments, open societies with free flows of information and the participation of people, face major dangers in the Information Age. These dangers not only stem from governments and pressure groups that limit the freedom of the media for political and economic reasons. These issues are urgent and they are well known and documented.

Lesser known but at least as important is a more insidious barrier to the free flows of information: the emerging regimes of globally enforceable Intellectual Property Rights (IPRs) aiming at locking away large part of our culture into the vaults of a very small number of large corporations.

This paper brings together a number of key thinkers from East and the West exposing the deeply problematic nature of the emerging copyright regime and discussing new concepts of how free access to information can be combined with incentives to create and publish. We do not have to choose between the total lock-down of information by a few large corpo-

rations and plain exploitation destroying all knowledge production. This is a false set of choices, because there are considerably more options. While some of them are already producing great results, like free software, others still are in a conceptual phase. What is sorely lacking is a broad public debate over how to create a fair IPR system. Helping to create this debate is a goal of this paper.

Open and equitable Information Societies require free access to information, because information is the base of all future production. If this raw material is closely controlled, people are excluded from participating in the Information Societies as anything but passive consumers.

Today, there is a conflict between those who see information as a commodity to be sold to consumers, and those who see information as a raw material that needs to be freely available. How this conflict is resolved will profoundly shape tomorrow's Information Societies. The pressure of IP lobbies that try to control access to information with legal and technological means and to create scarcity out of abundance leads to a dead end. It is quite literally a dead end when we see how access to medicine is denied to those who need it, because prices are locked high by way of unfair IPR regimes. Similarly threatening is the creation of a global Digital Restrictions Management for electronic documents that will have to be absolute, total and all encompassing to be functional. These new rules and standards originating in the exclusive environments of large corporations

shape our societies in a subtle but effective fashion. Today, as never before, technology has the possibility of changing and redefining people's life. Interests hidden in seemingly neutral technical standards build dominion on knowledge, marking the path towards Information Feudalism.

How can we ensure an Information Commons where the greatest possible number of people has unrestricted access to scientific and other types of information? How can we set up an infrastructure that would free information from the control of the distributors whose role was created by the difficulties of moving around printed matter and other physical objects?

We have to develop, discuss and implement models how to create and share digital information that are open and dynamic. Taking full advantage of the Internet's empowering capacities, the commons is based on the very idea that information can be copied and distributed easily and cheaply by everyone. This is not merely a technical, but a political and ultimately a moral question. As Eben Moglen, Professor of Law at Columbia University in New York has put it: "If you could make enough food to feed everyone on earth by baking one loaf of bread and press one button, what would be the moral case for denying anyone the food."

Vienna, November 2003

Konrad Becker
Felix Stalder

PRESERVING THE COMMONS IN THE NEW INFORMATION ORDER
By David Bollier

Champions of the market have long assumed that there are really only two sectors for governing the world - markets and the state. Markets are supposed to be the vehicle for economic progress while governments take care of everything else, including the excesses of the market.

Increasingly, however, it is becoming clear that there is another sector that is at least as important to our well-being. This sector is *the commons*.

The commons is a generic term that refers to a wide array of creations of nature and society that we inherit freely, share and hold in trust for future generations. It includes natural systems that we all depend upon, such as the atmosphere, the human genome, agricultural seeds, fresh water supplies, wildlife and ecosystems. The commons includes the airwaves used by broadcasters and wireless providers, the Internet as an open and shared communications infrastructure, and the information and creative works that constitute our common culture.

While the government is often a trustee for our common resources, it is not the owner. The timber, minerals, water, and parks on public lands do not belong to the government, but to *the people*. This is not merely a rhetorical distinction, but an important legal and moral one, because as a trustee the government cannot do whatever it wants with our resources. Like any trustee, it must act in the best interests of its beneficiary (the people) and must take care to preserve the capital stock for future generations. The government cannot give private parties preferential access to a common resource, nor - if the resource is suitable for sale in the market - can it simply give it away for free.

Yet that is essentially what is happening today. Governments throughout the world are conspiring with - or acquiescing in - the market's plunder of our common wealth. They are allowing private corporations to take valuable resources from the commons and privatize them. Once the cash value has been harvested, those corporations then dump their wastes, social disruptions and other

> **"Much that is called 'growth' today is actually a form of cannibalization of the commons."**

"market externalities" into the commons and declare, "It's your problem."

Much that is called "growth" today is actually a form of cannibalization of the commons. Market metrics conveniently do not consider clean air and water as finite, depleteable resources, for example; nor do they consider the long-term impact of privatized information on democracy, science and innovation.

The commons is not just a term for describing a much-abused class of resources. It also refers to an alternative vehicle to the market for creating value. The commons is a regime for managing shared resources and forging communities of shared purpose. Unlike markets, which rely upon *price* as the sole dimension of value, a commons is organized around a richer blend of human needs and interests. More than a physical asset, a commons is either implicitly or emphatically a social system for managing resources.

Sometimes identity and community are important features for managing a commons. Hundreds of open-source software communities are examples. By leveraging people's moral and social commitments, these communities have shown that a commons can be extremely efficient, creative and powerful without any legal contracts or exchanges of money. Social trust can be enormously efficient.

If the mental category of the commons seems exotic, its manifestations are usually familiar: Internet communities, scientific disciplines, public libraries, conservation land trusts, open source software, blood banks, and indigenous cultures. As these examples suggest, a commons can provide a way to re-integrate the economic and the moral, the individual and the collective, and the innovative and the traditional, into a new, more humanistic framework.

> **"At the heart of the commons is the idea of inter-dependence."**

At the heart of the commons is the idea of *inter-dependence*. Taking account of social, civic and ecological concerns creates new value. It turns out that pursuing certain projects through impersonal cash transactions in the marketplace can be quite costly, inefficient and destructive. This fact is often overlooked because market theory tends to discount the actual size and costs of market externalities - as well as the dependence of the market upon free and subsidized inputs.

When market champions declare that markets are the only effective way to create value, they are forgetting an essential fact about all markets - that they need a flourishing social and civic context, a commons, in order to function. No market can succeed without ample supplies of social trust, cooperation and a commitment to the common good. Americans in the 18th Century recognized this fact when they referred to their system of self-governance as the "commonwealth."

Yet as companies increasingly convert commons into markets - and the common wealth into private wealth - they are destroying the very resources upon which markets (and much else) depend. The process is often called "market enclosure," after the English enclosure movement of the 17th and 18th Centuries, which privatized and commodified vast stores of meadows, orchards, forests and other lands upon which the common people relied.

One of the most intensive market enclosures now underway involves the information and cultural commons. Over the past two decades, film studios, record labels, publishers and information vendors have aggressively sought and won huge expansions of copyright privileges while deploying new "techno-locks" to strictly control their content. Large content distributors are asserting that copyright protection is a natural and perpetual property right, not a democratically granted policy bargain that also entails public rights.

Historically, the public's stake in the copyright bargain has consisted of a *limited term* for copyright so that works would eventually enter the public domain and be available to everyone for free. It has also consisted of "fair use rights" to quote or excerpt copy-

righted works without asking for permission, and the right to use purchased works however we wish (a rule that allows public libraries to lend books and video stores to rent DVDs).

In the U.S., copyright terms, originally a fourteen-year monopoly, now lasts a lifetime plus seventy years for individuals. Because of a 1998 law that retroactively extended copyright protection for twenty years, thousands of works that should have entered the public domain - Robert Frost poems, Sherwood Anderson novels, films and musicals such as *Showboat* and *The Jazz Singer*, and Mickey Mouse - remain in private hands. Not only is future creativity impeded, consumers are paying billions of dollars for works that rightfully belong to them.

The much-criticized Digital Millennium Copyright Act gives copyright owners unprecedented control over how legally acquired works may be accessed and used. The law been invoked to prevent public discussion of software encryption and the playing of DVDs on unauthorized machines. Draconian new sorts of copyright enforcement are arising to monitor how people use copyrighted works.

Sellers are using "shrink-wrap" software licenses and "click-through" web licenses to override the public's fair use rights and traditional consumer protections. Trademark owners are claiming that no one can use their names in unauthorized ways, even for non-commercial or free-speech purposes (such as Internet domains like "www.walmartsucks.com" or that use the words "Harry Potter"). Database vendors are trying to claim private ownership of *facts* as compiled in databases.

The enclosure of the information commons poses some serious questions for the future of democracy, creativity and cultural sovereignty. Will our culture simply become a marketplace in which a handful of major "content providers" sell proprietary "cultural product" to consumers while selling consumers' attention to advertisers? Will citizens and artists be able to create new works and communicate freely without first obtaining corporate permission? Will the local, authentic, homegrown and diverse be eclipsed by a commercial monoculture?

So long as the market paradigm is the only framework for thinking about the future legal environment for information and creativity, such questions will not even be asked. Talking about the commons, however, helps us initiate a new kind of dialogue and begin to build broad-based movement to defend our common wealth.

David Bollier is the cofounder of Public Knowledge, a public-interest advocacy group in Washington, D.C., and the author of *Silent Theft: The Private Plunder of Our Common Wealth* (Routledge).
http://www.bollier.org

COMMONS

A pool for information that is managed by a community of users. Acceptable use policies are set by the community. Usually, access to the resource is granted non a non-discriminatory basis and at no or low costs. Examples: scientific information, open source software.

THE POLITICAL ECONOMY OF COMMONS
By Yochai Benkler

A Core Common Infrastructure

In order to capture the benefits of freedom and innovation that the networked information economy makes possible, we must build a core common infrastructure alongside the proprietary infrastructure. Such a common infrastructure will stretch from the very physical layer of the information environment to its logical and content layers. It must be extended so that any person has some cluster of resources of first and last resort that will enable that person to make and communicate information, knowledge, and culture to anyone else. Not all communications and information production facilities need to be open. But there must be some portion of each layer that anyone can use without asking permission from anyone else. This is necessary so that there is always some avenue open for any person or group to articulate,

> **"We must build a core common infrastructure alongside the proprietary infrastructure."**

encode, and transmit whatever he, she, or they want to communicate - no matter how fringe or unmarketable it may be.

The primary strategies for building the core common infrastructure are:

• An open physical layer should be built through the introduction of open wireless networks, or a spectrum commons.

• An open logical layer should be facilitated through a systematic policy preference for open over close protocols and standards, and support for free software platforms that no person or firm can unilaterally control. More important are the reversal or refusal to adopt coercive measures that prefer proprietary to open systems. These

include patents on software platforms, and the emerging cluster of paracopyright mechanisms like the United States' Digital Millennium Copyright Act2, intended to preserve the industrial business models of Hollywood and the recording industries by closing the logical layer of the Internet.

• An open content layer. Not all content must be open, but intellectual property rights have gone wildly out of control in the past decade, expanding in scope and force like never before. There is a pressing need to roll back some of the rules that are intended to support the twentieth century business models. These laws were passed in response to heavy lobbying by incumbents, and ignored the enormous potential for non market production and decentralized individual production to become central, rather than peripheral, components of our information environment.

• Reforming organizational and institutional structures that resist widely distributed production systems.

• The earliest large-scale successful model has been free software, with its informal social networks girded by the formal institutional framework of copyleft and open source licensing.

• In science, we are seeing the early emergence of efforts by scientists to release science from the old industrial publication model. The Public Library of Science and the Budapest Open Access Initiative are the first primary efforts in this direction. They promise to provide a framework in which scientists - who already do the science, review the papers, and edit the journals more-or-less for free - can manage their own publication systems without relying on the large commercial publishers.

• In publication more generally, the emergence of the Creative Commons is an enormously important facilitating institutional framework.

• In informal personal communications, blogspace is emerging as an interesting social space for free, independent, and widely distributed information production.

• In each case, the particular characteristics of the type of information, the institutional barriers of incumbency, and the social patterns of use are somewhat different. In each case, the solutions may be somewhat different. But in all cases we are seeing the emergence of social and institutional structures that allow individuals and groups to produce information free of the constraints imposed by the need to sell information as goods in a property-based market.

We stand at a moment of great opportunity and of a challenge to our capacity to make policy that puts human beings at the centre of the networked information society. Digital networks offer us the opportunity to enhance our productivity and growth while simultaneously improving our democracy and increasing individual freedom. These benefits come at the expense, however, of incumbents who have adapted well to the industrial model of information production, and are finding it difficult to adapt to the networked information economy that would replace it. These incumbents are pushing and pulling law, technology, and markets to shape the coming century in the image of the one that passed. It would be tragic if they were to succeed.

Building a core common infrastructure is a necessary precondition to allow us to transition away from a society of passive consumers buying what a small number of commercial producers are selling. It will allows us to develop into society in which all can speak to all, and in which anyone can become an active participant in political, social, and cultural discourse.

This article is an excerpt from *The Political Economy of Commons, 2003.*

Yochai Benkler <benklery@juris.law.nyu.edu> is Professor of Law at Yale Law School (US). His research mainly focuses on the effect of the interaction of law, technology and economic structures on the organization of information production and exchange.

THE INJUSTICE OF INTELLECTUAL PROPERTY
By Peter Drahos

Intellectual property rights are growing in strength and spreading. Many people working in Internet-related businesses would be wearily familiar with cease and desist letters from intellectual property owners alleging infringement of a trade mark, patent or copyright. Amazon's "1-click" patent is but one example of many thousands of patents that relate to the most basic functions of the Internet, including the transmission and receipt of files. Intellectual property used to be a civil matter, but these days you can go to jail for infringing someone's intellectual property. Aside from using the criminal law to police their monopolies, intellectual property owners also sermonize to the rest of us on what we should and should not be doing. The Recording Industry Association of America's website says that in addition to parents giving their kids guidance about sex, drugs and alcohol, they should also talk to them about the immorality of sharing music files.

Hardly an area of social life remains untouched by intellectual property issues. Research scientists find themselves worrying as much about who owns the intellectual property rights in the research tools they need to solve a problem, as they do about the problem itself. School teachers, musicians, lecturers, programmers have to steer their way through thickets of copyright rules in order to be able to do their jobs. Small to medium-sized companies, which never bothered much with intellectual property protection, spend more and more time worrying about it.

The one constant in all of this is the cacophony of intellectual property lawyers. In the manner of a Greek chorus they wail for more and more protection of intellectual property. It's a great form of protection to be in, because intellectual property is invisible and intangible. No matter how much money it hands over to the lawyers, a company can't be sure that it has done enough to protect these invisible assets. And then there is the uncomfortable fact that these assets can grow through exchange. When people get together and exchange ideas, information and knowledge these things grow. There are also examples of business models based on open domain approaches to information. The growth of the Free Software movement and the use by some businesses of software licences that permit free access to the source code of a program is a case in point. This suggests that there are alternative and less costly strategies for dealing with intangible assets.

Should we be worried about the rising tide of intellectual property regulation? The answer depends on who is the "we" in the question. Some individual firms have a lot to gain from increased levels of intellectual property protection because they are large enough to afford the costs of intellectual property systems. IBM takes out roughly 2000 patents a year in the US market alone. Not many firms, however, can afford the cost of so many patents.

If we think of intellectual property protection as a kind of arms race, we can see that firms should think very carefully before entering the race. An arms race in intellectual property is expensive because you are forever paying the lawyers to escalate to new levels of protection. In an arms race it's hard to get ahead and even harder to stay ahead. There can only be one winner and that is the person with the deepest pockets. There is also a basic paradox if you want your company to remain innovative. Innovation depends on people communicating with each other. The more that you place your creative people in intellectual property cells, the more risks you take with the innovation process.

Not all firms will benefit from the global paradigm of intellectual property that is emerging through the World Trade Organization and other international organizations like the World Intellectual Property Organization. Probably only a few will. Not many countries will benefit either because most are net intellectual property importers. By agreeing to ever higher standards of intellectual property developing countries especially are simply worsening their terms of trade. Most patents in developing countries are owned by foreigners, mainly by US and European patentees. Increasing patent protection benefits, in income terms, the US and to a lesser extent Europe. It is not just about patents, however. Increased copyright protection for textbooks, journals and computer programs will raise the costs of mass education in developing countries. Basically intellectual property begins to look like a game in which the rich have found new ways to rob the poor.

> **"Intellectual property begins to look like a game in which the rich have found new ways to rob the poor."**

The stench of hypocrisy is everywhere when it comes to the US and Europe setting the rules of the intellectual property game. These countries grew economically in the nineteenth and first part of the twentieth century using strategies of technological imitation. Developing countries will not be given the same sovereignty over their growth policies. The whole point of intellectual property is to block imitation and competition. The US and Europe mouth the importance of human rights, but apparently the right to health of poor people in developing countries does not count. Why else have the US and Europe done so little to reform the patent rules at the WTO to help poor people gain access to patented drugs for diseases like HIV/AIDS? In fact, the draft deal that was tabled at the WTO last December actually strengthens the hand of US and European pharmaceutical multinationals. The US and Europe preach a pro-development rhetoric, but they send their bullying trade negotiators to inflict further trade losses on developing countries in bilateral deals that see intellectual property protection ratcheted up and up. Developing countries are obliged to protect Western intellectual property assets. They also face protected agricultural markets in the US and Europe. Apparently the economic despair that arose in European countries because of the beggar-thy-neighbour trade policies that prevailed between the First and Second World Wars has been forgotten in the West.

