Intellectual Property and the Internet
Issues, disagreements and open problems

Contribution to the United Nations' Internet Governance Forum

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1. Introduction

Intellectual property matters are perhaps the most hotly debated ones over the Internet, and are at the root of the Information Society in itself. Even if a specific UN agency, the World Intellectual Property Organization, exists to deal with intellectual property issues, it is more and more evident that there are intellectual property aspects to almost all other Internet issues, and more and more Internet-related policy activities that, while not pertaining to WIPO, have to take these issues into account. It is expected that these issues will surface regularly in the five years of work of the Internet Governance Forum, as part of the context in many different panels and meetings. Thus, it is worth to provide a systemic analysis of their present status.

This paper was originally developed in January 2005, as one of the working papers for the United Nations Working Group on Internet Governance. Though it was never released as a document of the group, it contains an in-depth analysis of the status and problems connected with the application of a number of intellectual property instruments to the Internet. It is thus provided as a guide for the IGF participant who would like to explore and understand the issues, the different positions, and the bitter disagreements that presently exist between different stakeholders, with the hope that the IGF will be able to narrow, if not to bridge, at least some of them.

2. “Intellectual property”: meaning and controversies

The term **intellectual property** describes the set of different regulatory concepts that control the production and usage of intellectual objects. The three main concepts are **patents**, **copyright** and **trademarks**, but other special regimes for specific types of objects – for example, geographical identifiers, or industrial designs – exist.

Often a distinction is made between copyright, which starts automatically at the creation of the object and does not require any special registration or check, and the other concepts, that are aimed at protecting the commercial exploitation of ideas, and are subject to application for registration and to the verification of some requirements. In all cases, these instruments grant exclusive monopoly for a limited time on some rights over the intellectual object.

An **intellectual object** is an intangible and immaterial entity produced by the human intellect. Among the rest, this definition includes texts, books and writings, news, hypertexts and websites, music, images, paintings, photographs, videos and movies, software, chemical formulas, scientific laws and results, business plans, algorithms, inventions, and even names, ideas and opinions[1].

[1] Some immaterial things, however, are not protected through the intellectual rights system: for example, the personal reputation of individuals.

Intellectual objects are by nature very different from physical objects. A physical object is unique by definition; it can only be used by one person at a time (*"if I eat this apple, you cannot eat it"*); it cannot be duplicated, as another similar object needs to be produced for another person to use it. On the other hand, an intellectual object can be used by many people at the same time, and its usage by one person does not prevent another one from using it (*"if I listen to this music, you can listen to this music as well"*)[2]; it can be easily duplicated at will, initially by communicating it using the human intellect and senses, and then by technological means. Physical objects are intrinsically finite and scarce; intellectual objects, once created and codified, are intrinsically infinite and abundant.

While physical objects are composed by a finite and identifiable number of components, intellectual objects are the result of the education and culture of their creators, and of the millions of other intellectual objects that they encountered during their life. Since the beginning of the cultural and scientific evolution of mankind, the creation of new intellectual objects requires authors to be able to access the older ones, and to build on them; on the other hand, the "components" or influential sources of an intellectual object are often not easily recognizable.

Before the advent of the information society and of the Internet, most intellectual objects were necessarily embedded into a physical object (i.e. music in records, books on paper, etc.); this made their duplication difficult and not costless, and somehow hid their immaterial nature. The Internet has removed the need for a physical support, and thus has effectively allowed the costless infinite duplication and distribution of intellectual objects.

Also, the Internet has completely changed the way intellectual objects are accessed and exploited. In the offline world, you could use the work without copying it (for example, by reading it), but you had to physically copy it to be able to sell it; thus, by regulating duplication and letting access free, society would reward creators without preventing public access to knowledge. On a digital network, you need to make a copy, to be then transmitted over the network, before being able to access or "read" the content; so, by preventing duplication, access can be effectively denied. On the other hand, there are new forms of commercial exploitation of other people's content – for example, creating a collection of links and then selling access to such collection – that do not require the making of a copy, and thus are not protected by the "traditional" regulation.

While physical objects usually are the result of an industrial production process, intellectual objects are first of all the result of the free expression of the artistic, scientific and intellectual skills of their individual creators, and are made not just for profit, but also for self-betterment, and for the pursue of personal satisfaction and happiness. Even those who create intellectual objects for a living – be them musicians, writers or inventors – usually started to do so to fulfill a passion and an interior desire[3].

However, the creation and codification of the *first copy* of an intellectual object requires time, effort and skills, and has a cost attached to it; thus there is the need to reward the creator, so to encourage the production of more intellectual objects. Even if this reward poses additional costs and burdens on knowledge users, this is accepted because the advantages to society deriving from the incentive

[2] Of course, this is a simplification; there are cases where the interaction between different users of the same intellectual users leads to a partial devaluation of the value of the object (for example, business ideas, as once a certain number of companies are created in a new market the possibility for others to enter the market is reduced, and thus the value of the business idea that defines the market); there even are cases where the interaction leads to an increase in value (for example, musical concerts are much more valuable, even commercially, if they are participated by thousands of screaming and singing persons, than if you only have a handful of people in the audience). The network itself is the intellectual object where this increase due to interaction is more evident: the Internet has become more and more valuable as the number of Internet-connected people grew, while other competing networks which could not gather sufficient numbers of users became worthless and eventually died.

