Cultivating Creative Commons: From Creative Regulation to Regulatory Commons

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Declaration

The research presented in this thesis was conducted by Prodromos Tsiavos.

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Abstract

This thesis explores and explains the development of the Creative Commons (CC) as an alternative to mainstream copyright protection. It argues that the distinctive characteristics of CC as a license based, configurable form of meta–regulation can be explained by consideration of the disciplinary background of the movement's founder (Lawrence Lessig) and as a consequence of the particular mode of development it undertook (e–mail discussions as commonly used in the arena of software development rather than traditional legal discussions) as well as the influence of a variety of pre-existing regulatory forms.

The second part of the research reviews the inputs from multiple existing regulatory structures such as the Free Software Foundation and the Open Content movement, and de-constructs the process by which the CC is developed in practice. The thesis analyzes the trajectory of CC from a licensing project to a political project, the structural elements of the CC licences and the decision making process of their creation and development.

This analysis helps to explain the apparent inconsistencies that have been expressed about the CC project and shows how Lessig's perspectives on regulation and meaning construction contribute to the empowerment of the creator and the attempt to provide regulatory tools instead of regulatory solutions.

The thesis argues that imbalances in the existing Copyright system are symptoms of deeper structural problems of distantiation of the regulated subject from the process of regulation construction. CC therefore becomes an effort to increase access to the regulatory process and as a result ignites the creation of the Commons. Instead of the regulation to be enforcing its normative content on the creative practices over the Internet, the CC approach allows the reverse to happen. The intellectual or creative commons are thus achieved as a secondary result of the ability to access the regulatory commons.

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List of Acronyms

ANT	Actor Network Theory
BY	Attribution
e2e	End to End
CC	Creative Commons
CLS	Critical Legal Studies
CBPP	Commons Based Peer Production
DFSG	Debian Free Software Guidelines
DMCA	Digital Millennium Copyright Act
DVD	Digital Versatile Disc or Digital Video Disc
EUCD	European Union Copyright Directive (2001/29/EC)
EULA	End User Licence Agreement
FAQ	Frequently Asked Questions
FDL	Free Documentation Licence
FLOSS	Free Libre Open Source Software
FSF	Free Software Foundation
GFDL	GNU Free Documentation Licence
GNU	GNU is Not Unix
GPL	General Public Licence
IS	Information Systems
IETF	Internet Engineering Task Force
IP	Internet Protocol
IPR	Intellectual Property Rights
IPRED	Intellectual Property Rights Enforcement Directive (2004/48/EC)
IPRED2	Intellectual Property Rights Enforcement Directive 2 {SEC(2005)848}
LDP	Linux Documentation Project
NC	Non Commercial
ND	Non Derivative
OPL	Open Publication Licence
PD	Public Domain
p2p	Peer to Peer
RMS	Richard Mathew Stallman

Q&A	Question and Answer
SA	Share Alike
VHS	Video Home System

1.1 Introduction

"If you want to know about something serious, it sometimes helps to ask about it in a context where it doesn't matter. Where it doesn't matter, prejudices are more easily put aside, and when it is something very serious, prejudices abound." (Lessig, 1996c p. 839)

This quote comes from one of Lessig's least known works, a book review on constitutional amendment written in the mid 1990s. It is perhaps the most accurate description of the character of both his academic work and his contribution to the Creative Commons (CC) project, and is certainly the most appropriate way to introduce this research.

The CC project offers a solution to the problem of not being able to reuse material for creative reasons due to Copyright restrictions (Creative Commons, 2006a). In this context, CC may be seen as an effort to mitigate the extremities of the current Copyright system by establishing a voluntary system of reserving only some Copyrights (Brown, Paharia, Junell and Walker, 2002). CC implements such a solution through a series of standard, free of cost, public licences that are complemented by meta-data allowing the easy identification and reuse of CC licensed works (Creative Commons, 2004a) (section 6.1).

While the aforementioned description of the CC project constitutes a valid first approach to the CC phenomenon, this thesis also explores about another issue, perhaps of a more fundamental nature: In the area of Copyright we witness a steady pattern of what is described in this research as the *regulatory distantiation phenomenon* (section 3.6): increasingly fewer and fewer actors have the ability, practical and legal, to provide input to the formation of regulation that involves more and more people; while regulation becomes more pervasive, access to its formation becomes more exclusive. We illustrate this aspect by examining the interaction between Copyright and Technology (chapter 3) as well as by conducting a critical review of Lessig's early work

on regulation and the Internet (chapter 4) and a positioning of his wok within regulatory theory, FLOSS research and Information Infrastructures design (sections 4.5.1-4.5.3).

This alienation from the regulatory means of production is at the crux of the Copyrighttechnology interaction problem (section 3.1). The eradication of the Commons (section 3.3) and the exclusion of a class of new creators from the use of a series of creative resources (section 3.2) are, to the author of this thesis, the symptoms of the greater problem of eradication of the regulatory commons (sections 4.4.1 to 4.4.2), of the exclusion of this new class of creators from the regulatory formation process. It is in the context of Copyright and CC that the question of how to overcome regulatory distantiation is posed (section 4.4.3); not because CC or Copyright lack seriousness, as Lessig's aforementioned quote may lead the reader to conclude, but rather because of two more practical reasons: first, because the investigation of a very specific area in which the distantiation problem occurs allows its comprehensive analysis; and second, because the CC project provides a good initial model for how to solve the distantiation problem.

Viewing the CC project as one that solely and directly seeks to establish a creative commons, though appealing in its simplicity, it raises serious consistency problems, most of which have been identified by the relevant critique. Chapter two is exclusively devoted to a brief presentation of the CC and its critique. We present the basic constituent parts of the CC critique and explain why an alternative to the mainstream understanding of CC is required.

This thesis argues that much of the confusion regarding the level of operation of the CC project derives from the popularity of Lessig's later work that focuses on the establishment of the creative rather than the regulatory commons. Chapter four attempts to shed light to most of Lessig's earlier work illustrating his approach to the regulatory distantiation problem and the possible solutions he suggests (sections 4.4 onwards).

This early period of Lessig's work [e.g. (Lai, 1999; Lessig, 1989; 1993; 1995c; 1995d; 1996b)] is also informative of the ways in which we could construct a vocabulary for describing the regulatory phenomenon as an association construction effort (sections 4.1-4.3). A combination of Lessig's model of four modalities of regulation (Lessig, 1998d) (section 4.3) with the language of associations invites the establishment of links

with Actor Network Theory (ANT) and the "sociology of associations" (Latour, 2005) (sections 5.1.1-5.1.2) and frames the epistemological approach of this research. Sections 4.5.1 to 4.5.3 further refine our understanding of Lessig's work by positioning it within the relevant regulatory theory, FLOSS research and aspects from the Information Infrastructure literature. In chapter five we deal in detail with the ways in which Lessig's association construction-cultivation model could define the data collection (5.2.1.) and analysis (section 5.2.2) techniques that are used for the investigation of our basic research questions.

The analysis of the CC project that takes place in chapter six gives us an opportunity to explore how CC employs a series of mechanisms in order to cultivate associations and express them in the formal regulatory instruments of the CC licences (sections 6.3, 6.4.3 and 6.4.5). By focusing on the discussions over the main CC mailing list, the "cc licenses" mailing list, (sections 6.4.1, 6.4.2 and 6.4.4) we explore how CC resolves the regulatory distantiation problem by emphasizing the process of absorbing patterns of creative behaviour rather than trying to impose them upon the population of secondary creators and users.

In chapter seven we discuss the various aspects of the association constructioncultivation model the CC project is based upon (section 7.2). Lessig's conceptual model of association construction (Lessig, 1995c; 1996b) presented in chapter four (section 4.1.4) and positioned within the relevant literature in sections 4.5.1 to 4.5.3 is extended and enriched with the results from the analysis conducted in chapter six. The discussion concludes with a presentation of the political aspects of the CC project (6.5) and the way in which the latter produces the creative commons through a process of developing the regulatory commons (6.4.5).

In the rest of this chapter the starting points of this research are presented. First, key terms are presented and briefly explained (section 1.2). A detailed overview of the thesis structure and the basic issues appearing in each chapter follows (section 1.3). The introduction concludes with the basic contributions of this research.

1.2 Key Terms

There is a series of key terms important for the whole of the thesis that needs to be clarified at the outset of this research. The first one relates to the CC project which is used as 'CC' or 'Creative Commons' when it is to describe the specific project initiated by Lawrence Lessig (section 6.1) and as 'creative commons' when it is to denote common creative resources every actor has access to in non-discriminatory terms (sections 3.4.1). The word 'Commons' denotes all forms of resources that are available in non discriminatory terms and is influenced by Lessig's definition of the Commons (Lessig, 2001b) as quoted by Boyle (1997a) as described in section 3.5.

The terms Moglen's Law (1997; 1999), Commons Based Peer Production (CBPP) or end-to-end or the 'stupid network' are taken from the work of Benkler (2002), Saltzer (Saltzer, Reed and Clark, 1984) and Isenberg (1997) quoted by Lessig (2001b) respectively and are used in the same way as the term 'Commons'; they are explained in greater detail in chapters three (section 3.5), four (sections 4.4.2 and 4.4.3) and seven (section 7.2.5). The term 'regulatory commons' is, therefore, used in order to describe a form of regulation everyone is able to contribute to in non-discriminatory terms (section 6.4.5).

The term Actor is used in order to express the Actor-Network in the sense used in Latour's work (2005) and described in detail in chapter five (sections 5.1.1 and 5.1.2). Another set of terms is that of 'classic Copyright project' or 'proprietary Copyright'; both are expressive of the most dominant models of exploitation of Copyrights that are based on an approach advocating a reservation of all proprietary rights by the creator and offering only limited use rights to the user of the work (section 3.1).

The notion of the secondary creator is used in order to denote the creator that is using copyrighted material in order to produce new creative works (sections 3.2 and 3.3).

All other terms, particularly the ones related to Lessig's work or Actor Network Theory are explained in greater detail in chapters four and five respectively. Concepts related to regulatory theory are analysed in chapter sections 4.5.1 to 4.5.3. The new concepts developed as the result of the analysis are illustrated in chapters six and seven.

1.3 Research overview and thesis structure

This thesis presents interdisciplinary research exploring the ways in which the CC project may be approached as a response to the main issues Copyright law faces in its interaction with digital technology (section 3.1). It argues that the CC project is about something more serious –or at least of greater societal impact- than simply supporting the public domain. It argues that CC is primarily a project aiming at increasing access to the formation of regulatory resources and only at a second level supporting the creative commons.

The thesis further argues that Copyright-technology problems may be expressed in terms of the costs of constructing and enforcing regulation (section 4.1.2); that CC is a less expensive regulatory approach (sections 7.1.1-7.2.5); and that CC manages to support creativity and innovation by following a regulatory strategy that brings it closer to contemporary creative practices (section 7.2.3). The CC project is understood as an effort to create the regulatory commons (section 6.4.5), a form of regulation. The creative commons is produced as a direct result of this effort to construct the *regulatory commons* (section 7.2.5): if the current, technology-driven creative practices are closer to a creative commons-type of regulation, by allowing them to be expressed through a regulatory commons (section 7.1.2).

The Creative Commons project offers a range of standard, cost-free licences supporting the sharing, re-use and remix of material other than computer programs (sections 6.1 to 6.3). It has gradually become the most popular open content licensing scheme worldwide (Creative Commons, 2006h). Creative Commons has been equally linked to the efforts for the enrichment of the Public Domain, the fight against Copyright's extremism and is related to the Free Software movement (sections 6.1 and 6.2). However, it has also been criticized as being too reactive and not really forward looking (Berry and Moss, 2005), as implicitly supporting the existing Copyright regime (Elkin-Koren, 2006a) or as prone to eradicate the income of the creators (Orlowsky, 2007) (Dvorak, 2005) and a means to introduce new intermediaries in the creative industry

(Carroll, 2006). The most wide spread critique is that CC has a fuzzy ideology which cannot support the Commons (section 2.6) and that the CC licences are not the most appropriate means for achieving a Commons (Elkin-Koren, 2005) (sections 2.8.1 to 2.8.4). Chapter two deals in detail with this critique presenting its basic constituent parts and the way in which it allows a first approach to the CC project.

The broader research objective of this thesis could be seen as an effort to investigate the nature of the CC project. The CC rhetoric (seen mainly in chapter 6 and section 2.1) presents CC mainly as a licensing project aiming at the promotion of sharing, reusing and remixing of material. However, the CC critique (presented in Ch.2) views the strategy and means adopted by CC as problematic for a variety of reasons: It appears as having an ideology that is -if not libertarian- at least fuzzy; it supports the autonomy of the creator, and potentially proprietary solutions; it provides more than one mutually incompatible licences and hence fragments the commons.

As this thesis argues and the CC critique indicates, CC is a response to the Copyright problems but for a series of reasons it is hard to view it solely as an effort to support the creative commons; it is more likely to be seen as an effort to establish a regulatory commons for Copyrights.

Chapter three provides a first explanation why this is the case. A critical review of the relevant literature reveals that the Copyright-Technology interaction has created two classes of problems: the first, and most widely known, relates to the disturbance of the balance between the existing rights holders and users or future rights holders. Copyright's underlying economic model of incentives does not seem to be the only model for supporting creativity. The Commons Based Peer Production model arguing that on the Internet it is enough to remove obstacles rather than to provide the incentives for creativity to flourish, and the numerous real-life cases (Free/ Libre/ Open Source Software development being the predominant class of such examples) illustrate that the existing Copyright system is problematic in terms of its regulatory content. However, it still remains unaltered.

The second class of problems that is implied but not thoroughly examined in the relevant literature, provides an answer to the question of why the Copyright system

remains as it is despite the apparent problems it suffers from: while the application of Copyright law involves increasingly more people, the decision making and participation to the formation of its content remains an affair of increasingly less stakeholders. This is what in this thesis is described as the *distantiation phenomenon*. It is this phenomenon that constitutes the cause of the imbalanced rights allocation, which is a symptom of rather than the actual problem Copyright currently faces. The CC project as a response to Copyright law problems seeks to combat this *distantiation* and in a second level the imbalance in the allocation of rights.

The presentation of Lessig's work in chapter four allows us to understand the way in which regulation construction and enforcement may be approached in order to resolve the distantiation problem. Lessig's work in the last two decades appears to vary thematically: from US constitutional law and meaning to Cyber-regulation and IPR issues. However, there is a constant problematic appearing in all Lessig's research: the investigation of the phenomenon of contextual change and construction and the regulatory responses to such changes. Stated differently, Lessig is interested in the way in which social agreement on regulatory instruments may be encapsulated in different forms of regulation and how we may ensure that such social consensus still exists in the face of fundamental contextual changes. Cyber-regulation issues constituted a great area of interest for Lessig in the 2nd half of the 1990s allowing him to explore multi-source regulatory environments. Hence, he developed the four modalities of regulation model and sought to discover how social consensus, and hence legitimization, could be achieved in environments where classic legal meta-regulators like the constitution systematically fail to play their designed role.

For that reason Lessig explored regulation as a form of association construction mechanism with particular costs attached to its various forms. It was in that period of his work that FLOSS caught Lessig's attention as a form of meta-regulator that allowed non-discriminatory access to the production of an otherwise private form of regulation, i.e. technology. Investigating in more detail the phenomenon of regulatory privatization (similar to the *distantiation phenomenon*) Lessig explores the issue of zoning in Cyberspace and become interested in the non-discriminatory access to creative resources. The latter part of his work, written in a more popular fashion, and being emphasized in the rhetoric of the CC project, has elevated Lessig to a world-popular-

figure status but has also been the cause of much misconception of his work and the CC project, something the CC critique has clearly indicated.

Chapter four thus concludes that Lessig's work is about ensuring non-discriminatory access to regulatory resources construction and that the CC project is a mechanism for achieving such a result.

Lessig's conceptual framework in relation to the regulatory phenomenon may be associated with three streams of contemporary literature, that is, regulatory theory, FLOSS research and the Information Infrastructures literature. Similarly to Lessig's work, regulation theory views a gradual shift from a state driven, hierarchical Command and Control regulatory model, to one being privately driven, heterarchical and decentered. This type of regulatory understanding gives particular emphasis to governance rather than government and views regulation as something embedded in daily routines and technologies. In such a regulatory environment the main concerns are similar to the ones raised by Lessig: how it is possible to increase participation of the regulatee to the formation of the regulation and ensure that the same values found in public regulatory forms will be found in these new hybrid regulatory forms.

The FLOSS research features a series of characteristics that are also found in Lessig's work. In addition, FLOSS development resembles the way of developing the CC licences. A deeper reading of the relevant literature reveals that FLOSS has its roots in open standards development, that is, the development of essentially regulatory instruments. With the use of the FLOSS model for the development of another regulatory instrument, such as the CC licence, a circle is closed. What the FLOSS literature suggests is that we gradually shift our interest from the operation of the licences to the process of their creation in the same way as regulatory theory moves from the regulatory content to the regulatory production process.

Finally, the Information Infrastructures literature, influenced by Actor Network Theory concepts adopts an ontology for technology that places particular emphasis on its regulatory elements similarly to Lessig's approach. More importantly, this stream of literature emphasizes that the development of Information Infrastructures has to follow a model of cultivation rather than construction. This model is close to the models

suggested by regulatory theory, to Lessig's theoretical approach and the actual development of the CC project.

Chapter five explains why the thesis follows a critical approach: it studies a contemporary phenomenon like the CC project and seeks to present an alternative to the mainstream understanding of CC's basic operation. It is also compatible with the critical stance adopted by all streams of the relevant literature used in this research. The thesis combines common elements from Lessig's and ANT's approach to constructing associations and seeks to explore the association development in the CC project.

In particular it follows two types of association constitutions: First, the meaning manager model, first presented by Lessig, advocating the directed construction of associations from the regulator to the regulated subject. This is done through the investigation of the CC formal material, Lessig's 2005 12 newsletters and the Lessig and Boyle's interviews, which are all collected in a single narrative about the CC project. Second, the FLOSS-like construction is conducted through a studying of the participation, thematic and interaction patterns over the CC licenses mailing list which is the main locus of construction of the core CC regulatory artifact, i.e. the CC licences. The analysis seeks to explore who participates, what is it discussed and how the interactions take place forming the regulatory commons. The operation of the licences in the sense of an analysis of their legal text allows an exploration of the autonomy and the flow of rights and works in the CC project.

