

Introduction: Creative Commons, Intelligent Multimedia, and Web 3.0

Danièle Bourcier*, Pompeu Casanovas^o, Melanie Dulong de Rosnay⁺, Catharina Maracke[#]

*CEPES/CNRS, Paris (France)

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[#] Graduate School of Media and Governance, Shonan Fujisawa Campus, Keio University (Japan)

1. An apple and the idea of an apple

Perhaps one of the funniest criticisms on the idea of intellectual property comes from Laurence Sterne. It is the well-known paragraph of *Tristram Shandy* (1759-1767) in which the writer makes the analogy between the property of an apple and the intellectual property of a belief, opinion or discourse.

[...] that the sweat of a man's brows, and the exudations of a man's brains, are as much a man's own property as the breaches upon his backside; —which said exudations, &c., being dropped upon the said apple by the labour of finding it, and picking it up, and being moreover indissolubly wasted, and as indissolubly annexed, by the picker up, to the thing picked up, carried home, roasted, peeled, eaten, digested, and so on, —'tis evident that the gatherer of the apple, in so doing, has mixed up something which was his own with the apple which was not his own; by which means he has acquired a property; —or, in other words, the apple is John's apple.

With the same stroke, Sterne goes on to say that everything which is intellectually produced by John is John's exclusive property: his opinions, beliefs, ideas and all the products of his mind.

By the same learned chain of reasoning, my father stood up for all his opinions: he had spared no pains in picking them up, and the more they lay out of the common way the better still was his title.—No mortal claimed them; they had cost him, moreover, as much labour in cooking and digesting as in the case above; so that they might well and truly be said to be of his own goods and chattels. Accordingly, he held fast by 'em, both by teeth and claws — would fly to whatever he could lay his hands on, —and, in a word, would entrench and fortify them round with as many circumvallations and breast-works as my uncle Toby would a citadel.

The isolated legally citadel-mind idea, that Sterne was nicely and elegantly ridiculing, has attracted all kind of criticisms in the last two centuries. But only with the coming of the Internet, and the real possibility to expand and freely share almost universally the products of the mind, the discussion on the nature and boundaries of intellectual property has reached its peak. The story has been most told, and it has reached even Wikipedia, but we will reproduce it here because it constitutes a new starting point for the defense of public domain.¹

There are three main milestones for this discussion, all rooted in the US: the *Digital Millenium Copyright Act* (DMCA) in 1998, the *Sonny Bono Copyright Term Extension Act* (CTEA) of the same year (that extended the US copyright protection up to ninety-five years), and the Supreme Court ruling *Eldred vs. Ashcroft* 537 U.S. of January 15th 2003 (which backed the extension of the protection against the complaint presented by the Internet publisher Eric Eldred).² The law was both *prospective* and *retroactive*: for works published before January 1st 1978 the term was extended to 95 years; for works authored by individuals after January 1st, the term was extended to equal the life of the author plus 70 years. It was quite clear to everybody that behind the case, argued by Lawrence Lessig for the plaintiff against Solicitor General Theodore Olson, there were the private interests of the broadcasting and movies industry. The Supreme Court final ruling prevented a number of works — Mickey Mouse among them— from entering the public domain.

From 1998 to 2004, this legal turmoil originated the reaction of the US legal scholars and an explosion of papers and books on intellectual property rights. Some lawyers, especially the minority that have been paying special attention to the development of the Internet and the Web, displayed a lot of energy to defend the free generation, use, reuse and circulation of ideas and works through the Web.³ In 2001, Lawrence Lessig, Hal Abelson, Eric Eldred and a few others came up with the idea of *Creative Commons* (CC). In 2004, James Boyle made the announcement of his Manifesto following up “the Second Enclosure Movement”. Boyle’s position was quite reasonable, claiming that WIPO — The World Intellectual Property Organization— could take into account the function to balance legitimate private and public interests⁴:

¹ See http://en.wikipedia.org/wiki/Eldred_v._Ashcroft

² CTEA extended existing copyright terms by an additional 20 years from the terms set by the Copyright Act of 1976. The Supreme Court, led by Justice Ginsburg, ruled that as long as the limit is not forever, any limit set by Congress can be deemed constitutional. Justices Breyer and Stevens, dissented. See <http://www.copyright.gov/docs/eldrdedo.pdf>

³ To quote just a few: Benkler (2000), Litman (2001), Vaydhyatan (2001), Biegel (2002), Boyle (2003).