[3] The increasing commercial value of intellectual objects makes this less and less true as time goes by; more and more intellectual objects are created for pure commercial reasons, and this often creates a tension between the two types of creators.

to creation outweigh the disadvantages to society deriving from the payment of compensation for rights until they expire. This, historically, is the reason behind the introduction of copyright and patents, which happened in the 18th and 19th century.

By definition, copyright and patents are a matter of balance. From one side, you have to limit by law the reproduction of the intellectual object and grant monopoly rights to the authors and inventors, so to allow them to earn a living from their products, and to encourage others to follow their example. From the other one, the general public should be allowed sufficient possibilities to access and re-use the intellectual production, not to hamper personal self-development and new development for society as a whole. This is the reason why protection is granted by the law only for specific categories of intellectual objects and for a limited period of time: after a proper reward has been collected, the intellectual objects become freely usable by anyone – i.e. put in the **public domain** – so that they can be used as a base for further creations and inventions.

However, in the last few decades a different philosophical trend has emerged. According to it, any human being is naturally and unconditionally the owner of any intellectual object produced by him – hence the now widespread usage of the term "intellectual property", and the more recent introduction of the term "theft" to designate copyright violations; and hence the reason why opponents to this new philosophy reject the usage of those terms themselves[4]. Also, any new creation is just a small addition to the amount of previous widespread knowledge, which certainly cannot be considered part of such personal property[5].

In modern society, the cost of intellectual production can be huge – many movies now require hundreds of millions of U.S. dollars to be created, and many inventions require investments in hundreds of man-years of work. Increasingly, intellectual objects are now being produced in pure industrial terms, and have become the staple for industry sectors which represent significant percentages of the GDP of developed countries. These industry sectors currently depend on the tight protection of their intellectual production, and thus have been lobbying their Parliaments for an increase of such protections; on their turn, developed countries have been requiring developing countries to adopt similarly tight protections through the adoption of international treaties, such as the TRIPs agreement at the World Trade Organization.

As a consequence, the lengthening of the duration of the rights, the hardening of sanctions, the reduction of exceptions to rights, the strengthening of the protections, and their extension to new categories of intellectual objects have been going on for the last two centuries, and have dramatically increased in speed in the last twenty years. This makes the commercial production of intellectual objects more profitable and thus more attractive, but at the same time encourages the reduction of the artistic value and of the diversity of intellectual creation, fostering the production of trade-oriented and mass-oriented products, to the disadvantage of minority cultures and of those productions and researches that, notwithstanding their artistic or scientific value, do not bear sufficient commercial value attached to them.

Conversely to this continuous increase of restrictions, as in a vicious circle, there has been a continuous increase of violations to these protections. Especially in fields such as music, movies and software, there is now a situation of permanent conflict between the industry, which calls for further restrictions and stricter enforcements, and claims significant economical damage from these violations, and hundreds of millions of citizens, who consider the present regulation oppressive and unfair, contest the excessively inflated price of intellectual objects, and claim a right to easier and cheaper access to knowledge and culture.

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[4] See Richard M. Stallman, "Did You Say 'Intellectual Property'?" – http://www.gnu.org/philosophy/not-ipr.xhtml

[5] According to this argument, *"it is like someone arrived in a house that has been built during the last 5'000 years, added a brick on top of it and then claimed to be the sole owner of the whole house"*.

The nature of the Internet makes it extremely hard to enforce legislation in this field without the cooperation of the users. Technical attempts to attach copy-protection measures (the so-called **DRM** or Digital Rights Management) to intellectual objects have until now been mostly unsuccessful[6] or contested by consumers, since they prevent all kinds of duplication of the content, included those granted to users by law to protect public and personal access. The enforcement of this legislation through police actions or through tighter technical measures (such as the so-called "trusted computing" architecture) would possibly require the introduction of such a high degree of personal surveillance that some fundamental basic rights such as privacy and freedom could be endangered. There is no agreement yet on the proper balance between these human rights and the need to protect the interests of intellectual industries.

Finally, since the beginning of history, the cultural and scientific development of mankind has been based on the mutual sharing of information, and on individuals taking ideas and creations made by others and adding something new. The transformation of intellectual objects into pure commercial goods, typical of the information society, clashes with the desire of many individuals to create, share and modify such objects in a non-commercial logic, and with this traditional evolutionary mechanism. The control on knowledge granted by law allows the rights' owners to determine who can access such knowledge, how, and at what price. This, especially in sensible fields such as scientific research, genetics and medicine, might prevent such knowledge from being used in the general public interest, putting the development of individuals and of all society at risk, and, in some cases, even endangering lives[7].

Different business models, not based on granting and enforcing monopoly rights to creators, have been proposed – for example free software, open source software, and creative commons. Some of these models have been having considerable success in their fields; the Internet itself grew and is mostly run through the use of free software and non-patented or freely usable standards; the World Wide Web represents the result of a mass collective effort to create knowledge and make it freely available. These models could represent a different, more Internet-age-compatible system to reward authors and publishers while not hampering public access to knowledge, but their actual capability to sustain industries in the long term or in other business sectors is controversial; their adoption would be likely to require a deep restructuring of business models in all intellectual industry sectors.