One of the real dangers of global intellectual property rules is that they might eventually blow the world's trade regime out of the water. Trade is about goods and services moving across borders. But intellectual property law through its complex rules on parallel importation, exhaustion of rights and doctrines of infringement allows owners of intellectual property to stop the movement of goods. Europe, for example, is busily exploring how the intellectual property in geographical indications can be extended to include high recognition terms like 'feta', 'bratwurst' and 'brut'. A lot of the new protectionism that will confront developing countries will be hidden under the cloak of intellectual property law's complexity.

The globalization of intellectual property that we are witnessing is part of a familiar colonial phenomenon. The basis of competition lies in the development of skills and knowledge. When newcomers acquire skills and knowledge they disturb roles and hierarchies. The success of the Indian pharmaceutical industry fundamentally threatens those at the top of an international hierarchy of pharmaceutical production – the US, Europe and Japan. Underneath the moral rhetoric of intellectual property there lies an agenda of underdevelopment. It is all about protecting the knowledge and skills of the leaders of the pack.

Peter Drahos is Professor at the Australian National University. His latest book on intellectual property, co-authored with John Braithwaite, is *Information Feudalism: Who Owns The Knowledge Economy?* (Earthscan, London, 2002 and the New Press, New York, 2003).

BIOPIRACY: NEED TO CHANGE WESTERN IPR SYSTEMS
By Vandana Shiva

The patents on the anti-diabetic properties of 'karela', 'jamun' and brinjal highlight the problem of biopiracy - the patenting of indigenous biodiversity-related knowledge. U. S. Patent No. 5,900,240 was granted to Cromak Research Inc., based in New Jersey. The assignees are two non-resident Indians, Onkar S. Tomer and Kripanath Borah, and their colleague, Peter Gloniski. The use of 'karela', 'jamun' and brinjal for control of diabetes is common knowledge and everyday practice in India. Their use in the treatment of diabetes is documented in authoritative treatises such as the "Wealth of India"', the "Compendium of Indian Medicinal Plants" and the "Treatise on Indian Medicinal Plants". This indigenous knowledge and use consists of "prior art". No patent should be given where prior art exists, since patents are supposed to be granted only for new inventions on the basis of novelty and non-obviousness. These criteria establish inventiveness, and patents are exclusive rights granted for inventions. The claim to the use of "karela" or "jamun" for anti-diabetic treatment as an invention is false since such use has been known and documented widely in India.

Biopiracy and patenting of indigenous knowledge is a double theft because first it allows theft of creativity and innovation, and secondly, the exclusive rights established by patents on stolen knowledge and steal economic options of everyday survival on the basis of our indigenous biodiversity and indigenous knowledge. Overtime, the patents can be used to create monopolies and make everyday products highly priced. If there were only one or two cases of such false claims to invention on the basis of biopiracy, they could be called an error.

> **"The problem of biopiracy is a result of Western style IPR systems."**

However, biopiracy is an epidemic. 'Neem', 'haldi', pepper, 'harar', 'bahera', 'amla', mustard, basmati, ginger, castor, 'jaramla', 'amaltas' and now 'karela' and 'jamun'..... The problem is not, as was made out to be in the case of turmeric, an error made by a patent clerk. The problem is deep and systemic. And it calls for a systemic change, not a case by case challenge.

If a patent system which is supposed to reward inventiveness and creativity systematically rewards piracy, if a patent system fails to honestly apply criteria of novelty and non-obviousness in the granting of patents related to indigenous knowledge, then the system is flawed, and it needs to be changed. It cannot be the basis of granting patents or establishing exclusive marketing rights. The problem of biopiracy is a result of Western style IPR systems, not the absence of such IPR systems in India. Therefore, the implementation of TRIPs, which is based on the U.S. style patent regimes, should be immediately stopped and its review started.

The promotion of piracy is not an aberration in the U.S. patent law. It is intrinsic to it. The U.S. laws were originally designed to pirate or borrow industrial innovations from England. Patents originally functioned as import franchises or import monopolies. Later, the recognition and stimulation of inventiveness was added as an objective, and the criteria of novelty, non-obviousness and utility were developed as a test for inventiveness. However, the earlier objectives of creating U.S. monopolies based on free import of knowledge from other countries have survived and the U.S. continues to import knowledge which it then converts to "intellectual property".

Article 102 of the U.S. Patent Law, which defines prior art, does not recognise technologies and methods in use in other countries as prior art. If knowledge is new for the U.S., it is novel, even if it is part of an ancient tradition of other cultures and countries. "Prior art" and "Prior use" in other countries were, therefore, systematically ignored in the U.S. laws on monopolies granted on the basis of claims to invention. The same assumption of ignorance as invention is enshrined in the U.S. Patent Act of 1952. Section 102 of the Act treats as a "prior art" use in the U.S. and publications in foreign countries. Use in foreign countries is not recognised as "prior art".

Since patents are granted for new inventions, denial or non-recognition of "prior art" elsewhere allows patents to be granted for existing knowledge and use in other countries. This is the basis of biopiracy or knowledge of Indian knowledge systems, and indigenous uses of biological resources being patented. The U.S. style patent laws can only pirate indigenous knowledge. They cannot recognise or protect it. The survival of an anachronistic Art. 102 thus enables the U.S. to pirate knowledge freely from other countries, patent it, and then fiercely protect this stolen knowledge as "intellectual property". Knowledge flows freely into the U.S. but is prevented from flowing freely out of the U. S.

If biopiracy has to stop, then the U.S. patent laws must change, and Article 102 must be redrafted to recognise prior art of other countries. This is especially important given that the U.S. patent laws have been globalised through the TRIPs agreement of the WTO. Since TRIPs is based on the assumption that the U.S. style IPR systems are "strong" and should be implemented worldwide, and since in reality the U. S. system is inherently flawed in dealing with indigenous knowledge and is "weak" in the context of biopiracy, the review and amendment of TRIPs should begin with an examination of the deficiencies and weakness of Western style intellectual property rights systems. A globalised IPR regime which denies the knowledge and innovations of the Third World, which allows such innovations to be treated as inventions in the U.S., which legalises monopolistic exclusive rights by granting of patents based on everyday, common place indigenous knowledge is a regime which needs overhaul and amendment.

Amending TRIPs and U.S. patent laws is the challenge we must take up. The problem is not our IPR systems but the Western style IPR regimes which systematically enable piracy of indigenous knowledge and practices through patents.

Some commentators have suggested that biopiracy happens because our knowledge is not documented. That is far from true. Indigenous knowledge in India has been systematically documented, and this in fact has made piracy easier. And even the folk knowledge orally held by local communities deserves to be recognised as collective, cumulative innovation. The ignorance of such knowledge in the U.S. should not be allowed to treat piracy as invention.

> **"Neither TRIPS nor the US patent law have scope for recognising knowledge as a 'commons'."**

Piracy of indigenous knowledge will continue till patent laws directly address this issue, exclude, patents on indigenous knowledge and trivial modifications of it, and create sui generis systems for the protection of collective, cumulative innovation.

The protection of diverse knowledge systems requires a diversity of IPR systems, including systems which do not reduce knowledge and innovation to private property for monopolistic profits. Systems of common property in knowledge need to be evolved for preserving the integrity of indigenous knowledge systems on the basis of which our every day survival is based. Since neither TRIPs, nor the U.S. patent law have scope for recognising knowledge as a "commons", or recognising the collective, cumulative innovation embodied in indigenous knowledge systems, if indigenous knowledge has to be protected, then TRIPs and U.S. patent laws must change.

Nothing less than an overhaul of Western style IPR systems with their intrinsic weaknesses will stop the epidemic of biopiracy. And if biopiracy is not stopped, global corporate profits will grow at the cost of the food rights, health rights and knowledge rights of one billion Indians, two thirds of whom are too poor to meet their needs through the global market place. Our survival itself is at stake.

This article has been abridged from http://www.hinduonline.com

Vandana Shiva is a scientist and campaigner, and director of the Research Foundation for Science, Technology and Ecology in New Delhi. Book publications include *Biopiracy – The Plunder of Nature and Knowledge* (South End Press 1997). *http://www.vshiva.net*

FREE SOFTWARE, FREE HARDWARE, FREE BANDWITH
Interview with Eben Moglen [Open Cultures Conference, Vienna, 5-6 June, 2003]

Free software has become a fairly familiar concept to most people. At the Open Cultures Conference you highlighted the growing importance of free hardware and free bandwidth. Which are the key issues here?

Hardware got very cheap and easy to acquire by people in the developed world. But the content industries have realized now that there is no way they are going to control software, because free software has become so familiar. If you are Disney or one of the owners of culture, you begin to want to control all the machines in the network, so there is no place where the ownership of culture can give way to the freedom to share. So you try to sneak the law of technology into the law of copyright. This happens via the Digital Millennium Copyright Act in the United States or the European Copyright Directive in Europe.

In the end you create the technology called "trusted computing", which means computers that nobody can trust. What we wind up with is a war to use our own computers and cell phones in our own way.

You have also spoken of a "war around bandwidth".

What free bandwidth means is that we ought to have a right to communicate equally using the electromagnetic spectrum that belongs to all of us. Instead, governments pretend they own it or Mr. Murdoch owns it, Mr. Berlusconi, or that Deutsche Telekom owns it. The result is that we pay to be connected to one another's minds. And that means we can only be as connected as we can afford. Which means that poor people and people who are disfavored in the societies

in which they live don't have the ability to speak, and we need to change that.

To which extent can law-making change that situation? Are law makers aware of these problems?

Law makers could change things. But the reality in which we live now is that law makers change things for the worse. The owners of culture and the owners of bandwidth are to this regime what the aristocracy was to the ancien régime of Europe. They don't pay taxes, they have special legal privileges, they use the public property as though it were their private domain, and they expect law to preserve those privileges, not to threaten them. And indeed, throughout the developed society, this is what happens. It may happen in different ways. In Belgrade under Mr.

Miloseviè, it works in one way, in Rome under Berlusconi, it works in a different one, in Washington D.C. under Mr. Murdoch in yet another. Throughout the developed world, the relationship between broadcasters and the government is particularly intimate. The telecommunications companies and the image makers are particularly powerful. The experience of the 1990s was that they got everything that they wanted. The experience of the 21st century begins with their having everything they could possibly desire. The problem is that the 12 year olds don't believe what they believe.

Are we talking about a revolutionary movement along the dividing line of generations?

The difference between this revolution and the revolution that have marked European history is that the division is less between those who have and who have not than between those who are young and those who are not. The young have a different grasp of the ideological valance of these conceptions. Their view, I think, is more inherently truthful. The pharmaceutical industry bought me and my friends twelve billion dollars of free publicity during the late 1990s because they taught every literate child on earth that the words "intellectual property" means people dying of AIDS in Africa because patented drugs are unaffordable. The people who put children in jail for stealing music think that music is something that can be stolen. Johan Sebastian Bach did not think that music could be stolen, neither did Mozart, and twelve year-olds don't think that music can be stolen. The idea that music is a thing that you can steal belongs to a particular generation in history. It is a culturally and historically contingent event which is ending. It's the fact that its ending that marks the crisis of ideology for the regime in power. The regime serves those who serves it, and they believe that music can be stolen.

> **"The owners of culture and the owners of bandwidth are to this regime what the aristocracy was to the *ancien régime* of Europe."**

So there some inherent misconceptions in the whole idea of trusted computing and digital rights management?

There are inherent contradictions between a system that claims to be free market capitalism on the one hand, and the ownership of ideas on the other. The patent law is inherently contradictory. When somebody says "I am a free market capitalist, and that is why I believe in the free patent law" that is to say that government should decide what is a good idea, should decide who had the idea, and that for 20 years no one else is allowed to use the idea unless they pay for it. So claiming to be a free market capitalism and supporting patent law is nonsense. But you don't realize it is nonsense because you don't realize that your ideology is contradictory. Its your world view and you stick to it.

Do you think that the new emerging intellectual property regimes will fall victim to their own internal contradictions? Or might there just be an intensification of coercion so that the whole cultural landscape will be streamlined to suit the needs of the rights owners?

The wish it would happen like that, but it won't. The problem is that in the end it will just be an exercise in force. The cultural model that followed Edison was a technologically enabled model that says culture is commodity and it is distributed on coercive terms. You can have it only if you can pay for it. The problem is that in the 21st century coercion works badly because technology resists force. Technology is multi-path. Technology is de-centralized. Technology has low bottle necks. Mrs. Miloseviè controlled broadcasting, he could even control newspapers but he could not control the web sites. B92 moved to Montenegro and published a website and people knew what was going on. Technology resists force, and therefore coercive models for the production and distribution of culture are harder to maintain. The Norwegian teenager Jan Johansen was taken to court by the movie industry in the US and Norway for understanding how DVD works and developing a program that allowed bypassing the copy protection. The industry may win all the cases, but it loses the war.

> **"Johann Sebastian Bach did not think that music could be stolen."**

With this sort of criticism, what kind of responses are you getting then from media industry and their representatives?

Most of the time they ignore me, deliberately or non-deliberately. When I went out to start doing the crypto wars at the beginning of the 1990 - freeing encryption was the first necessary step - I don't think that the National Security Agency knew who I was. When I started doing Free Software in a serious way Mr. Gates did not pay any attention. He did not know who I was for years. I am still not sure he knows. I was in Redmond last week, but I did not see him, I saw his underlings. But now they know what is free

software. I don't think the telecommunications companies think: Moglen is going to get into our business, we'd better be worried. They have no idea who I am. Mr. Eisner, the CEO of Disney, has not thought about me in his life. But if they knew what I represent, the ideas that I have the honor to try and improve and spread around the world, they would ignore them in a hostile way. They would not tell anybody about them, that would be dangerous. They would not spread them, that would be ruinous. They would keep silence about them and hope that nobody would notice, and I think this is what they are doing.

> **"The industry may win all the cases, but it loses the war."**

You consider free bandwidth as the key issue to be addressed in the coming years if culture is supposed remain free in the digital era.

Free software is now a thing that exists. The hardware counter revolution – trusted computing - has to fail, as I think it will. The place that's really most difficult and complicated is the regulation of the electro-magnetic spectrum. It is fully accepted by all governments on earth that they need to regulate the spectrum. And it is fully accepted by them in one way or another that that means giving away exclusive rights and spectrum to a few privileged organizations and people. And that has to change. We have to use spectrum the way our cell phones use it, by sharing it. Not by giving a piece to him and a piece to her and a piece to them and no piece to you and me. In doing that we are going to challenge the telecommunications companies, the broadcasters, and state power over the spectrum which belongs to all of us. That's the most important next step. I am getting ready to say we won about free software. I am getting ready to say we are going to win about trusted computing. Because that is where the revolution really happens.

But the obstacles seem to be formidable.

Sure, this is an area where political power resists most firmly, and that is where it has to give way. We can't live in a 21st century where Rupert Murdoch and Silvio Berlusconi and a twenty other people control most of the bandwidth and

give it to us only if we pay for it. We have to live in a world were everybody is a broadcaster, everybody can be a radio station, everybody can be a television, everybody can do whatever he or she needs to communicate with others on an equal basis.

What needs to happen in order for this to be possible?

In order to do that all we have to do is take the technology that exist now as models and spread it and make it better and put it into the parts of the electromagnetic spectrum where it belongs. Doing that means changing the law of all developed societies – by getting around it, by hacking it, by playing tricks with it, by pulling it inside out. It is not going to change because the legislator wakes up one morning and says "I think I'll undo spectrum concentration today". In fact, we are just observing the American Federal Communications Commission do the opposite, giving even more power to Mr. Murdoch.

Eben Moglen is Professor of Law at the Columbia University in New York and Board Member and General Counsel of the Free Software Foundation.
http://moglen.law.columbia.edu

SAVE THE DIGITAL E~COLOGY

IP & DOMAIN NAMES
Bureau d'études, 2003

Legend

- **IP** Internet corp. for assigned names & domain names (ICANN) — Regional or International organization for the attribution of IP numbers or domain names
- **IP** — Regional Internet Registry (RIR)
- Internet Society (ISOC) — Regional or International Internet organization (Non-Governmental or not)
- ©®ce™ **ISO** — Internationale institution of normalisation
- **European Patent Office (EPO)** ®ce™© — Institutional office, association, agency, institute effecting a form of normalisation
- **DAIMLER CHRYSLER** — Company
- **AIPPI (International Association for the Protection of Intellectual Property)** — Professional federation, employers' organisation, interest group
- **DARPA** (usa gov) — Police, military or secret service agency
- **CORE** — Foundation or private institute

Network Solutions Inc (NSI)/SAIC
domain names are always registered in the databanks of the SAIC-NSI. And even if, officially, the "client" data associated with the domain names remains confidential, it is the SAIC-NSI information system that retains responsibility and technical control over the data banks of names and name servers.