The analysis of the relevant data in chapter six reveals that there is a constant trend appearing both in the CC direct ancestors and the CC project itself to move from a project for the support of the Public Domain to a project aiming at the rationalization of the Copyright system. The CC project tries to encourage native regulatory forms such as share, reuse and remix of material and to support the regulatory autonomy of the creator in the sense of choosing her own form of regulatory regime.

The biases of the CC project are also revealing of its character: first, its founder, Lessig, has been a vocal advocate in his North America candidacy for ICANN of thin regulation, autonomy of the creator and respect to private property. All three elements find their way in the CC project. Second, Copyright reform in CC rhetoric and Lessig's

work is acknowledged as an effort with huge cost and as a collective action problem that may be resolved through association construction techniques. Third, the US Copyright office has prompted CC as an organization to focus on creative regulatory forms. Finally, and most importantly the elements the CC project draws from open licensing can be located in two levels: first on the level of ensuring there is access in non-discriminatory fashion to creative resources as all open content projects before CC were aiming at; and second (and most importantly) on ensuring access on nondiscriminatory terms to the regulatory resources is also possible. The Open Law project, that is the direct predecessor of CC in that respect, is the first attempt to create a platform for collaborative, distributed and open access to the formation of legal arguments. The operation of the licences accordingly indicates an effort to support the autonomy of creators of original and secondary works, as well as to clarify creativity and PD rules.

If the narrative and the operation of the CC licences reveal the actual focus of the project on establishing a regulatory commons, the analysis of the data from the CC licenses mailing list illustrates the nature of these regulatory commons. The participation and thematic patterns indicate that not all active participants are also key participants, while the themes follow the structure of the licences and are primarily aiming at the encouraging of removing obstacles for the share, reuse and remix of material. These thematic patterns most clearly illustrate how native regulatory forms find their way into the text of the license. The interaction patterns exhibit a variety of thread types and interactions and confirm what anecdotal evidence from FLOSS projects indicated, i.e. that participation is fragmented, waterfall like, contributions repetitive and innovation slow and incremental. Following such patterns, the next question our research poses is why this model of representation was chosen if the participation is in principle but not in practice non-discriminatory and this was known to the CC founder in advance.

There are two answers emerging from the analysis: the first is that the fragmentation is compensated by the existence of a class of participants, which we call dynamic cultivators that manage to mitigate most of the adverse effects of the participation to the lists by linking discussions, resolving disputes and igniting further innovation. The second answer relates to the nature of representation on a mailing list that does not follow the paradigm of the House of Commons but that of Common Law; representation is not through a human delegate, but through the representation of multiple cases across time and space on the mailing list to be then internalized by the CC licences. However, as explained in more detail in the discussion section, there is no real natural selection of the native regulation cases but rather a careful cultivation method that is followed.

The discussion of the analysis results in chapter seven allows a better understanding of the operation of the regulatory commons in the context of the CC project. A first realization is that regulation both in its construction and in its enforcement involves the construction of associations. In that sense, it is useful to have those two stages as close as possible if we want to avoid increased regulatory costs. What is deduced from the analysis is that the closer a formal regulatory instrument is to native forms of regulation and the more immediate it is in its enforcement (i.e the less the institutions that mediate between the regulatory content and its implementation) the less costly it is. There are two limits in the production of formal regulatory forms close to native regulatory forms: first the existing regulatory structures; and second the autonomy of the regulatory actor. The latter is to be expressed in the participation in the formation and the choice of the regulatory instrument. This model is expressed theoretically by Lessig in his work on the Fair Use Plus model and is implemented by the CC project. This is a regulatory model not based solely on construction but being a combined construction-cultivation model. In the CC case, construction is primarily effected through the application of static cultivators during the seeding or framing phase where the constituent guidelines and overall direction of the project is set.

Three basic static cultivators are identified in the CC project: the CC licences (what is constructed), the vocabulary used (how it is discussed), and the CC licenses mailing list technical specifications (the possibilities of participation the means of communication provide). The CC project attempts constructions that are always defensive, having as an anchor point the native forms of regulation such as creative practices of sharing, using and remixing material. For the cultivation stage, CC uses the medium of the mailing list that technically allows non-discriminatory participation. The fragmentation of the discussions in the form of threads is compensated by the operation of the dynamic

cultivators that allow an end-to-end model for the production of regulation to emerge and link the different discussions with each other.

An e2e model for regulatory production, as the one that CC advocates, aims at a reverse internalization process, where the regulatory instrument produced (the CC licences) has absorbed the native regulatory forms. This is the opposite from the normal focus of a regulatory instrument, that is, the imposition of a particular regulatory program of action on the population. Hence, the establishment of a licence-based regime supporting the sharing, reusing and remixing of material has to be seen as the result of CC's broader efforts to give voice to such native regulatory forms. The existence of a common set of principles for all licences, has thus to be seen as an objective, as a "transient end result" rather as a departure point. Thus, fragmentation of the Commons will be gradually overcome as a result of a broader political process. Finally, the CC project may appear as conservative but what it seeks to preserve are native regulatory forms and creative practices, not Copyright's mandates. In conclusion, CC is an e2e project that appears on the regulatory level and hence allows e2e to also emerge on the content level, since this is the native regulatory form on the Internet. In addition, CC is very difficult to evolve into a proprietary project because of both static and dynamic cultivators that push towards the direction of creative commons.

1.4. Conclusion

Summing up the thesis we may identify six basic sets of findings: first, that there are native, exotic and formal regulatory forms and that the distantiation between native and formal regulatory forms (when the latter are exotic), leads to increased costs of enforcement (active regulatory costs) and additional costs for creators that are subjected to such regulation (passive regulatory costs). Hence, a strategy for the limitation of regulatory costs would involve formal regulatory forms that are either tying or defending native regulatory forms. The more a utilitarian artifact or practice appears integrated into its environment with its regulatory features disappearing and not being perceived as a regulatory modality, the more likely it is to be a native regulatory form and the more powerful it is. CC licences differ from End User Licence Agreements (EULAs) and Technical Protection Measures with respect to their proximity to native

regulatory forms. Second, the notions of substitution and indirection appear in the case of the CC project not as clear cut as in Lessig's work.

Third, we gradually move away from the model of the meaning manager to the one of the association-cultivator seeking to achieve reverse internalization. CC follows a construction-cultivation model through the use of static and dynamic cultivators. Fourth, the e2e model is applied in the CC project primarily on the regulation construction level and only partially on the creative content level. Fifth, it is very difficult to leapfrog to a creative commons construction stage without passing from the regulatory commons phase, as such a strategy would most probably re-introduce exotic forms of regulation and in the mid- to long-run cause the distantiation phenomenon Copyright law is suffering from. Finally, the process of CC licences building is consciously presented as a non-political process to increase reliability; however, it is a very political process as illustrated by the TPM case in the CC v.3.0 licences discussions and needs to be political in order to support the creation of the regulatory commons. The only possibility to differentiate between political and technical elements of the CC project is by attempting a clearer power division that would entail better defined delegation procedures and attribution of political character to the iCommons project.

The main contribution of this thesis is the re-conceptualization of CC as a regulatory rather than creative commons project. By exploring its theoretical (chapter four) and conceptual foundations (section 5.1) as well as the means it employs and by deconstructing its formal rhetoric (section 5.2), this research reveals that CC is a project aiming at increasing the regulatory autonomy of the creator (chapter seven). While this process seems to be out of control, cumbersome and inefficient (sections 6.4.1., 6.4.2 and 6.4.4) the use of specific association construction techniques such as tying, ambiguation, and rituals along the cultivation of meaning over the list allows the channelling of the regulatory process towards the direction of the creative commons. This thesis suggests an alternative to the mainstream model for constructing and managing regulation on the basis of an association construction analysis (chapters seven and eight).

The second substantial contribution relates to the suggestion of a cost-based model for assessing a regulatory intervention (section 7.1). Based on Lessig's model for

evaluating regulatory cost on the basis of difficulty of constituting associations (sections 4.1 and 4.2), this thesis develops a more detailed model regarding the types of costs incurred from a particular regulatory instrument and explains how the CC project is an effort to drastically reduce all such costs. Distantiation is the main concept developed for the assessing of costs, expressing the distance between regulatory production and the enforcement (section 3.6 and 7.1.1-7.1.3). In that sense it views the Copyright-technology problem as a regulatory cost problem arising from the distantiation and reduce costs.

Theoretically, the most important contribution is the effort to explicate Lessig's early theoretical work that is scattered in various papers and is often undervalued in the face of his most recent and more popular work on the Commons (chapter four). This effort is complemented by a comparison of Lessig's conceptual vocabulary with that of regulation theory, FLOSS research, aspects of Information Infrastructure literature (sections 4.5.1 to 4.5.3) and ANT, (chapter five). By bringing these bodies of work together we are able to construct a common vocabulary which may be used for a description of regulatory phenomena in a more fundamental level and hence be able to compare different modalities and levels of regulation.

Finally, the data analysis techniques employed for the exploration of the interaction patterns are also an important contribution suggesting a way to visualize the Commons and understand the way in which it is possible to overcome fragmentation and repetition on the "cc licenses" mailing list. This occurs through particular devices such as the dynamic cultivators, i.e. participants that are able to transcend the strict waterfall model of the list because of their broad experience and steer the discussion towards a specific direction (see chapters five and six).

The main limitation of the thesis relates to the use of Lessig's version of regulatory theory, the non-comprehensive ANT-Lessig analysis, the limited data range and the fact that any generalizations made on the basis of the thesis have to be done with extreme care so that the same type of situation is compared. There are many further research avenues, but we focus on the following ones: conducting further research on CC deep threads; explore the possibilities of regulatory ethnographies for the discovery of native

forms of regulation; advance the regulatory costs model; investigate the locus of IPR decision making and trace its links with particular regulatory content.

The following chapter presents the first stage of our investigation of the CC project, the critique of the CC project, which allows a look into its most controversial aspects and invites an analysis of the reasons behind their occurrence.

Chapter Two Overview and critique of the Creative Commons project

2. Introduction

The objective of this chapter is (a) to explain how the CC project operates and (b) to present the critique of CC. The latter is as important for an appreciation of the mechanics of the CC project as a discussion of its features. This is because a critical view of CC allows us to highlighting the aspects of the project that are the most controversial. Such aspects will operate as the starting point into the actual character of the CC phenomenon. The CC features will be further explained through the theoretical chapters three, four and five that relate CC respectively with the Copyright literature, Lessig's work, the research on regulation, Free/ Libre Open Source Software and Information Infrastructures design and ANT concepts.

The structure of this chapter is as follows: section 2.1 is dedicated to an overall presentation of the CC project. In section 2.2 we present the context in which the critique is taking place and the reasons behind the choice to focus on Elkin-Koren's work. The next section (section 2.3) examines the ontological assumptions of the critique of the CC project and the degree to which it is influenced by Lessig's work and vocabulary. The fourth section (section 2.4) explores how Elkin-Koren's work relates to this study. The following section (section 2.5) presents the image of the CC project in Elkin-Koren's work and section 2.6 illustrates the basic axes of the critique of the CC project is likely to be facing in its meaning construction efforts due to the choice of specific means for its realization. Section 2.8 explores in detail the relationship between the claimed ideological fuzziness of the CC project and the existence of more than one licence, whereas the chapter closes with a brief summary of the findings up to this stage of the thesis.

2.1 An overview of the Creative Commons project

Creative Commons is predominantly known as a project that provides a set of licences that support the share, reuse and remix of digital content in online environments (Creative Commons, 2007a). Creative Commons as a term may thus denote three things: First, the whole project aiming at the legal reuse of online material; second, the set of standardized licences that make the objectives of the project possible; and third, the CC organization.

The Creative Commons project was founded by Lawrence Lessig while he was a professor at Harvard Law School, the Berkman Center for Internet and Society (Creative Commons, 2006c). Lessig was influenced by Richard Stallman's General Public Licence (Stallman, 1999; Stallman, 2002) in the sense of providing a standardized licence for the free distribution and remix of material on the Internet (Lessig, 2005i; 2005j). The core concept of the project was to allow novel forms of creativity that were taking place on the Internet to be conducted in a legal way (Lessig, 2005k). The basic idea of those forms of creativity was that they were based on preexisting works and that the obtaining of permission from the original rights-holders was becoming increasingly difficult (Lessig, 2005h; 2005l). Lessig and his colleagues have originally sought for a solution from the U.S. Copyright Office (Brown, Paharia, Junell and Walker, 2002). However, the latter's suggestion that there was no available legal instrument to solve the problem had led Lessig to become creative in the sense of producing a novel regulatory instrument, i.e. the CC licences. Such an instrument was set to define a "middle ground" between a "no-rights reserved" approach as found in the case of file-sharing culture and the "all-rights" reserved approach adopted by the Copyright industry (Creative Commons, 2005a).

The CC project seeks to achieve its objectives by putting in place specific mechanisms that are based on the assumption that the regulatory intervention should occur in three levels: legal, technical and semantic (Creative Commons, 2006e; 2006f). In the legal level, the Creative Commons project provides six versions of its licences that are produced as the result of the combination of one fixed (Attribution) and three variable elements (ShareAlike, NonCommercial, No Derivative Works). The most open licences allow the reproduction and adaptation of the licensed material with no obligations on behalf of the licensee other than the attribution to the original author. The least open

licences allow only verbatim reproduction of the licensed content with the obligations to attribute the original author and not to use the material for commercial purposes.

Unlike the General Public Licence, in the case of CC there is no single set of licences valid across all jurisdictions; instead each jurisdiction that opts to adopt the CC project also has to adapt the CC licences to its own legal system and national language (Creative Commons, 2004a; 2004b; 2004c; 2004d). This process is called "porting" following the computer science terminology denoting "the process of adapting software so that an executable program can be created for a computing environment that is different from the one for which it was originally designed (e.g. different CPU, operating system, or third party library). The term is also used in a general way to refer to the changing of software/hardware to make them usable in different environments." (Wikipedia, 2007a) All CC licences of the same kind, e.g. the Creative Commons Attribution, ShareAlike, NonCommercial v.3.0 licences are comprised of the same legal features irrespective of the jurisdiction in which they have been ported. In that sense, the structure of each licence looks as a pyramid where the licence type is at the top and all compatible licence of the same type at the bottom of the pyramid.

Such structure is reflected on the international organizational structure of the CC project: an international office responsible for the coordination of all licensing drafting processes in the respective jurisdictions is based in Berlin (Faris, 2006a) (Ford, Ito, Henckel, Keller, Lemos, Lessig, Medak and Wales, 2006) (Wilbanks, Donnersmarck, Ford, Garlick and Linksvayer, 2006). This is called the Creative Commons International office and is staffed by a CC International Director and two Assistants (Creative Commons, 2006j). After getting in touch with local communities, the CC International appoints in each jurisdiction a Hosting Institution, and one or more Legal Project and Public Project Leads (Creative Commons, 2005a). The Hosting Institution tends to be an influential organization within the jurisdiction that the licence is to be ported. Figure 2.1 illustrates a list of the various CC organizations.

Country Name	Organisation Type
Argentina	Non-profit Organization
Austria	University
Australia	University
Belgium	Research Center
Bulgaria	NGO
Brazil	non-profit institution
Canada	University
Switzerland	institute
Chile	University
Mainland China	Renmin University
Colombia	University
Croatia	NGO
Denmark	University
Finland	Institute
France	University/ Institute
Germany	University/Institute
Hungary	University
Ireland	University
Israel	Univesity
India	Public Institute
Italy	University
Jordan	Law Firm
Japan	University
Korea	Association
Malta	institute / Organization
Mexico	Law Firm
Malaysia	Institute/ Organization
Nigeria	Law Firm
Netherlands	Univeristy/ Institute
Peru	Association/ NGO
Philippines	NGO/ University
Poland	University/ Association
Sweden	University
Slovenia	Institute/ Organization
Spain	Univesity
Taiwan	Institute
Ukraine	NGO/ Private Organization
UK : England & Wales	University
UK : Scotland	University
South Africa	Research Center

Figure 2.1

The Legal Project Lead is responsible for the coordination of the drafting process for the national version of the licences, whereas the Public Project Lead is responsible for the community building. The Hosting Institution signs with Creative Commons a Memorandum Of Understanding (MoU) that sets the terms under which the CC trademarks are to be used and the way in which the licence development process is to be instrumented (Creative Commons, 2006e). Objective, thus, of the National CC projects structure is not solely to port the licences from one jurisdiction to another but also to construct local communities and get feedback from the experience from national communities and embed it into the licences. In October 2007, 38 jurisdictions had completed the licensing porting process and 11 more were still in the process of discussing the licences to be implemented (Creative Commons, 2007a) (Creative Commons, 2006h). Figure 2.2 illustrates the CC project launches per month in the period between 2004 and 2006. An average of 0.97 launches per month took place during that period. Each launch corresponds to a national set of CC licences. It is important to note that the discussion regarding the licences does not occur only in the national level but mostly in the international level on the CC licences mailing list. It is these discussions that take place in English that are quoted when a licence moves to its next version.



Figure 2.2 CCi Launches per month

The CC licences have known four versions up to now (October 2007): versions 1.0, 2.0, 2.5 and 3.0. Each successive version is thoroughly discussed on the cc-licenses mailing list. The decision is not taken after some formal voting process but directly by the general CC Legal Counsel once she feels that consensus has been achieved. The CC Legal Counsels have been Glenn Otis Brown for versions 1.0 to 2.5 and Mia Garlick for version 3.0. Garlick has publicly explained how she reached her decision and grounded it to the discussions taking place over the "cc licenses" mailing list (Garlick, 2006; 2007).

Though the organizational structure of the Creative Commons International follows the way in which the national licences are built, the overall organizational structure of various CC-related projects and the iCommons organization in particular is not equally related to the building of the licences or the local communities (iCommons, 2006a). Creative Commons is incorporated as a non-profit company in the U.S. and iCommons

in the U.K (Creative Commons, 2005d) (iCommons, 2005). Since the summer of 2005, Creative Commons organizes an annual international summit, which is called iSummit. In the iSummit 2006 we have seen the emergence of iCommons, an entity that is responsible for the development of the relevant community, whereas Creative Commons was confined in the realms of licensing production (Faris, 2006a; 2006b). One member of the CC national projects (Paul Keller from CC Netherlands) (iCommons, 2006b) currently sits in the iCommons Advisory Board, which seems to be driving the whole of the CC project right now, though such member was not elected, neither are his responsibilities clearly set (iCommons, 2006b).