The ubiquitous and distributed nature of the Internet, and the complete dematerialization of intellectual objects, have made distribution of intellectual objects extremely easy; also, differently from any previous telecommunications system, every user of the network can immediately become a creator of new content and services. This, if used in a way that benefits authors, publishers and users, can be a huge advantage to the development of mankind; however, it also poses a threat to the current systems of protection, which are based on the enforcement of limited distribution rights.

All in all, it seems clear that the present situation is unstable, due to the dramatic difference of views among the various stakeholders, and that the original balance between rewarding authors and ensuring access to knowledge does not work any more. Some stakeholders have been calling for a shift in focus from enhancing the protection of existing knowledge to enhancing opportunities to share and develop new knowledge[8]. The Internet is immaterial and based on the circulation of

[6] See for example the SDMI project for music protection, http://www.sdmi.org/, described in section 5.3.

[7] The legal battle between the government of South Africa and some pharmaceutical corporations about anti-HIV medicines is very famous. South Africa did not want to pay the license costs required by these corporations for the anti-HIV medicines needed to combat HIV, which kills millions of people every year in Africa. On the other hands, the corporations replied that if no one paid for the licenses, then there would be no money to invest on the development of medicines.

[8] See for example the so-called "Development Agenda" proposed by a number of governments, supported by civil society groups, and approved by the General Assembly of the World Intellectual Property Organization: http://www.wipo.int/documents/en/document/govbody/wo_gb_ga/pdf/wo_ga_31_11.pdf

intellectual objects; for the Internet to continue working and growing, a new balance in the protection of intellectual rights, based on globally shared principles, has to be found[9].

The need for the search of such a new balance, together with the centrality of intellectual objects in the information society, makes it necessary to ensure that the governance system for these issues is inclusive and transparent, and that the needs of all stakeholders are kept into account, so to properly deal with the aforementioned problems, in the final interest of the continuous and peaceful development of mankind.

3. Copyright

In the ancient ages, reproduction of books, music and other intellectual objects was free, and creators were considered to be artisans not different from manual workers.

After the introduction and perfection of the printing press, reproduction of books on scale became feasible; as such, the publishing industry was born, and the first discussions on how to reward authors and publishers started. Copyright was first introduced in the British *Statute of Anne* (1710): it gave authors rights for fourteen years, renewable for other fourteen if the author was still alive, while after those terms the work would have been put in the public domain. Later came the addition of **moral rights**, such as the undeniable right of the author to be recognized as the creator of the work, and, in some cases, to prevent uses that could discredit him/her.

Since then, and especially in the last few decades, the length of the copyright terms has been constantly extended, up to 70 years after the death of the authors. In the United States, this term was extended up to 95 years after publication, if the work was originally created "for hire", e.g. for a commercial corporation[10].

During these terms, many rights are reserved to the owner (which would originally be the author, but usually rights are sold to a publishing company right after creation); no duplication, modification, development and even use of the intellectual object is allowed unless it falls into the exceptions specifically granted by law[11], or unless authorization is given by the rights' owners or by their agents – for example, in the case of music, the so-called **collecting societies**, which often administer intellectual rights in a country under a monopoly regime, and also collect taxes on behalf of the government.

According to the intellectual industry, even if some adjustments might be necessary, the foundations of the present copyright system works well, and have been extremely successful in fostering innovation and developing new markets, new companies and new job places[12].

[9] About this result in prior Internet Governance events, see for example the summary of the United Nations' ICT Task Force Forum on Internet Governance, held in New York in March 2004 (http://www.unicttf.org/perl/documents.pl?do=download;id=565, page 11): "Divergent viewpoints on intellectual property rights were expressed within some of the break-out sessions. (…) Regardless, there was a broad agreement that the current IPR regime needed reform."

[10] More precisely, the current term for these works is either 95 years after publication or 120 years after creation, whichever expires first. In the U.S., copyright had initially (1710) a duration of 14+14 years, which was extended to 28+28 in 1909, then to 75 in 1976 and to 95 in 1998 (see http://arl.cni.org/info/frn/copy/timeline.html). Press has often attributed the modern extensions to the pressures made by Disney Corp., whose copyright on the "Mickey Mouse" character would have expired in 1980 without the 1976 extension, and then in 1999 without the 1998 extension.

[11] Most countries grant some forms of "fair use" or "personal use" that can be freely made without need for authorization by the rights' owner – for example, the reproduction of a part of a copyrighted work for research or teaching purposes, or the creation of a backup copy not to be redistributed.

[12] See for example the recent interview by Microsoft's CEO, Bill Gates, to CNET: "I'd be the first to say that the patent system can always be tuned--including the U.S. patent system. There are some goals to cap some reform elements. But the idea that the United States has led in creating companies, creating jobs, because we've had the best intellectual-property system--there's no doubt about that in my mind, and when people say they want to be the most competitive

According to civil society, copyright is now being used well beyond its original purpose, both in terms of duration and of extent of the rights that are granted. The extreme wealth of successful musicians, writers and publishing corporations is often mentioned as a sign of imbalance in the system, given that the price of access to culture and knowledge, especially in fields such as pharmaceuticals, science, and software, makes the struggle for development harder. Copyright terms are so long that entire categories of intellectual objects are not accessible in any way, because they are still covered by copyright but are not commercially distributed any more.

The possibilities for innovative uses of knowledge granted by the Internet have given way to a number of new practices, and thus, to a number of new controversies over copyright, that would deserve careful consideration in a renewed governance system.