Network Solutions Inc (NSI)
January 1, 1993 — NSI and National Science Foundation (NSF) sign Cooperative Agreement granting NSI authority to manage DNS registration and database. Agreement set to expire on 9/30/98. (Today) Network Solutions is the world's leading registrar, with more than 6.5 million net registrations. Network Solutions registers the majority of Web addresses worldwide through various channels including nearly 220 companies in over 30 countries in its Premier program and over 30,000 companies in its Affiliate Program. (1-August-2003, www.internic.net/registrars/registrar-2.html)

CORE
In November 2000, ICANN approved seven new TLDs. Six of them, .info, .museum, .biz , .aero, .coop and .name have been launched, the other one is expected to follow quickly. CORE members offer registration services under most of these newly created TLDs. CORE is also a .us and .cn accredited registrar and many CORE members offer to their customers .us and .cn registrations. (www.corenic.org) CORE is a Registrar accredited by the Internet Corporation for Assigned Names and Numbers (ICANN) and currently operates as a registrar for .com, .net, .org, .biz , .info , .name domain names.
(source:www.corenic.org)

Clarence E. Briggs III
military service during Operation Juste Cause in Panama and Desert Storm in Irak
CEO, Chairman and president of AIT
(source:http://aitcom.net)

Advanced Internet Technology/nameIT
190 000 domain Names in 137 countries
(source:www.ait.com)

Champ Mitchell
President, Network Solutions served as vice chairman of the finance committee for the election campaign of President George H. W. Bush.
(source : www.verisign.com)

Vint Cerf
senior vice president MCI Worldcom Inc. Dr. Vinton Cerf is known as a "Father of the Internet" for his work with the U.S. Department of Defense's Advanced Research Projects Agency (DARPA) where he played a key role in the development of the Internet and Internet-related data packet and security technologies. (www.ed.gov)
The term Internet is first coined (1974) by Vint Cerf and Bob Kahn in a paper on Transmission Control Protocol (TCP). On January 1st, (1983) every machine connected to ARPANET switched to TCP/IP.

IANA - Root zone: administrators of the 240 cc TLD (codes ISO ".de" ".fr" ...) www.iana.org/cctld/cctld-whois.htm

ICANN Accredited Registrar
.com" ".org" ".net"
International non profit association. Headquater: Marina del Rey, california. In 2000 ICANN had 158 000 members
(source: www.internic.net)

The Address Supporting Organization (ASO)
created by Icann in August 1999, ASO manages IP adresses
Board members
Dr Sang Hyon Kyong (serves as Governor of International Council for Computer Communication (ICCC), Member of the Board of Multilingual Internet Names Consortium (MINC), and Chairman of the Board of Asia-Pacific Advanced Networking Korea (APAN-Kr) Consortium. He was Minister of Information and Communication and Vice Minister of Communications in the government of South Korea (probably connected to CIA). He was on the technical staff at Bell Laboratories and Argonne National Laboratory in the US)
Lyman Chapin (founding trustee of the Internet Society; served as chairman of the Internet Architecture Board (IAB) and the ANSI and ISO standards groups responsible for Network and Transport layer standards, and was a principal architect of the Open Systems Interconnection (OSI) model and protocols. Serves to the NATO Science Committee's networking panel)
Mouhamet Diop, Africa (Mouhamet Diop is AfriNIC observer at the ASO address council, Executive committee on the Steering committee of AfriNIC. Graduated in 1993, from Business School ESSEC, France. built the most famous national IP-based network in the (neo-liberal country) Senegal)
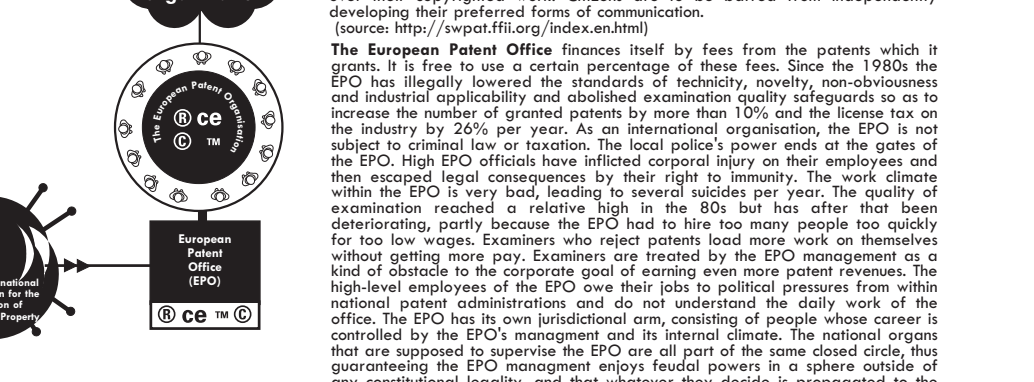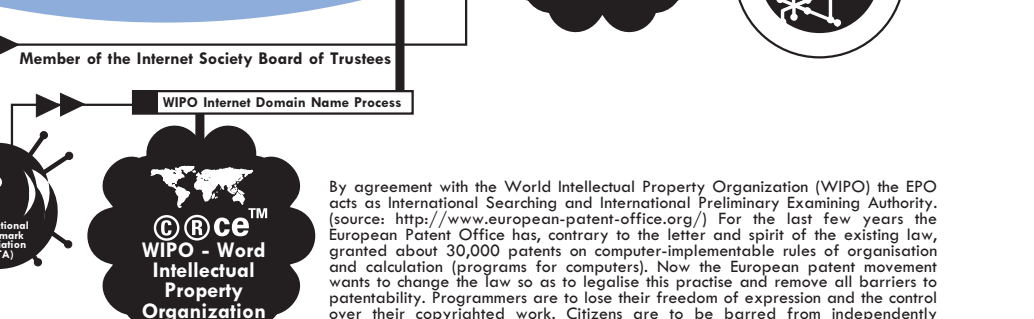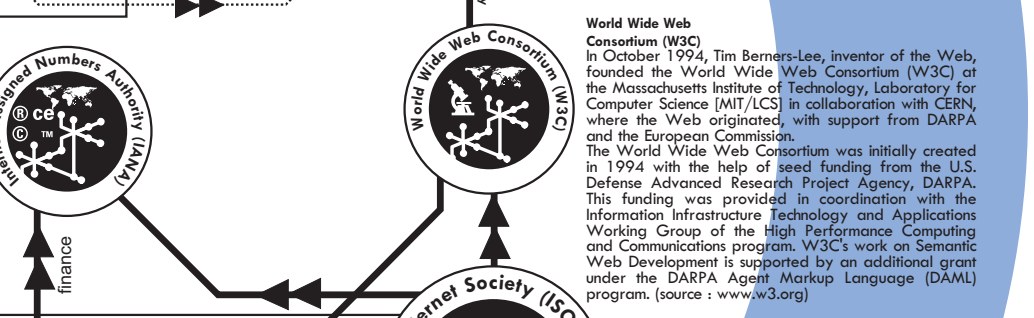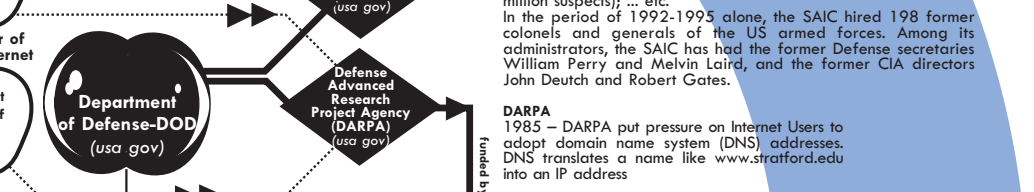
LACNIC - LATIN AMERICAN AND CARIBBEAN INTERNET ADDRESSES REGISTRY
BOARD OF DIRECTORS
Oscar Messano, CHAIRMAN
Germán Valdez, SECRETARY
Hartmut Glaser TREASURER
Fabio Marinho
Raimundo Beca
Raúl Echeberría,
EXECUTIVE DIRECTOR - CEO
(source: http://lacnic.net)

APNIC
700 member organizations. across 39 economies of the region. Within the APNIC membership, there are also five National Internet Registries (NIRs), in Japan, China, Taiwan, Korea, and Indonesia. The NIRs perform analogous functions to APNIC at a national level and together represent the interests of more than 500 additional organizations.

ARIN - USA
ARIN is located in Chantilly, Virginia, United States. Its service region incorporates 70 countries, covering North America, South America, the Caribbean, and African countries located south of the equator. ARIN currently consists of more than 1500 members. Within the ARIN region, there are two national delegated registries, located in Mexico and Brazil.

RIPE NCC
he RIPE NCC currently supports 3150 Local Internet Registries (LIRs) who collectively form the RIPE NCC membership.

http://bureaudetudes.free.fr

Ray Plzak
Ray is a co-chair of the Domain Name System (DNS) Operation Working Group of the Internet Engineering Task Force (IETF) . As an Assistant Vice President with SAIC, managed the Department of Defense (DoD) Network Information Center (NIC) under a contract with the Defense Information Systems Agency. The NIC is DoD's registry for the allocation of IP numbers and domain names.

AIPPI
Numerous studies, particularly the reports of the national groups in the AIPPI (International Association for the Protection of Intellectual Property) have pointed out that there is no legal obstacle to the application of the patent system to computer software. Thus, a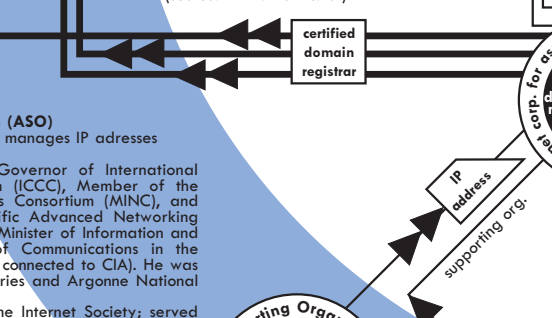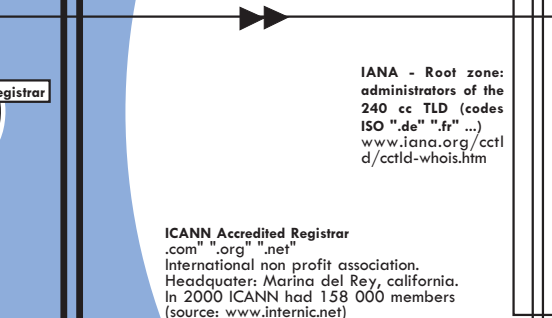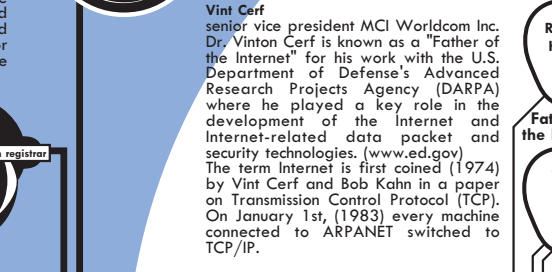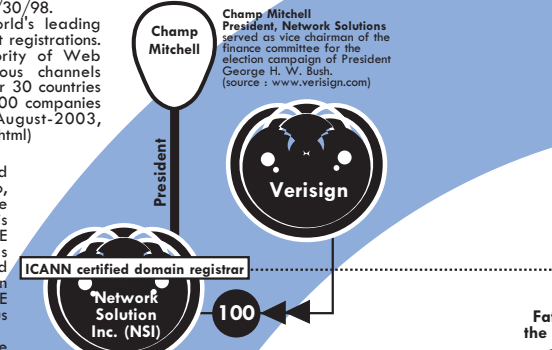fter consulting with all its national groups, the AIPPI has taken a position in favor of eliminating the exclusion of computer software from patentability.
(source: http://europa.eu.int/comm/internal_market/en/indprop/comp/michelet.pdf.)

SAIC: 41,000 employees, an annual turnover of 5.5 billion dollars, 620 million dollars profit in 1999. The company's major client is the American government, 79% of total turnover comes from the Pentagon. Among the SAIC's achievements: digital cartography of the USA and digital early warning system for environmental data; security system for Defense Department computers; installation of computerized decision-making and transmission systems for oil conglomerates such as BP Amoco; computerization of the American reserve army mobilization system; design and installation of transmission systems between command posts and combatants (Defense Information Systems Network); design of C4I command centers for naval and space warfare; modernization of the space-based mapping networks of the National Imagery and Mapping Agency; surveillance of the execution of nuclear non-proliferation treaties; design of training and simulation equipment for F-15 and F-16 pilots; design of satellite sensors and observation equipment for NASA; creation of the largest criminal information database for the FBI (with files on 38 million suspects); ... etc.
In the period of 1992-1995 alone, the SAIC hired 198 former colonels and generals of the US armed forces. Among its administrators, the SAIC has had the former Defense secretaries William Perry and Melvin Laird, and the former CIA directors John Deutch and Robert Gates.
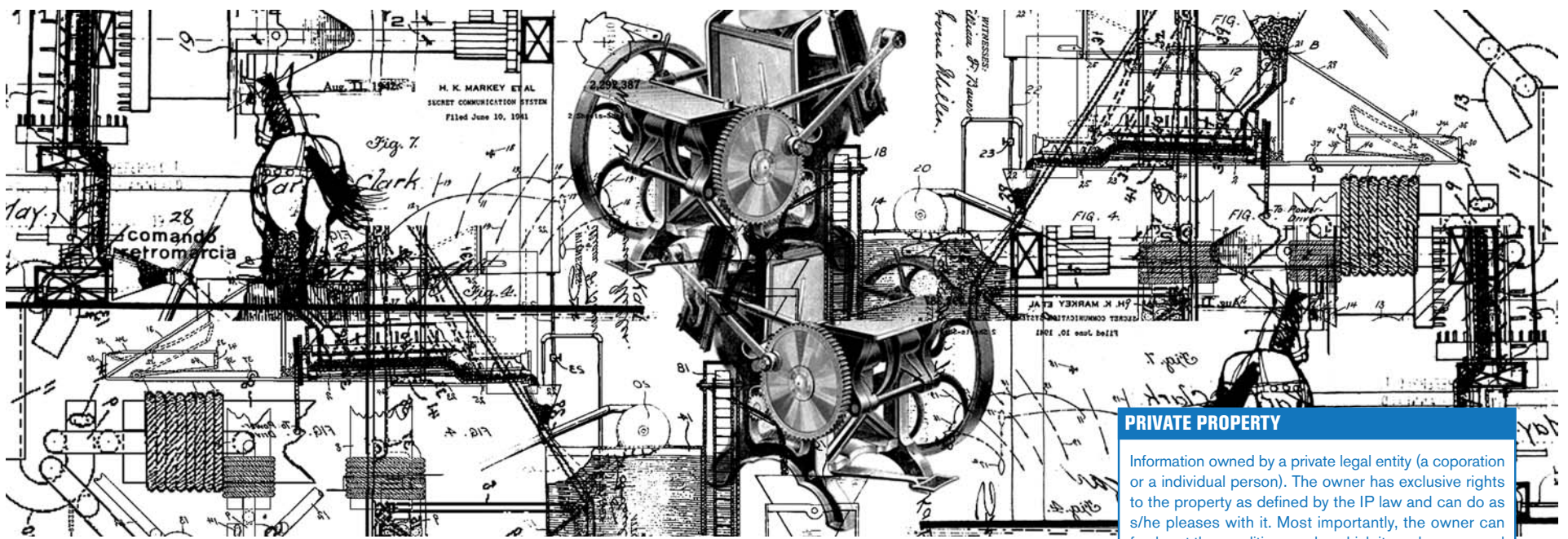
DARPA
1985 – DARPA put pressure on Internet Users to adopt domain name system (DNS) addresses. DNS translates a name like www.stratford.edu into an IP address

World Wide Web Consortium (W3C)
In October 1994, Tim Berners-Lee, inventor of the Web, founded the World Wide Web Consortium (W3C) at the Massachusetts Institute of Technology, Laboratory for Computer Science (MIT/LCS) in collaboration with CERN, where the Web originated, with support from DARPA and the European Commission.
The World Wide Web Consortium was initially created in 1994 with the help of seed funding from the U.S. Defense Advanced Research Project Agency, DARPA. This funding was provided in coordination with the Information Infrastructure Technology and Applications Working Group of the High Performance Computing and Communications program. W3C's work on Semantic Web Development is supported by an additional grant under the DARPA Agent Markup Language (DAML) program. (source : www.w3.org)

ISO 3166 is the International Standard for country codes.

By agreement with the World Intellectual Property Organization (WIPO) the EPO acts as International Searching and International Preliminary Examining Authority. (source: http://www.european-patent-office.org/) For the last few years the European Patent Office has, contrary to the letter and spirit of the existing law, granted about 30,000 patents on computer-implementable rules of organisation and calculation (programs for computers). Now the European patent movement wants to change the law so as to legalise this practise and remove all barriers to patentability. Programmers are to lose their freedom of expression and the control over their copyrighted work. Citizens are to be barred from independently developing their preferred forms of communication.
(source: http://swpat.ffii.org/index.en.html)

The European Patent Office finances itself by fees from the patents which it grants. It is free to use a certain percentage of these fees. Since the 1980s the EPO has illegally lowered the standards of technicity, novelty, non-obviousness and industrial applicability and abolished examination quality safeguards so as to increase the number of granted patents by more than 10% and the license tax on the industry by 26% per year. As an international organisation, the EPO is not subject to criminal law or taxation. The local police's power ends at the gates of the EPO. High EPO officials have inflicted corporal injury on their employees and then escaped legal consequences by their right to immunity. The work climate within the EPO is very bad, leading to several suicides per year. The quality of examination reached a relative high in the 80s but has after that been deteriorating, partly because the EPO had to hire too many people too quickly for too low wages. Examiners who reject patents load more work on themselves without getting more pay. Examiners are treated by the EPO management as a kind of obstacle yo the corporate goal of earning even more patent revenues. The high-level employees of the EPO owe their jobs to political pressures from within national patent administrations and do not understand the daily work of the office. The EPO has its own jurisdictional arm, consisting of people whose career is controlled by the EPO's managment and its internal climate. The national organs that are supposed to supervise the EPO are all part of the same closed circle, thus guaranteeing the EPO managment enjoys feudal powers in a sphere outside of any constitutional legality, and that whatever they decide is propagated to the national administrations and lawcourts.