⁴ In fact, he anticipated what it is known as the Geneva Declaration, available at: <http://www.cptech.org/ip/wipo/genevadeclaration.html>

The ideas proposed here are not radical. If anything they have a conservative strand - a return to the rational roots of intellectual property rather than an embrace of its recent excesses. Patents, for example, have a restricted term and were always intended to work to fuel the public domain. Copyrights were intended to last only for a limited time, to regulate texts, not criminalize technologies, to facilitate rather than to restrict access. Even the *droits d'auteur* tradition was built around the assumption that there were social and temporal limitations on the author's claims; natural right did not mean absolute right. Neither Macaulay and Jefferson, nor Le Chapelier and Rousseau would recognize their ideas in the edifice we have erected today. In the name of authorial and inventive genius, we are creating a bureaucratic system that only a tax-collector or a monopolist could love. But genius is actually less likely to flower in this world, with its regulations, its pervasive surveillance, its privatized public domain and its taxes on knowledge. Even if the system worked exactly as specified, it could not solve some of the most important human problems we face, and it would likely hamper our most important communications technology. And now we foist that system on the world, declaring that anyone who does not have exactly the same legal monopolies as we do is distorting trade. True, WIPO's power to undo these trends is limited at the moment. Trade negotiations have become the preferred arena for expanding rights still further. But if these trends are to be reversed there will need to be an international, informed, democratic debate about the trajectory we are on. WIPO's role in that debate is a central one. It should embrace that role, rather than seeking to jump onto the bandwagon of ever-expanding rights.

The balance Boyle was calling for is far from easy, because — as Sterne reminded in *Tristram Shandy* — after picking up an apple in the state of nature, the natural tendency of the picker is biting it. Ten years ago, a Federal Trade Commission (FTC) survey showed that more than 97% of the existing websites collected personal information from the consumers; 88% informed the users about it; but only 20% followed the FTC policies of transparent information (Steinke, 2002). After all, through the Internet, you can grasp not only the apple but, for the first time, the idea of an apple (as it appears in multiple representations in texts, images and movies).

There is a tension among practices and routines companies follow under economic pressure within the web markets, legal national frameworks, and protocols and principles issued from the Internet technical rulers (such as WIPO, ICANN and W3C).

2. The Creative Commons project: legal and technical aspects of multimedia

The development of affordable and user-friendly computer technology coupled with technical and economic advances in multimedia technology have enabled the large scale transformation of users from a passive role of cultural consumers to an active role of cultural creators. The notion of

“Intelligent multimedia” - which is also the title of this book - summarizes this social and technical transformation.

Since the technical barriers to create and disseminate copyrightable works were lowered, the path towards large scale cultural creation and edition was opened. The results of this change are visible in all types of works from text to images, from audio to video and all the multimedia combinations in between. Today, copyright law itself has to be changed due to the paradox Lawrence Lessig pointed out in the Foreword of our previous book on international questions raised by Creative Commons⁵: “First, copyright is essential to the dignity and often the incentives of creative authors. Second, the existing system of copyright is insanely complex and often harmful to the interest of creators”. Creative Commons was developed as a method for overcoming this final barrier.

In the meanwhile, the cyberspace had also evolved: an initial freedom and opportunity was being given up. Cyberspace looks more and more like real space — regulated, concentrated, controlled. An *ecology of innovation* made changes to the architecture considered as a commons, which has built the greatest revolution in creativity we have seen. The Net was open source, the Net has to stay open: a common resource that produces a common good.

In December 2002, Creative Commons launched a set of copyright licenses that would enable people to mark the freedoms associated with their work and build a commons of culture and science which would be free to remix and share. Soon after the launch, Creative Commons initiated a project that would enable lawyers in countries outside the United States to ‘port’ CC licenses to their own national jurisdiction. According to Creative Commons founder Lawrence Lessig, the license porting project was key to the CC strategy. Most of the chapters on Creative Commons presented in this book are the results of reflections led by these CC leads in their country.