The most famous case of copyright controversy over the Internet is due to peer-to-peer[13] distribution of music and movies. A number of peer-to-peer networks were born in the last seven years, and have been highly popular among consumers; while this popularity is certainly due to the total lack of compensation for rights' owners, it is also due to the user-friendliness of the system and the huge availability of content, which makes access to music and movies easy and convenient. The music industry has been claiming huge losses due to these systems, and in fact CD sales have been declining in the last years; users, however, claim that no proof of a direct link between online copies and loss of sales has been provided. Attempts by the industry to reduce the phenomenon by obtaining harder laws, by lawsuits or by creative solutions[14] have not been successful and have created further hostility in the users[15]. The mainstream record industry does not currently offer any peer-to-peer service, and has only recently started to offer downloading services that are based on central servers, and that have in any case been quite successful[16]. If a simple and effective way could be found to properly compensate owners and thus to enable a legal peer-to-peer system, the result would likely be beneficial both to users and owners[17].

However, the Internet has given way to a number of activities that envisage an increased social and cultural value of copyrighted content. For example, users have started to build online archives for the non-commercial preservation and redistribution of disappearing popular culture (TV shows, rare or live music recordings…)[18]; to create amateurish dubbings or subtitled versions of movies and TV shows in one language, so to make them available in other languages and to fans in other parts of

economy, they've got to have the incentive system. Intellectual property is the incentive system for the products of the future." (http://news.com.com/Gates+taking+a+seat+in+your+den/2008-1041_3-5514121-4.html)

[13] A peer-to-peer (often shortened as P2P) network is a network in which content is directly exchanged between one user and the other, without having to go through a central content repository or authorization system. In a totally P2P network (such as Gnutella or Freenet) the network cannot be shut down unless all users are removed from the network.

[14] Companies like Overpeer (http://www.overpeer.com/) work on behalf of the music industry to introduce fake files into peer-to-peer networks, and have even been accused by their developers of spreading viruses or spyware through these networks to scare their users.

[15] On the other hand, there are artists and record labels who have been successfully using new technologies to sell their music in new forms. For example, some artists have been choosing to sell some releases only through the Internet. Others have been using CD burners to sell to fans a recording of a concert, made and sold just after the concert finished.

[16] According to the British Phonographic Industry (BPI), during the last week of 2004 online sales of downloadable music tracks outnumbered offline sales of CD singles for the first time. In 2005, Apple's new "iTunes" online store for downloadable music was an enormous success, up to the point of being the object of anti-trust inquiries by the French government and others.

[17] For example, there have been proposals to apply to peer-to-peer distribution systems the same collective licensing scheme currently applied to radio broadcasting.

[18] The Internet Archive Foundation (http://www.archive.org/) is running an ambitious project that aims to create a virtual library that preserves a copy of the highest possible number of websites, before they change or disappear. Of course, this requires making a copy of those websites without any authorization by their creators, which might be illegal in many countries. Actually, due to the way the Internet works, each access to a web page causes in fact the creation of a copy, which is often stored on the user's PC, and in many cases also on intermediate servers called *proxies*. However, some legislations have added provisions for exceptions to copyright for this purpose, provided that the copies are temporary.

the world[19]; to write new tales using characters from their favourite TV shows or videogames[20]; to hack videogames so to modify the dresses and appearance of characters; to edit and couple parts of different videos and music pieces into a new sequence, to express their political views or their emotions; to add famous music as a background comment to their weblogs (online diaries) or personal web pages; to broadcast personal radios to a handful of friends, using the music they like more. All these practices are possibly or definitely illegal under the current regulations, and yet they seem to be adding to the culture and knowledge of society and to be enriching the lives of individuals, without damaging commercial exploitations by rights' owners, and, in some cases, while even fostering the growth of interest and commercial return for certain types of content.

Other controversies pertain to links in the World Wide Web. Recording companies have started to sue websites that posted links to other websites which illegally distributed copyrighted material; owners of such websites replied that no one should be held responsible for the content of other people's websites, and that this practice might risk to censor the visibility of controversial websites of any kind. On the other hand, other copyright owners have sued websites which linked to their (legal) content, because they deemed that it was their right to prevent others from linking to their material if they didn't want to, especially in case of links which skipped the introductory pages (on which advertising was sold) and pointed directly to the file containing the content[21].

Finally, there are controversies pertaining to the use of copyright or copy-protection mechanisms by owners to prevent competition and interoperation with their products. For example, specifications of protocols and data formats are often held secret and protected so to prevent others from writing applications that can read or write files in an interoperable way, as this would simplify the switch from one application to the competing one; coupled with dominance positions in the market, copy-protection mechanisms might in fact prevent the establishment of new competitors, or might alter competition in other "neighbouring" markets. In the famous DeCSS case[22], the reason why Johansen developed his algorithm was that the owners of rights to the protection mechanism had decided not to license it for the free operating system (Linux) which Johansen was using on his PC, and so no legal way to watch DVDs with a Linux PC existed at the time[23] - which was both a limitation of Johansen's ability to watch the DVDs he had paid for, and a way to discourage users from using Linux instead than Microsoft Windows.