Returning to the issue of the CC licences, besides their legal dimension they have a technological expression in terms of meta-data that may be added to any item that may be identified on the World Wide Web through a Uniform Resource Identifier (URI). Once the legal text of the licences is completed the respective national teams produce XHTML versions of the six licences that are then stored on the servers of CC Corp. in San Francisco. Each of the national six versions of the CC licence is thus linked to unique URI. Once a licensor decides to distribute a work under a CC licence, then she has to follow a "licence wizard" on the CC website (Creative Commons, 2006f). By using the wizard not only she is able to choose the licence that is most suitable to her needs, but she also tags her work with the meta-data that describe the kind of licence she has chosen for her work. This is done through the inclusion of a reference to the URI of the licence type she has chosen to use. Reference to the URI that links to the licensing information of the work needs to be provided along each copy or adaptation of the licensed work [see e.g. sections 4b and 5d of the Unported CC Attribution -ShareAlike – NonCommercial v.3.0 licence (Creative Commons, 2007b)]. Such information allows search engines to identify the number of works licensed under CC licences and the user of a work to easily identify with the assistance of technical means the kind of rights she may have in relation to a specific work.

As indicated above, the CC licences also have a third dimension, that is, their basic parts are expressed in plain language and simple icons, so that their operation is understood even by a non-legal expert (Creative Commons, 2004a; 2004b; 2004c; 2004d). This was deemed as necessary due to the nature of the CC licences as public standardized documents that are to be used by creators that do not have a legal service at their

disposal. Such a creator would require not only a set of licences that would be easy to use but also to understand their operation. Note, that this was not the case with the GPL which was addressed to a fairly coherent community (software developers) that were well accustomed to the social norms the GPL expressed in legal terms. The Commons Deed, which is the term used by CC in order to denote this high-level simple language expression of the various CC licences, is produced by the national CC teams and is then sent to the CC headquarters along the XHTML version of the legal text of the licences so that is incorporated in the CC licensing wizard. The link between the three levels of the licences (legal text, meta data and Commons Deed) is expressed in diagram 2.1 that is provided by the CC web-site and explains their relationship (Creative Commons, 2007a):



Figure 2.3 Diagrammatic representation of the relationship between Commons Deed, Legal Code and Digital Code

The CC licences are at the core of the Creative Commons project; however, they are not its sole focus and objective. As the CC project expands in number of jurisdictions and works that are licensed under the CC licences it also become more diversified in terms of the project it covers and the objectives it has. The introduction of the iCommons project and organization in Summer 2006 serves this transition to an umbrella organization, which to a great degree as its purpose to support all forms of open culture and free content dissemination (Faris, 2006a). Hence the last three years we have seen the emergence of organizations like Science Commons (ScienceCommons, 2006a; 2006b), that deals specifically with the promotion of Open Knowledge in the areas of Science and Academia or the CC Learn (Creative Commons Learn, 2007), which aims at the introduction of Open licensing in Education. Finally, following the ccMixter initiative that aimed at the support of the music-remix culture through the provision of the relevant platform (Creative Commons Mixter, 2006), in Autumn 2006 CC has introduced the CC+ project (Lessig, 2007b), which is a platform encouraging artists using the CC licences to get syndicated and commercially exploit their works.

While the CC project is constantly expanding and getting diversified, the licences still remain its most central aspect. This was even more intense in the project's early stages, which are the primary focus of this research. Appreciating the mode of their development and the way of their operation is a presupposition for a good understanding of the whole of the CC project.

2.2 Who is doing the critique and in which context (academic, practitioners, community); why to focus on Elkin-Koren's work

In the previous section we have presented the basic features of the Creative Commons phenomenon emphasizing the role of the CC licences and illustrating their relationship with the organizational structure and expansion of the whole project. In this section, we are venturing to an investigation of Creative Commons having as our starting point Elkin-Koren's puzzles regarding the nature as well as the efficiency and effectiveness of the Creative Commons licensing project (2005; 2006a). Elkin-Koren's critique of the Creative Commons project questions the ideological soundness of the project claiming its "ideological fuzziness" is at least counterproductive for its set objectives, that is, the establishment of a commons of creative works everyone has in principle access to. This ideological fuzziness is at the heart of Elkin-Koren's critique of Creative Commons: it directly reflects on the means that have been chosen for materializing such objectives, i.e. multiple copyright licences with no minimum common denominator. Objective of this chapter is to present the basic aspects of the critique of the CC project as they have been presented in the relevant literature focusing in particular on Elkin-Koren's work in 2005 and 2006. A summary of the various aspects of the CC critique is found in the form of a table in Appendix I.

The critique of the CC project occurs in three levels: first, the level of the community as expressed on the "cc licenses" mailing list and the iSummit; second, the practitioners' press; and finally, the academic literature. Of these three categories in this chapter we focus only on the relevant academic literature and particularly the work of Elkin-Koren as her writings encapsulate most of the relevant arguments and provide us with the most comprehensive account of the issues of concern regarding the CC project.

Elkin-Koren's work is relevant as a critique of the CC project on two levels. First, she is a person that has been actively involved in the 'porting' of the CC licences to her home jurisdiction, i.e. Israel, and hence has a hands on experience of the licences. Second, her work is particularly important conceptually as it highlights the breakdown moments of the CC project and allows us to construct a map of the issues that we may investigate in order to explore its underlying characteristics.

Being the director of the Haifa University Center of Law and Technology that is currently hosting the Creative Commons Israel project (Creative Commons, 2007d) and having participated to the porting of the Creative Commons licences to the local legal system (2006b), Elkin-Koren has had personal experience of the Creative Commons as a licensing project; her critique was one of the most comprehensive ones in the academic press at the time of writing of this thesis and also one to highlight an increasing uneasiness among members of national Creative Commons projects regarding the nature and identity of Creative Commons.

More than anything else, Elkin-Koren's critique highlights a moment of -if not conceptual breakdown, then at least- critical transition in the life of the Creative Commons project, a moment when the rhetoric of the Commons seems to contrast with
the strategies for its achievement. This thesis argues that an appreciation of the appearing inconsistencies within the Creative Commons project is only possible through a holistic approach that focuses on its regulatory and association construction dimension. Creative Commons may be seen as a proposal for handling some of the problems that Copyright law faces with reference to technological change.

As we will see in chapter three (sections 3.1 and 3.2) there are two types of problems in relation to copyright and technology-driven practices of creativity and content dissemination: first order problems related to the inefficient or ineffective enforcement of the rights by the rights holders; and second order problems related to the impact of over expansion of rights on creativity. These problems, especially the latter, have been identified by the literature as the crux of the issues modern Copyright is facing and we use the term "Copyright crisis" to describe them in this thesis. This research argues that such phenomena are the symptom rather than the manifestation of a deeper problem of a structural nature: it is the alienation from the means of regulation production that encourages the development of imbalanced regulatory instruments and causes the exclusion of secondary creators from the creative process.

The CC project does indeed lie in the intersection of the existing literature on the evolution of different models of Copyright regulation. Having expanded both in terms of scope and ambit as a result of its constant effort to respond to technological changes, Copyright law has accumulated a series of characteristics threatening the Public Domain (section 3.3). In an effort to respond to an environment of increasing uncertainty and complexity Copyright holders have extensively used a nexus of standardized End User Licence Agreements (EULAs) and Technological Protection Measures (TPM) backed up by legislation preventing their bypassing. Such developments have strengthened private ordering in the area of creativity regulation (section 3.1). In such an environment the CC project uses the same tools as traditional Copyright holders use (i.e. EULAs and technologies) to resolve the problems Copyright faces (shrinking of the Public Domain). The reason why Elkin-Koren's criticism is of such importance to this research is precisely because it provides an opportunity to investigate the assumptions behind the CC project and to assess the CC licences. Elkin-Koren refers to them as CC's "normative level" (2005) and this thesis as its regulatory structure.

2.3 Ontology of the critique of the CC project

The critique of the CC project has multiple sources [e.g. (Elkin-Koren, 2006a) (Berry, 2006) (Chance, 2006a) (Klang, 2006) (Orlowsky, 2007) (Dvorak, 2005)]. In the same way such critique from different authors converges in the level of arguments, it also has some common ontological assumptions. A brief presentation of these assumptions facilitates a better understanding of the grounds on which the critique itself is based.

The most fundamental of these ontological presuppositions relates to an understanding of the Commons or the Public Domain as constructed. We refer in great detail to the issue of constructivism both in chapter four (sections 4.1.1 to 4.1.4), where we examine how Lessig approaches the problem of regulatory construction and in chapter three where we investigate the Commons and Copyright as constructed concepts (section 3.4). All we need to add in this section is that the critique of the CC project implicitly accepts the same ontology specifically regarding Public Domain/ Commons, Copyright and more generally about regulation.

There are two aspects of constructivism that may be traced, particularly in Elkin-Koren's work but also in the writings of the rest of the critics: First, the Commons or the Public Domain are not given but rather constructed and in that sense the conditions of their existence may be formed on a collective or individual basis. Second, the intervention for the construction of the Commons is possible and indeed should be done in order to build a Commons that is more likely to serve the needs of future creators.

These two characteristics of constructivism echo two further assumptions embedded into the work of the CC critics. The first has to do with the future and proactive orientation of the CC critics: they have a very clear reformative agenda that is often based on the legal problems the classic Copyright project faces (e.g. the rise of private - and hence unaccountable- ordering in Cyberspace as described in section 4.4.1), as is the case with Elkin-Koren (2005), or the impasse for the new creators that base much of their work on preexisting creative forms, as is the case with Berry (2006) and Moeller (2006).

The second feature of the CC critique constructivism is perhaps the most important in its ontology and relates to the dimension of the Commons the critics emphasize most. It relates to an understanding of the Commons purely in their regulatory dimension:

"But what does a "commons" mean? Strictly defined, a commons is a legal regime, in which "multiple owners are each endowed with the privilege to use a given resource, and no one has the right to exclude another."" (Elkin-Koren, 2005 p.22)

For Elkin-Koren the Public Domain is "in the strict legal sense (...) a regime with no exclusive proprietary rights." (2005 p. 5)

Though Elkin-Koren acknowledges the existence of further aspects of the Commons concept, she chooses to focus only on its regulatory side and accordingly on the regulatory strategy of the CC project as expressed with the provision of more than one licence. As a result of such a starting point all the critique of the CC project focuses explicitly on the licences, i.e. the regulatory conditions for the production of the Commons, rather than the Commons themselves.

A final point to make regarding the ontology of the critique of the CC project relates to the way in which these regulatory structures that produce the Commons, such as the licences are approached as fixed in time with no historicity neither further possibilities of development. This static view of the licences has as a direct result the absence of any analysis regarding the way in which the licences have been developed or the reasons behind the choice of their particular characteristics. It is also the result of the focus of the critique of the CC project on the regulatory conditions it produces for the Commons, rather than the Commons themselves.

This static view of the regulatory conditions for the establishment of the Commons in the CC project is in a sense compensated by an understanding of the regulatory problem of meaning construction that is placed particularly by Elkin-Koren at the center of her critique of the CC project: the means employed for the construction of the Commons are ineffective not only from a regulatory perspective but also from a meaning construction perspective. In the following section we explore in greater detail the different branches of the critique of the CC project where the various ontological assumptions presented in this section are more clearly illustrated.

2.4 Elkin-Koren's work and how it relates to the current study

Two rather recent papers by Elkin-Koren (2005; 2006a) provide the best entry point to the whole issue by illustrating both the outline of the Creative Commons agenda and its main strategy. Elkin-Koren has dealt with the issue of private agreements and End User Licence Agreements as forms of private ordering in Cyberspace for some time (1997; 1998; 2006b) and as such her work links the two streams of literature: the literature on EULAs as a new regulatory form (sections 3.1 and 3.2) and the literature on the problems related to public domain or the Commons (section 3.3).

Elkin-Koren's work (2005; 2006a; 2006b) is of particular relevance to this research as it highlights the most contentious elements of the Creative Commons project and relates it to much of the structural changes Copyright regulation has experienced in the last two and a half decades. Her work is based on two assumptions: First that the overexpansion of Copyrights has been harmful for creativity and innovation, as they are based on the Public Domain. Thus she links to the work of Samuelson (1990; 1993a; 1993b; 1999a; 1999b; 2000; 2001; 2003; 2004a; 2004b; 2005a; 2005b; 2006; Samuelson and Scotchner, 2002; Samuelson, Davis, Kapor and Reichman, 1994), Littman (Lai, 1999; Litman, 1989; 19911990; 1994; 2001; 2004), Benkler (B.G., 2003; Benkler, 1998; 1999; 2000; 2001; 2002; 2003a; 2003b; 2006) and Lessig (1999a; 1999c; 1999d; 2000d; 2001a; 2001b; 2002c) on the Public Domain and the Commons. All the aforementioned authors have dedicated much of their work in the investigation of (a) the beneficial effects of a rich public domain for creativity, (b) the eradication of public domain through copyright expansion and (c) the detrimental effects of such expansion. Second, Elkin-Koren assumes that Creative Commons is an effort aimed primarily at enriching such public domain through licensing.

Elkin-Koren's previous work (1997; 1998) focused on the way licences and other private agreements have been employed in order to serve better the rights of rights holders in complex on-line environments. In that sense she follows the work of Littman (1997; 1998; 2001), Dussolier (1999) and Hardy (1996; 1999) on the same area. Further

to that, she is assuming that such instruments: first still face serious issues of legitimacy and legal validity; second, they constitute a social practice and thus norm that reinforces the belief that all intellectual creations are owned; third, because of their legal and social operation constitute one of the driving forces in the expansion of Copyright law's fundamentalism and eradication of the public domain.

2.5 The image of the CC project in Elkin-Koren's work

Similarly to Dusollier (2006) Elkin-Koren (2005) investigates the way in which private agreements or Copyright licences may be used in order to limit the negative effects of "Copyright fundamentalism". Providing a first description of Creative Commons, Elkin-Koren focuses CC's licensing elements:

"Creative Commons is a non-profit U.S.-based organization that operates a licensing platform to promote free use of creative works. The idea is to facilitate the release of creative works under generous license terms that would make works available for sharing and reuse. Creative Commons advocates the use of copyrights in a rather subversive way that would ultimately change their meaning. It introduces an innovative way of exercising legal rights to bring about social change."(Elkin-Koren, 2005 p. 4)

Elkin-Koren views the CC project as an effort to reform Copyright not through legislative changes but rather by convincing the rights holders to exercise their rights in a different way:

"Copyright law is located at the heart of Creative Commons' agenda and is viewed as the main obstacle for what is perceived as an ideal world of creating and sharing creative works. (...) The legal strategy of Creative Commons, by contrast, is not to lobby for new legislation or file strategic lawsuits to reinterpret existing rights in a way that would promote the public domain. Instead it focuses on social practices related to exercising legal rights, i.e., property rights."(Elkin-Koren, 2005 p. 26)

2.6 Basic features of Elkin-Koren's critique of the CC project: ideological fuzziness and choice of licences as the preferred instrument for supporting the Commons

Elkin-Koren's (2005) work is a direct critique of the Creative Commons strategy in two fronts: first and foremost, on not having a clear vision of what constitutes public domain and how its protection should be effectively pursued; and second, on using licences as the main instrument for constructing social meaning that could indirectly effect legislative change:

"Creative Commons' strategy deviates from the current copyright/public domain dichotomy. First, it does not aim at creating a public domain, at least not in the strict legal sense of a regime with no exclusive proprietary rights. Second, Creative Commons' strategy is entirely dependent upon a proprietary regime, and derives its legal force from the regime's existence. The normative framework assumes the possibility of replacing the common practices of producing and distributing creative works without changing the proprietary regime. Social change, it is believed, would emerge from simply exercising these rights differently. (...) Creative Commons lacks a comprehensive vision of the information society and a clear definition of the prerequisites for open access to creative works. The end result is ideological fuzziness. This fuzziness may impair the advent of a workable and sustainable alternative to copyright through grassroots activism facilitated by contracts." (Elkin-Koren, 2005 p. 5)

This latter point raised by Elkin-Koren, that is, Creative Commons not having a concrete strategic vision on what public domain is and how it could be pursued on the regulatory level, though directed as a criticism against Creative Commons, constitutes in fact the core of a broader debate. The question of what is public domain for Intellectual Property rights and which are the best possible means for achieving its creation dates at least three decades back from today in the papers of professors Brown (1976-77) and Lange (1981) and is an issue we deal with in greater detail in chapter three.

Elkin-Koren differentiates Creative Commons' position from the traditional discourse based on the dichotomy between public domain and private ownership. Consistent with the conceptual differentiation between public domain and the commons as expressed by Lessig (2003c; 2004b; 2004d; 2006c) and described by Boyle (1997a; 2003a; 2003c), the CC project as a movement is more in the pursue of the latter than the former: CC is directed more towards the establishment of a set of rules that will allow non-

discriminatory access to a resource, than eradicating all rules governing access to such a resource.

Elkin-Koren's critique, however, does not relate to an abstract concern for the Public Domain but is rather directly linked to the question of how the CC strategy could contribute to "enhancing the sharing, distribution, and reuse of creative works" (Creative Commons, 2007a).

Elkin-Koren starts with a sketching of the underlying assumptions of Creative Commons in relation to Copyright and creativity as follows:

"1) Creativity relies on access and use of preexisting works; (2) copyright law creates new barriers on access to works, becoming an obstacle for sharing and reusing creative works; (3) the high costs associated with the copyright regime limit the ability of individuals to access and reuse creative works; and (4) copyrights should be exercised in a way that promotes sharing and reusing." (Elkin-Koren, 2005 p. 8)

She then moves to the identification of Creative Commons' basic underlying strategy. As she claims (Elkin-Koren, 2005), explicitly influenced by the work of Lawrence Lessig (1995c; 1999f; 2001b), Creative Commons does not seek to change the law directly but rather through the establishment of social practices of dealing differently with our rights. As such, it is based on the provision of standardized licences about how people could manage their rights in a way different from what the traditional copyright owners would do.

"Creative Commons' ideology echoes a libertarian sentiment: What if we can take the law into our own hands? What if we can make our own rules? It offers authors/owners a chance to govern the use of their own works. (...) Creative Commons situates its activism in civil society. It aims to transform the information environment by changing social practices and norms. It simply advocates exercising copyright in a way that would enhance sharing and reuse. It neither calls for diminishing copyright protection entirely, nor for abandoning rights. Instead, Creative Commons advocates a use of these rights in a way that is likely to change their meaning. Creators are called to voluntarily restrain the legal power they were granted under copyright law, and place either no restrictions, or only a few restrictions, on the use of their creative works. Ultimately, the purpose is to redefine social norms and promote values of sharing and reusing." (Elkin-Koren, 2005 p. 21)

2.7 Problems with CC meaning construction strategy as a result of ideological fuzziness

Elkin-Koren objects to this strategy for a variety of reasons. First, if social meaning is to be created, then this meaning should be crisp and clear, so that everyone is able to internalize it. CC tends to be ideologically neutral and open to a variety of opinions about the public domain. Though this may be a good strategy for the establishment of a social movement, it is not the best way to proceed with the creation of meaning.