How is the Creative Commons web-based platform organized? Creative Commons, a not-for-profit organization, promotes the creative re-use of intellectual and artistic works. Through its free copyright licenses, Creative Commons offers authors the choice of a flexible range of protections and freedoms that build upon the “all rights reserved” concept of traditional copyright to enable a *voluntary* “some rights reserved” approach. Eight years after the launch of Creative Commons, which has revolutionized the modalities of sharing the creation on the Internet, this collective book on intelligent multimedia, edited by three members of the international CC network as editors, gathers the experiences of CC project leads on various topics: Legal Matters and national rights, Governance and common

⁵ Lessig, L. (2004) *Foreword*, in Bourcier, D. and Dulong de Rosnay, M. (Eds), “International Commons at the digital age. La création en partage”, Romillat, Paris.

property on the Internet, Open Access policies, New models of the Free Culture and Open Education.

What will Creative Commons be in 30 years? These essays reveal new collective practices and controversial issues in the field of copyright and open licensing. They also make an important contribution to contemporary debates on Open Access movement and Internet communities. In view of current debates and experiments in social theory and legal governance, we may rephrase this theoretical question underlying the project: is Creative Commons an answer to the conflict between modernity and post-modernity, positivism and empiricism, or a step to experiencing democracy?

2.1. THE LICENCING OF GOVERNMENT AND EDUCATIONAL MATERIAL

The question of reusing publicly funded material has become a critical issue: works, data, databases produced by governments, local authorities and public bodies are crucial for creative, educational and scientific purposes. Reuse by the public, the industry and scientists or by other governments is demanded. The management of these inaccessible materials has become one of the most significant issues for government in the knowledge age.

Technological developments have changed the way digital content is devised, stored, delivered, preserved, accessed and used, and together with business models for transacting digital content, they raise policy challenges to governments. With the advent of the internet-induced sharing opportunity, educational, business and even governmental actors started to open up a little by offering free access to information and collaborating in open content projects. In an evaluation of the Directive 96/9/EC on the legal protection of databases⁶ in Europe, data.gov projects such as data.gov.uk (to be compared with data.gov US website) appear to have been rather slowly implemented due to some other legal barriers: “There has been a considerable growth in *database* production in the US, whereas, in the EU, the introduction of “*sui generis*” protection appears to have had the opposite effect.”

In Australia, as explained by the overview of recent Australian developments, **Neale Hooper, Anne Fitzgerald, Brian Fitzgerald and Tim Beale** explained how the use of Creative Commons licensing enables

⁶ First evaluation of Directive 96/9/EC on the legal protection of databases, December 12 2005.

http://ec.europa.eu/internal_market/copyright/docs/databases/evaluation_report_en.pdf

Open Access to Public Sector Information and publicly funded research results.

The concrete ways to use these licenses in a given legal system in Europe are interesting to quote. **Juan Carlos De Martin**, lead of CC Italy and coordinator of Communia, the European Thematic Network on the digital public domain, and **Andrea Glorioso** explore the SeLiLi project developed by the Piedmont region (Italy). This region has teamed with the Politecnico of Torino to create SeLiLi – Servizio Licenze Libere (Free Licenses Service), a project based in Torino and aimed at providing individuals and small businesses with information and, when necessary, consulting services on the licenses. This chapter describes the main characteristics of SeLiLi and summarizes the results of its first year of activities.

A new initiative has sprung on the path created by the Open Access (OA) movement: Open Education (OE). In order to achieve this goal, several international institutions, such as UNESCO and OECD, have published reports, surveys and documents to help educational institutions in this endeavor. This global initiative needs a legal framework; as a result, efforts thus far have usually resorted to Open Licensing (OL), especially Creative Commons licensing. In fact, as a response to this new movement, Creative Commons launched a new program, *ccLearn*⁷, which recognizes open licensing's impact on education and directly supports the idea of open educational resources (OER). **Carolina Botero and Ignasi Labastida** analyze the current situation focusing on two local situations, the Colombian and the Catalan experiences with open educational projects at higher education level.

2.2. INTRICATION BETWEEN LEGAL, INSTITUTIONAL AND TECHNICAL CONSTRAINTS

The relationship between law and multimedia technology in the realm of copyright is strongly intertwined. **Melanie Dulong de Rosnay**, lead of CC France discusses what additional legal regulation may be required to allow full accessibility, which includes not only a legal authorization to perform certain rights, but also the technical possibility to effectively access and reuse material. She examines what technical infrastructure may better support the enforceability of CC licensing terms, namely a framework automating certain actions and pedagogy tools.