[19] This is the so-called *fansubbing* practice, which is common especially among Japanese animation fans, since only a small part of the Japanese productions are officially translated and distributed in Western countries. Most fansubbing groups follow a self-given ethical code that requires them to stop distributing the translated copies once an official local release of the content is announced.
[20] This kind of works is named "*fanfiction*".
[21] This practice is known as "*deep linking*".
[22] DeCSS is an algorithm originally developed by a 16-year-old Norwegian kid, Jon Johansen, to overcome the copy protection mechanism in the DVD format. The movie industry sued Johansen and every other person who redistributed or linked his algorithm; it eventually lost the cause against Johansen, but won other ones.
[23] After the case, the DVD-CCA eventually licensed the CSS technology for a Linux implementation.

4. Patents

Patents were introduced to protect a specific category of intellectual objects, industrial inventions; that is, ideas that were finalized to the production of new or better physical objects for commercial purposes. Even if the first known patents are ad-hoc royal edicts from the Renaissance, the first U.S. patent dates back to 1836.

Patents involve an exchange between the inventor and the society: the inventor renounces to secrecy on the invention – as he/she is required to publicly deposit a detailed description of the inner working of the invention – but obtains in exchange the monopoly right on its commercial exploitation, for a limited span of time (which, in most cases, is currently set to 20 years).

To be patentable, an invention is required to be novel, unobvious, and industrially applicable. However, the increasing complexity of technology makes it very difficult for patent officers to be able to verify these requirements. Also, WIPO and national patent offices obtain revenues from the release and maintenance of patents; this makes the system self-sustainable, but creates a natural incentive to expand as much as possible the applicability and extent of patents.

As a result, the default approach in the system is to grant patents first[24] and, in case of problems, litigate later; however, as litigation is slow and costly, this approach has some dangers. The high cost of patent registration and litigation implies that only big enterprises can effectively be a player; small and network enterprises and individuals do not have the means to effectively use the patents system, and thus often see it as a constraint on their activities, or as an instrument for big corporations to prevent competition from smaller ones. Even a patent which did not originally meet the three basic requirements could become so costly to challenge to become factually effective as a means of legal pressure.

In the last years, patentability has been extended (or attempted to extend) to fields where it is not clear whether innovations could qualify as "industrial inventions". Among these fields are software, which the industry considers a pure instrument of industrial production, but which civil society considers an instrument for scientific research, free speech and even artistic creation[25]; and user interfaces and concepts (for example in the online world), where according a patent – a monopoly on usage – to a company prevents all the other sites over the Internet from adopting it, and thus reduces the overall development of the network[26].

Another controversial field for patents is genetics, where costs of private research are so high that commercial return is necessary to maintain it, but where the patentability of living beings and genes, though allowed by many countries, is ethically controversial and could threaten the freedom of individuals, and their access to advanced medical cures. Also, patents on genetically modified seeds risk to disrupt the traditional method of planting seeds taken from the previous year's harvest, which has allowed agriculture to work since the beginning of mankind, but which could now be forbidden by rights' owners, due to patents pending on the seeds.

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[24] In a famous case, an Australian lawyer claimed to have successfully been granted a patent on the wheel (http://news.bbc.co.uk/1/hi/world/asia-pacific/1418165.stm). In 2002, British Telecom claimed to own a patent on the hyperlink, and started sueing ISPs and website owners (http://www.wired.com/news/business/0,1367,50283,00.html).

[25] A loud controversy has been happening in Europe about the proposed extension of patents to software: see http://swpat.ffii.org/ for a civil society website against software patentability, and http://www.patents4innovation.org/ for a private sector website in favour of software patentability.

[26] For example, the famous "one-click-buy" patent granted to Amazon forces all other e-commerce websites over the Internet to require two steps to buy, thus making e-commerce less comfortable to customers in general. Or, in 2004, a company named E-Data claimed to own a patent on the concept of downloading music or images through the Internet (http://www.internetnews.com/bus-news/article.php/3349531); this patent would prevent any individual or company from distributing media over the Internet, unless a license fee is paid and an authorization is granted by this company.

5. Trademarks

Marks and signs have been used since the ancient ages to identify the originating factory or location for goods. However, trademarks in the modern sense were introduced in Western countries the second half of the 19th century.

A trademark is a name, or a combination of name, colours and graphics, that is registered by a private company for commercial purposes. By such registration, the company obtains the right to be the sole user of such name and graphics to identify commercial products in a given commercial sector (or, once the trademark becomes *notorious*, in all commercial sectors). In the 20th century, the development of modern marketing and advertising techniques made such identification the core of any strategy to promote the sales of a company.

Companies register trademarks to prevent competitors from using them, and thus to avoid that competitors might unfairly benefit from the fame of the mark and from the marketing efforts that were made to promote it. Also, trademark registration allows consumers to be certain about the actual manufacturer or distributor of the goods they are buying, and thus, of their quality and value.

The controversy on trademarks arises when the rights granted by registration are extended so to prevent or gain advantage over uses that are not commercial. For example, the publishers of websites who were criticizing corporations have been sued by those corporations on the basis that they were not authorized to mention their name, as it was a registered trademark[27]; this might threaten consumer rights and basic free speech rights.

Also, in the policies for allocation of domain names, trademarks are often given priority over non-commercial marks, such as, for example, family names of individuals; this practice is contested by civil society groups, as it is thought to unfairly advantage commercial uses of the Internet over non-commercial ones in terms of accessibility and exposure.

6. A SWOT analysis of the current IPR system over the Internet

The main strength of the present regulatory system is its ability to incentive the birth and development of new industries based on intellectual production, ensuring a reliable environment for investment in such enterprises, and creating wealth and job places in those countries where intellectual industries represent a significant part of the GDP.