Diagram labels

- President
- **Champ Mitchell**
- **Verisign**
- ICANN certified domain registrar
- **Network Solution Inc. (NSI)**
- 100
- **CORE**
- ICANN certified domain registrar
- **Clarence E. Briggs III**
- ICANN certified domain registrar
- **Advanced Internet Technology**
- certified domain registrar
- **Science Application Internat. Corp. (SAIC)**
- **Father of the Internet** — Robert Kahn
- **Father of the Internet** — Vint Cerf
- **Department of Defense-DOD** (usa gov)
- **National Security Agency (NSA)** (usa gov)
- **Defense Advanced Research Project Agency (DARPA)** (usa gov)
- finance
- funded by
- **Internet Assigned Numbers Authority (IANA)**
- **World Wide Web Consortium (W3C)**
- finance
- **Internet Society (ISOC)**
- **IP domain names** internet corp. for assigned names & numbers (ICANN)
- IP address
- supporting org.
- **Address Supporting Organization (ASO)** IP
- **Generic Names Supporting Organization (GNSO)**
- ISO 3166
- **International Telecommunications Union (ITU)** ©®ce™
- **WTO World Trade Organization** ©®ce™
- **ISO - International Organization for Standardization** ©®ce™
- CISO-IEC/JTC1 ©ce™
- **LACNIC (Latin American & Caribbean)** IP Regional Internet Registry
- **Réseau IP Européens RIPE NCC (Europe)** IP Regional Internet Registry
- **Kees Neggers** — President
- Member of the Internet Society Board of Trustees
- **APNIC (Asia/pacific)** IP Regional Internet Registry
- **ARIN (USA)** IP Regional Internet Registry
- **AfriNIC (Africa)** IP Regional Internet Registry
- President and CEO — **Ray Plzak**
- WIPO Internet Domain Name Process
- **International Trademark Association (INTA)**
- **WIPO - Word Intellectual Property Organization** ©®ce™
- **The European Patent Organization** ®ce™©
- **European Patent Office (EPO)** ®ce™©
- **AIPPI (International Association for the Protection of Intellectual Property)**

THE PROBLEM WITH WSIS
By Alan Toner

We begin with a tale of two terms: the well aired and well known "Information Society", and its rather furtive and less well known relation, "intellectual property" (IP). One of the decade's great shibboleths, "Information Society" was a phrase recycled throughout the Nineties by policy hacks, academics and gurus alike. Employed variously to herald the expansion of digital networks, the permeation of labour by information processes, and the shift from tangible to intangible goods, "Information Society" seemed to imply something inexorable, a consequence of the massive mediatisation of the preceding years, outside any one set of strategic interests - something, we were constantly reminded, "we would all have to adapt to."

What this rhetoric largely clouded was the wave of expansionist intellectual property laws which accompanied the "informatization" of society. These legal constraints, at whose epicentre sits the Trade Related Aspects of Intellectual Property Rights (TRIPS) agreement, annex to the General Agreement on Trades and Tariffs (GATTs), have served a very strategic set of interests within the post-industrial scene. They have effectively reversed the traditional role of IP laws from the protection of cultural production and scientific/technological innovation to the limitation of these creative forces. Additionally, they served to fix relations between advanced post-industrial states and the former "third world". They have done this by creating copyright monopolies which drive concentration of ownership, push up costs of entry into markets, and exclude effective activity for many independent actors. These agreements ensure that even where production is transferred to these areas due to lower labour and production costs, the profits continue to flow to New York, London and Zurich.

> "The emerging IP regime directly contradicts the goals of this conference."

Copyright laws protect commerce from competition and from its own customers, allowing it to charge a rent on the past which finances domination of markets in the present - and which, in turn, is taken to guarantee the future. This putative guarantee comes at a certain price: software licenses checked at gunpoint in Brazil; a Russian software engineer arrested and jailed in the United States after a conference presentation of his work before thousands; indigenous Indians in Chiapas rioting after a police raid on a market of infringing goods; an 18-year-old Norwegian prosecuted for enabling a Linux based DVD player; American citizens sharing music prosecuted as felons; university researchers charged with criminal trade secrets offences for publishing knowledge derived from their own research works; China summarily executing trademark pirates as disciplinary examples. In AIDS-ravaged sub-Saharan Africa and Asia, pharmaceutical companies have instigated actions through the WTO and in national courts to prevent the cheap manufacture of the anti-retrovirals necessary for people to survive. Where once corpses accumulated to the advance of colonialism or the indifference of commodity capital, now they hang in the profit and loss scales of Big Pharma, actuarially accounted for and calculated against licensing and royalty revenue. With the aid of stringent IP law, companies are able to exercise a biopolitical control that takes to new extremes the tendency to liberate capital by restricting individual and collective freedoms and rights - even the right to life itself.

Why you won't hear anything about this at WSIS

You might be forgiven for imagining that one of the first imperatives of an occasion such as the World Summit on Information Society would be to address the social terrors being carried out in the defence of intellectual property. Unfortunately such topics are firmly off the agenda, not by oversight for stragetic reasons.

Information and communications have been the subject of two previous international initiatives since the Second World War. The first, the UN"s 1948 Conference on the Freedom of Information, also in Geneva, was overshadowed by Cold War tensions.

But ensuing attempts at the World Intellectual Property Organisation (WIPO) to revise the Paris Convention governing industrial property (patents and trademarks) and to expand the role of compulsory licensing at the UN Conference on Trade and Development (UNCTAD) were more successful. At UNESCO, demands for a "New World Information and Communication Order" (NWICO), premised on a critique of media concentration and cultural domination of third world countries by foreign states and commercial interests, postulated the centrality of informational flows to economic development and argued that systemic inequalities in such flows obstructed countries from developing local media industries that could allow them to represent themselves.

Out of the Declaration on Mass Media at UNESCO's 1978 conference came the establishment of a commission to study communications issues, which two years later published "Many Voices, One World", better known as the MacBride Report, setting out a program promoting diversity of ownership,

plurality of opinion and guarantees of cultural identity. Despite the moderation of its claims, the MacBride report incensed media and broadcast associations, especially in the US, culminating in the 1981 "Declaration of Taillores" demanding that UNESCO "abandon attempts to regulate news content and formulate rules for the press."

Ultimately the United States left UNESCO in 1984 (depriving it of 30 percent of its budget) followed shortly thereafter by Britain and Singapore. All of these negotiations had taken place in multilateral fora, a terrain for which the Reagan administration had little taste, preferring the conditions of bilateral negotiation where US economic and military clout could be wielded with less modesty. Companies such as Pfizer and IBM, as well as trade associations like the Motion Picture Association of America (MPAA) decided that the genteel style of WIPO, the numerical supremacy of the developing countries, and the lack of an enforcement mechanism for international copyright and patent treaties, made it unsuitable for their purposes.

INFORMATION (REAL)POLITIK

The US Administration"s new bilateral trade-based strategy debuted in 1983 in the form of the Caribbean Basin Economic Recovery Act, which offered duty-free access to US markets for certain goods, contingent on compliance with US intellectual property norms - a template later employed in numerous other bilateral deals. The following year, US copyright industries united to establish the International Intellectual Property Alliance (IIPA) which was to pursue a trade route towards copyright enforcement.

In 1986, with the Uruguay Round of the GATT negotiations on the horizon, the IIPA was supplemented by a new industry group, the Intellectual Property Committee (IPC), determined to ensure that corporate IP concerns be inserted into the negotiation agenda and fully integrated into any ultimate agreement. It was the IPC's efforts to orchestrate business lobbying efforts on a global basis which culminated in TRIPS, now administered by the WTO. TRIPS will transfer an estimated 40 billion dollars from the poorest states over the next ten years, according to the World Bank, via patented medicines and seeds, and net rent transfers through royalties and licenses.

A CONFERENCE WITHOUT CONTENT

This evacuation of power from UN organisations poses a dilemma : what can be meaningfully discussed at WSIS? The draft declaration indicates the questionable content of the "information society" concept itself, comprising 71 different points and resuscitating a ruse reminiscent of the heights of the "dot com" folly: addition of prefix "E-" to any given area of human activity to cast it as an "ICT issue" (E-administration, E-Learning and so on). This will not help. Two basic contradictions remain and WSIS will do little to overcome them.

First, rhetoric and reality starkly diverge: development agencies set a target of connecting every family and village by 2005 in a context of constantly dwindling budgets and the emasculation of sources of self-financing such as the Accounting Rate Mechanism. Likewise the sole surviving product of the NWICO debate within UNESCO, the International Program for the Development of Communication (IPDC) has been so denied resources as to cripple it entirely: in 2001, contributions to the IPDC program at UNESCO hit an all-time low of US$1.25 million. Given that major "donors" slashed aid through the Nineties - US development funding is smaller as a proportion of the total economy than at any time since the advent of official statistics - the likelihood of any tangible effects arising from the programme is negligible.

Second, the emerging IP regime directly contradicts the goals of this conference. Access to essential information will get more difficult, despite information technologies potential to put it all at everyone's fingertips. Chances of developing countries to create products and bring them to the market will dimish, not increase, because of the new restrictions based on information through copyright and patent law.

Unless we start to recognize that a fair IP regime is an integral part of a fair Information Society, efforts like WSIS will be little more as window dressing and a huge waste of time.

Alan Toner <alan@kein.org> is an activist and researcher working from Rome, Italy. He is part of the Autonomedia collective.
http://slash.autonomedia.org

REMEMBER: MIMESIS IS A FORM OF CREATIVITY
About Music and Equal Opportunities in the Era of the Digital Sample
By Mercedes Bunz

It is not by chance that "Get your freak on" from Missy Elliott was among the most sampled pieces of Bastard Pop or Bootlegging, the musical genre that did rise as the hype of summer 2002 and went straight out of the computer, into the Internet and up in the charts. While electronic music in the beginning of the nineties was formatted largely by the aesthetics of repetition, its transforming structure nowadays can be found in the copy. And last but not least the lyrics of "Get your freak on" are more or less invoking a competition: "Copywritten so, dont copy me - Yall do it, sloppily - And yall can't come, close to me" – are invoking a competition that eventually lead to a the re-naming of bootlegging to "doing a missy", like the New York Times did report. But there is more to it than just a new musical style.

"The future can only be for ghosts", writes Derrida in "Specters of Marx". A haunting started, the haunting of the digital copy. Take for example the track "Take the piss on" of the American lap top musician Kid 606, that does rely on a sample of the Hit "Get your freak on" from Missy Elliott published on the label "Violent Turd" [http://www.tigerbeat6.com]. Kid 606 productions are especially notorious for the way they exploit digital technology to pillage the supermarket of musical history. He invents a self service sample music as an alternative to the output of the majors, which can be read as a political gesture against a copyright, that gives people who can pay for it the access to work with music and excludes all the others - and we may not forget that exactly this is, right at the moment, the dark side of the copyright as a protection of the artist.

The haunting of the copy: We do know that reproduction, that copying has always been a technique which influenced our cultural formation in two ways: First of all, different techniques of copying and their actual use determine the possibilities of a culture: Which techniques of copying are available and which effect do they have on cultural production as well as on something like "style", "form" or "format"? Secondly we can observe that the role copying plays within a culture transforms culture as well: So which cultural status do we assign to copying?

In the history of reproduction, even within the story of the copy, the digital copy plays an extraordinary role: If we compare the digital copy to the mechanical one, we can see that the digital copy does not only climb another step up on the ladder to the perfect copy, but it changes and transforms the copy in a way that crosses out is own notion: The digital copy becomes an identical copy.

While the order of the analog world has a central need of the author - as the one who identifies the original and authenticates the copy - in the order of repetition this function is sort of irrelevant.

> "Copying has always been a technique which influenced our cultural formation."

It becomes sort of irrelevant, because the authenticity does not defy anymore its technical reproduction – as it does in mechanical reproduction. The German philosopher Walter Benjamin still reported in *The Work of Art in the Age of Mechanical Reproduction*: "The whole sphere of authenticity is outside technical reproducability". With digital multiplying, which does produce copies that are not distinct but identical, authenticity can be reproduced for the first time. They do not need the certification of an author. Exact repetition certificates their authenticity.

This small shift produces immense effects. Authorship is a form of ownership. Something can only be property if it is bound to a name. Whether it is bound to a real person or a juridical person, the fact remains the same. Someone owns something. With the digital this "something" mutates. We all know the examples: Sharing is limited in the material world. If someone owns something, this something is in use - it is unique and in its uniqueness it gets eaten, consumed, outworn, maybe obsolete. With the digital this "something" does behave different. If you give the something away, it can still stay there, because it simply gets copied, it gets multiplied. Sharing is therefore unlimited - or at least only a question of bandwidth. Compared to the analog-material world the structure of

> "The identical copy, its logistics of doubling, its order of repetition irritates the established order."

the digital is determined by its potential of a multiplicity, it is determined by the potentiality of dissemination. With the digital copy copying becomes itself a form of transport – it mutates to a new form of logistics. Normally we define transport by movement, something does move from a to b. The outcome: something is in B, while A is empty. But the digital copy introduces a new topology of space, because nothing moves anymore in the sense of leaving. Transport and repetition are indistinguishable: with digital copies files are transferred from A to B without moving from their original place. They are at the same time in A and in B, they are in A and in B as identical copies.

The logistics of filesharing

With the logistics of filesharing we now have two originals and with that two new platforms from which a dissemination can start. Filesharing uses this principle as a programmed logistics of repetition. If Marx defines in his early work "capital" as a inequitable form of property, as the accumulation of collective work which now belongs to the hands of a single person instead of belonging to all hands, then filesharing is as a programmed logistics of repetition of data a technological answer to that problem. The dissemination of the digital copy irritates the accumulation. Indeed. Or does it only shift it to another level?

In fact, filesharing as the programmed logistics of the repetition of data does neither suspend the accumulation nor the alignment towards a center, which controls the accumulation. First of all filesharing is nothing else but an organization of the dissemination of digital data, a type of program that knots search engine, copying and transport together. It's function is the reptetition of data, but that does not mean that the program itself performs in the order of repetition, because the execution of an identical double does not force the program to act in the sense of the same dictum. On the contrary. We can observe that the two differential orders – the order of representation and the order of repetition- cut through the middle of filesharing programs, divide their logic of functioning right in the middle, if the logistic of repetition itself is organized centrally along befriended technical and legal issues.

In the beginning of our century Napster was a prominent example which organized the copying not peer-to-peer among the users themselves but coordinated filesharing via a central server. So Napster did organize the order of repetition – the transport of identical data, filesharing – based on the order of representation: the sharing of the files was transacted peer to peer, but the request for a file used a central server which was controlled technically and juridically by the company Napster. Indeed it is clearly possible to notice that those filesharing programs, which

work without a central server, did survive the attack of the music industry according to their distributed technical organization. If the sharing of files does principally not need a central server, but is organized peer-to-peer – directly among the users - then technical filesharing enters the order of repetition, and according to a distributed organization it is impossible to shut it down. The act of multiplying eludes control. It eludes control, because the organization of multiplying itself gets multiplied. And exactly this brings in a new and irritating potential.

The identical copy, its logistics of doubling, its order of repetition irritates the established order by suspending it. That's all. It is not an alternative - it is an irritation – a haunting. But the spirits that were cited are obviously more difficult to control than assumed. There seems to be a certain resistance within the Internet, within the digital copy. The digital haunts the logic of our economy. And to shift this haunting finally to cultural production: While the traditional model does define authorship as a form of expression, it characterizes a work first and foremost as the product of an artist and thinks of an artist as a producer, in the order of repetition the artist is seen as a consumer as well. Producing here is not merely a form of expression, but a form of consuming other works, other material, formats, traditions, habits. The relations within different products are of the same importance as the relation between the producer and its work. With digital dissemination it gets more and more easily to combine products. A new way of cultural production emerges like the highly illegal track of the German artist Ekkehard Ehlers, who repeats in the Track "Ehlers plays Cassavetes" exactly 4 seconds of The Beatles track "Good Night", shifts these seconds into a beautiful new track that has not a lot to do anymore with the Beatles and their famous "White Album", of which the copyright is owned by Michael Jackson. One could say this track centering around the aesthetics of the copy is about, as Richard Barbroock from the London Hypermedia Research Centre puts it, "not just the right to consume media, but also the right to produce media."

Mercedes Bunz <mrs.bunz@de-bug.de> is co-founder and co-editor of the media, music and culture print magazine DE:BUG. She also works as theorist.
http://www.de-bug.de

WHY YOU SHOULD DISTRUST "TRUSTED COMPUTING"
By Volker Grassmuck

Wouldn't it be nice if you were able to trust your computer? If you could be confident that it would do only and exactly what you want it to do? Initiatives for "Trusted" and "Trustworthy Computing" imply that they will turn computers into just that kind of machine. In fact, there are good reasons to distrust them.