"While authors' rights are clearly defined, the notion of the commons remains vague. The term "Creative Commons" communicates a powerful message. It celebrates a "commons" as a key for enhancing creativity. But what does a "commons" mean? Strictly defined, a commons is a legal regime, in which "multiple owners are each endowed with the privilege to use a given resource, and no one has the right to exclude another." Yet, the notion of the commons may refer to a wide range of situations. The lack of a clear definition of the commons reflects a profound disagreement regarding the meaning of the public domain." (Elkin-Koren, 2005 p.22)

Elkin-Koren presents her concerns in the form of two academic papers published in 2005 (2005) and 2006 (2006a) respectively and a presentation made in summer 2006 at the iSummit 06 (Faris, 2006a). Her arguments seem to be shared by a series of other Creative Commons commentators that are more verbal in the expression of their concerns compared to Elkin-Koren. Mako-Hill (2005), Berry (2006; Berry and Moss, 2005), Breck (2006), Klang, (2006) and Chance (2006a; 2006b; 2006c; 2006d) focus on the same point: it is less than clear what does the Commons represent for the Creative Commons project; and if the concept of the Commons is not clear, it only natural to ask how it is possible to construct it.

2.8 Linking ideological fuzziness and the CC licensing problem

The critique of Creative Commons in relation to lack of clarity may be classified in two broad categories: First, there is a group of authors highlighting the lack of clarity in relation to the concept of the Commons as expressed in the rhetoric of the CC project. Their comments relate both to the working definition and the vision of Commons the CC project seeks to achieve.

Second, there is another line of argumentation related to the licences themselves. The issues range from the choice of licences as the strategic instrument to the lack of a clear minimum of values that all licences should have.

The two aspects of the Commons definition problems in the CC project relate with each other: much of the confusion regarding what the Commons is or should be derived from the existence of more than one licence.

Elkin-Koren's critique is mostly of practical nature: the lack of a core ideology reflects on the absence of a definition for what a Commons is and hence the lack of a clear objective to be aiming at. In addition, if there is no common definition for the Commons, then there is no minimum of freedoms that all Creative Commons licences should have. If Commons is not clearly defined, then there is a problem in the construction of the relevant social meaning; if the Commons is the equivalent to the Public Domain then the means employed by Creative Commons are not the most appropriate ones for the construction of the concept; as a matter of fact, they may fragment rather than support the Commons. Elkin-Koren's definition of the Commons is the one that is closer to Littman's (1990) definition:

"But what does a "commons" mean? Strictly defined, a commons is a legal regime, in which "multiple owners are each endowed with the privilege to use a given resource, and no one has the right to exclude another."" (Elkin-Koren, 2005 p. 22)

A utilitarian and agnostic in its foundations view for what constitutes a Commons constitutes to a great extent the crux of the Creative Commons world-view. Berry is also critical of Creative Commons' approach on both fronts (Berry, 2006; Berry and Moss, 2005), that is, utilitarianism and agnosticism: first, because it insists in viewing the Commons as a "standing reserve" to be used; second, because such agnosticism is to the benefit of the clearly defined proprietary culture. Both aspects of this critique are in

agreement with Elkin-Koren's views and have a clear political, anti-property agenda. This is an argument also found in Elkin-Koren's work that views the Creative Commons as a pro-property rather than as a pro-commons project.

Looking more carefully into the details of the arguments related to the fuzziness of the Commons definition or its ideological foundations, it gradually becomes apparent that the criticism is not so much about not having a clear ideology but rather *because of the existence of a* political position. Elkin-Koren presents as one of the major drawbacks of the CC project its inconsistency between a vision for the Public Domain as *she* defines it and the means it employs to achieve it. Such means are the reliance on Copyright, the explicit acceptance of property structures and the implicit cultivation of a permission culture through the use of copyright licensing. Similar is Berry's analysis: Creative Commons is overtly positive to private property and the autonomy of the creator to the detriment of the Commons.

Elkin-Koren reaches a conclusion similar to the one formed by Berry while following a different path. As we will see in more detail in the subsequent section, dealing with the licensing issue in the CC project, the existence of multiple licences accompanied by a less than clear ideology promotes a proprietary message:

"Now that individual authors are not only aware of the proprietary regime but are also armed with an efficient mechanism to execute their intellectual property rights, they may use the mechanism to set limits on the exploitation of their works." (Elkin-Koren, 2005 p. 37)

In other words, the social meaning that is established is one of starting with privatization rather than the public domain being the baseline. In the worse possible scenario both occurrences appear: the user is not really sure which licence to use, but has internalized the fact that a licence is needed for using any form of content. In that sense the objective of removing the intermediaries, which is a dominant feature of the existing copyright regime is not really achieved.

"In sum, Creative Commons' ideology communicates a strong proprietary message: Authors should be free to govern their own works. The sovereignty of authors inevitably leads Creative Commons to promote a whole range of licensing schemes and different agendas pulling in different directions. At the same time, however, Creative Commons lacks a comprehensive vision of the information society and a clear definition of the prerequisites for open access to creative works. The end result is ideological fuzziness. The fuzziness of ideology and the broadly defined agenda would normally serve the purpose of a social movement. It may help to expand public support and facilitate alliances among different social actors: Non-governmental organizations ("NGOs") promoting a wide range of political agendas and corporate players motivated by self-interest. While this could strengthen the effectiveness of social movements that focus on protest and resistance, it could be detrimental to one with a proactive agenda." (Elkin-Koren, 2005 p. 23)

The CC ideology is fuzzy and unclear. The multitude of CC licences reflects the lack of a specific vision of what constitutes Public Domain.

2.8.1 Objections to licensing as a tool for enhancing the Commons

The existence of more than one licence is at the core of the CC project's focus on the protection of the creator's autonomy; at the same time, the way the licensing scheme of the CC project operates is at the core of the critique against it. We may classify the critique in three categories: first, there is a group of commentators objecting to the use of licensing altogether as counterproductive to the creation of Public Domain; then, there is a second group objecting to the existence of more than one licences; and finally, there is a third group arguing that even if multiple licences are chosen to be the instrument of choice for the establishment of a commons, then there should be a minimum of freedoms that should run through all licences, a *standard of freedom* as Moeller and Mako-Hill call it (2005). Each of the aforementioned categories requires separate treatment as it highlights different aspects of the Creative Commons' ontology.

2.8.2. Objecting to licences as a tool altogether

The strategy of the CC project to propose multiple versions of a licence that reflect different types of uses as a way for achieving the Commons is for Elkin-Koren particularly risky.

The use of licensing *per se* induces a permission culture: the creator feels that she needs to map the rights she wishes to grant to the user of her work; the user of the work gets accustomed into checking for permissions before actually using the work.

Elkin-Koren (2005; 2006a; 2006b), Berry and Moss (2005) object to the use of licences altogether having different starting points but coming to the same conclusion. Berry and Moss's objection is primarily ideological: by accepting Copyright through licensing there is an implicit acceptance of its ideological biases and presuppositions. As they frame the issue, Creative Commons is too much a child of its own time; it expresses and reinforces the current balance of power between different stakeholders in the area of regulating creativity, instead of striving for an alternative future:

"We argue that the Creative Commons project on the whole fails to confront and look beyond the logic and power asymmetries of the present. It tends to conflate how the world is with what it could be, with what we might want it to be. It's too of this time—*it is too timely*. We find an organisation with an ideology and worldview that agrees too readily with that of the global "creative" and media industries." (Berry and Moss, 2005 part I)

Elkin-Koren's argument is of a similar nature, though not so much on the ideological side of the fence: The first part of her argument is that Creative Commons by suggesting the use of licences as the tools for constructing the Commons essentially induces them into granting and asking permission in relation to creative works. If there is one common element in all CC licences, that is their very nature of being *licences*, i.e. legal artifacts that signify permission. If there is one type of meaning that is undoubtedly constructed through a CC experience then that is the granting of permission constitutes an integral part of the creative process.

The second-part of Elkin-Koren's argument relates to the legal validity of the licences: if they are legally invalid, a point for which she argues from a variety of perspectives, then they are as good as nothing; if they are legally valid then they constitute a dangerous legal precedent for all End User Licence Agreements the legal enforceability of which is strengthened with every new CC licence in circulation (Elkin-Koren, 1997; 1998; 2005). The licences may be legally workable only if the enforcement of rights on third parties is accepted. End User Licence Agreements and Shrink Wrap licences are

legitimized since the CC licences constitute a similar type of a legal instrument. Moreover, if the CC licences are construed as a legal effort to create new property rights, its acceptance may open the Pandora's Box for the creation or the legitimization of creation of new forms of property rights. As a result, the CC licences seem in summary to operate as a mechanism for establishing rather than eradicating property rights.

"From a practical standpoint, enhancing the legal validity of private ordering could work both ways: It could certainly facilitate licensing platforms such as (cc) and GPL, but at the same time would make restrictive terms enforceable. Information cost analysis does not provide a sound basis for distinguishing between the two. If there is no reason to object to the creation of a new type of property rights through private ordering, this line of argument would equally apply to restricting licensing schemes, which are enforceable through DRM systems. The same rules that would make Creative Commons licenses enforceable would equally make enforceable corporate licensing practices, which override users' privileges under copyright law." (Elkin-Koren, 2005 p. 60)

These are important arguments as they indicate tension points within the CC project and as such illustrate its characteristics. Overall, and this is the third part of Elkin-Koren's argument, the Creative Commons licensing project is far too reactive, far too defensive: it is a potentially adequate remedy to the balancing problems of the existing copyright system but under no circumstances a proactive solution that could contain suggestions for future action.

Returning to Berry's and Moss's argument on CC project's limited vision, we should note that it is valid to the extent that the CC project does not seek to totally upturn the private property system. It is also valid with respect to the fact that it is using a tool that is pretty much part of the established legal toolbox, that of legal agreements. Interestingly, Toth's (2005) and Dvorrak's (2005) critique on Creative Commons makes the same point: Creative Commons is not offering anything substantially new; it is nothing more than another form of legal agreement on the basis of licences and Copyright law. This holds true with respect to the chosen form of means of the project that is not really new; however, it leaves the substance question still open. As a matter of fact, even before venturing into issues of substance there is a series of other questions that need to be asked in order to fully appreciate the mix of offensive and defensive meaning construction (see chapter four on the issue of meaning construction) the CC project aims at.

To make things worse, whether the licensing procedure as whole is difficult or easy will not make things better. If the procedure is difficult, then there is no real improvement in the position of the copyright user, either as a licensor or as a licensee, since the transaction costs will remain high. If the procedure becomes easier, then the individual is accustomed to a procedure of checking the licence of a work before using it.

2.8.3 Objections to the strategy of having more than one licences

As stated above, the variety of licences the CC project offers does not really contribute to the goal of meaning construction of the Commons that is instead significantly undermined. By introducing a range of licences with details that are not necessarily easily understood by the lay man, the Commons meaning is diluted. Elkin-Koren identifies a series of further problems with the strategy of adopting multiple licences: if the objective of the Creative Commons project is to reduce external costs from the use of the work, i.e. costs related to the legal system of Copyrights, then its adopted strategy faces a series of secondary problems. These have to do with the reintroduction of external costs or legal "friction" to use Lessig's term (2001b; 2003c; 2004d). These come as a result of the multiplicity of the licences and the lack of understanding of their terms and conditions that make it impossible for someone to use the licences without proper legal advice. In other words, the legal disintermediation proposed by Creative Commons evaporates.

We have sketched above Elkin-Koren's understanding of the Creative Commons licences: The CC licences operate as a tool for constructing a social practice of exercising copyrights in more liberal than the normal fashion; this will eventually create a social norm of sharing that could support the public domain. This is a rather problematic construction in the context of multiple licences for a series of reasons: first, because of the multiplicity of licences and the lack of a common set of core values it is difficult to create meaning that requires clarity in the way the rights are exercised;

second, again because of the variety of rights, the social pattern will be created on the level of the elements that are common in all licences in the form of the lowest common denominator. This lowest common denominator is the autonomy of the individual to exercise her property rights. As a result the licences in the long run will contribute to the creation of a norm advocating property; not one supporting the commons; it will end up in creating a norm of making people conscious they have to ask permission and seek for the licence before they create anything rather than the opposite, i.e. not to ask for permission when using any material.

Third, the existence of more than one licence that are not clear in their use, maintain the legal friction instead of eradicating it: the user will always need to take into consideration the content of the licence and, if this is not clear, the need for intermediaries will always remain in place.

Fourth, precisely because Creative Commons uses the tools of Copyright and particularly the tools of 21st century copyright to achieve its goals (i.e. a combination licences and technical measures), one of its major side effects is the reinforcement of the existing practices; it may only react to existing phenomena rather than creating the agenda for a radical reform of copyright. Creative Commons is thus *reactive* not *reformative* and as such it is difficult if not impossible to materialize its expressed objectives.

Finally, these same practices are reinforced as a result of the use of technologies for the identification of works and the respective rights in a way similar to the classic Copyright project.

2.8.4. Need for a common principle governing all licences

The use of multiple licences that are currently mutually incompatible, as is the case with most of the CC licences and other free/ open content licences, could fragment the commons: if work A is licensed under CC licence x and work B is licensed under Free licence y, and licences x and y are not compatible with each other, it is not possible to

create a derivative work C on the basis of works A and B. (Elkin-Koren, 2005) As such the need for a common principle governing all CC licences emerges.

The argument of the common principle governing all Creative Commons licence has two aspects: the first is expressed mainly by Elkin-Koren (2006a) and secondarily by Mako Hill (2005), Moeller (2006), Berry (2006) and Chance (2006d). The crux of this kind of argument is that the common principle is necessary in order to achieve interoperability between the various licences. Such principles would allow content that is licensed under licence x to be freely remixed with licences y and z provided and as such allow the growing of the Commons. This is not the case with the Creative Commons licences that are not compatible with each other: It is not clear which type of licence is compatible with which other; neither is it clear whether there is both upstream and downstream compatibility between the various versions of the licences. This holds true not only in relation to the interoperability of CC licences with other Open/ Free licences, such as the Free Documentation Licence, but also with respect to intra-CC interoperability.

The second aspect of the argument relates to the construction of a minimal ethical position through the Creative Commons licences and is primarily advocated by Mako Hill, Moeller and Berry though a version of this argument we have already seen in the work of Elkin-Koren in relation to the construction of meaning in the Creative Commons project (sections 2.8.2 and 2.8.3): if there is no single set of agreed principles governing all Creative Commons licences there is no clear objective that the Creative Commons project seeks to achieve and as such there is no clear identity of the project itself. Mako Hill contrasts in that sense the Creative Commons project with the Free Software Foundation project or the Debian group. Mako Hill positions the discussion in the level of defining a set of essential freedoms that should run all the licences and argues that the "freedom of choice" which is the only clear set position of the Creative Commons project is closer to the proprietary movement rather than the Free Software Foundation principles of free access. Mako Hill's argument thus produces the same result as the Elkin-Koren's arguments seen in the previous sections: Creative Commons is closer to being a proprietary rather than a Commons project and though claiming to translate the principles of Free Software in the context of content, it systematically fails to do so. The latter part of the argument is also supported by Stallman who is clear that not all CC licences conform to the standards of freedom of the FSF project and consequently withdrew his support to the CC project.

2.9 Conclusion

In this chapter we had the opportunity to illustrate the core features of the CC project (section 2.1) and follow the basic arguments constituting the critique of the CC project mainly as expressed in Elkin-Koren's work but also as found in the writings of other authors (section 2.2). In summary, the critique seems to be following the same ontological presuppositions as the work of Lessig's we will explore in detail in chapter four, particularly the fact that the Commons are constructed, that the CC project is primarily focused on their regulatory conditions and that they are still susceptible to change (sections 2.3 to 2.5). The critique focuses mainly on the ideological fuzziness of the project that when investigated more closely reveals a certain tendency towards the protection of the autonomy of the author, views the Commons as a standing reserve and echoes a certain degree of regulatory libertarianism (sections 2.6 and 2.7). This ideological fuzziness or regulatory liberalism is particularly harmful for the construction of a coherent meaning of the Commons and may be proven detrimental to the materialization of the objectives of the CC project. It is supported by and reflected on the use of multiple licences as the primary tool for the achievement of the Commons (section 2.8).

This critique of the strategy and means used by the Creative Commons project in order to achieve its objectives focuses particularly on the effects of the CC licences on the way in which Commons are constructed (section 2.8). We identified three types of arguments: first, arguments against the use of licensing all together (sections 2.8.1 and 2.8.2); second arguments against the use of more than one licence (section 2.8.3); and third arguments against the use of multiple licences that are mutually incompatible with each other (section 2.8.4). All three arguments have two dimensions: one related to the costs the CC licences entail for the creator that seeks to embark to secondary uses of a creative work and a second one related to the way in which the use of licences contributes to the support or is to the detriment of the construction of a Commons.

Aim of this section has been to highlight the elements of tension within the Creative Commons project without assessing their validity or the reasons why such tensions have emerged. Such is the task of chapter six that deals specifically with the analysis of the CC case. However, before venturing to the particulars of the CC project we need to explore the overall interaction between Copyright and technology and its implications that is the focus of the following chapter.

3. Introduction

The objective of this chapter is to present the circumstances that gave rise to the development of the CC project through a critical review of the relevant literature. It starts with a brief account of the relationship between digital technology and copyright to illustrate the fundamental features of their dialects. This chapter presents two sets of issues related to their interaction: the first emerges directly from the effort of copyright to protect existing rights holders from new reproduction and dissemination technologies (section 3.1); the second refers to the overall impact such an effort has upon the balance of rights between different stakeholders as expressed in different national copyright laws, regional legislative instruments and international treaties and conventions (section 3.2).