Its weaknesses reside in the increasing limits it poses to access and sharing of knowledge, the principle over which human development has been founded; some specific problems and concerns caused by the present regulations have been discussed in the previous sections. Another weakness of the present regulatory system is its difficult enforceability; until now, fully enforcing intellectual rights over the Internet (but also offline, after the introduction of consumer electronics in the second half of the 20th century) has been impossible, and the practical sustainability of such enforcement in the digital environment is questionable.

[27] A famous case involved the French food corporation Danone, which sued for trademark infringement the creators of the site "jeboycottedanone.com" (I boycott Danone), which was advocating a boycott of the corporation's products following to some layoffs. The corporation won the first round, but finally lost the case at the Paris Court of Appeal. On the other hand, a WIPO arbitration panel, after a complaint by Vivendi Universal (one of the biggest corporations in the entertainment industry), took the name "vivendiuniversalsucks.com" away from the person who was using it to criticize the corporation, and put it under the control of Vivendi Universal, claiming that trademark rights had been violated.

Especially from a governance point of view, this lack of enforceability derives from the inability of regulators to build consensus around their decisions and to take into account the desires and needs of users, which encourages them to disobey the law, and makes them feel morally authorized to do so; it is knowingly extremely difficult to enforce laws that go against the general sentiment of the citizens. Before the Internet, a certain degree of unenforceability, such as for example the widespread use of tapes to make copies of recorded music, was silently tolerated; the Internet has raised the scale and proved the long-term unsustainability of the system in front of technological changes.

For these reasons, it seems extremely urgent that a broad and open discussion on the future of our intellectual rights regimes is started, involving all stakeholders; a forum should be identified to this purpose.

If the correct balance between producers and users of information objects will be found, the Internet could represent an unprecedented opportunity for a rapid development of mankind. Cultural and economical progress has always been based on the discovery and circulation of new information; the speed at which new information can circulate, and the ease of access to knowledge despite geographical and historical distances, open up incredible opportunities of development for all countries and individuals of the world. Easy and quick propagation and discussion of information allows individuals to aggregate and to share opinions, and thus to fully enjoy their democratic rights as citizens; and is also a natural antidote against commercial and informational monopolies.

However, two distinct threats are now in front of society, if such correct balance will not be found.

If regulation will be too unbalanced in favour of users, so that no money can be obtained, either directly or indirectly, from the use of intellectual creations, the traditional incentives to creation will disappear, and entire industries might do the same. Some creative sectors might be pushed back in history; for example, the impossibility to obtain proper commercial reward from the production of music or movies might make it impossible to produce them in a non-amateurish way, and to support the commercial services and professionals that work on their creation together with the artists. Scientific and industrial researches, which are increasingly funded through private ventures, might slow down their pace or completely stop.

If regulation will be too unbalanced in favour of owners, the knowledge base of mankind – and, thanks to genetics, its very essence – might become the private property of a few individuals or corporations, and cease to be used in an equitable way and for the general public interest. As access to knowledge and information becomes the main pre-requisite for individuals to be able to get decent jobs, be entertained, and exercise with awareness their democratic rights, granting to a few private parties excessive control over the modalities and costs of such access would effectively allow them to control society. In this scenario, basic rights as personal freedom, free speech and privacy are significantly threatened.

7. Intellectual property stakeholders

Countries, as contracting parties to the international treaties, and as makers of their national implementations, are primary actors to the governance system for intellectual rights. Also, governmental departments are usually responsible for the administration of copyrights, patents and trademarks in the country (for example, Patent Offices or Intellectual Property Offices).

The private sector, due to the huge commercial interests tied to the exploitation of intellectual rights, is strictly involved in the making of regulation. Even in cases where its formal influence is limited, the entertainment and media industries are usually among the most active lobbying groups

in each country, often through trade associations such as the **International Federation of Phonographic Industries** (IFPI) and the **Recording Industry Association of America** (RIAA) for music, the **Motion Picture Association** (MPA) and the **Motion Picture Association of America** (MPAA) for movies, the **Business Software Alliance** (BSA) for software, as well as many other similar organizations on a national scale. Other private sector associations, the so-called collecting societies, administer the collection of license fees for intellectual content, either in a monopoly regime granted by law or in an oligopoly regime: among these, **ASCAP** and **BMI** in the United States, **SACEM** in France, **GEMA** in Germany and so on.

Civil society has traditionally been less involved in the making of policy in this field. However, in the last few years the growing conflict between owners and users has led to the creation of a significant number of civil society organizations that defend rights of access to intellectual objects. Among the most famous ones are the **Electronic Frontier Foundation** (EFF), the **Foundation for a Free Information Infrastructure** (FFII), **IP Justice**, **European Digital Rights** (EDRI) and others. Also, specific organizations were born to promote alternative models for content licensing, such as the **Free Software Foundation** (FSF) and **Free Software Foundation Europe** (FSFE) for free software and **Creative Commons** for free writings, music and videos.

Finally, it must not be forgot that individual citizens are the fundamental actors in the information system. They extensively use intellectual objects every day for work and recreation. Increasingly, they also modify and create these objects, as the Internet is a costless and accessible instrument for everyone who would like to create and distribute something new.