In the mid-1990s, Mark Stefik from Xerox PARC developed a computing environment for controlling delivery, access to, and use of digital content. The digital revolution had empowered individuals to freely manipulate and distribute any text, image, and sound. The music companies, followed by other branches of the entertainment industry, came to see this as a threat to their business models, and pushed to solve the perceived problem caused by technology with the help of a technology that is known as DRM (Digital Restrictions Management). Stefik still called them "Trusted Systems" and left no doubt about whose trust they are supposed to gain: "Trusted systems presume that the consumer is dishonest".

"Trust is obviously not a technical feature."

Since then, a whole range of DRM technologies has emerged. Based on cryptography, they include encryption and scrambling, watermarking, authentication, online registration, remote update, and revocation of rights. All of them have one thing in common: they were broken as soon as they arrived on the market. The entertainment industry therefore called upon lawmakers to create special protection for DRM. It started with the Copyright Treaty of the World Intellectual Property Organization (WIPO) in 1996. This was first implemented into US-American Copyright Law in 1998 as the Digital Millennium Copyright Act (DMCA). Europe followed in 2001 with the EU Copyright Directive which is currently being implemented into the national European copyright laws. Technically, it's still possible to circumvent DRM technology, but it has become even more illegal than it would be without the new law provisions.

On the technical front, a more radical approach has been pursued by the Trusted Computing Platform Alliance (TCPA), a large consortium set up in 1999, superseded in April 2003 by the Trusted Computing Group (TCG). The idea to not only control data but the whole computing environment has been around in the military field since the early 1970s. A cryptographic chip with a unique „endorsement key" is put in charge of starting the PC, validating BIOS, operating system, hardware drivers, and application programs. This can be used for detection of viruses and Trojans and for access control.

TCG adds two features to it. It allows the system to report a kind of an x-ray of the currently running software configuration to a third party, e.g. a bank or a music service ("remote attestation"). If the requested service sees programs it doesn't like it will refuse to conduct the transaction. If it is satisfied with the user's configuration and decides to send data, it can lock them to the current system state ("sealed storage"). They can only be decrypted if the system is in exactly the same state. As MIT cryptologist and Turing Award winner Ron Rivest put it: "The right way to look at this is you are putting a virtual set-top box inside your PC. You are essentially renting out part of your PC to people you may not trust."

Microsoft, though a member of the consortium, has its own plans. Within the larger framework of its "Trustworthy Computing Initiative" it calls its interpretation of TCG "Next-Generation Secure Computing Base" (NGSCB), formerly known as Palladium. It involves not only a new crypto chip but changes to the CPU, chip-set, memory, graphics processor, and USB-hub for connecting mouse and keyboard. It is essentially a complete re-design of the architecture of the PC.

Both forms of Trusted Computing (TC) supposedly address security problems and serve the content industry in controlling their works on the computers of the users. Both implement the distrust in the user that Stefik mentioned, and are therefore rightfully called Treacherous Computing.

TC creates a whole range of problems. Encrypted data becomes unreadable not only when the crypto chip fails but even when the system is changed by updating or installing new software. It marks the end of the flexible general-purpose computer as we know it, which will be replaced by a special purpose machine optimized for the needs of the content industry. Privacy is threatened because DRM is intended to create high-resolution personalized usage profiles. The fair use provisions of copyright law need to be decided on a case-by-case basis. Since they can't be implemented in technology, TC will abolish them. The TCG claims that in order to work, TC has to become ubiquitous. Legislating industry-wide adoption is not opportune today, so the consortium will exert its power through means like bundled licensing to prevent non-TC systems from being offered. This obviously raises antitrust issues. It blocks innovation, leads to customer lock-in, and reduces consumer choice. The high cost of development and roll-out of the technology will have to be born by consumers.

A less obvious problem is that the interlocking technological, legislative, and industrial steps are hardening a path of development that makes other solutions unthinkable. Since i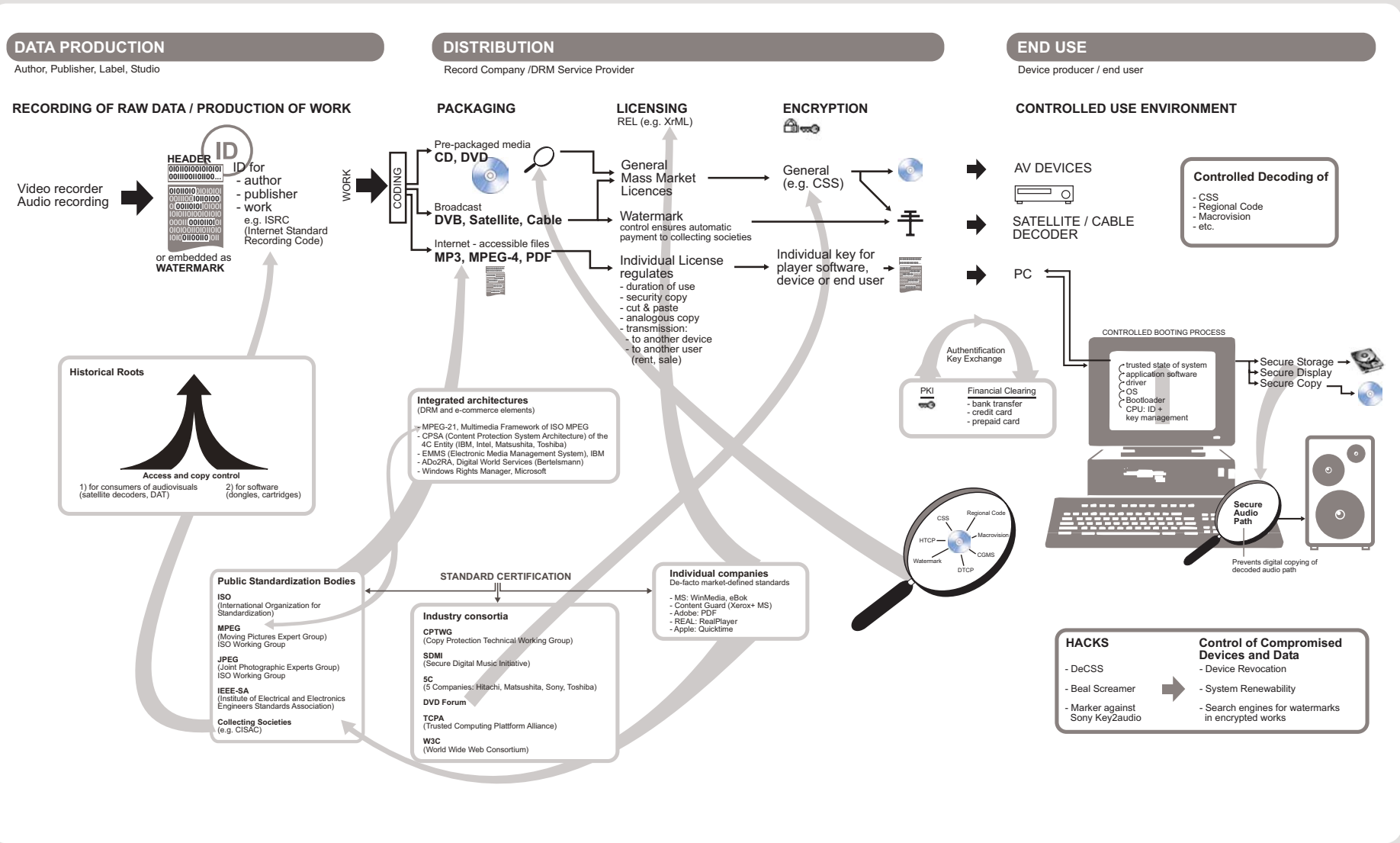t becomes increasingly clear that DRM and TC are inefficient and a dead-end street with unacceptable costs for industries, consumers, and the society at large, alternatives need to be thought about.

"What we want is secure computing and trustable social relations."

Secure rather than "trusted" computing is possible today through means like firewalls, intrusion detection systems, layered permissions, and smart cards for generating and storing cryptographic keys. The major security issues, as is well known in computer science, have nothing to do with security technology but with their social acceptance. Trust is obviously not a technical feature but a quality in inter-human relations, and the object of a booming field of research into networks of trust and reputation. And also the intricacies of copyright law like fair use and parody can only be solved at the social level. What we want is secure computing and trustable social relations.

This leaves the question of how creators can be compensated in the light of a media industry that only rewards a few stars. Practitioners and scholars all over the world are working on alternatives that include voluntary contributions and changed business models. Four Microsoft DRM specialist conclude their famous Darknet paper: "In short, if you are competing with the darknet, you must compete on the darknet's own terms: that is convenience and low cost rather than additional security". The digital revolution allows authors and users to circumvent media oligopolies altogether. A promising solution is to extend the existing system of lump-sum levies to the digital realm. No TC needed. You trust no one? Well, then allow no one to control your computer.

Volker Grassmuck is researcher at the Humboldt University Berlin, and initiator of the Wizards of OS conferences on the social dynamics of open source systems.
http://waste.informatik.hu-berlin.de/Grassmuck/

DIGITAL RESTRICTIONS MANAGEMENT

DATA PRODUCTION
Author, Publisher, Label, Studio

DISTRIBUTION
Record Company /DRM Service Provider

END USE
Device producer / end user

RECORDING OF RAW DATA / PRODUCTION OF WORK

Video recorder
Audio recording

HEADER ID
ID for
- author
- publisher
- work
e.g. ISRC
(Internet Standard Recording Code)

or embedded as
WATERMARK

Historical Roots

Access and copy control
1) for consumers of audiovisuals (satellite decoders, DAT)
2) for software (dongles, cartridges)

PACKAGING

Pre-packaged media
CD, DVD

Broadcast
DVB, Satellite, Cable

Internet - accessible files
MP3, MPEG-4, PDF

CODING
WORK

Integrated architectures
(DRM and e-commerce elements)
- MPEG-21, Multimedia Framework of ISO MPEG
- CPSA (Content Protection System Architecture) of the 4C Entity (IBM, Intel, Matsushita, Toshiba)
- EMMS (Electronic Media Management System), IBM
- ADo2RA, Digital World Services (Bertelsmann)
- Windows Rights Manager, Microsoft

LICENSING
REL (e.g. XrML)

General Mass Market Licences

Watermark
control ensures automatic payment to collecting societies

Individual License regulates
- duration of use
- security copy
- cut & paste
- analogous copy
- transmission:
  - to another device
  - to another user (rent, sale)

ENCRYPTION

General
(e.g. CSS)

Individual key for player software, device or end user

Public Standardization Bodies

ISO
(International Organization for Standardization)

MPEG
(Moving Pictures Expert Group)
ISO Working Group

JPEG
(Joint Photographic Experts Group)
ISO Working Group

IEEE-SA
(Institute of Electrical and Electronics Engineers Standards Association)

Collecting Societies
(e.g. CISAC)

STANDARD CERTIFICATION

Industry consortia

CPTWG
(Copy Protection Technical Working Group)

SDMI
(Secure Digital Music Initiative)

5C
(5 Companies: Hitachi, Matsushita, Sony, Toshiba)

DVD Forum

TCPA
(Trusted Computing Platform Alliance)

W3C
(World Wide Web Consortium)

Individual companies
De-facto market-defined standards
- MS: WinMedia, eBok
- Content Guard (Xerox+ MS)
- Adobe: PDF
- REAL: RealPlayer
- Apple: Quicktime

CONTROLLED USE ENVIRONMENT

AV DEVICES

SATELLITE / CABLE DECODER

PC

Authentification Key Exchange

PKI

Financial Clearing
- bank transfer
- credit card
- prepaid card

Controlled Decoding of
- CSS
- Regional Code
- Macrovision
- etc.

CONTROLLED BOOTING PROCESS
- trusted state of system
- application software
- driver
- OS
- Bootloader
- CPU: ID +
- key management

Secure Storage
Secure Display
Secure Copy

CSS
Regional Code
HTCP
Macrovision
Watermark
CGMS
DTCP

Secure Audio Path
Prevents digital copying of decoded audio path

HACKS
- DeCSS
- Beal Screamer
- Marker against Sony Key2audio

Control of Compromised Devices and Data
- Device Revocation
- System Renewability
- Search engines for watermarks in encrypted works

OPEN ACCESS TO SCIENCE AND SCHOLARSHIP
By Peter Suber

The scientific journal was invented in 1665. For readers, journals surpassed books for learning quickly about the recent work of others. For authors, journals surpassed books for sharing new work quickly with the wider world and, above all, for establishing priority over other scientists working on the same problem. Because authors were rewarded in these strong, intangible ways, they accepted the fact that journals couldn't afford to pay them. Over time, journal revenue grew but authors continued in the tradition of writing articles for impact, not for money. Books were different because they often paid royalties. For articles, authors were amply paid by advancing knowledge and advancing their careers.

The tradition that started in 1665 continues today and makes the scientific or scholarly journal article nearly unique in the landscape of intellectual property. It's one of the only genres that authors willingly write and publish without expectation of payment. Unlike other authors and creators, therefore, scientists find that their interests are violated, not advanced, if access to their work is limited to paying customers.

In the age of print, journals had significant expenses that could only be recovered through subscription fees. Price was a barrier for readers seeking access and for authors seeking readers, but the economics of print left no alternative. Moreover, until the 1970s or so, the price barrier was fairly low. But since the 1970s, journal prices have risen faster than inflation, and since the 1980s they have risen twice as fast as the price of health care. Libraries now speak of a "pricing crisis" and cope with exorbitant price increases by canceling subscriptions and cutting into their book budgets. Against this background, the Internet emerged in the 1990's as a kind of miracle. For the first time, it became physically and economically possible to connect authors, who want to give away their work, with readers who want to read and build on it. This new form of distribution --online, free of charge, and free of needless licensing restrictions-- is now called open access.

> "Since the 1970s, journal prices have risen faster than inflation, and since the 1980s they have risen twice as fast as the price of health care."

Open access is compatible with copyright. Authors are copyright holders until and unless they transfer copyright to a publisher. If authors consent to open access while they still hold copyright, then open access is authorized and lawful. The fact that most musicians, film-makers, and software programmers do not consent to open access should not make us pessimistic about open access to science. Most musicians and other creators hope to generate revenue from their work. Again, scientists and scholars are in the nearly unique position of being able to consent to open access without losing revenue. They have everything to gain and nothing to lose by doing so.

Open access is compatible with print. Users who prefer to read printed text can print any online file that they like (or at least any open-access file). Libraries and publishers that want to use print for long-term preservation can do the same. Journals that want to sell a print edition to users who prefer it, may do so at cost, or even for a profit. As long as journals offer an open-access edition, then priced, printed, or enhanced editions do not interfere in any way. Open access is compatible with peer review. In fact, all the major open-access projects and campaigns --the Public Library of Science, the Budapest Open Access Initiative, BioMed Central, SPARC, the Bethesda group-- insist on the importance of peer review. Open access to science and scholarship is not about putting papers on personal web sites and bypassing peer review. Open access removes the barrier of price, not the filter of quality control.

Peer review consists of editorial judgment and paper shuffling (or electronic file shuffling). In most journals and most fields, the disciplinary experts exercising editorial judgment donate their labor, just like the authors. The infrastructure for peer review, however, does cost money. Somehow a journal must assign the files to reviewers, distribute the files, monitor progress, nag dawdlers, facilitate communication, and collect data. But these clerical operations are steadily being taken over by software, including open-source software, and the price of the infrastructure to support the donated editorial expertise is steadily decreasing.

But even low expenses must be recovered if open access is to be sustainable. Open access archives (which don't perform peer review) have trivial expenses, use open-source software, and are supported by the institutions that benefit from increasing the visibility and impact of their faculty. Open access journals (which do perform peer review) are supported by article fees paid by the author's sponsor rather than subscriptions paid by the reader's sponsor. These article fees are closely related to the costs of peer review, manuscript preparation, and hosting, and make free access possible for all readers connected to the Internet. This model is similar to the economic model of television in which some viewers pay for all, or advertisers pay production costs so that viewers needn't do so. We know that open access is sustainable in the long run because the cost of vetting and disseminating articles online is much lower that the prices currently charged by publishers, and paid by libraries, to access them.

Finally, open access is within reach of scientists and scholars today. They can launch an open-access archive whenever they like, at essentially no cost, and more and more universities and disciplines are doing so. With a bit more planning and investment, scholars can launch an open-access journal. Conventional journals can experiment with open access article by article, to learn the methods and economics of open-access publishing. But scientists needn't wait for conventional journals to make these experiments, and they needn't beg them to offer open access. They needn't wait for markets or legislation. The Internet has already given scientists a chance to reclaim control of scientific communication. For the first time since the journal appeared on the scene in 1665, price needn't be a barrier to access. For the first time since the rise of the commercial publishing of scientific journals, scientific communication can be in the hands of scientists, who answer to one another, rather than corporations, who answer to shareholders. The only question is whether scientists are ready to seize this beautiful opportunity.