Collecting societies were solutions to the cultural and industrial revolutions of the past, the online licensing initiatives seem to provide

⁷ <http://learn.creativecommons.org>

answers to the digital world. **Herkko Hietanen** of CC Finland describes the functions and the scope of collective licensing and examines the overlap among the individual, collective and the CC public licensing procedures. Can such institutions coexist? How? By using CC licenses, the rights owner reserves rights to collect royalties from the uses that are not covered by the license. However, in some jurisdictions, some rights cannot be waived and are mandatory managed by collecting societies. The question of rights owner's autonomy has to be examined beyond a paternalistic approach of copyright. Should the authors be allowed to manage their rights, even if it could lead to unknown or negative consequences?

Global interest in the CC licenses prompted a discussion about the need for national versions of the CC licenses. Creative Commons international is working with CC jurisdiction teams to port the core Creative Commons licenses to different copyright legislations around the world. The porting process includes both linguistically translating the licenses and legally adapting the licenses to a particular law to make them comprehensible and legally enforceable in the local jurisdiction. **Catharina Maracke**, a former director of Creative Commons international, presents an overview of her experience in this international porting process and its legal and promotional aspects.

2.3. THE FUTURE OF DIGITAL COMMONS

With the emergence of digital technology and the Internet, in many places and regions of developing countries (especially in the “peripheries”), technology arrived earlier than the idea of intellectual property. **Ronaldo Lemos**, project lead for Creative Commons in Brazil, and chair of iCommons describes the idea of *legal commons* in contrast with the idea of *social commons*. While the idea of *legal commons* can be understood as the voluntary use of licenses such as Creative Commons in order to create a “commons”, the idea of *social commons* is related to the tensions between legality and illegality in developing countries. These tensions appear prominently in the so-called global “peripheries”, and often make the legal structure of intellectual property irrelevant, unfamiliar, or unenforceable for various reasons. The Creative Commons project was launched without thinking especially about governance.

Several years after, the question of governance as a logic of collective action rises. Creative Commons provides creators and licensors with a simple way to express which freedoms they want their creative work to carry. The notion of *commons patrimony* will be proposed to analyze if Digital Common Goods do not ask for a new type of governance: what we

call a *patrimonial governance*. The various concepts of property, commons and patrimony will be first revisited to understand the fundamentals of the CC project. **Danièle Bourcier**, lead of CC France, analyzes the various aspects of governance experienced through the CC Community and compares with some research on patrimonial goods.

Is a Tech Commons possible? **John H. Weitzmann**, lead of CC Germany, wonders if a commons of technological register rights content would be suitable for Open Innovation. According to the view presented here, a possible Tech Commons License should be accompanied by a registering support system and an incentive system that preserves at least some market effects.

Commons Based Peer Production (CBPP) represents a variety of distributed non-hierarchical and non-market-based forms of production. **Prodromos Tsiavos and Edgar Whitley**, London School of Economics and Political Science, explore the degree to which the widest adopted form of Open Content licensing, the CC licences, are produced. The analysis shows that as a regulation building project the CC case involves the production of both meaning and actual regulatory instruments.

3. Multimedia, Web 2.0 and Web 3.0

We live in a world in which economics, politics, and law have been definitively pervaded by technology. The WWW has changed as well in the last years. In the market, people are acting more as *prosumers* than as consumers. In the Internet, the web has turned into the *Social Web* (Web 2.0). Flickr, Wikipedia, Facebook, YouTube... are now familiar, and millions of interacting people add content and value into them. On the other way round, social reality is changing through and by means of changes produced in the Web. Semantic content, the creation of meaning through the possibilities and use of the new web languages enacts new patterns of social behavior as well.

The challenge is the connection and organization of this content, which is now disseminated all along the web, to facilitate its sharing and reuse. Therefore, the next step is the so-called Web 3.0 or Web of Data, and the construction of Semantic Web Services (SWS) which may operate through different kind of interfaces and easy accesses based on platforms or mobile technologies. Images, movies, films... constitute perhaps the most difficult part of the content to be properly indexed, classified and organized. For instance, multimedia ontologies have faced during the past decade what is known as “the semantic gap”, the difficult enduring problem to automate the representation of content through images alone (and not only trough the apposite linguistic tags).