8. Existing governance mechanisms

8.1. The national level

Of course, **Parliaments** and other law-making bodies are the first actors in defining rules in this field. However, due to the globalization of the cultural and intellectual markets and eventually to the advent of the Internet, policy-making in this field has been more and more moved to the international level, either by “hard power” (i.e. the subscription of binding international treaties by the country) or by “soft power” (i.e. political pressure by other countries to adopt the international practices, often as part of broader trade agreements). Presently, national parliaments usually only ratify the policies and treaties agreed at the international level, and at most deal with slight adjustments to take the local traditions into account.

8.2. International and intergovernmental organizations

For countries which are part of bigger transnational entities, regulation is usually defined at the transnational level – this is the case of the European Union, where regulations are usually approved by the European Parliament under the form of European directives, and then ratified by member countries. Of course, these forums are purely inter-governmental, though decisions are usually taken after extensive public consultation; however, civil society groups have often been complaining against an unfair bias by these public institutions in favour of the interests of the intellectual industry.

Two United Nations’ agencies deal with most of the international rules on this matter.

The **World Intellectual Property Organization** (WIPO) was founded by a 1967 convention, though its roots date back to the Berne Convention of 1886. It currently has 182 member States; 65 intergovernmental organizations and 107 non-governmental organizations from the private sector

and civil society are admitted as observers. WIPO currently administers 23 international treaties on the protection of intellectual property, and promotes and manages work on further treaties. It also offers dispute resolution services for both offline and online disputes.

The **World Trade Organization** (WTO) was founded in 1995, and currently has 148 member States; other States have observer status, and some intergovernmental organizations are admitted as observers in some internal councils. No participation from private sector or civil society is allowed. WTO deals with global trade rules, and is responsible for the treaty on Trade-Related Aspects of Intellectual Property Rights (TRIPs), which forces member States to adopt an uniform system of protection of intellectual rights.

Smaller intergovernmental organizations, established by treaties, deal with specific types of intellectual inventions, such as the **International Union for the Protection of New Varieties of Plants** (UPOV), that deals with intellectual rights over the creation of new, artificial plants.

Finally, other intergovernmental organizations, though not involved directly in the governance process, are significantly impacted in their mission by international intellectual regulation. For example, the mission of the **World Health Organization** (WHO) is affected by the cost of licenses for the production of medicines[28]; that of the **United Nations Educational, Scientific and Cultural Organization** (UNESCO) is made easier by the broad and free availability of knowledge.

Another international organization, the **Internet Corporation for Assigned Names and Numbers** (ICANN), deals with intellectual property rights over the Internet, especially in defining rules for domain names dispute resolution and for the access to identities of domain name registrants as required by third parties for rights enforcement.

8.3. Private forums

Whenever a new technology for the embodiment and distribution of intellectual objects arises, new private consortiums of industry leaders are formed; these consortiums define the technical standards for the new technology, and the policies for protection of intellectual rights that are often implied by these standards.

For example, the **DVD Forum** is a private consortium of about 230 corporations which defines technical standards and policies for DVDs. Among the policies decided by this forum, there was the decision to assign each country of the world to one of eight "DVD Regions"[29] and to add regional coding to DVDs, so that DVD players sold in one country would not play DVDs bought in countries having a different regional code. This measure is meant to avoid the global free trade of DVDs, so that DVDs released in one country cannot be imported and sold in countries where the publisher would rather like to release the DVD at a different moment or with a different price. However, it also prevents global competition from reducing DVD prices for users, and makes it impossible to view content that was published only in regions different from the user's one[30].

The **DVD Copy Control Association** (DVD-CCA) is another consortium of companies which owns the rights over the encryption algorithm used in DVDs. As such, this consortium may

[28] In fact, the WHO saluted positively the legal victory of the South African government in the case mentioned in note 7 (http://www.who.int/inf-pr-2001/en/state2001-08.html).
[29] See map at http://www.dvdadept.com/DVD_Regions.asp
[30] In fact, citizens of countries assigned to DVD regions where the publishers do not deem the publication commercially rewarding do not have any possibility to watch the content of that DVD, other than downloading an illegal copy through the Internet, or illegally modifying their own DVD player so that it ignores the regional code (the so-called "region-free" players).

determine which companies or individuals are allowed to produce hardware and software that plays DVDs, at what price, and under which conditions.

The **Secure Digital Music Initiative** (SDMI) is a forum involving all big corporations from the recording and consumer electronics industries. It was meant to define a technical standard to be incorporated in audio CDs and other forms of recorded music, so to forcibly prevent the unauthorized duplication of the content, according to policies unilaterally determined by the rights' owner. Unfortunately, no technically and economically effective measure was found, so the effort is now on hiatus, with different recording companies releasing CDs protected with different systems[31].

The **Trusted Computing Group** (TCG, formerly known as TCPA) is a consortium founded by Microsoft, Intel, IBM, HP and others, that now has around 100 member corporations from the software and hardware industry. It is defining security standards and policies that will be implemented in PCs and applications produced by its members. These standards and policies (mostly undetermined yet) might be used to strengthen security and reliability of computers against cybercrime and viruses, but also to grant manufacturers control over the user's online activities, over his/her use of content and software downloaded or bought over the Internet, and over the possibility to use content and software not copyrighted or not approved by TCG.