For more information and daily news updates, see the Open Access News weblog.
http://www.earlham.edu/~peters/fos/fosblog.html

Peter Suber is Research Professor of Philosophy at Earlham College, Open Access Project Director at Public Knowledge, and the author of the SPARC Open Access Newsletter. More information and daily news updates on Open Access can be found at:
http://www.earlham.edu/~peters/fos/

Open-access archives and journals aren't just abstract possibilities waiting to be realized. There is worldwide momentum to build both kinds of open-access vehicle.
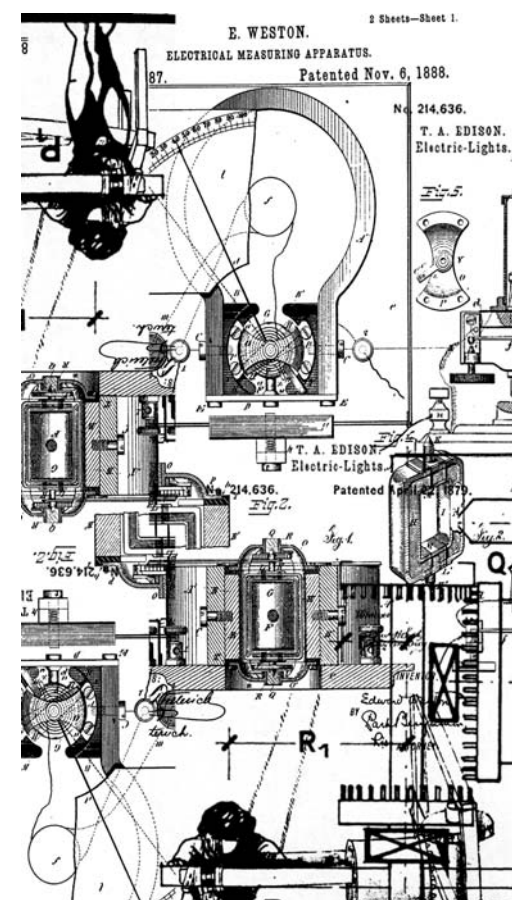
The OpCit Core Metalist counts dozens of open-access, OAI-compliant or interoperable archives of research articles hosted by universities or disciplines. If we count open-access archives that are not limited to research articles, and not necessarily interoperable, then the UNESCO Archives Portal, for example, lists nearly 5,000.

The Public Library of Science launched its first two open-access journals this fall. BioMed Central has already launched more than 120, and has a standing offer to help others launch new ones. When I visited it on August 16, 2003, the Lund Directory of Open Access Journals listed 502 journals.

OpCit Core Metalist of Open Access Eprint Archives
http://opcit.eprints.org/explorearchives.shtml

UNESCO Archives Portal
http://makeashorterlink.com/?C21F22B95

Lund Directory of Open Access Journals
http://www.doaj.org/

PUBLIC DOMAIN

Information that has no legal protection, either because copyrights/patents have expired, or because it has been released into the public domain by the owner. Example: the works of William Shakespear.

FIRST WORLD IP REGIMES SLOW CHINA'S MODERNIZATION
By Jeff Smith

China does not have access to the knowledge it needs in fields that are critical to development. It cannot afford the hundreds of thousands of Western books, journals, databases and other materials - in agriculture, economics, engineering, law, medicine, and other critical fields - wanted by its universities and research centers.

The extent of this knowledge gap can be seen in universities which are themselves quite poor institutions. Most libraries, at the heart of the higher education enterprise, are outdated and half empty. The result is a calamity: faculty cannot stay current, students cannot learn what they should, and the system will not produce enough well trained graduates to sustain China's modernization.

The poverty of most library collections may be hidden by showcase buildings but are plan to see in the stacks. Peking University Library, impressive as it appears, houses a large but thin collection. The Medical Library of Xi'an Jiaotong University, the largest in northwest China, is a more typical example: most of its shelves, on six floors of a building, are empty and coated with dust, and a small faculty reading room holds just a handful of current titles.

The price of a basic text in Western medicine equals the monthly salary of a professor, and digital "books" are equally expensive when they exist. The price of a core collection in Medicine and Health --1,054 books and 220 journals recommended by the U.S. Medical Library Association -- is US$150,000 which is beyond the means of nearly all universities. The price of 144 such collections, for all of China's medical schools, is $20 million which is beyond the means of the Ministry of Public Health.

China's inability to pay First World prices creates the default condition that prevails: use of international editions of a limited number of textbooks; reliance on 'house books' that are printed in-country as copies of foreign materials (a practice that has recently stopped); use of donated used books from overseas; and use of digital materials -- none of which is a substitute for a proper library.

The Internet vs. cellulose and ink

Enthusiasts predicted that the Internet would make knowledge accessible to everyone, and that it might replace paper libraries with digital media. However, books have persevered, paper libraries, costly as they are, are the most effective means of transferring formal knowledge to the greatest number of people, and access to knowledge has remained limited to a relative few.

It is true that scholars in China can use the Web to read catalogues of libraries and databases, but only a few can see the full text. SCIENCE is an exception -- China paid $100,000 for a national site license for the journal, and users at nearly all universities can read its full contents on-line. Yet there are thousands of other journals, many of them more essential than SCIENCE, either not available in digital forms or, if available, not affordable.

Most digital substitutes are as expensive as hard copy. In China, the rule is that if a scholar cannot pay for the hard bound book today, she cannot afford the digital version tomorrow. It is not a fault of the technology, but of regressive intellectual property regimes.

The more profound limitation is that most texts and references in higher education are not digitized, and may never be, at least not in the foreseeable future. That limitation is severe. For example, Harvard University's Widener Library reports that only "a minuscule percent" of its 5.7 million books and other materials exist in electronic form.

Some day, information technology may realize its potential to make knowledge universally accessible. For now, for most scholars in China and other developing countries, that day is far off; and for most scholarly materials, the technology of cellulose and ink continues to rule.

Attempts to close the knowledge gap

Bridge to Asia (BTA) was founded in 1987 to supply Chinese universities with donated books, a second-best strategy for providing a knowledge base. In cooperation with Western scholarly societies and professional associations, and with the Chinese Ministry of Education, it gathered millions of used books and journals and delivered them to hundreds of universities. In the past five years, BTA gave more than half of all foreign language books acquired by Chinese universities overall. It also has used the Internet to make some knowledge more affordable: it provided document delivery services in law and medicine, and conducted the first telemedicine trials between China and the U.S. by the Internet and by e-mail.

These and other efforts by both sides, energetic and well intentioned as they have been, have not provided what China truly needs: modern library collections of newly purchased books and journals in fields that are vital to development.

> "Until knowledge is treated as a public good rather than a commodity, and until access to core contents is affordable, developing countries will continue to struggle and may never close the knowledge gap, at a cost of human suffering and loss worldwide."

Needs for radical reforms

The solution is moral, not legal or technological. Until knowledge is treated as a public good rather than a commodity, and until access to core contents is affordable, developing countries will continue to struggle and may never close the knowledge gap, at a cost of human suffering and loss worldwide.

The ideal solution and best hope for developing countries is to build a national knowledge base, an open collection of essential materials in both paper and digital forms -- both self generated and imported from the West -- and to share that knowledge freely with all who need it. That ideal cannot be achieved until the First World knowledge industry adopts progressive reforms.

The global community should press the industry to release contents that are critical to the modernization, release them for free or at cost, as the pharmaceutical industry has done (under global pressure) with AIDS drugs.

The professions should do the same. They are defined by, and derive their power from a core set of practices and beliefs. The profession of law, through its international bodies, should insist that students and practitioners of law in developing countries have access to core legal knowledge, including the books and journals that capture it. First World physicians should insist that their Third World colleagues have basic libraries available, and so on, through architecture, economics, engineering, and more.

Each author of a work whose contents bear on modernization, should insist that it be released for free or at cost to Third World users.

Unless these and other aggressive solutions are tried, developing countries may never bridge the knowledge gap, and they and the world at large will pay terrible costs.

Jeffrey Smith is President of The Bridge to Asia Foundation, which he founded in 1987. He is a graduate of Yale and Harvard, has taught in Chengdu in 1984 and is committed to educational development in China and Southeast Asia.
http://www.bridge.org

DEVELOPING COUNTRIES AND IP POLICY
By Carolyn Deere

In the context of a global "information" economy propelled increasingly by knowledge-based industries, the protection of ideas and innovations has become a central priority in the competitive strategies of many powerful economic actors. As global economic disparities widen, the ownership and distribution of these assets has also become a high-stakes issue in international economic negotiations.

At present, there is considerable debate about what kind of IP policies will best help advance development goals in different developing countries. Indeed, over the centuries, both governments and industry have held varying views on the appropriate objectives, nature and role of IP policy depending on their level of economic and technological development, prevailing economic circumstances and political priorities. Countries have selected vastly different approaches to the scope, length and enforcement of IP protection according to whether their goals are to promote innovation, protect industry investment, advance international competitive advantage, reward importers of foreign technologies, encourage diffusion of new knowledge, create incentives for future innovation, or ensure affordability of technologies.

> "Strengthened IP standards are far better suited to the interests of current holders of information, data and knowledge, than to those in developing countries needing access to these assets."

Despite this historical reality, the overarching global trend is that of a considerable strengthening of IP protection, whereby developing countries are pushed to upgrade to meet (and sometimes to exceed) developed country IP standards as the global benchmark. These strengthened standards are far better suited to the interests of the current holders of information, data and knowledge (in large part multinational corporation and developed country research centres) rather than to those in developing countries needing access to these assets. Most commonly, developing countries are nonetheless

neither pro- nor anti-intellectual property per se. Rather, they call for more careful analysis of which IP policies will serve what goals and whose interests under what conditions. Most importantly, developing countries have begun to work to carve out "policy space" within international and domestic IP policies to ensure that they retain flexibility to adopt policies that advance their development priorities.

To understand the dynamics of IP policy discussions likely to emerge in the context of WSIS, it is useful to reflect on some key aspects of recent IP trendss with respect to developing countries.

Over the past decades, international rules on IP protection have expanded into what can be best described as a global system of intellectual property regulation. Perhaps the most significant elements of this global IP regime— and that which has generated the most controversy—is the entry into force of the WTO's Agreement on Trade in Intellectual Rights (TRIPS) which establishes universal minimum standards of protection and enforcement for virtually all forms of IP. The pressure on developing countries to implement TRIPS-compliant IP policies has subsequently generated, sometimes for the first time, national debates in developing countries on the appropriate nature of IP protection.

Beyond TRIPS, the global IP system also comprises a series of intersecting multilateral, regional and bilateral agreements, regional conventions and instruments, and international institutions that together build on and strengthen the minimum TRIPS standards. Shared across these agreements and institutions is a common tendency for the range of protectable subject matter to be widened, for new IP rights to be created,

and for the basic features of IP rights to be strengthened and standardized.

As developing countries collectively have become more effective in resisting IP pressures in the TRIPS arena, the US, in particular, has resorted to other fora and tactics to force countries to increase their IP standards, including direct threats of economic sanctions or withdrawal of aid and the incorporation of high IP standards in bilateral and regional trade and investment agreements (such as in US free trade agreements with Jordan (2002), Singapore (2003) and Chile (2003). The resulting TRIPS "plus" agreements can, for example, oblige countries to introduce stronger protection at a faster pace and higher standard than TRIPS requires.

At the multilateral level, WIPO has re-emerged as a focal point for developed countries to advance their IP agenda. A proposed Substantive Patent Law Treaty has the potential to harmonize national and regional patent laws almost completely. It would, for example, lead to agreed international definitions of key terms such as prior art, novelty, and inventive steps—thus considerably limiting developing country discretion as to the breadth of patent claims and foreclosing the use of flexibilities won in the TRIPS context. Additional examples of the creation of new IP rights include the two 1996 WIPO Internet Treaties (which developing countries are now being pushed to ratify in bilateral trade agreements).

Finally, technical assistance and capacity building programs are another means through which developing country IP standards are becoming harmonized with Northern standards. Developing countries voice increasing concern that the advice provided in the course of these initiatives fail to properly alert countries to the flexibilities that TRIPS provides or to help them tailor policies

to best address their economic circumstances and priorities.

In sum, for developing countries, current trends in the global IP system:
· raise the floor of minimum IP standards above and beyond the TRIPS Agreement ;
· place severe constraints on the policy "space" available to them to devise and implement IP policies supportive of development goals; and
· deprive them of the policy options and flexibilities that developed countries so clearly relied upon to serve their national development.

With simultaneous action on the multilateral, regional and bilateral front, the formulation of coherent and effective negotiation strategies on IP policy is becoming ever more difficult for developing countries. Powerful corporate interests, and the governments that represent them, are constantly in search of the most effective forum to advance their desired norms and rules regarding intellectual property. At WSIS, civil society groups and concerned developed countries must work with developing countries to advance a development-oriented perspective on IP policy in the information era. WSIS provides an opportunity to focus on the needs of developing countries with regard to IP policy—on ensuring access to the information, data, educational resources vital to creativity, innovation and building local technological capacity—and not on the policy preferences of powerful industry lobbies.

Carolyn Deere is an independent consultant and a doctoral candidate at Oxford University. She was formerly the Assistant Director of the Rockefeller Foundation's Global Inclusion program with responsibility for grantmaking on intellectual property, trade and development.

GNUBALISATION. OPEN SOURCE IN INDIA.
By Frederick Noronha

Harish Pillay <harish@lugs.org.sg> works to promote 'Open Source' in Singapore. Former IIT-Madras alumni V Narayanan <narav@cicc.org.sg> is a consultant to Singapore's Centre of the International Cooperation for Computerization, and he too was visiting India recently. His goal was scouting around and building links for the CICC, which is involved in open source developments in the ASEAN (www.asia-oss.org).

Aschwin <aschwin.van.der.woude@movial.fi>, a young Dutchman based in Finland, suggests the idea of organising an annual "Linux day". Could it be taken to India too, he'd like to know. Someone posting on the blore-linux mailing list got inspired by an article from the Middle East which made a case for why you "should care about (GNU)Linux".

Marco from Malaysia <vmarco@bitsmart.com.my> was searching for 15 GNU/Linux Indian professionals for a planned Linux Training and Solutions Centre. From Thailand, Prof Thaweesak <htk@nectec.or.th> gives you a tip or two of how you can try out a for-testing-only English version of a GNU/Linux-based Thai tool that helps teachers in his country freely share educational content nationwide (www.school.net.th).

Hilaire Fernandes <hilaire@ext.cri74.org> says the latest version of Dr Geo at http://www.ofset.org/drgeo has on its 'change log' things like an updated translation for the Indian language of Marathi, which is spoken by an estimated 62 million, mostly in the western part of the country.

The drift of all this becomes clear. Free/Libre and Open Source Software (FLOSS) is helping us in India reach out to a slightly more freer-to-access world. One which helps people collaborate across boundaries, and doesn't discriminate against people based on their ethnic origin, country of residence or other factors.

Says Richard M Stallman <rms@gnu.org>, who might not take offense to be called the high-priest of the Free Software Movement: "I think it is interesting to contrast the free software movement,

as an example of beneficial globalization, with the form of globalization that we usually criticize. Globalization of business domination is evil and harmful; globalization of voluntary cooperation and sharing of knowledge is good."

Probably we in India should know. The earlier round of 'globalization' that we know of was initiatiated by a club calling itself the East India Company.

The above are not just stray episodic examples. This keeps happening all the time. If Indian techies took their communication skills a bit more seriously, we would all have to gain. So would the world, hopefully.

> **"The earlier round of globalization was initated by a club calling itself the East India Company."**

Richard Stallman gave these words of advice to an Indian youngster recently: "One vital activity is training people to the point where they can begin developing free software that will be of use globally.... Remember, the free software you use exists because we focused on activities that would be useful world-wide. Naturally you may want to work on localization and local popularization, but don't let that make you forget to contribute to the global stock of free software."

Today, the tools for inexpensive global communication, from e-mail to what else, are all in place. But, unless we have the proper motives for communicating globally, where do we go? FLOSS offers one major raison d'etre for that.

To get the most of its potential, however, we all need to work with a focus.

For a computing paradigm which grew out of communication and collaboration, it's surprising how little the different GNU/Linux user groups across India collaborate. The Indian forte seems to lie in solving technical problems; not applying the results. Indians are so much focussed on the work at hand, that they don't share the ideas behind it. Or so it seems.

One has argued elsewhere that FLOSS opens up particularly exciting possibilities for the so-called 'developing world'. Reasons for this are clear to understand:

- It makes software available for local deployment at affordable costs. Inspite of India's considerable software skills, the export-orientation of its traditional software industry has put it beyond the reach of most, price-wise.

- Due to low entry barriers, it brings in a whole lot of students and other youngsters into the software-creation field.

- Sharing of ideas over mailing-lists, working collaboratively across geographical distances, and the openness of this approach makes it possible to achieve much more than what would be possible in a proprietorial, copyright-controlled environment.

- Volunteers, students or others coming into this field often enter in for non-commercial motives. This makes them more than willing to take up projects which are of high social relevance but which often offer low financial returns. Examples of education-initiatives and local language solutions in India stand out in this context.

- Networking of techies through low-cost communication channels such as electronic mailing-lists helps to speeden up the software-creation process, apart from building people-networks across a vast geographical area like that of India.

But, one could say, FLOSS is not just about getting software at a cheaper price. It is about sharing, helping others, and benefitting in the process. It is about a different way of collaborating to solve problems. This could have implications for other spheres of life. For a talent-rich, resource-poor country like India, isn't this just what the doctor prescribed?

> **Frederick Noronha** is a Goa (India)-based freelance writer, and has been intensively covering FLOSS in India and parts of Asia.