In order to appreciate the complex interrelationships between technological change and the evolution of Copyright this chapter explores the Public Domain and Commons discourse as related to Intellectual Property Rights and Copyright in particular. It explains the importance of Commons for the support of innovation and creativity in on line environments and focuses on the links between the Commons and Environmentalism (section 3.3). This leads to an account of the implications that the conceptualization of the Commons as a constructed notion has (section 3.4). The chapter then presents different conceptualizations of the Commons (3.4.1.) and the role Free Software plays as model for understanding the Commons (section 3.4.2.). The following section (section 3.5) illustrates three definitions of the Commons, by Benkler, Lessig and Boyle and explains how multiple definitions of the Commons are expressive of different needs and objectives. The chapter concludes (section 3.6) with a presentation of a series of concepts, such as the distantiation phenomenon, we have developed in relation to Copyright and digital technologies interaction.

3.1 Patterns of Copyright and Digital Technologies interaction

The relationship between technology and law has been contentious ever since Copyright's inception [see e.g. (Rose, 1993)(Littman, 1989)(Jaszi, 1991)(Rose, 1994)]. Certain authors [e.g. (Ellickson, Rose and Ackerman, 1995; 2002; Rose, 1994; 2003a); (Rose, 2002)(Boyle, 1992; Boyle, 1996; 1997a)] have identified technology as one of the key factors driving directly or indirectly Copyright's evolution. In this chapter we focus on the introduction of digital technologies as the most important for this thesis episode in the series of technological innovations that have accompanied Copyright since the time of its inception.

The development of digital technologies is of such great importance for Intellectual Property Rights because it entails the introduction of a set of technologies that are both threatening the preservation of and are competing with existing revenue models (Espinel, 1999; Gordon, 1989; Hugenholtz, 1996; 1999; Ku, 2002; Kurtz, 1996; Litman, 2001; Littman, 1989; Lunney, 2001; Maxwell, 2004; Reichman and Ulhir, 1999; Samuelson, 2001; Vaidhyanathan, 2001; Vinje, 1996; 2000; Webber, 2005; Wiese, 2002; Zemer, 2006). To a great extent these technologies initiate a regulatory response which for the first time aims directly at the end user and marks a departure from the existing regulatory forms that have been mainly focused on professional creators and infringers. This stage in the development of digital technologies refers to the capacity of reproducing and disseminating content with minimal marginal costs (Barlow, 1994; Benkler, 2002; 2006; Bollier, 2001; Dyson, 1995; Ghosh, 1997; 1998; Goldhaber, 1997; Hietanen, Oksanen and Valimaki, 2007; Hugenholtz, 1996).

The minimization of costs occurs in two stages: in the first stage the reproduction of copies of identical quality as the original is made possible. The costs of reproduction for each copy are in a digital environment virtually zero with no quality differentiations to the originals as in the case of the analogue copies. The second stage in the development of such technologies relates to the gradual lowering of costs for the equipment of reproduction of digital material (Hardy, 1996). Costs of computing equipment that are the primary means for reproduction of digital material follow a constant pattern of price dropping whereas the processing power keeps increasing. Such developments combined with the advent of the Internet and its constant growth over the last one and half decade has rendered the spread of reproduction technologies pervasive. We will not focus on

the specifics of the expansion of such technologies and their features that has been done quite thoroughly by many theorists of technology society and law (Post, 1995; Biegel, 2003; Benkler, 2006; Boyle, 1997a). The features that are relevant for this section relate to the nature of infringement, creativity and distribution of content that such technologies allow.

The first point to make is that these technologies radicalize the level of the infringement. Reproduction takes place in a genuinely mass scale but in micro level, it is a mass-micro infringement and is done for non-commercial purposes (Biddle, England, Peinado and Wilman, 2005; Lastowka and Lastowka, 2006; Liang, Kumar, Xi and Ross, 2005; Liebowitz, 2006; Oberholzer and Strumpf, 2007; Hugenholtz, 1998). This is due to the extreme low cost of technologies of reproduction as well as due to the availability of services that connect users with each other for the sharing of content without any direct commercial benefit. This is a particularly important aspect of the digital era infringement landscape and it requires some further explanation (Ku, 2002).

One of the features of digital technologies that separates them from all other forms of previous technological developments is the ability they provide to the users for many to many communication and exchange of digital information, that is, information that may be accurately replicated with zero cost (Ku, 2002; Litman, 2004). In previous advances in reproduction and dissemination technology, even if reproduction in the lower parts of the supply chain was possible (as is the case with the analogue tape) two distinct features of the digital networks technologies were absent: first, the quality of the copy was inferior to that of the original and second, the infringing networks followed a structural pattern similar to the one of the legal supply chain. In other words, the end user did not have access to the entirety of the repertoire through the informal exchange of material with her friends because of the limited social horizon of each person. For a broader collection of material the infringing end user would have to use some sort of commercial infringing service which brings us back to the classic middle-high level infringement we may see in the previous stages of the technology developments and respective copyright responses. On the contrary with digital technologies none of these assumptions holds true any more. The copies are perfect and the distribution network is based on non commercial providers of material (Biddle, England, Peinado and Wilman,

2005; Lastowka and Lastowka, 2006; Liang, Kumar, Xi and Ross, 2005; Liebowitz, 2006)(Oberholzer and Strumpf, 2007; Boyle, 2000).

The Napster case is an iconic example of this new form of infringement (Berkman Centre For Internet and Society, 2005; David G. Post, Annemarie Bridy and Sandefur, 2005; Dhand and Carson, 2000; Ganley, 2006; Ku, 2002; Lange, 2003b; Lastowka and Lastowka, 2006; Liebowitz, 2006; Litman, 2004; Lucas, Bernault and Lebois, 2005; Lunney, 2001; Merges, 2004; Miller, 2006; Mueller, 2006; Yu, 2005; Ku, 2002; Andrews, 2005; Huff, Nickel and Jennings, 2006; Oberholzer and Strumpf, 2007): it provides a service for individual infringers to be able to find others and share the relevant material. The judicial response to such infringement in the U.S. legal system has been in accordance to the pattern of responses also seen in earlier Copyright history in the sense of targeting the intermediary rather than the actual infringer (Lieb, 2005).

However, the regulatory responses we have seen ever since as well as the subsequent litigation campaigns initiated by the audiovisual industry are indicative of a change in the pattern of regulatory responses we have experienced up to this stage: the actual primary infringer in the end of the supply chain is now targeted directly (Andrews, 2005)(Ganley, 2006; Lastowka and Lastowka, 2006; Lucas, Bernault and Lebois, 2005; Merges, 2004; O'Hara, 2003-2004; Piasentin, 2006; Witt, 2005). This has been seen primarily in the litigation campaigns against individual users; the introduction of cease and desist procedures for infringing material and the issuing of the relevant notices; the introduction of liability for the infringer irrespective of the commercial intent; and the introduction of criminal liability provisions irrespectively of the commercial intent or level of damage for the copyright holder (Witt, 2005; Huff, Nickel and Jennings, 2006).

All such developments aim directly at a new type of infringement that is not undertaken by professionals neither it is conducted in a commercial level. The regulatory response to such characteristics had thus to be fundamentally different from all previous types of copyright regulations that were solely focused on professional infringers. Existing regulator measures were not deemed adequate and a further breaking down of the regulatory structure was attempted. Before however venturing to that part of the regulatory response we need to refer to yet another feature of the digital technologies and to highlight some of the regulatory issues it raises. Another point to be made in relation to these new technologies relates to the creative dimension of the infringement they induce (Boyle, 2003c; Benkler, 2000; 2002; 2003b; 2006)(Lessig, 2002a; 2002c; 2002d; 2003c; 2004b; 2004d). In a sense, this is a pattern of infringement that continues what initially appears in the case of the audiotapes and unlicensed broadcasting but in far larger scale. In the latter of these technologies the infringement taking place had minimal creative elements in the sense of how the reproduction or broadcasting of material was compiled and recombined in different forms. In those cases, potential new composite, derivative or collective works were introduced as a result of the recombination of creative contributions for which no licence was secured. This is a phenomenon that in the world of analogue technologies may have occurred but in a non systematic and unstructured fashion (Lastowka and Lastowka, 2006; Liebowitz, 2006; Strahilevitz, 2003).

The recombination of existing material becomes in the digital world the norm rather than the exception (Benkler, 2000; 2002; 2003b; 2006)(Boyle, 2000; Boyle, 2003a). The examples of the hyper-linking legal cases and relevant academic literature are illustrative of the whole problem. The idea of the World Wide Web is that of associating material with each other (Berners-Lee and Fischetti, 2000). Further to that, the original simple first generation peer-to-peer technologies were gradually superseded by more advanced ones that focused on particular communities of interests. Torrent-trackers identifying the relevant material have provided not merely the content but also a series of value added services like comments on the relevant content or additional material, multiple versions and even unpublished material that were never made available to the public through legitimate channels of dissemination (Strahilevitz, 2003; Feldman and Nadler, 2005; Schultz, 2006; 2007).

In the latter part of the 1990s and in the first decade of the 21st century the continuous dropping of prices for digitization technologies has also made possible the conversion from analogue into digital format of material irrespective of the intent of its original rights holders (Boyle, 2000). Such process besides its apparent Copyright infringement part, contains many creative elements ranging from simple add on elements to the complete transformation of the work. Whole popular music genres like Bastard Pop were based on illegal mixing and mashing of material. Moreover, the development of

technologies like radioblogs, online streaming services like YouTube and GoogleVideo and podcasting made the creation of playing lists which essentially are compilations of infringing and non-infringing works available on a many to many basis.

In such an environment of radically decentralized non commercial and often creative infringement the regulatory response has been structurally fundamentally different from what we have seen in former parts of Copyright's history (Rose, 1994; Rose, 1993; 2002; Ellickson, Rose and Ackerman, 2002; Field, 2003; Fisher, 2001). The radicalization of copyright infringements has provoked an equally radical regulatory response. Two are the primary features of such radicalization: (a) reliance on legally binding agreements (contracts and licences) (Hugenholtz, 1996; Elkin-Koren, 1997; 1998; Litman, 1994; Ginsburg, 1995; Littman, 1998; Littman, 1997) and (b) use of technologies of enforcement (such as Technical Measures of Protection) with legislative support (such as the WIPO treaties) (Akester, 2006; Dussollier, 1999; Gillen and Sutter, 2004; Kirkman, 2006; Koelman, 2000; Kruger, 2006; Lai, 1999; Litman, 2001; Lunney, 2001; Samuelson, 1999b; 2003; Turnbull and Marks, 2000; Vinje, 1996). Both elements have their origins in the licensing practices of protection and dissemination of software (Fitzgerald, 2001).

The sections of copyright laws referring to software protection have their origins in the contractual practices of software dissemination. This is one of the reasons why the relevant chapters in the respective national copyright laws differ from the provisions referring to more traditional works. The interesting part in this development is that the regulation follows an already established practice that is then further reinforced through the implementation of the relevant legislation (Dussollier, 1999; Gillen and Sutter, 2004; Samuelson, 2003). This pattern of regulatory response reemerges in the case of legislative support for the Technical Protection Measures.

Such legal agreements were primarily manifested in the form of End User Licence Agreements (EULAs). EULAs or a "bare" or "naked" licences have been the preferred instrument of choice because of their ease of application in mass standardized distribution environments where specific rules governing the use of the product were desired (Littman, 1997; 1998; Hugenholtz, 1998). A naked licence appears in the form of a permission to use the copyrighted material without requiring [in a series of jurisdictions (mainly the UK and the US where the biggest software markets existed at

the time of introduction of such instruments)] consideration and acceptance as would be the case with a contractual agreement. Such strategy was initially adopted in order to override problems of acceptance in cases where (a) the two parties are not physically present and (b) the agreement is addressed to a not predefined number of people (Littman, 1997).

The shrink-wrap licences were the first incarnation of such a means (Elkin-Koren, 1997; Elkin-Koren, 1998; Gruettmueller, 2003b; Ohlerich, 2003; Reichman, 1999). They derive their name from the fact that the user was deemed to have conceded to the terms of the licence once tearing the wrap of the software. Such licences were "turn key" agreements in the sense that the licensee could either accept them or not. Their terms were not to be negotiated by the parties. In the mid 1990s, in the process of being transposed into a digital networked environment such agreements were transformed to what is referred to as "click use" or "click through" licences: the end-user was now indicating her acceptance of the licence terms by clicking through the different screens or pop up windows presenting the relevant terms and conditions (Littman, 1997; Lloyd, 2004).

The academic literature has expressed its skepticism regarding the legal enforceability of such licences (Littman, 1997; Elkin-Koren, 1997). The main concerns related to the absence of consideration by the recipient of the licence. In the case of shrink wrap licences the skepticism was rather natural considering that the user first opened the wrap, and was committed to adhere to the terms of the licence, and then had the opportunity to actually read them. In the case of the click through licences the case was slightly better in the sense that the licence wizard would not proceed with the installation or the downloading unless the user has clicked the agree button. In some of these licences the user would not have the opportunity to continue with the installation unless she has actually gone to the end of the licence.

Other concerns had to do with the content of some of the terms of EULAs, which were possibly contrary to public law provisions and were as such void. The main type of provision of such kind was related to the waiving of liability of the licensor, third parties obligations, waivers of users' rights, and faults in the product or the delivery of services. Finally, another important category of provisions in the licences causing substantial issues was related to the applicable jurisdiction, the competent courts and even the language in which the licence was written.

Licence drafting throughout the 1990s and after 2000 has evolved in a substantially degree and has addressed most of these problems (Reed and Angel, 2003; Lloyd, 2004). Especially in relation to the enforcement of terms that were not part of the already established Copyright law the development of or reliance on other auxiliary legislative frameworks such as commercial codes and contract law has been of particular importance for ensuring the enforceability of the relevant licences (Elkin-Koren, 1997; 1998; Dusollier, 2006; Hansmann and Kraakman, 2002; Hugenholtz, 1998; 1999; Hugenholtz and Guibault, 2004). The internationalization of most of the transactions after the advent of the Internet has also led to the production of multiple versions of the licence for the same product in different countries such is the case with Microsoft software; the reliance on licences that had terms drafted broadly enough to be construed in most of national courts; or finally the definition of the competent courts and relevant jurisdiction in accordance to the wishes of the licensor.

The use of End User Licence Agreements was not very common in the case of content other than software precisely because of the nature of the product. Copyright notices appeared on the covers of books or in the introductory screens of DVDs or video tapes but these were more in the form of a notice than of an actual licence. This was due to the fact that much of the uses of content in the analogue environment were left unregulated. However, with the introduction of digital technologies as many commentators indicate [e.g. (Benkler, 2000) or (Lessig, 2005k)] the use of the material increasingly amounts to copying. As a result the owner of the content has the right to define the uses of the content in ways that were not possible in the past. This immense expansion of actual possibilities for the rights holders, while the letter of Copyright law has not changed is partially responsible for the introduction of EULAs in relation to the use of on-line content as well. Another factor that led to such development has been the excessive infringements by end users. The digital networking technologies gave the opportunity for more infringement but also provided the means for more aggressive and extensive exploitation of the work. This related not merely to the ways in which it could be disseminated and packaged but also in the ways in which its use could be limited. Virtually all uses of the work gradually became regulated uses in the digital environment.

As Jack Valenti said in his hearing in front of Congress regarding the VHS issue in early 1980s (Valenti, 1982), "a right which is not protected is not a right", and the immense actual scope of rights that the copyright owners acquired with their transition in the digital environment could not be fully exploited without a regulatory framework that would allow the maximum enforcement of their rights. The idea of technologies of Digital Rights Management (DRM) had precisely this kind of function. It needs to be highlighted at this stage that as many commentators have highlighted the main operation of the DRM related Copyright provisions were not so much an attempt to fight existing infringement issues but rather to pro-actively legislate in order to ensure that the existing rights holders would agree to place their works legally on the new digital platforms (Litman, 2001; Ginsburg, 2001; Dussollier, 1999; Samuelson, 1999b; 2003; 2005b).

The EULAs provided a first expression of the way rights holders would like their works to be used; however, there was also the need for a series of technical measures that would actually protect desired uses and prevent any unauthorized ones. These technical measures then required to be interfaced with the law in such a way so that there would not be attacked by other technologies designed to circumvent them. The idea was to use technical means to prevent access to copyrighted material supported by legislative means designed to prevent circumvention of the technical means.

The WIPO 1995 Internet Treaties (Boyle, 2004; Colston, 2002; Gillen and Sutter, 2004; WIPO, 1986) are the first regulatory instruments where provisions related to the legal protection of TPM were passed. Analyzing the exact wording of the relevant Treaties provisions is beyond the scope of this thesis, however, the fact that it was in the International rather than the national level that such provisions were firstly introduced is expressive firstly of the acknowledgment of the global dimension of the problem and secondly -and most importantly for the purposes of this thesis- the top down approach that was followed for implementing such provisions. It was not the nation states that made the decision first and international organizations followed but rather the opposite. When nation states or regional blocks like the EU have signed the relevant treaties they were then obliged to implement it in one way or another but were definitely bound to

actually implement some sort of technical measures legislation. The introduction of a totally new right on the protection mechanism rather on the actual work provided the right holder with an immense scope for drafting her own version of rights on the content.

Precisely because of the opportunities for radically decentralized mass micro non commercial infringement that the digital networking technologies have introduced the regulatory response has been one of an equally radical nature. It has not been one of providing a definite solution to the hands of the rights holders in the sense of providing the actual detailed solution or response. On the contrary, it has provided them with the tools to design their own versions of micro-regulation and then with the legal means of enforcing it when someone attempted to violate it. This is the idea of the Technical Protection Measures (TPM) provisions in the WIPO treaties (Adams, 1993; 1997; Boyle, 2004; Cohen, 1999; Colston, 2002; Fitzpatrick, 2000; Gillen and Sutter, 2004; Reinbothe, 1997): an international instrument that leaves no great boundaries of discretion to the signatory countries for implementing a legislation that will then allow the owner of the rights to create their own micro-regulatory tool like that of an international convention is combined with the micro regulatory tools of the technical measures of provisions approaching a proactive regulatory result.

This bring us back to the way the combined EULAs and TPM operate in a networked environment (Akester, 2006; Dussollier, 1999; Gillen and Sutter, 2004; Kirkman, 2006; Koelman, 2000; Kretschmer, 2003; Kruger, 2006; Lai, 1999; Litman, 2001; Lunney, 2001; Samuelson, 2003; Turnbull and Marks, 2000; Vinje, 1996; Wu, 2003). Contrary to other regulatory creatures that are built by the state, the regulatory content of such formations is defined by the owner of the right and relates to a particular work. With reference to their technical part, they are directly enforceable as the user is not able to really argue with the technology that allows her only certain acts. In addition, though they are in the form of a private agreement depending on the popularity of a product or of a class of products that are governed by the same type of licence, they may have an effect on millions or tens of millions of users. Finally, despite their extent of application they are individually enforceable and implemented. Unlikely other forms of regulation that their force is only indirectly felt, as is the case with the regulation of contributory

infringement or liability clauses, in this case the combination of legislation and the relevant licences makes them micro enforced. This is the reason why this type of regulation is referred to in this thesis as mass micro regulation.