Finally, according to legislation, **collecting societies** may be granted a degree of autonomy that is sufficient to let them take policy decisions which significantly affect accessibility of intellectual content – for example, the type and amount of licensing fees to be paid for, say, using music on a personal website or showing old movies in the local library. Also, in some countries their lack of provisions for alternative models such as free software has been causing complaints from the adopters of such models, who could not comply with collecting society policies without adopting a traditional licensing model.

8.4. Non-forum policy-making

The rights granted by law to the copyright owners basically allow them to unilaterally set their own policies for access and distribution, with the few exceptions granted by any "fair use" policy in force in the country. The trend towards the technical elimination of fair use exceptions and the nature of digital networks – where the creation of a copy is necessary to access the content – naturally expands rights and makes them cover almost all possible uses of intellectual content. Thus the licensing policy chosen by the owner determines which possibilities the rest of the world will have to use and build upon that knowledge, at least until the rights expire[32] – which according to the worries of civil society groups, if the recent path of extensions of copyright for 20 more years every 20 years is followed, might as well be forever.

9. Assessment of the current governance mechanisms against WSIS criteria

Currently, the international framework for intellectual rights management is targeted towards an extensive and ongoing protection of monopoly rights granted to producers, and stricter pressure and

[31] This basically implies that, in the absence of a global policy on anti-copy protections, rights' owners have complete and unilateral authority over which rights are allowed to consumers buying the product. These systems make it more difficult (though neither impossible nor extremely difficult) to copy the content of the CD, but are incompatible with many hardware and software CD players (thus thwarting competition) and at the same time deny consumers the possibility to make those copies that are legal under the "fair use" provisions in many countries (see note 11). The very legality of these systems is presently questionable (see http://news.com.com/2100-1023-801582.html).

[32] This is the reason why some countries, for some specific types of intellectual objects and uses, have adopted or considered adopting the so-called "compulsory licensing" policies, forcing rights' owners to grant access in exchange for a reasonable fee determined by the law.

enforcement on non-complying entities, be them countries or individuals. The main objective of regulation is thus to grant producers total control over the use and redistribution of intellectual objects, for the whole terms of the protection. A much more reduced focus, if any, is posed on measures to make access to knowledge and culture easier, especially for developing countries, individual citizens, and non-commercial uses.

The law-making process that happens in national and supra-national Parliaments is by definition transparent and democratic. However, governments should ensure that proper public consultation happens before taking any decision in this field, so that their determinations can be influenced not only by established lobbies, but also by less powerful stakeholders. To this purpose, the creation of balanced multi-stakeholder tables over all aspects of Internet governance, including intellectual rights, has been already experimented in some countries and could constitute a good advancement of the reciprocal understanding and dialogue among stakeholders.

WIPO admits non-profit organizations, both from the private sector and from civil society, to their General Assembly but only as observers, and does not admit them to diplomatic conventions, where treaties are actually drafted. As such, it does not meet in full the multi-stakeholder criterion. Also, WIPO has been openly favourable to the point of view of the industry and hostile to that of civil society groups, recommending further extensions to the existing protections[33] - even if its General Assembly has recently adopted a document proposing a significant change in this policy[34]. An increased impartiality of WIPO towards the interests of all stakeholders, and a possibility for influential participation by non-governmental stakeholders, should be ensured.

WTO meets criteria even less, as it does not allow any participation from the private sector and civil society. It is doubtful whether intellectual rights protection should be regulated in a trade-oriented organization, since the most difficult issue to be solved is the appropriate balance between commercial and non-commercial uses of knowledge. This is even more true for arrangements made in bilateral trade agreements between governments, which usually are covered by secret until they are approved.

ICANN, apart from the known issue of its formal dependence from a single government, is more open in terms of stakeholder participation. However, representation of stakeholders in its decision-making bodies is not balanced, and this significantly biases its policy results in favour of the private sector, especially when intellectual rights are at stake.

Private organizations, as those mentioned in 8.3, fail the adequacy criteria under all aspects. While public organizations, even if failing to involve all stakeholders, are transparent and multilateral, private organization are often secretive (some of them do not even publish the list of their members on their website). Their membership is only constituted by corporations from a few developed countries. There is no established possibility of participation, neither for governments nor for civil society; even if some of these organizations might accept non-private-sector entities as members, there is no warranty that internal decision-making processes would take into account their needs. While private market-led standardization of technical aspects is desirable, the growing relevance of this kind of organizations is extremely worrying. It is very important that the policies that are implied by such technical standardization are discussed in open, multi-stakeholder forums, guided by the general public interest rather that only by the private interests of the companies involved; and that they are discussed and approved before the market deployment of the products and services they pertain to, as otherwise they would possibly be useless.

[33] From WIPO's strategic plan for 2006-2009: "The main objectives of the Medium-term Plan, as expressed in the past remain constant: maintenance and further development of the respect for intellectual property throughout the world. This means that any erosion of the existing protection should be prevented…" (http://www.wipo.int/about-wipo/en/dgo/pub487.htm)

[34] See note 8.

Similar considerations may apply to policies that are unilaterally set by individual copyright and patent holders. However, as granting monopoly rights on the setting of access policies for content is at the very base of the present regulatory system, these considerations are rather a part of the bigger discussion on whether these rights should be revised, in which cases and to which extent.

Finally, it must be noted that formal coordination among all these bodies (except in some cases, such as between WIPO and WTO) is mostly lacking; actually, coordination is currently due to the result of synchronized efforts by those lobbies which can afford to participate at all these forums, but which of course will represent only their interests.