LOOKING BEYOND IP: ACCESS AND INNOVATION IN MEDICAL TECHNOLOGIES
By James Love

There is an almost unbounded interest in the development of new health care technologies that will prolong life or reduce suffering. The pace and direction of innovation will depend in part on the resources mobilized for research and development (R&D). National governments have a variety of policy instruments to lift and shape R&D expenditures. Public sector grants and contracts, tax incentives, government imposed research mandates, philanthropic efforts, and an expanding universe of intellectual property protection schemes are all important in raising levels of R&D investments. Each instrument has its own advantages and shortcomings. Most countries undertake a mixed strategy of public and private funding.

In recent years the framework for funding such R&D has become the subject of a multilateral, regional and bilateral trade negotiations. The most important discussions have concerned intellectual property rights, the systems of private rights in data and inventions that protect investment and create incentives to develop new commercially important products. The World Trade Organization (WTO) Agreement on the Trade Related Aspects of Intellectual Property Rights (TRIPS) is the best known such agreement, but increasingly important are other multilateral agreements administered by the World Intellectual Property Organization (WIPO), and hundreds of bilateral and regional agreements on intellectual property norms and enforcement mechanisms, particularly those between the United States or Europe and smaller economies.

> **"Patents and other forms of intellectual property protection have only limited efficacy in stimulating innovation in the health care field."**

It is well known that patents and other forms of intellectual property protection have only limited efficacy in stimulating innovation in the health care field. Basic research, development of high-risk projects, and research on vaccines or neglected diseases are some well-known examples of areas where private market incentives are insufficient to secure adequate investment. There is also considerable evidence that systems of intellectual property protection are fraught with high costs in terms of administration and dispute resolution, and a number of well-known inefficiencies, such as anticompetitive barriers to follow-on innovators. Recently there is considerable interest in new collaborative open source development models, which in some cases work best with little or no intellectual property protection.

Intellectual property regimes that rely upon exclusive rights often lead to unacceptable barriers to access to treatments. This is a problem in both rich and poor countries. For example, while developing countries struggle to pay for the least expensive HAART regimes to treat AIDS, there

are also increasingly severe problems managing limited budgets for AIDS treatments in the United States and other wealthy countries, particularly with the introduction of products such as T-20, which are so expensive they threaten to exhaust limited public funding for indigent AIDS patients. Canada, France, Sweden and the UK are among the countries that see high fees for breast cancer screening patents as a barrier to deployment of these new technologies. The impact of high prices in the United States is a growing crisis for access among the uninsured, and in the United States, Europe and other OECD countries there are substantial controversies over which treatments will be reimbursed under public or private insurance schemes -- a rationing of the most expensive new medicines.

> **"Intellectual property regimes that rely upon exclusive rights often lead to unacceptable barriers to access to treatments."**

Historically, governments have recognized these and other limitations, and complement the intellectual property approach with a variety of direct and indirect public subsidies to raise investment levels in health care R&D. The United States, for example, will spend more than $27 billion this year at the National Institutes of Health (NIH), and more through a variety of other agency efforts, and also subsidize R&D though income tax credits. Every OECD country and many developing countries have some public sector grant, tax or other subsidy programs to support health care R&D. In some areas, the US government simply mandates that private firms undertake R&D as a condition of doing business. Other national governments have their own mixed models of supporting R&D. For example, in the UK domestic prices of pharmaceutical drugs depend in part upon firm R&D expenditures, Canada linked NAFTA changes in its patent laws to a negotiated increases in levels of R&D that industry was obligated to undertake, and at the regional level, Brazil has imposed R&D mandates on private sector firms.

Despite the widely recognized importance of non-intellectual property factors in determining the levels of R&D and the rate of innovation in new treatments for disease, there has been little discussion of the trade related aspects of such programs. There are notable exceptions, such as the G-8 discussions regarding funding R&D on drugs for neglected diseases, or the Blair/Clinton statement on the benefits of unencumbered access to human genome sequence. The G-8 discussions involved a handful of wealthy countries that were motivated to raise global levels of R&D on specific diseases, such as malaria or tuberculosis, that primarily afflict the poor, and for which the patent system does not provide sufficient incentives relative to the importance of these diseases from a public health perspective. The Blair/Clinton statement on the Human Genome Project (HGP) sought to address a different global IPR failure. The United States NIH, the UK Welcome Trust, and funding agencies

in Japan, France and Germany agreed that donor and public sector funds would be used to sequence the human genome, and to place the results immediately in the public domain, without any IP claims. The no-IPR approach to the HGP was influenced by the growing interest in "open source" development models for software and medicines, that emphasized the benefits of increased access to information, and it also enjoyed substantial support within the pharmaceutical sector, due to concerns that broad gene patents would saddle researchers and firms with high royalties and deter development of new products. The Blair/Clinton statement strongly supported the principle of making raw research data freely available in order to maximize its use, as a way of obtaining the greatest medical benefits for humankind.

There are additionally a number of proposals for global agreements that would increase funding for vaccines, broaden the scientific commons[1], or address other areas where there is a both a need and an opportunity for global cooperation on the development of public goods. However, none of these initiatives have the same level of multilateral, regional or bilateral attention that is now given to agreements on intellectual property rules.

We propose a new emphasis be placed on the development of formal global frameworks that consider jointly both the IP and the non-IP instruments for funding health care R&D. One fundamental rationale for any global framework is to address the free rider problem. There are global benefits to R&D, but local costs. The efforts to create more uniform IP regimes are efforts to share more broadly the costs of funding R&D, but there is clearly a need to expand the trade framework to address a broader range of funding instruments.

Even for a privatized research model, the IP regime by itself only addresses one aspect of financing R&D. In particular, the regulation of drug prices and the availability of social insurance to pay for medicines are two very important factors in determining the level of incentives for new drug development. Indeed, in recent years, the United States trade policy has placed increased emphasis the issue of drug pricing or the structure of social insurance reimbursement schemes, even though the US does not regulate drug prices or provide social insurance for drug purchases in its domestic market. The United States successfully demanded that Korea impose a seven country reference pricing system for minimum prices on innovative drugs, and the US trade officials have pressed Australia, Canada, France, Germany, New Zealand, Thailand and many other countries[2] to raise prices and extend reimbursement for new medicines. The US efforts to raise prices are bitterly resented by governments and patients, as higher prices inevitably reduce access to new treatments,

and they do not recognize other ways that countries might support R&D, such as funding research that enters the public domain, or any number of public private partnerships to advance particular public health goals.

This article is an excerpt from *"From TRIPS to RIPS: A better Trade Framework to support Innovation in Medical Technologies"*

[1] John Barton, Science and Technology Diplomacy Initiative and the ICTSD-UNCTAD Project on IPRs and Sustainable Development , Policy Dialogue on a Proposal for an International Science and Technology Treaty, Room XXV, Palais des Nations, Geneva Friday, 11 April 2003.

[2] Often motivated by industry submissions to USTR. For example: PhRMA "Special 301" Submission: Priority Watch List Countries. "The Croatian sick fund disregards the considerable R&D costs associated with innovative medicines. Many innovative products that are still protected by patents in the U.S. or the EU are reimbursed in Croatia at levels that are not significantly different than the prices of local and Slovenian copies, therefore disregarding the high R&D costs of pharmaceutical innovation."

James Love is director of the Consumer Project on Technology (CPTech) of the Center for Study of Responsive Law. CPTech is active in areas such as intellectual property, telecommunications, privacy and electronic commerce, and conducts projects relating to antitrust enforcement and policy.

PUBLIC GOOD

Goods whose use is non-rivalrous, i.e. using the good does not deplete it, and non-excludable, i.e. once it is produced people cannot be excluded from using it. The light house at the coast, alerting ships of potential peril, is an example of a public good. Without intellectual property law, particularly copyrights and patents, all digital information would be a public good.

THE EMPEROR'S SWORD: ART UNDER WIPO
By Brian Holmes

Two white-marble busts have been placed in the corners of the conference room at the World Intellectual Property Organization in Geneva. A couple of ancient Greeks. On the left is Aristotle, with an inscription: "The method of investigation is to study things in the process of development from the beginning." So it's a decent start anyway. But on the right is Alexander the Great: "The brave man sees no end to his efforts for good works."

Art is ambiguous. But the WIPO busts are perfectly clear. Either you're on the left, with philosophy, progress and evolution – or you're on the right, with property and "infinite justice."

> **"One function of copyright today is to make artists the allies of the established order."**

OK, Aristotle was Alexander's teacher. But times have changed since then. Does anyone think it's still possible to stand in both corners: on the left and the right, on the side of open communication and of legal enclosure, evolution and empire?

Sadly, even tragically from a Greek point of view, the answer for many artists, writers, musicians and filmmakers is a resounding "yes". With some consequences I'd like to mention.

The Company You Keep
Most artistic types are generous, open-minded, inquisitive people who sincerely believe in freedom. John Cage is remembered as saying: "I don't know what art is, but I'm sure it doesn't have anything to do with the police." Yet artists are increasingly forced to keep the company that Cage refused, by accepting payment through the copyright system – the linchpin of "immaterial imperialism."

One function of copyright today is to make artists the allies of the established order. When we assert our rights to some tiny piece of our cosmic aspirations – or just sign them over to a distributor – we join forces with the officers who, according to a proposed European IP enforcement directive, will soon have the right to enter people's homes, to find out whether they might be harboring any of our precious private property in their hard disks, CDs, cassette tapes, or even photocopies. One of our proprietary dreams could be hidden, for example, beneath the sheets. Artists, how does it feel to be in someone else's bed – with the police?

Recently in Paris, in a discussion with some striking actors, directors and theater workers, a composer stood up to defend the French version of copyright: what we call "*droit d'auteur*". For him, it was a matter of religion. When asked if the cops should be sent out to a rave in the woods where some kids might be playing his music, he unhesitatingly answered "*oui*". Not only was his livelihood at stake, but it's a question of principle. He was proud to belong to the best composers' rights organization in the world. Apparently it has 100,000 members. Of course, just 2,500 have a vote, because you have to earn 5,000 euros a year. In fact, only 300 actually make a living off their royalties, he finally admitted. That's 0.3% of all the musicians. So why do the others bother? What makes them do it?

"Attack on the Signature"
What you have to say as an individual is the important thing: that's where most of the artists, writers, filmmakers and composers will agree. Copyright was invented to protect the work and the author's signature, it's Beaumarchais, democracy, European history. That's right – it's history.

Arpad Bogsch, former director-general of the World Intellectual Property Organization, explained to a publishers' seminar way back in 1990 that because of the evolution of technology and the rise of the "electrocopy", it was necessary to take a historic step backwards into the future. Increasingly, the privileges that traditionally accrued to the creators of artistic works would be *extended to the publishers* – on a worldwide scale. Let's read this brave soldier's clumsy words: "At the WIPO Worldwide Forum on Piracy of Broadcasts and the Printed Word in March 1983, the idea emerged that the 'know-how' developed by Alexander the Great in respect of the Gordian knot should be applied here also: instead of trying to handle the said serious problems on the basis of the complex and exclusively differing national copyright laws, a neighboring rights-type protection should be recognized for publishers." Neighboring rights, friendly people, we're all partners here. Just one more question, painters and poets: Apart from the Gordian knot, what else is Alexander going to cut to shreds in your neighborhood?

Crocodiles are cold-blooded creatures to whom nature has given lots of teeth. They are known in myths and legends for shedding copious tears, to soften up their future victims. A representative of the creative industries, invited to the 1990 WIPO seminar, quoted his poor old father as saying this: "Counterfeit is an attack on a signature". The wounded "artist" was Bernard Lacoste – the guy whose corporation puts their expensive trademark on shirts made for nothing. Poor Bernard, let's cry together. Artists, writers, filmmakers and composers offer the perfect logo to make IP look chic. "You are what you wear", they like to say. And what about us? We are what they eat.

Chronos and the Ancient Greeks
What's copyright? The tax of dead labor on the living. And who's Chronos? The god who consumes his offspring. Time's running out, we've got to get back to the beginning. What's tragic, every time a piece of creative work is signed off to a distributor or a publisher, is not the ridiculously tiny sum the artist will receive. It's the privatization of words, emotions, ideas, images, dreams. It's a lock on the door that art comes from. Technological development, born from public universities, has finally given us the chance to share our creativity with everyone. And today, 99% of non-starving artists live off public money anyway. Why uphold the myth of author's rights, by signing onto the same laws as the worldwide capitalist coalition? Why join their plans for cannibalizing the future? What kind of philosophy is that, anyway?

Not long ago, the heirs of John Cage tried to sue someone for using just *part* of his 4' 33" of silence. Speak up while you can, painters and poets! Where would Aristotle be today – if Plato had been hit with a lawsuit from the Socrates estate?

Brian Holmes <brian.holmes@wanadoo.fr> is an art and culture critic, activist and translator, living in Paris. His primary interest is in the intersection of artistic and political practice. His publications include *Hieroglyphs of the Future: Art and Politics in a Networked Era* (Zagreb: Arkzin, 2003).

THE ABSURDITY OF SOFTWARE PATENTS
By Arun Mehta

Software patents have a dubious legal basis, are unworkable, and hamper industrial growth. They started in the US, where you are not allowed to patent the laws of nature, and in two US Supreme Court cases (Gottschalk v. Benson, 1972, and Parker v. Flook, 1978) the Court extended this principle to computer algorithms and software techniques. Yet, in the 1981 case Diamond v. Diehr, the Court said that just because there was software in an industrial process didn't mean that a patent could not be granted. While hardly in the spirit of the judgement, based on it, software patent floodgates were opened - for instance, IBM alone, in 2002 was issued 3411 patents, most of them relating to software.

While conducting any patent search is a slow process, we have far more serious problems in software. Any reasonably sized computer program contains literally thousands of algorithms and techniques, each considered patentable by the standards of the patent office. Most of these, however, are not considered that significant by other programmers, who, when faced with similar problems, would routinely come up with similar solutions.

There is no system for even classifying computer algorithms, let alone performing a database search. To call the relevant literature vast is an understatement. It includes user manuals, billions of lines of source code published on the Internet and elsewhere, and articles in different languages in thousands of computer magazines, electronic and print. Whereas a scientist in a traditional field may produce 20 or 30 pages of published material each year, a programmer easily produces that in a couple of days. Even if it were possible to check all of

them, no company could afford the delay this would entail.

It is therefore unreasonable to expect a software company to license a patent for every algorithm it uses. Even if a company does find out what patents it needs to license, that is not enough: the software it writes might violate a patent yet to be issued. If software patents were to be rigorously protected, it would stop innovation in software in its tracks.

> "If software patents were to be rigorously protected, it would stop innovation in software in its tracks."

For the software industry, the implications would be catastrophic: since software does not wear out, the only way the companies that produce it can continue to make money is to innovate, to add new features to existing software. Since all other industries rely heavily on software innovation for their own progress, the impact on them would be serious too. An example is the attempt to introduce MPEG-4, a new movie compression standard, highly significant for the consumer electronics and media industries. This, however, is held up by the 16 owners of 29 patents involved.

Large software companies have found a workaround. Each of them owns many software patents, which they have licensed to each other. With the threat of lawsuits, they can easily exclude emerging competitors. This has serious implications for poor countries like India, which are trying to make a breakthrough in the global software market. The consequences are particularly damaging for small companies, possibly run by students out of a garage or dorm room, which do not have the resources to perform the required searches, and pay for the patent licens-

es. It is such companies that have been the source of substantial innovation. Software patents, therefore, help create an unhealthy oligopoly in a critical industry segment.

It can also be argued that software patents are unnecessary. The companies that have been most successful in this business, such as Microsoft, did not rely on patents for their competitive edge. There is now a vast body of open source software which other developers use freely without fear of being sued for patent violation, in a process antithetical to the very concept of patents.

Software patents are an excellent illustration of the absurdity of patenting ideas and mathematical equations, particularly in an electronic age where information is easily replicated and distributed. This discussion, however, is not new: Thomas Jefferson, who ran the US patent office and knew the patenting process intimately, had this to say: "If nature has made any one thing less susceptible than all others of exclusive property, it is the action of the thinking power called an idea, which an individual may exclusively possess as long as he keeps it to himself... Its peculiar character, too, is that no one possesses the less, because every other possesses the whole of it. He who receives an idea from me, receives instruction himself without lessening mine; as he who lights his taper at mine, receives light without darkening me. That ideas should freely spread from one to another over the globe, for the moral and mutual instruction of man, and improvement of his condition, seems to have been peculiarly and benevolently designed by nature, when she made them, like fire, expansible over all space, without lessening their density

> "Software patents help create an unhealthy oligopoly in a critical industry segment."

at any point, and like the air in which we breathe, move, and have our physical being, incapable of confinement or exclusive appropriation. Inventions then cannot, in nature, be a subject of property."

The problem for industry, though, as highlighted in a 2000 Pricewaterhouse Coopers study, is that 78% of the total value of American S&P 500 companies are intellectual assets, which they are desperate to protect. While they recognize the dubious nature of software patents, they have no alternative means of protection: some attempts were made to apply copyright law, for instance when Microsoft Windows copied the Apple-style graphic user interface, but these attempts were unsuccessful in court. As they say, if all you have is a hammer, every problem looks like a nail.