3.2 Secondary effects of technological change: imbalances in the allocation of rights

The accumulative effect of digital technologies and the respective Copyright changes has caused a serious disturbance in the balance between (a) existing and potentially future rights holders and (b) rights holders and users of the protected subject matter (Astle, 2005; Hugenholtz, 2000b; Kretschmer, 2003; Lieb, 2005; Samuelson, 1999b; Regents Of The University Of California, 2003; Dussollier, 1999; Hugenholtz, 2000a; Koelman, 2000; Lunney, 2001; Samuelson, 2005a; Vinje, 1996; Hugenholtz, 2000b). We call this class of effects secondary as they do not emanate directly from technology but rather from the accumulative result of both technology and regulatory changes (Boyle, 2003c). The main cause of such disturbance has been twofold: on the one hand the gradual expansion of rights as a result of new technologies or new forms of rights exploitation has led to an unprecedented expansion of the scope and ambit of copyrights; on the other hand, as explained above, the transition from an analogue to a digital environment has rendered a number of uses that were in the past irrelevant for the purposes of Copyright law to be now under its scope. For instance, whereas viewing the content of a book or the number of times of viewing a book would not be relevant for the classic copyright law, in the case of digital environment precisely because such viewing would require reproduction, it would be regulated by Copyright law (Lessig, 2004d). The point that needs to be stressed out at this stage is that much of the imbalance occurring in the digital environment is not the direct result of the changes made post 1995, i.e. after the WIPO Internet treaties (Boyle, 2004). The latter have amplified the phenomenon, but its roots may be found in the constant Copyright amendments responding to technological changes that occurred ever since copyright's inception (Adams, 1997; Adams, 1993) and the fact that a series of uses related to copyrighted material *de facto* involve copying.

The discourse linked to the Copyright imbalances is primarily related to the Public Domain or the Commons discourse. Such discourse refers to the more fundamental problem of the extent to which copyright in its current form provides the necessary incentives for the production of Intellectual and Creative works or constitutes instead an obstacle to creativity and innovation. This debate has evolved originally around the introduction of the publicity right in the United States Copyright jurisprudence that has raised even since the late 1960s and 1970s concerns regarding the viability of the public domain (Brown, 1976-77; Chafee, 1945; Kaplan, 1966; Krasilovsky, 1967; Lange, 1981). The discourse has been further complemented with work that examined the erosion of rights as a result of the constant expansion of the Copyright term that makes a series of works (particularly databases in the EU) virtually perpetually protected (Lessig, 1999a; 2001b; 2003c; 2004c). The extension of the Copyright term in the United States has been the occasion that brought about the Creative Commons project and caused a more orchestrated effort to protect what was perceived as the Public Domain or the Commons (Jones, 2004; Schwartz and Treanor, 2003; Stratton, 2005) (Lessig, 2004b; 2004c).

Another branch of the discussion in relation to the Copyright issues resulting from its overexpansion in conjunction with the digital networks technological developments has to do with the increasing uncertainty and legal friction in the transactions related to copyrighted works. The argument of this stream of the Commons debate relates to the abolishment of any formalities for granting protection of copyrighted works in the 1980s in the United States (Merges, 1997; Lessig, 2004d; Geist, 2006; Vaidhyanathan, 2001). The idea is that because of the expansion of the subject matter, the works that are protected under Copyright law are constantly proliferating. In addition, since no formalities are required for the granting of Copyright, it seems that for any work to be used it is necessary to obtain permission from the rights holder in advance.

In the digital environment it is not merely the violations that have increased but also the potentials for the emergence of new creators. These new creators use much of the preexisting material and as such require permissions from the respective rights-holders. In the same way that infringement has ceased to be a professional activity, the creation of new works has also been increasingly a non-professional activity. As a result, an increasing amount of permissions needs to be obtained in order for creative activities to

be exercised (Samuelson, 1999a). This is what is often described by the Commons theory as "legal friction" in the production of creative works (Lessig, 1999b; 2001b; 2004d). The main idea behind the Commons and Public Domain literature is to work in order to devise models that may be employed in order to eliminate or reduce such legal friction deriving from uncertainty risks, risks from finding the original owners of the works and paying the legal fees required to obtain the relevant advice (Benkler, 2001; 2002; 2006; Boyle, 1997a; Boyle, 2003a; 2003c; Fisher, 2004; Gupta, 1985; Hugenholtz, 2000b; Lange, 1981; 2003a; Lessig, 2001b; Moglen, 2003; Samuels, 1993; Creative Commons, 2003; Baron, 2002; Bollier, 2001; Boyle, 1992; Reichman and Ulhir, 2003).

A particular stream of this kind of literature deals with the ways in which scientific publications take place and could be done in a way that reduces such frictions (Baca, 2006; Gonzalez, 2005; González, 2006; Gruss, 2003; Hugenholtz, 1996; Reichman and Ulhir, 1999; Wilbanks, 2005; Rai, 2004). Another equally important stream deals with the way in which orphan works, that is, works whose rights holders cannot be identified could be made available to the public (Brito and Dooling, 2005; Huang, 2006). A final stream of the literature concerning public domain deals with issues of how different forms of licences may be employed in order to construct a public domain (Reichman and Ulhir, 2003; Elkin-Koren, 2005; 2006a; Dusollier, 2006; Purdy, 2005). To appreciate the way in which such licensing scheme came about and where the Creative Commons project fits into such a picture we need to revert to the issue of public domain, appreciate its origins and view the Creative Commons project and its expressed objectives as part of this greater debate. The critique that CC has received from a series of commentators with Elkin-Koren (Elkin-Koren, 2005; 2006a) holding the most prominent place is useful for an appreciation of its basic characteristics. Such characteristics emerge as the most contentious features of the CC project and in that sense they constitute the departing point for this study.

3.3 Intellectual Property Rights Environmentalism and the Commons

A paper that has exercised particular influence in the way in which the Public Domain and IPR literature has evolved, and in that sense is particularly relevant to this thesis, is James Boyle's "A Politics on Intellectual Property: Environmentalism on the Net" [hence, Environmentalism](Boyle, 1997a). The Environmentalism paper is of particular interest for two reasons: First, it "argues that we need a politics, or perhaps a political economy, of intellectual property". The idea of requiring a coherent policy on Intellectual Property and indeed one advocating the preservation and expansion of public domain reminds us of the much later paper of Elkin-Koren (2006a) and draws from Boyle's book published a year earlier under the title "Software Shamans and Spleens: law and the construction of information society" (Boyle, 1996) . The problem that Boyle identified in 1996 (1996) and again restated in 2003 and 2004 (2003b; 2003c; 2004) still remains a problem: "[t]he terms "public domain" and "commons" are used widely, enthusiastically, and inconsistently."

This brings us to the second reason why the Environmentalism paper is so important: Boyle argues that indeed we need some coherency in the way we approach the problem of the effects of IPR overexpansion on creativity and innovation and, in that respect, there is great deal we may learn from the environmental movement. It is instructive to deconstruct Boyle's suggestion.

Another paper written by Boyle, a book review of David Goldblatt's "What the Left has to Say" (Boyle, 1997b), provides a good introduction in his understanding of the merits of environmentalism. In this review, Boyle suggests that the greatest of Goldblatt's book virtues is his suggestion to examine what the social theory could learn from environmentalism, rather than the other way around:

"The environmentalist holding a cost-benefit study on the effects of killing off the snail darter, must *live out* that theoretical experience on a daily basis. In fact, when one looks at the challenges that environmental problems pose to our conceptions of property rights, our understanding of the market, our attitudes to nature, social rationality and culture, it is hard not to conclude that the real question is not "what can social theory do for environmentalism," but rather the reverse." (Boyle, 1997b p. 247) Indeed, this is what Boyle attempts to do with Environmentalism. He first establishes that Intellectual Property Rights is what he calls "the form of Information Society":

"In terms of ideology and rhetorical structure, no less than practical economic effect, intellectual property is the legal form of the information age. It is the *locus* of the most important decisions in information policy. It profoundly affects the distribution of political and economic power in the digital environment. It has impacts on issues ranging from education to free speech. The "value" protected by intellectual property in the world economy is in the hundreds of billions of dollars and growing all the time." (Boyle, 1997b Section II)

In other words, Boyle first explains why the public domain and IPR issues are of such magnitude that would justify a movement similar to the environmental issue and second, suggests that we should learn from the environmental movement in order to deal with these problems.

There are two types of lessons we may take from the environmentalist movement. One has to do with the intellectual commons or public domain itself: what is public domain, in what sense it is similar to the environment and what kind of consequences a possible exhaustion may have on us as a society. A second one has to do with the features of environmentalism as a movement: what kind of features does it have and which ones may we replicate for the purposes of preserving the public domain.

In answering both these questions, Boyle has been greatly influenced, as he himself admits, by the work of David Lange (1981; 2003a) on public domain. David Lange is also one of the co-directors of the Centre for the Study of the Pubic Domain (2006) and has been a member of the Duke Law faculty for more than thirty years holding the same chair as Boyle after him.

David Lange with his "Recognizing the Public Domain", provides an invaluable first systematic collection of the works dealing with the public domain. Mainly influenced by the work of Kaplan (1966), Krasilovsky (1967), Chafee (1945) and Brown (1976-77), Lange presents the problem of defining public domain (1981).

Lange (1981) refers to the public domain also as public commons (ft. 20) and also uses Krasilovsky's (1967) classic definition :

"Public domain in the fields of literature, drama, music and art is the other side of copyright. It is best defined in negative terms. It lacks the private property element granted under copyright in that there is no legal right to exclude others from enjoying it and is "free as air to common use"

Krasilovsky references will lead us to Brown's (1976-77) work and his references to the public domain about ten years after Krasilovsky's paper. Referring to Justice Brandeis's dissenting opinion in International Services v. Associated Press, 248 US 215, 250 (1918) he will provide another paradigmatic quote on the concept of public domain:

"The general rule of the law is, that the noblest of human productions – knowledge, truths ascertained, conceptions and ideas- become after voluntary communication to the others free as the air to common use"

The idea of public domain as being a "commons" similar to "free as air" seems thus to be coming from the beginning of the 20th century, however the exact ambit and scope of the concept remains an issue even in the 21st (Benkler, 1999). In a special issue of Law and Contemporary Problems in 2003 (Boyle, 2003a), some of the most important academics will provide different aspects of what constitutes public domain and how it may be retained. The quote of Justice Brandeis will be repeated by numerous scholars, Boyle (2003a) and Benkler (2003a) not least among them.

3.4 Copyright and the Commons as constructed entities

Before we proceed with talking about environmentalism and the public domain, we need to highlight a very special property of the public domain that makes the quest for what constitutes the intellectual or creative "environment" an equally special question.

As Lange notes in his Recognizing the Public Domain (1981), Intellectual Property and copyright more specifically are very particular species of property as they are constituted as a result of the law rather than the senses:

"The chief attribute of Intellectual Property is that apart from its recognition in law it has no existence of its own. It is in fact as well as in definition the stuff of an intellectual, rather than a feeling accord. Lacking tangible substance altogether, its boundaries cannot be recognized through the medium of human senses." (Lange, 1981 p. 147)

This observation, though obvious to anyone who has studied Intellectual Property Law, has a profound impact on the way the public domain may be constructed. To put it very simply, a book, for instance, exists as a physical artefact, but the Copyright subsists on the original creative form in which the book is expressed. The boundaries of the subject matter of copyright are purely the result of law, legal theory and the relevant case law. In that sense the concept of copyright is a *constructed* concept (Littman, 1991; Wagner, 2003; Fisher, 1999; 2001; 2002). Not surprisingly, the Public Domain, that has been described as "a negative form of property" is equally a constructed concept. As Mark Rose (2003b) notes in some of his writings (Rose, 1993; 2002) and particularly in the same volume as Boyle, "[c]opyright and the public domain were born together." (Rose, 2003b p. 76)

Environmentalism in relation to Intellectual Property Rights becomes thus an issue of protecting something that is constructed. More than that, it becomes an issue of how the concept of the Public Domain *is to be* constructed. Since the original concept of Intellectual Property is constructed by the law, a similar construction in legal terms is needed for the Public Domain, and not necessarily in the form of a negation of property. This is the point that Lange makes at the closing of his classic paper:

"The problems will not be solved until courts have come to see the problem of public domain not merely as an unexploited abstraction but as a field of individual rights fully as important as any of the new property rights. The field of intellectual property. The field of intellectual property law at large sometimes seems to be beyond the possibility of exhaustion. But then, that was the view taken by the public toward the buffalo as they were being hunted one hundred years ago. And where are the buffalo now?" (Lange, 1981 p.180)

Again we will underline the duality of the problem as expressed by Lange: On the one hand, Public Domain is a legal fiction that needs to be constructed in a positive way in the form of rights that need to be protected. On the other hand, this needs to be done urgently as it will otherwise lead to side-effects of the same magnitude as the ones related to ecological disaster we have experienced with physical environment.

The heavy reliance on the term "constructivism" may give the impression that the intellectual property environmentalism is radically different from the nature environmentalism that refers to actual things. This is certainly not the case.

On the contrary, the reason why the metaphor of Environmentalism has been suggested and adopted by a number of scholars as the most appropriate one, is partially due to the fact that the concept of "Environment" is also a constructed concept.

The need for a kind of a movement is apparent in the work of Boyle (1997a) that talks of "information politics" in terms of a coherent movement for the protection of the public domain. According to Boyle (1997a), one of the main contributions of Environmentalism has been the highlighting of the *structural* or deeper problems related to the issue of environmental abuse.

This is a particularly important remark. An environmental movement is important as a metaphor for the Public Domain as it will operate as a vehicle for revealing the structural presuppositions that prevent its emergence. For Boyle the current IPR system contains presuppositions that make the preservation of the Public Domain very difficult. More than that, Boyle's point implies that the concept of environment itself was not clearly defined either and its conceptualization is one of the major contributions of the environmental movement. The two steps in the process are clearly presented in Boyle's argument: first the concept is created and then it becomes a reality. We need to highlight Boyle's point that in order to create such meaning, it is important to have in place the relevant analytical tools that could become "popularisable', so as to be usable by anyone and as such to facilitate the creation of meaning . Lessig is making a similar call in 1998, in his New Chicago School paper (Lessig, 1998d), though he refers more to the need for analytical tools for the understanding of new forms of regulation and meta-regulation.

Equally interesting is to follow some of the suggestions that Boyle makes for the creation of a Public Domain movement. Following the Environmentalism movement, he suggests that we adopt the practice of existing movements and create organizations similar to the Green-Peace that could carry forward the objectives of preserving the public domain. Less than ten years later, in a follow up of the Environmentalism Paper, the Second Enclosure paper in 2003 (Boyle, 2003c), the same author will recognize the
existence of a series of efforts of that kind as well as his personal involvement in some of them. The role of all these organizations is to *construct* or to *invent* the notion of public domain in the same way as environmentalism invented the notion of environment:

"In one very real sense, the environmental movement *invented* the environment so that farmers, consumers, hunters and birdwatchers could all discover themselves as environmentalists. Perhaps we need to *invent* the public domain in order to call into being the coalition that might protect." (Boyle, 2003c In Conclusion)

In the process of constructing the Public Domain, Boyle places particular emphasis on the development of an economic theory that would support its viability especially in juxtaposition to models supporting the existing structure of rights. However, what is most important for the purposes of this thesis is the emphasis that Boyle places on the political debate abound decisions related to Intellectual Property Rights and hence the need for Intellectual Property Rights politics. It is this lack of transparency and democratic accountability that is the deeper problem related to the trajectory of the Intellectual Property Rights regulation and this is what is revealed through the operation of an IPR environmentalism movement (Boyle, 2003c)

3.4.1 Early conceptualizations of the Commons

We will argue that in order to fully appreciate these structural problems in relation to the IPR regime we need to move to the following stage of this critical literature review and present first different notions of commons or public domain in the context of intellectual property rights and second to explore Benkler's claim for the "battle over the institutional ecosystem in the digital environment" (2001; 2006). The boundaries of the concept of Commons or public domain in the literature are important to track the process of meaning creation, whereas the reference to Benkler's "battle of institutional ecosystems" complements Boyle's work on environmentalism on the net.

The concept of public domain or the commons and how it may be sustained through a system of incentives is a theme explored by various authors [e.g. (Lange, 2003a)

(Krasilovsky, 1967) (Samuels, 1993) (Litman, 1990) (Dagan, 2006)]. In this section we concentrate on the work of Boyle, Benkler and Lessig as they are key public figures also in relation to the activism related to the construction and preservation of the public domain. We need to clarify why we are so interested in the theoretical conceptualization of the commons and its importance for the information society. Academic theory in this area, despite the term, is anything but "academic": it influences the actual discourse on the public domain and is one of the main drivers for the creation of an environmental movement in the area of intellectual property rights (Boyle, 1997a).

The concept of commons as seen in the literature related to real property (Hardy, 2001) is Boyle's starting point. Boyle considers as the key work for setting the modern agenda for the public domain in the area of intellectual property (hence public domain) the paper by Lange Recognising the Public Domain written in the early 1980s (Lange, 1981). As we have already mentioned this paper has made the metaphor of environmentalism for the realms of Intellectual Property Rights and has suggested that the intellectual commons or the public domain had to be seen in analogy with the physical commons.

Boyle in the "Second Enclosure" (2003c) paper refers extensively to Lange's paper (1981) using his metaphor and exploring the idea of physical commons and their privatization or, as he calls it, the "first enclosure". The crux of his argument is that because of a series of factors (among others political will and economic theory) privatization was held as the most efficient way to manage property. Boyle will invoke the image of the tragedy of the commons to express the prevailing attitude behind the concept that Hardin has illustrated in the "tragedy of the commons" (Hardin, 1968). Boyle in the same way as Lessig (2001b), Benkler (1998; 1999; 2000; 2001; 2002; 2003a) or Littman (1990; 1994) will refer to Hardin's work in order to contest its application in the area of intellectual property and particularly that of digital intellectual property. This is done by referring to a series of works such as the Tragedy of the Commons (Heller, 1998), the Comedy of the Commons (Rose, 1986) or the Drama of the Commons (Ostrom, 2002) making the case for how the commons may be effectively and efficiently managed without having to revert to enclosure solutions.