Quite understandably, so far, Web 3.0 and SWS are more an aspiration than a reality. But it is not wishful thinking; it is just the next step to be reached. The second part of the volume points to the description of innovative tools applying semantics to structuring and indexing multimedia data, or presenting some projects in this direction. This leads to the intertwining algorithmic, ontologic and Natural Language Processing (NLP) methodologies to produce hybrid approaches to the problem of acquiring, representing, inferring and retrieving multimedia knowledge.

As the reader will quickly notice, hybrid methodologies also match with a hybrid kind of regulation which does not consist only in legal norms, but in rules, principles, contexts, behavioural patterns and self-regulated institutional and professional systems. Soft law, technical protocols, governance and relational justice are being developed at the same time, and sometimes in the same places where legislation, administrative rules and court rulings try to reordering the moves of broadcast companies and internet servers.

Victoria Camps, Joan Barata, Emma Teodoro, Núria Galera and Pompeu Casanovas, who have been working together within the Project of the Code of Best Practices of the CPAC (Col.legi Professional de l'Audiovisual de Catalunya), reflect on this kind of self-regulated field through their experience as co-regulators. As they show, this field is particularly segmented, crossed by opposite interests and different professional profiles, and organized according the leverage of the agents acting in the field (from huge broadcast companies to individual script writers). Moreover, in the Spanish case, there is a powerful company manager acting as a prosecutor of the violations of property rights.

Those are the real settings, turmoil and present legal fights. From this point of view, social participation, downloads, and especially content sharing and new forms of computer grid coordination, represent a problem to be tackled in the Courtrooms. However, as **Nardine Osman, Carles Sierra, Jordi Sabater-Mir, Joseph R. Wakeling, Judith Simon, Gloria Origgi, Roberto Casati** are able to explain, even in the scientific field, people communicate faster and safer through blogs, wikis and other publishing tools allowing modifications and enrichments of the author's original content. They call them liquid publications.

On the other side of freedom in the Web are privacy and digital rights management. Privacy Enhancement Technologies (PETs), ambience intelligence, and ubiquitous computing, have to be balanced with CC and open source works. This is a particularly apt field to represent rights in combination with a conceptual framework allowing both data protection and open management. **Antoni Roig** reflects on privacy-preserving digital rights management in social networks applications. **Víctor Rodríguez Doncel, Jaime Delgado, Roberto García and Rosa Gil** show how

ontology construction may participate in the governance and control of copyright, using NLP techniques. Copyright and copyleft may be combined at different ontology linguistic levels to be enacted in contracts or management of rights. **Jaime Delgado and Víctor Rodríguez Doncel** work out a legal ontology for creative works. Digital licenses for end users beyond the Rights Expressions Language standard (REL) are modeled into an ontology focusing on the property value chain (Media Property Rights Ontology). In this sense, language engineering may become social engineering as well. To us, what it matters is showing the possibilities of linguistic ontological governance when applied to digital rights.

Finally, the volume ends up with two concrete applications. **Elena Sánchez-Nielsen and Francisco Chávez-Gutiérrez** introduce a tool to personalize the retrieval of Parliamentary Proceedings (including the regular videotaping of the sessions. **Pompeu Casanovas, Marta Poblet, José Manuel López-Cobo, Alvaro Cabrerizo and Juan Antonio Prieto** present Ontomedia, an example of a Semantic Web Service to provide annotated content and tools both to users and to professional mediators.

Within the same project, **Ciro Gracia, Xavier Binefa, Emma Teodoro, Núria Galera, and Jorge González-Conejero** face two different techniques to annotate multimedia content coming from courts and mediated interactions. The first one is diarization, the mathematical segmentation of the audio linked to the images of court procedures. The second one is semantic annotation, using light MPEG ontologies to annotate the content of legal videotapes. Both techniques are applied to the result of an empirical knowledge acquisition process. Moreover, **Ciro Gracia and Xavier Binefa** present the interesting subject of the extraction and representation of emotions in multimedia interchanges.

All technical contributions of the SW in the Web of Data can and should be coupled with CC ideas and developments. This turns into social advance towards a more habitable world.

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