Faced with complete corporate intransigence on the issue, civil disobedience seems the only means for civil society to arrive at a sane solution. This is not unlike the situation Mahatma Gandhi faced, when the British rulers of India imposed a tax on salt, which he overcame by launching his famous salt march, culminating in his illegally picking up salt from the sands of Dandi beach. Indeed, ideas are the salt of the information age, justifying similar action.

Arun Mehta <mehta@vsnl.com> is a New Delhi based activist and educator. Currently he is Director in the film and TV company Kaleidoscope Plc., Chief Technical Officer in Net Radiophony India Plc. and President of the Society for Telecommunications Empowerment.
http://www.radiophony.com

THE RIGHT TO READ
By Richard Stallman

(from "The Road To Tycho", a collection of articles about the antecedents of the Lunarian Revolution, published in Luna City in 2096)

For Dan Halbert, the road to Tycho began in college--when Lissa Lenz asked to borrow his computer. Hers had broken down, and unless she could borrow another, she would fail her midterm project. There was no one she dared ask, except Dan.

This put Dan in a dilemma. He had to help her--but if he lent her his computer, she might read his books. Aside from the fact that you could go to prison for many years for letting someone else read your books, the very idea shocked him at first. Like everyone, he had been taught since elementary school that sharing books was nasty and wrong--something that only pirates would do.

And there wasn't much chance that the SPA--the Software Protection Authority--would fail to catch him. In his software class, Dan had learned that each book had a copyright monitor that reported when and where it was read, and by whom, to Central Licensing. (They used this information to catch reading pirates, but also to sell personal interest profiles to retailers.) The next time his computer was networked, Central Licensing would find out. He, as computer owner, would receive the harshest punishment--for not taking pains to prevent the crime.

> "Dan had been taught since elementary school that sharing books was nasty and wrong."

Of course, Lissa did not necessarily intend to read his books. She might want the computer only to write her midterm. But Dan knew she came from a middle-class family and could hardly afford the tuition, let alone her reading fees. Reading his books might be the only way she could graduate. He understood this situation; he himself had had to borrow to pay for all the research papers he read. (10% of those fees went to the researchers who wrote

the papers; since Dan aimed for an academic career, he could hope that his own research papers, if frequently referenced, would bring in enough to repay this loan.)

Later on, Dan would learn there was a time when anyone could go to the library and read journal articles, and even books, without having to pay. There were independent scholars who read thousands of pages without government library grants. But in the 1990s, both commercial and nonprofit journal publishers had begun charging fees for access. By 2047, libraries offering free public access to scholarly literature were a dim memory.

There were ways, of course, to get around the SPA and Central Licensing. They were themselves illegal. Dan had had a classmate in software, Frank Martucci, who had obtained an illicit debugging tool, and used it to skip over the copyright monitor code when reading books. But he had told too many friends about it, and one of them turned him in to the SPA for a reward (students deep in debt were easily tempted into betrayal). In 2047, Frank was in prison, not for pirate reading, but for possessing a debugger.

Dan would later learn that there was a time when anyone could have debugging tools. There were even free debugging tools available on CD or downloadable over the net. But ordinary users started using them to bypass copyright monitors, and eventually a judge ruled that this had become their principal use in actual practice. This meant they were illegal; the debuggers' developers were sent to prison.

Programmers still needed debugging tools, of course, but debugger vendors in 2047 distributed numbered copies only, and only to officially licensed and bonded programmers. The debugger Dan used in software class was kept behind a special firewall so that it could be used only for class exercises.

It was also possible to bypass the copyright monitors by installing a modified system kernel. Dan would eventually find out about the free kernels, even entire free operating systems, that had existed around the turn of the century. But not only were they illegal, like debuggers--you could not install one if you had one, without knowing your computer's root password. And neither the FBI nor Microsoft Support would tell you that.

Dan concluded that he couldn't simply lend Lissa his computer. But he couldn't refuse to help her, because he loved her. Every chance to speak with her filled him with delight. And that she chose him to ask for help, that could mean she loved him too. Dan resolved the dilemma by doing something even more unthinkable--he lent her the computer, and told her his password. This way, if Lissa read his books, Central Licensing would think he was reading them. It was still a crime, but the SPA would not automatically find out about it. They would only find out if Lissa reported him.

Of course, if the school ever found out that he had given Lissa his own password, it would be curtains for both of them as students, regardless of what she had used it for. School policy was that any interference with their means of monitoring students' computer use was grounds for disciplinary action. It didn't matter whether you did anything harmful--the offense was making it hard for the administrators to check on you. They assumed this meant you were doing something else forbidden, and they did not need to know what it was.

Students were not usually expelled for this--not directly. Instead they were banned from the school computer systems, and would inevitably fail all their classes.

Later, Dan would learn that this kind of university policy started only in the 1980s, when university students in large numbers

began using computers. Previously, universities maintained a different approach to student discipline; they punished activities that were harmful, not those that merely raised suspicion.

Lissa did not report Dan to the SPA. His decision to help her led to their marriage, and also led them to question what they had been taught about piracy as children. The couple began reading about the history of copyright, about the Soviet Union and its restrictions on copying, and even the original United States Constitution. They moved to Luna, where they found others who had likewise gravitated away from the long arm of the SPA. When the Tycho Uprising began in 2062, the universal right to read soon became one of its central aims.

Author's Note
This note was updated in 2002.

The right to read is a battle being fought today. Although it may take 50 years for our present way of life to fade into obscurity, most of the specific laws and practices described above have already been proposed; many have been enacted into law in the US and elsewhere. In the US, the 1998 Digital Millennium Copyright Act established the legal basis to restrict the reading and lending of computerized books (and other data too). The European Union imposed similar restrictions in a 2001 copyright directive.

Until recently, there was one exception: the idea that the FBI and Microsoft will keep the root passwords for personal computers, and not let you have them, was not proposed until 2002. It is called "trusted computing" or "palladium".

In 2001, Disney-funded Senator Hollings proposed a bill called the SSSCA that would require every new computer to have mandatory copy-restriction facilities that the user cannot bypass. Following the Clipper chip and similar US government key-escrow proposals, this shows a long-term trend: computer systems are increasingly set up to give absentees with clout control over the people actually using the computer system. The SSSCA has since been renamed to the CBDTPA (think of it as the "Consume But Don't Try Programming Act").

In 2001 the US began attempting to use the proposed Free Trade Area of the Americas treaty to impose the same rules on all the countries in the Western Hemisphere. The FTAA is one of the so-called "free trade" treaties, actually designed to give business increased power over democratic governments; imposing laws like the DMCA is typical of this spirit. The Electronic Frontier Foundation asks people to explain to the other governments why they should oppose this plan.

The SPA, which actually stands for Software Publisher's Association, has been replaced in this police-like role by the BSA or Business Software Alliance. It is not, today, an official police force; unofficially, it acts like one. Using methods reminiscent of the erstwhile Soviet Union, it invites people to inform on their co-workers and friends. A BSA terror campaign in Argentina in 2001 made veiled threats that people sharing software would be raped in prison.

When this story was written, the SPA was threatening small Internet service providers, demanding they permit the SPA to monitor all users. Most ISPs surrender when threatened, because they cannot afford to fight back in court. (Atlanta Journal-Constitution, 1 Oct 96, D3.) At least one ISP, Community ConneXion in Oakland CA, refused the demand and was actually sued. The SPA later dropped the suit, but obtained the DMCA which gave them the power they sought.

The university security policies described above are not imaginary. For example, a computer at one Chicago-area university prints this message when you log in (quotation marks are in the original):

"*This system is for the use of authorized users only. Individuals using this computer system without authority or in the excess of their authority are subject to having all their activities on this system monitored and recorded by system personnel. In the course of monitoring individuals improperly using this system or in the course of system maintenance, the activities of authorized user may also be monitored. Anyone using this system expressly consents to such monitoring and is advised that if such monitoring reveals possible evidence of illegal activity or violation of University regulations system personnel*

may provide the evidence of such monitoring to University authorities and/or law enforcement officials."

This is an interesting approach to the Fourth Amendment: pressure most everyone to agree, in advance, to waive their rights under it.

References

- The administration's "White Paper": Information Infrastructure Task Force, Intellectual Property and the National Information Infrastructure: The Report of the Working Group on Intellectual Property Rights (1995).

- An explanation of the White Paper: The Copyright Grab, Pamela Samuelson, Wired, Jan. 1996

- Sold Out, James Boyle, New York Times, 31 March 1996

- Public Data or Private Data, Washington Post, 4 Nov 1996. We used to have a link to this, but Washinton Post has decided to start charging users who wishes to read articles on the web site and therefore we have decided to remove the link.

- Union for the Public Domain--an organization which aims to resist and reverse the overextension of copyright and patent powers.

Richard Stallman is the founder of the GNU Project, launched in 1984 to develop the free operating system GNU. He is the principal author of the GNU Compiler Collection, and various other GNU programs. Stallman received various awards and honorary doctorates for his projects.
http://www.stallman.org

PUBLIC PROPERTY

Information owned by the state. Within the bounds of the law and what is politically acceptable, the state can do with the information as it sees fit. Example: census data.

PLEASE PIRATE MY SONGS!
By Ignacio Escolar

I'm a lucky musician. My group has just scraped sales of 15,000 copies of our first album. In a world where Enrique Iglesias can sell six million CDs singing as he does[1] , this modest sum isn't too much to write home about. If I put as much effort into football I'd be playing in the premiership, and if I dedicated myself to medicine with the same amount of success I'd be a neurosurgeon. For a couple of weeks during April 2000, one of our singles squeezed in at number seventeen in the Spanish charts; number three if you only count the Spanish artists. Every year 32,000 new records come out worldwide and only 250 convince more than 10,000 people to buy them. Scarcely 0.7% of the musicians who brought out a record last year (most don't even get into a recording studio) are luckier than me.[2]

People must think I have money coming out of my ears. Or that I at least make a decent living from my musical talents. How much does the lucky top 0.7% earn in their profession? I won't bore you with figures but, after three years of hard work to get my album into the shops, I've earned just a little over 3,000 euros from record sales and copyright fees. Barely 85 euros a month is what my successful musical career has netted me. My share of the rent of a place to rehearse – what stops my neighbours having me turned out as a noisy tenant – comes out at 40 euros a month. Last Christmas I blew half my profits on a new keyboard[3] , a total whim. If I had a manager with the power to veto my budgets I'd still be playing with the casiotone[4] I got for Christmas in 1986.

"**100,000 pirate fans coming to my shows are more profitable than 10,000 original ones.**"

I don't blame piracy for my state of bankruptcy. Nor do I blame the "sex, drugs and rock and roll" of the advert – in really bad taste – with which the SGAE (General Society of Authors and Editors)[5] tried to make music lovers aware of the need to pay them their dues. Like most of the other crackpots who waste their time in rehearsal places and their money on instruments and amps, I prefer the personal satisfaction of knowing that someone out there is taking the trouble to listen to my music so I can collect the thirty pesetas which is my share of each copy sold (a quarter of that if the record is on offer or is bought during a TV campaign).

If my manager, that make-believe guy I mentioned earlier, had any sense he would agree with me. For each gig I play, depending on the size of the house and the generosity of the promoter, I clear between 100 and 400 euros. I promise you that if you come to one of them I won't ask you for a photocopy of my CD's barcode to get in. Like all musicians who have done their sums, I know that 100,000 pirate fans coming to my shows are more profitable than 10,000 original ones.

So MP3, Kazaa[6] or Gnutella[7] aren't about to kill off music. Not mine or anybody's. I can assure you that, fortunately, I can do without the 85 euros a month from my copyright fees and royalties. For Metallica, and any other best selling bands, the same rule applies though the figures are higher.

Concerts, T-shirt sales and the adverts a well known band may record all bring in more money than the royalties (between 8 and 15% of the wholesale price) which multinationals pay per record sold. It's true that the record companies pay the musicians' recording and promotion costs, but do you know any other business in which the share-out between those providing the idea and the labour and those putting up the money is so lopsided? I have to confess that I don't know what prompted Metallica to side with their recording company and sue Napster. But the upshot was that their fans turned against them[8], God struck a deal with the Devil and Napster turned from pirate into privateer[9] . It would have embarrassed the hell out of me.

"**There is no other business in which the share-out between those providing the idea and the labour and those putting up the money is so lopsided.**"

Free distribution of songs over the Internet will not put an end to musical creation, but I hope it will put an end to the abusive practices of the recording industry. And we 'notesmiths' have been getting a better deal over the years. If the poor bluesmen[10] of the forties – those who the RCA record label (now owned by Bertelsmann, Napster's partner) used to pay six dollars and a bottle of bourbon for them to record their songs – could hear how Metallica's drummer, Jan Ulrich, moans[11]... I'd be lying if I said I didn't know what I was getting myself into when I signed a contract with Universal Music[12] a year and a half ago. In that meeting a top executive of the company summed up the nine pages of the agreement in one sentence: "We record companies are a necessary evil". I won't argue with that. Without them my band would never have sold 15,000 records. Though I bet we could have given them away.

[1] http://www.angel.re.com/fm/calimonche/enrique.ram
[2] The percentages mentioned about record sales, as well as a lot of other stuff in this article, are from Courtney Love's controversial article about the abusive practices of the recording industry, available at http://www.salon.com/tech/feature/2000/06/14/love/index.html.
[3] http://www.audiomusica.com/imgs/analisis/ms2000.htm
[4] http://www.sonicstate.com/synth/_inc/picview.cfm?synthid=234
[5] http://www.sgae.es
[6] http://www.kazaa.com
[7] http://www.gnutella.co.uk
[8] http://www.metallicasucks.com
[9] http://www.baquia.com/com/20001108/art00001.html
[10] http://www.thebluehighway.com
[11] http://www.metallica.com/napsterforum/lars_statement.html
[12] http://www.universalmusic.es

Ignacio Escolar is a journalist. He is the editor of *Spanishpop.net*, collaborates with *http://www.gsmbox.es* and with the monthly magazine *GEO*, and is responsible for *El Navegante*, the section of *Informativos Telecinco* 1:30 (TV5's News Programme) devoted to the Internet. *http://www.spanishpop.net*

WORLD-INFORMATION.ORG

http://world-information.org

WORLD-INFORMATION.ORG

World-Information.Org is an trans-national cultural intelligence provider, a collaborative effort of artists, scientists and technicians. It is a practical example for a technical and contextual environment for cultural production and an independent platform of critical media intelligence. World-Information.Org constantly monitors and maps the infosphere, the world's invisible nerve system of information networks, as well as the global information economy. Through artistic and scientific exploration of information and communication technologies World-Information.Org disseminates an understanding of their cultural, societal and political implications, and fosters future cultural practice. World-Information.Org is an agent of digital democratisation and the pursuit of digital human rights. Enlightening the opportunities, challenges and risks of information and communication technology, World-Information.Org provides information necessary for a democratic development of society, culture and politics.

http://world-information.org

CREATIVE COMMONS LICENSE

All texts are published under Creative Commons license unless otherwise indicated.

Attribution-ShareAlike 1.0

You are free:
·to copy, distribute, display, and perform the work
·to make derivative works
·to make commercial use of the work

Under the following conditions:

Attribution.
You must give the original author credit.

Share Alike.
If you alter, transform, or build upon this work, you may distribute the resulting work only under a license identical to this one.

·For any reuse or distribution, you must make clear to others the license terms of this work.
·Any of these conditions can be waived if you get permission from the author.

Your fair use and other rights are in no way affected by the above.
This is a human-readable summary of the Legal Code (the full license).
http://creativecommons.org/licenses/by-sa/1.0/

FIRST PUBLICATIONS

The following texts first appeared in the publications indicated below:

The Political Economy of Commons by Yochai Benkler: UPGRADE Vol. IV, No. 3, June 2003

Biopiracy: Need to Change Western IPR Systems by Vandana Shiva: http://www.hinduonline.com

Looking Beyond IP: Access and Innovation in Medical Technologies by James Love: Excerpted from *TRIPS to RIPS: A better Trade Framework to support Innovation in Medical Technologies*, http://www.cptech.org/ip/health/

The Right to Read by Richard Stallman: Communications of the ACM , Volume 40, Number 2, February 1997

Please, Pirate My Songs! by Ignacio Escolar: Baquia (http://www.baquia.com), 17 January 2001

The Problem with WSIS by Alan Toner: abridged from Dissembly Language, Mute Magazine, July 2003

PUBLIC NETBASE

Public Netbase is a net culture institution that was established in 1994 and offers the arts and culture scene a platform for the self-determined use of new media. It creates both real and virtual environments for the realization of electronically networked art and investigates the reciprocal effects of art and technology, of science and politics. Thereby it raises awareness of the effects of new technologies on our culture and society. Public Netbase promotes innovation in art and culture and offers assistance in the realization of projects. It is embedded into an international network of art, culture, media and science and promotes the interdisciplinary exchange of ideas, experiences, and innovations. Public Netbase organizes exhibits, events, symposiums, and workshops that provide a broad public with an understanding of the new communication media and their various possibilities, and cast a critical light on a society shaped by technology.
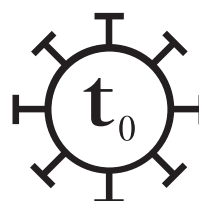
http://www.t0.or.at

SUPPORTERS

OPEN SOCIETY INSTITUTE · WIEN KULTUR · JUGEND BILDUNG · LAJU WIEN Landesjugendreferat · KUNST. kunst.government-austria.at