Following Lange, Boyle concedes that the Public Domain or the commons appear as a legal concept at the same time as the copyright. Boyle, however, argues that what has

changed with the advent of new legislation as a reaction to the introduction first of mass copying and then of digital technologies is the "baseline" for the Intellectual Property rights: it used to be, for instance, that the public domain would be the baseline and the privatization the exception, whereas now it is the opposite that holds true. As a variety of authors have noted, by abolishing the formalities for the protection of a work under copyright law there has been a fundamental shift in the presumption of whether a work belongs to the public domain or is privately owned: all creations are now by default owned by some creator.

At the same time, as Boyle notes, another fundamental shift was happening: because of the introduction of new pervasive technologies allowing or based on reproduction of content, the act of copying material and thus the violation of copyright from a practice happening in the professional or commercial level has been rendered part of our daily routines (Boyle, 2003c).

Boyle notes as many other authors before and after him that the traditional critique on commons is not valid any more, mainly as a result of the differences between the Intellectual Property and physical products. We have referred before (section 3.4) to the nature of Intellectual Property as a legally constructed entity making reference primarily to Lange's work. Boyle refers to two characteristics of information goods: that they are non-rivalry and non-excludable repositioning the debate on the utility of a commons in the area of incentives for the production of those goods (Boyle, 2003c).He explains the current maxim in the Intellectual Property along the following lines:

"My point is that there seems to be an assumption that the strength of intellectual property rights must vary inversely with the cost of copying."

3.4.2 FLOSS as a paradigm for the Commons

Boyle contests this assumption as misleading by referring to the concept of the tragedy of the Anti-commons (Heller, 1998): by increasing the cost of access to content through intellectual property rights, the cost for new production increases; any new creator would need to have access to existing material either for reference purposes or in order to create derivative works. Boyle, hence, concludes that enclosing information goods is not necessarily the best strategy for encouraging creativity and innovation. This is a crucial stage in the process of constructing the commons: it is the stage where new technologies of production and creation appear and the current model of Intellectual Property Rights as a tool for encouraging creativity starts to be contested. This is the stage where a new actor appears to support the Public Domain instead of the proprietary solutions. This actor is the Free/ Open Source Software movement (Stallman, 2002).

Boyle will call FLOSS a paradigmatic case for the commons/ public domain case. He will question whether such a characterization is important for supporting the public domain debate, since similar arguments have been made far before the advent of FLOSS. Nevertheless, it remains undisputable that the unprecedented success of FLOSS has greatly contributed to the debate on the commons (Benkler, 2001; 2002; Gomulkiewicz, 1999; Gonzalez, 2005; González, 2006; Moglen, 1997; 2000; 2003; Lessig, 1999c). We are not going to refer to the details of the mechanics of FLOSS here. All we need to mention is that FLOSS shows that a different treatment of IPR based on sharing knowledge rather than restricting access is possible. More than that, it demonstrates that the FLOSS model may support even commercial activity.

As Boyle writes echoing the work of Benkler (2002) and Moglen (1997; 1999; 2003) the question of incentives starts becoming marginalized. It does not really matter why people do what they do; what it matters is that they actually do it. Moglen's (1997) description is instructive:

"[I]ncentives" is merely a metaphor, and as a metaphor to describe human creative activity it's pretty crummy. I have said this before, but the better metaphor arose on the day Michael Faraday first noticed what happened when he wrapped a coil of wire around a magnet and spun the magnet. Current flows in such a wire, but we don't ask what the incentive is for the electrons to leave home. We say that the current results from an emergent property of the system, which we call induction. The question we ask is "what's the resistance of the wire?"

So Moglen's Metaphorical Corollary to Faraday's Law says that if you wrap the Internet around every person on the planet and spin the planet, software flows in the network. It's an emergent property of connected human minds that they create things for one another's pleasure and to conquer their uneasy sense of being too alone. The only question to ask is, what's the resistance of the network? Moglen's Metaphorical Corollary to Ohm's Law states that the resistance of the network is directly proportional to the field strength of the intellectual property" system. So the right answer to the econodwarf is, resist the resistance."

The extract from Moglen's work (1997) is instrumental for appreciating the impact of FLOSS in the process of constructing the public domain. Moglen offers a metaphor for how creation happens in a large interconnected environment where the costs for production and reproduction are approaching zero. Moglen describes the fundamental principle behind FLOSS that is essentially rooted in the early days of Internet computing but is still the predominant mode of production for numerous types of software and content on the Internet. The importance of Moglen's contribution for the purposes of this paper is that it proposes a different framing for the debate on the production of content over digital networks and –more importantly- he does that through a real example, a class of real examples to be more accurate.

This is the power of a paradigmatic case to which Boyle has also referred: what really matters is that FLOSS actually happens. Benkler (2001; 2002; 2003b; 2006) will subsequently present a more comprehensive analysis on the economics of the phenomenon as a whole coining the term "Commons Based Peer Production" (Benkler, 2002) and presenting a wide variety of examples ranging from FLOSS to Wikipedia, and from File Sharing to rating systems in commercial platforms like Amazon. A series of examples that any lay user would encounter in her daily use of the Internet comes to support the argument of the Commons together with economic theory that supports the possibility of a mode of production and management of information goods alternative to the one advocated by the current IPR regime. Perhaps the most interesting point that a number of authors make is that the current IPR regime operates as an obstacle for these forms of production and is possibly an obstacle in general in relation to creative production in digital environments (Aigrain, 1997; Baldwin, Scott and Hood, 1998; Barlow, 1994; Benkler, 2000; 2001; 2002; 2003b; 2006; Bollier, 2001; Boyle, 2000; Braithwaite and Drahos, 2000; Carroll, 2006; Cohen, 1998; Drahos, Braithwaite and Drahos, 2004; Dyson, 1995; Ghosh, 1997; 1998; Goldhaber, 1997; Gupta, 1985; Halbert, 2006; Hietanen, Oksanen and Valimaki, 2007; Landes and Posner, 2003; Lerner and Triole, 2002; Moglen, 1997; 2003; Opderbeck, 2004; Samuelson and Scotchner, 2002; Strahilevitz, 2003; Watt, 2000; Zimmerman, 2003). This is where the need for a more coherent policy, information politics as Boyle (1997a) calls them, or political economy (Benkler, 2003b) as Benkler refers to it for the institutional ecosystem (2001) of the Internet emerges (Pasquale, 2006).

3.5 Three Definitions for the Intellectual Commons and the Public Domain

In a review of the recent literature on Public Domain, Boyle (Boyle, 2003c) produces three categories of approaches to the problem of defining the public domain: A first category, very much influenced by the anti-monopoly/ anti-censorship concerns of the founding fathers of the US constitution, is mainly against any form of monopoly that restricts free trade and freedom of speech. This first category accepts the importance of IPRs but seeks for a series of limitations. A second category is the one that criticizes the IPR expansionism and seeks affirmative rights for the public domain. This category seeks to establish a free public domain. Finally, there is a third category that uses the language of the commons and seeks to establish a series of rules for the governance of the e-Commons. Boyle will return to his concept of environmentalism as the binding link for all these diverse conceptualizations for the public domain and the commons:

"In many ways, it turns out, concepts of the public domain show the same variation in assumptions, and the same analytic differences, as the concept of property itself. I conclude by arguing that, for a number of reasons, the appropriate model for the change in thinking which I argue for comes from the history of the environmental movement. The invention of the concept of "the environment" pulls together a string of otherwise disconnected issues, offers analytical insight into the blindness implicit in prior ways of thinking, and leads to perception of common interest where none was seen before. Like the environment, the public domain must be "invented" before it is saved. Like the environment, like "nature," the public domain turns out to be a concept that is considerably more slippery than many of us realize.

And, like the environment, the public domain nevertheless turns out to be useful, perhaps even necessary." (Boyle, 2003c p. 52)

What is interesting at this stage is that Boyle presents three different versions for what constitutes public domain making at the same time the differentiation between public domain and the commons. In order to support his argument Boyle uses the concepts employed by three different authors, Littman (1990), Benkler (1998; 1999; 2002) and Lessig (2001b).

Seeking for a basic definition for the Public Domain, Boyle will refer to Littman's (1990) work:

"[A] commons that includes those aspects of copyrighted works which copyright does not protect."

Then he compares that with Benkler's definition (1998; 1999; 2002) :

"The functional definition therefore would be: The public domain is the range of uses of information that any person is privileged to make absent individualized facts that make a particular use by a particular person unprivileged. Conversely, [t]he enclosed domain is the range of uses of information as to which someone has an exclusive right, and that no other person may make absent individualized facts that indicate permission from the holder of the right, or otherwise privilege the specific use under the stated facts. These definitions add to the legal rules traditionally thought of as the public domain, the range of privileged uses that are "easy cases."

Benkler's focus is primarily on the operation of the public domain as a resource for the further production of information goods and as such he is an advocate of free access to information goods both in the sense of zero cost and zero control. At least, this is Boyle's understanding:

"I *think* that Benkler is arguing that the most important question here is whether lay people would know that a particular piece or aspect of information is free in the sense of being *both* uncontrolled by anyone else and costless".

However, the most interesting part is when these definitions are compared with Lessig's (2001b) definition of the commons, quoted by Boyle:

"It is commonplace to think about the Internet as a kind of commons. It is less commonplace to actually have an idea what a commons is. By a commons I mean a resource that is free. *Not necessarily zero cost, but if there is a cost, it is a neutrally imposed or equally imposed cost*. Central Park is a commons: an extraordinary resource of peacefulness in the center of a city that is anything but; an escape and refuge, that anyone can take and use without the permission of anyone else. The public streets are a commons: on no one's schedule but your own, you enter the public streets, and go any direction you wish. You can turn off of Broadway onto Fifty-second Street at any time, without a certificate or authorization from the government. Fermat's last theorem is a commons: a challenge that anyone could pick up; and complete, as Andrew Wiles, after a lifetime of struggle, did. Open source, or free software, is a commons: the source code of Linux, for example, lies available for anyone to take, to use, to improve, to advance. No permission is necessary; no authorization may be required. These are commons because they are within the reach of members of the relevant community without the permission of anyone else. They are resources that are protected by a liability rule rather than a property rule. Professor Reichman, for example, has suggested that some innovation be protected by a liability rule rather than the no control is present; but rather that the kind of control is different from the control we grant to property."

Lessig's definition of the commons is indicative of his overall approach to the problem of IPR expansion. He is interested in information infrastructures or information or knowledge as an essential facility for innovation. And he is against any monopolization of such infrastructure. In that sense, as Boyle also notes, Lessig views the problem of innovation as a problem of control. He is interested in free access in the form of nondiscriminatory access and he sees FLOSS as a paradigm for these commons (Lessig, 1998a; 1999a; 1999c; 1999d). Commons are not entirely free; there is some sort of governance and Lessig is interested in how access may be maintained while this form of governance will also be retained or cultivated.

To revert to one of Boyle's points, Lessig is not interested in the old dilemma between proprietary and free but rather between centralized and distributed forms of control. The constraints are there but not in their traditional form. Boyle remarks that the differences in the conceptualizations of the commons or the public domain follow a common pattern with the differences in the understanding of property:

"And what is true for property is true for the public domain. Just as there are many "properties," so too there are many "public domains." (Boyle, 2003c p. 68)

The variety of opinions in relation to what constitutes the public domain or the commons is not a problem for Boyle. What is nevertheless required is creating an umbrella under which all these divergent opinions may be gathered and together strive for the accomplishment of a common goal in the same way as the environmental movement does. Boyle acknowledges the importance of language for the construction of the public domain but he is also reminiscent of the fact that more than mere language is required for the construction of a concept. Such an approach that brings us closer to an

understanding of the phenomenon is fully compatible with his call for the emergence of an environmental movement for the public domain (Boyle, 2003c):

"The concept of the environment allows, at its best, a kind of generalized reflection on the otherwise unquestionable presuppositions of a particular mode of life, economy, and industrial organization. At their best, the commons and the public domain can do the same in helping us to reimagine creation, innovation, and speech on a global network. And this seems particularly important today." (Boyle, 2003c p. 74)

Benkler in his latest book (2006) following earlier work (2001; 2002) of his on the introduction of new production mechanisms on the Internet and greatly influenced by the FLOSS phenomenon presents the process of constructing the public domain as a battle, the battle over the institutional ecosystem in the digital environment. Here, the environment takes a different notion, that of the surroundings or a background that has institutional properties in the sense of framing human behavior or in the form of comprising of resources for the production of information goods. Moreover, the complexity of the environment is such, that no linear causality may be established between any regulatory intervention and the final outcome:

"The term "institutional ecology" refers to this context-dependent, causally complex, feedback-ridden, path-dependent process. (...) As these stories suggest, freedom to create and communicate requires use of diverse things and relationships—mechanical devices and protocols, information, cultural materials, and so forth. Because of this diversity of components and relationships, the institutional ecology of information production and exchange is a complex one. It includes regulatory and policy elements that affect different industries, draw on various legal doctrines and traditions, and rely on diverse economic and political theories and practices. It includes social norms of sharing and consumption of things conceived of as quite different—bandwidth, computers, and entertainment materials." (Benkler, 2006 p. 387)

Benkler in that sense is close to Boyle and Lessig's concerns in relation to the question of who will control the common information environment, the commons and thus society as a whole. Benkler's point is that we are in dire need of a series of interventions that will make sure that the new production form will continue to exist and all this potential for free creative expression will not be hampered. With Benkler's, Lessig's and Boyle's both academic and activist contributions we reach a particular stage in the Commons discourse. At this stage, the need for the definition of a commons or public domain has been established. It is clear that there is a variety of opinions about what constitutes public domain or the commons as well as that there is a need for the emergence of entities that could carry forward the effort for the creation of this space following the example of the ecological organizations. Technologies and practices as demonstrated in the FLOSS movement indicate that it is possible that people still create intellectual goods in a non traditional IPR environment. The economic theories supporting these modes of production also illustrate that the main obstacle for following such models of production is the current legal system and the institutions based upon it. The emergence of new technologies, practices and institutions and the resistance of the existing ones are summarized in Benkler's argument on the battle over the institutional ecosystem. The question that is posed at this point is which is the most effective strategy for building a public domain and whether the existing efforts, the Creative Commons in particular is one that actually facilitates the creation of such a public domain or commons or is instead facilitating the re-enforcement of property rights and undermines the long term efforts for a social change in favor of a public domain.

3.6 Conclusion

This chapter describes a phenomenon we call *regulatory distantiation* because it echoes the increasing distance between the practices of creation and use of Copyright-regulated material and those groups of stakeholders producing the Copyright's regulatory content. The distantiation phenomenon is an expression of the trend to have increasingly less actors deciding about the regulatory content of a field of law that becomes relevant to increasingly more. This pattern may be summarized in two sets of findings:

(a) Less Actors having an input to the formation and interpretation of the regulatory content of Copyright:

[i] The ability to take decisions is inversely analogous to the level of accountability of the decision making body: International Treaties that feed into Regional Instruments that then have to be ratified by National Parliaments. The trend here is to move to an increasingly higher level of decision making.

[ii] The ability to form the content of the rules governing the use of a particular work is not a matter of negotiation or the result of the decision of a publicly accountable body: moving to private law through the use of End User Licence Agreements

[iii] The enforcement of the private agreements is not subjected to the mediation of the third party like a court of law but is rather directly enforced under the terms of the party crafting the rules: use of Technical Measures of Protection for the enforcement of EULAs

[iv] Non-professional creators are not represented by any collective formation like a collecting society or other professional association and do not take part in an organized fashion in consultations or the drafting of the legislation in the level of international organizations.

[v] Copyright Law rules having an intangible subject matter is counterintuitive in its application and its rules are often not understood by the layman, in contrast to real property norms that are much easier to internalize. The routines on on-line environments are actually contrary to most of Copyright's rules.

(b) Copyright Law is becoming a form of regulation relevant to increasingly greater population segments:

[i] In a digital/ on-line environment all uses amount to copying and are hence subjected to Copyright Law, i.e. all users of digital/ on-line environments are subjected to Copyright Law

[ii] Infringement because of the underlying technical structures is possible in a massscale, micro-level by non-professional as a matter of their daily routines.

[iii] Enforcement is possible through Technical Measures of Protection and EULAs in a more pervasive, intrusive and personalized fashion.

[iv] With the threshold for Copyright protection being particularly low both in terms of substantial (low level of originality) and procedural (lack of formalities) conditions and the production means increasingly cheap, almost everyone having used digital technology is potentially either a Copyright holder or an infringer or both.

The second conclusion relates to the nature of the Commons as a device to support creativity in an environment where the question is not how to provide the incentives for the production of creative material but rather how to reduce the frictions that hinder such production. It is not merely the fact that Commons and Copyright-based property are two opposites that are equally founded on a legal fiction; it is also that they promote a different model of creativity based on different economic assumptions about how creativity and innovation occurs. In addition, what emerges from the relevant literature is that the discussion relating to the Commons is equaled to a discussion related to the content of their regulatory conditions.

The third conclusion relates to the fact that a Commons Based Peer Production model or Moglen's Law is particularly useful for a new class of creators that base their works on the re-use of material and the use of Internet-related technologies and that such authors are not represented in the existing legislative instruments. The clash between Copyright's classic proprietary project and the Commons project is not merely a clash between infringers and owners but between existing rights holders and future creators that seek to transcend the alienation from accessing the means of regulation production.

The realization of the constructed character of the Creative Commons, the fact that there are more than one economic models for how creativity may be fostered through a system setting its regulatory conditions and the fact that regulatory distantiation is an endemic aspect of the current Copyright regime, leads to the overall finding that issues of Copyright and Commons have a predominantly political texture: though the regulatory conditions governing creativity are constructed and there are actual alternatives to the current dominant model of fostering innovation, the possibility to participate in their formation and potentially to their change becomes increasingly more difficult. This fourth finding is consistent to the Ecological vocabulary used by Boyle in his approach to the Commons phenomenon and points towards the politicization of the CC debate.

Whereas this chapter has dealt predominantly with presenting the issues in relation to the Copyright- Technology interaction, and the related approaches to the problems of the Commons and the Public Domain, the following chapter will explore the way in which Lessig's work is related both to this background and the critique of the CC project expressed by Elkin-Koren in chapter two.

4. Introduction

In chapter two, Elkin-Koren's work (2005; 2006a) has left us with three puzzles: First, if "Copyright law is located at the heart of Creative Commons' agenda and is viewed as the main obstacle for what is perceived as an ideal world of creating and sharing creative works" then why "Creative Commons' strategy is entirely dependent upon a proprietary regime, and derives its legal force from the regime's existence"? Second, is the "ideological fuzziness" of the CC project, this "lack of a clear definition of the commons" that "reflects a profound disagreement regarding the meaning of the public domain" responsible for this choice? Third, will "(t)his fuzziness (...) impair the advent of a workable and sustainable alternative to copyright through grassroots activism facilitated by contracts"? In other words, will "individual authors" that "are not only aware of the proprietary regime but are also armed with an efficient mechanism to execute their intellectual property rights" "use the mechanism to set limits on the exploitation of their works"?

In this chapter we attempt to provide the foundations for answering these questions by achieving another tast: that of sketching an outline of the theoretical work of the very founder and chair-person of Creative Commons, professor Lawrence Lessig (Hunter, 2004; Post, 2000)

Similarly to his "activism offspring" (Lessig, 2006a), the Creative Commons project, Lessig's intellectual work seems to be characterized by a certain degree of inconsistency or at least fuzziness. These tensions within Lessig's work create three puzzles that are the starting point of this chapter:

First, how is it possible one of the most recognized public figures speaking with authority for the reform of Intellectual Property Law to be a constitutional law professor that only back in 1996 would confess that his involvement with IPR was only marginal:

"I am honored to be here. I am also surprised. When I was called by the Journal and asked whether I would come and talk on this panel on Intellectual Property, I said I would love to come, but I do not know anything about intellectual property. "Great" the caller said, and so here I am. I do teach a course on the law of cyberspace, and we do spend some time talking about intellectual property. It poses an organizing problem for the law of cyberspace because it raises important questions that cyberlaw presents or will present." (Lessig, 1996a p. 635)

Second, what is professor Lessig's position in relation to innovation and conservation? Or to state it differently, how is it possible to be an advocate of structures promoting innovation and creativity and at the same time asking to revert back to the principles and the values of the past, whether these of the founding father of the U.S. constitution (Lessig, 1993; 1995b; 1995d; 1996c) or those in the original Copyright laws (Lessig, 2004d; 2005k)?

Third, how does professor Lessig propose to resolve two sets of tension in complex digitally networked environments: first, between the individual and the commons; and second, between the need of state intervention for guarding the values of the social and the need of empowering the individual to manage her rights without any mandatory, one size fits all regulations? In all cases Lessig has been criticized for supporting rhetorically and in his theoretical work the commons and the state intervention, whereas providing the practical tools for the empowerment of the individual to the expense of the commons (Elkin-Koren, 2005; 2006a; Dusollier, 2006).

Providing some answers to these three puzzles may be the key for appreciating Lessig's work and constructing a comprehensive framework for his approach to regulatory formations. These puzzles, to use a metaphor used in Lessig's work (Lessig, 1989; 1993; 1995c; 1995d), operate as a Russian doll or an onion: the solution to the one provides the conditions for moving to the next.

A prolific writer himself, Lessig has produced over 61 law review papers and 4 books in less than two decades (Hunter, 2004). Fifty nine of the former and three of the latter have been used to produce some answers regarding professor Lessig's puzzles of this chapter.

Bringing together the scattered pieces of the puzzle, we start reconstructing Lessig's project from a different point of view: not as a copyright project, but rather as a regulatory change and social reform project.

This chapter is structured as follows: throughout section 4.1 we deal with the issue of association construction techniques in Lessig's work. Section 4.2 presents the issue of regulatory costs particularly in relation to plasticity, immediacy and internalization. In the following section (4.3) we deal specifically with the construct of the four modalities of regulation. In section 4.4 we extensively explore the issues of regulatory distantiation over the Internet and Lessig's model for overcoming them. In section 4.5 we position Lessig's work in the broader regulatory theory, FLOSS research and aspects of Information Infrastructures and standards literature. Such positioning allows an first reading of the similarities between Lessig's work and other related research. Finally section 4.5 presents some answers to the three puzzles presented in this section as a result of the overall critical review of Lessig's work featuring in this chapter.

4.1 Questions on the issue of change

Lessig in his work does not speak about Intellectual Property Rights, or more accurately, it is not *just* Intellectual Property Rights he speaks about. A classification of Lessig's academic work over the last two decades is useful in appreciating the focus of his research. Lessig's work may be categorized in three periods: First, the constitutional law period (Lessig, 1989; 1993; 1994; 1995a; 1995b; 1995c; 1995d; 1996b; 1996c; 1997b; 1997c; 1997d)(Lessig, 1998b); second, the cyberlaw period (Lessig, 1995e; 1996d; 1996e; 1996f; 1996-1997; 1997a; 1998a; 1998c; 1998d; 1999b; 1999e; 1999f; 1999g; 2000b; 2000c; 2001d; 2003b); and finally, the commons/ IPR period (Lessig, 1996a; 1996a; 1999a; 1999d; 2000a; 2000d; 2001a; 2001b; 2001e; 2002a; 2002b; 2002c; 2002d; 2003a; 2003c; 2004a; 2004b; 2004c; 2004d; 2004 ; 2006b; 2006c). Of course, the categories are not set in stone; there are works that may fit both in cyberlaw and constitutionalism [e.g. (Lessig, 1996a; 1999a; 2001a; 2001a; 2001a; 2002c)] or IPR and constitutionalism [e.g. (Lessig, 2001e)]. The point, nevertheless, in providing such categorization is that Lessig moves from constitutional law questions, to Cyberlaw

questions to Intellectual Property Rights questions. To understand why, we need to explore the specific questions Lessig work poses.

In a series of six papers (Lessig, 1989; 1993; 1995a; 1995b; 1995d; 1996c) Lessig explores the issue of constitutional law responses to social change. The theme Lessig deals with in this set of papers is particularly useful to understand the way in which Lessig deals with conservation and innovation. The kind of change Lessig is interested in is change in the social context and the way in which such change may provoke the transformation of the operation of the U.S. constitutional text. Lessig's questions in the first place seem to be of a purely legal nature: when circumstances change, what does this mean for our fundamental legal texts, such as the constitutions; more specifically, how should institutions responsible by virtue of law for the interpretation of constitutional law, such as the courts, deal with such change?

A series of concepts need to be clarified in order to appreciate this stage in the development of Lessig's research project. The notion of change is a good starting point. Lessig views change in his "constitutional" circle of papers in three ways: initially, change is used as a factor exogenous to the response of an acting agent. Change equals to a transfiguration that is external to the text of the law and its interpreter. As such it requires a response, either to the direction of reinforcing it or resisting it. This conceptualization of change is used in cases of technological change that render the interpretation and operation of a legal text different from what it used to be (Lessig, 1989; 1993; 1994; 1995c). An example used by Lessig are the changes in surveillance equipment and the impact they have upon the relevant constitutional provisions regarding privacy or changes in reproduction technologies and the impact they have in the conceptualization of Copyright's fair use provisions (Lessig, 1995d).

On a second level, change is seen as something that may be mastered and used in order to produce a result (Lessig, 1989; 1993; 1995c; 1995d). In that sense, change may be actively sought in order to achieve a certain end or purpose. This second case is differentiated from the former on the basis of their focal point. Whereas in the first case change is approached from the viewpoint of the one responding to it, in this second level the perspective is the one of the entity provoking change. Thus, the questions asked are not of the type "how can we respond to change?" but rather "how can we provoke change?" Lessig deals extensively with these issues in relation to his notion of the "meaning manager" (Lessig, 1995c; 1996b), a fictional entity that manages meaning and directs change. The first and the second levels of conceptualizing change may, as Lessig notes, coincide as a possible response to change is to provoke change.

Change finally is used to express social reorganization, transition (Lessig, 1989; 1995d) and innovation (Lessig, 2001a; 2002c). In this dimension of change the questions asked are not ones of perspective but of qualitative characteristics. We are not asking how to respond to it or how to provoke it but rather which are its qualitative characteristics in the social level.

The first two types of change perspectives are focused on the agent that either reacts or acts, whereas the third type on the structural elements of change. This differentiation is merely schematic as problems of structure and agency also exist in Lessig's work and the boundaries between them are not always clearly demarcated. The categories presented in this section, however, are useful for analytical purposes, facilitate a better navigation into Lessig's work and assist into entering Lessig's regulatory discourse. Furthermore, Lessig's theoretical biases come from the area of critical legal studies [mainly Unger (Unger, 1986; 1987a)] which is particularly interested in social change, the capacity of social structures to support it, the ability to provoke it and the responses it calls for.

If Lessig is interested in change, the change of what is he interested in? He refers to social "structures", "context" or "social change" (Lessig, 1989; 1993; 1995a; 1997c) and "changed readings" (Lessig, 1995d), but more than anything else to changes in "social meaning" (Lessig, 1995c; 1996b). Lessig's understanding of social meaning is possible the most important concept in his work as it constitutes the cornerstone for all subsequent work and as we will argue at the end of this chapter provides the key for his understanding of both regulation in general and Copyright Law and Creative Commons in particular.

4.1.1 Social Meaning and responses to change

Change and in particular social change was the theme of the previous section. However, in order to appreciate better the kind of change Lessig refers to, we need to appreciate the domain in which it is applied, and this is the one of meaning and in particular social meaning.

Lessig is not providing an exhaustive definition or investigation of what meaning is but he is rather interested in how it operates. In his own words, he is interested in "pragmatics", not "semantics" (Lessig, 1989; 1993; 1995c). Nevertheless, Lessig's use of social meaning as a heuristic for appreciating change is revealing of its ontological foundations. Before proceeding to their exploration, we will need to make a final note on the reasons behind the centrality of the use of meaning into Lessig's work.

We have placed these considerations into the constitutional period of Lessig's work and this is due to his investigation of how the courts interpret the text of the constitution in the face of changing circumstances or how the constitutional text may be effectively altered by changing its surrounding circumstances (Lessig, 1989; 1993; 1995a; 1995d). Lessig is indeed interested in the meaning of the constitutional text. This constitutes the starting point of his research; however, as he starts digging deeper and deeper into the relationship between the constitutional text and its context he will find himself in a situation where meaning and regulation will become broader issues of consideration (Lessig, 1995c; 1995d; 1996b; 1996c; 1997c). Lessig will gradually depart in three ways from his original work on meaning. At a first stage he will move to interpretation of not merely the constitution but other normative or non normative entities (Lessig, 1995c; 1996b; 1996d; 1996e) with his work on social meaning and its regulation. At a second stage he will move to the interpretation not just by the courts but by other entities, when he will start investigating issues of social meaning in cyberspace (Lessig, 1997a; 1998a; 1999f; 1999g). At a third stage he will move to the interpretation not merely by humans but by other entities, such as different modalities of regulation, when exploring the device of indirection, i.e. the way in which one form of regulation adopts the regulatory content of another (Lessig, 1998a; 1998d; 1999b; 1999f).

These three stages are not successive neither explicit in Lessig's work but may be traced in the evolution of his work. They also mark his gradual research transition from issues of constitutional law and meaning [e.g (Lessig, 1989; 1995d; 1996c; 1998b)(Lessig, 1995c)] to issues of cyberspace regulation [e.g. (Lessig, 1996d; 1998a; 1998d; 1999f; 1999g)] and finally Free/Open Source Software [e.g. (Lessig, 1999c; 1999d; 2000d), innovation (Lessig, 2001a; 2002c)] and the Commons [e.g. (Lessig, 1999a; 2001b; 2002a; 2003c; 2004d)].

Lessig uses the term meaning as synonymous to the concept of association and sees the process of meaning creation as a process of association creation (Lessig, 1993; 1995c; 1997c). Early in his work, Lessig dismisses the term association as far too passive for the purposes of his work (Lessig, 1989). Though such a position makes sense in relation to the papers in which it is placed, namely papers where the interpretation by a judge is the main research question, the concept of association is much more useful in more complex cases as the ones seen in Lessig's subsequent work, particularly in his Cyberlaw (Lessig, 1995e; 1996d; 1996e; 1996f; 1998d; 1999f) and Commons papers (Lessig, 2000a; 2001a; 2001b; 2003c; 2004d; 2006b; 2006c). The heuristic of associations is particularly powerful as it provides a cohesion metaphor for constraining or enabling a behavior, on the basis of costs and benefits. It is also particularly useful for appreciating the indirect regulation as a process of construction by non-humans, though not explicitly mentioned in Lessig's work. The terms associations and meaning will be used interchangeably in the rest of this thesis according to the needs of the particular section.

To return to the term meaning, Lessig approaches it as a function of both token (or text) and context (Lessig, 1995c; 1996b). Lessig uses the term token in its broader sense to denote anything that could fit into the metaphor of text, though in his early constitutional period he refers explicitly to the text of the U.S. Constitution (Lessig, 1989; 1993; 1995a; 1995c; 1995d). If meaning in the case of the U.S. Constitution is a function of the constitutional text and its context, then in order for it to change, either the text or the context need to be changed. The institutional reality of Lessig's early problem domain makes text a less appealing object of study than the context. This is because there is an institutionally approved and legally codified process for amending the constitutional text that is of such complexity and formalism that has been used only in few cases. In contrast, there are many more instances where the context has been radically altered and as such the meaning of the constitutional text has changed

accordingly. Lessig chooses to examine those cases that are farther away from the formal process of constitutional amendment or interpretations of the constitution that effectively alter its original meaning as a result of the changing circumstances (Lessig, 1989; 1993; 1995b; 1995d; 1997c).

Lessig's first set of questions, we have identified before, relates to the way in which a particular institution responds to change (Lessig, 1989; 1993; 1995b; 1995d; 1997c). This is a key issue as it raises a series of further fundamental questions. First, what is it to be changed: Lessig asks about changes in the readings of the constitutional text. In other words, he asks about changes in the operation of normative texts that represent social agreements on a fundamental level. To put it differently, Lessig asks the question of how we should respond to efforts to change our fundamental social agreements. We have purposefully abstracted Lessig's questions to such a degree in order to be able to associate it with subsequent endeavors that transcend the boundaries of U.S. constitutional reality. Nevertheless, Lessig starts from a very specific case, that of U.S. constitutional law; the examples and problem domain Lessig chooses, assist us in further elucidating his fundamental research questions.

Lessig refers to the change in the meaning of the constitutional text without changing the text itself (Lessig, 1989; 1995b; 1995c; 1996b). Such position reflects a differentiation between the text as a *material manifestation* of the social agreement and the *actual content* of the social agreement. If the meaning of the text changes while the content of the social agreement remains the same, then it is very likely that the social agreement is indirectly breached. The reference to "values" or "principles" by Lessig implies that these values or principles constitute expressions of such achieved social agreement. We need to adhere to these principles because in that way we adhere to our social agreement. Lessig asks whether such an agreement is frozen in time or -as Lessig calls it- whether such agreement operates as "a fixed stellar" (Lessig, 1993)

Lessig's treatment of Unger's (1976; 1984; 1986; 1987a; 1987b) and Ackerman's (1984) work is illustrative of his position. Despite any differences they may have with each other with respect (a) to social plasticity and (b) to the question of whether constitutional or normal politics should exist, there is a fundamental agreement between the two. Their agreement has the following content: The amendment of fundamental social principles is possible only under certain conditions that ensure the maximum

participation of those regulated by the relevant regulatory instrument, i.e. the U.S. constitution in the case of Unger and Ackerman's work.

To sum up and provide a first answer to the question related to the kind of response required in the case of change, Lessig argues that a response is required to a change that attaches new meaning to the agreed normative texts of fundamental nature, such as a constitution. This response should be directed towards the principles agreed in a certain social context and examine whether such agreement still holds true. This is because the principles are not given but rather constructed.

In the same way that the principles are constructed, the context in which the normative text is placed is also constructed (Lessig, 1989; 1995c; 1995d). Hence, when responding to change the following questions need to be asked: first, whether the text or the context is changed. Second, in the case that the context is changed, whether the resulting meaning corresponds to existing fundamental social principles on which an agreement has been reached. If it does not, then the principles themselves have to be questioned. If they do not represent the will of the social group then they need to be changed, a task that brings us to the final question of how should new principles be derived (Lessig, 1996c). This set of questions lies at the heart of Lessig's work and in order to be able to provide some answers we need to return to the issue of context and seek to provide a fuller understanding of how it operates in conjunction with meaning.

4.1.2 Context and Meaning Construction: Provoking Change

Context comprises for Lessig of "structures of understanding" that set the "range" within which meaning may vary (Lessig, 1989; 1993; 1995a; 1995b; 1995c; 1995d; 1996b). In that sense the context comprises of a series of conventions for which social agreement has been achieved and is sustained. The agreement focuses on the degree of stability of the associations. Context in other words defines the degree to which certain associations are either fixed and consolidated or fluid and "up for the grabs" (Lessig, 1989; 1993; 1993; 1995c). Hence, within a particular context there are meanings that are contested and others that are uncontested.

Lessig uses a rather crude device to explain context, that of meaning change costs: within a certain context there are meanings that are extremely expensive or difficult to change and others that are very cheap or easy to change (Lessig, 1995c). A context or a "formative context" (Lessig, 1995c; 1989; 1993) comprises of all these factors that define a landscape of costs for different types of meaning. In that sense, the concept of context encompasses two elements: an ontological one that refers to the state in which the various associations are at a certain point in time and a normative one that defines the costs of their change at that particular point.

In order to appreciate the operation of context we need to move to the next of Lessig's concept, the one of construction (1989; 1995b; 1995c; 1997b; 1997c). Thus we gradually move to the second question posed above, that is, how is meaning constructed. It seems that the two questions, how we respond to changes of meaning and how meaning is constructed share some common ground: sometimes in order to respond to changes of meaning there is a need to devote some effort in changing meaning. The act of construction as we will see later may thus be either offensive (aiming at introducing a new meaning) or defensive (aiming at preserving an existing one). We will use the term "expansive" instead of "offensive" found in Lessig's work in order to avoid the ambiguities inherent in the latter term.

The language of associations is of particular relevance for assessing the operation of context. A context sets the range of costs for creating new associations or destroying the existing ones. However, precisely because in such a model the costs of new associations always depend on the existing ones, and because associations are always a collective issue, the problem of creating new associations becomes a recursive collective action problem. We need to further elaborate on this point.

In the various cases Lessig uses in his writings (1989; 1993; 1994; 1995a; 1995b; 1995c; 1995d; 1996b; 1996c; 1997b; 1997c), he identifies a series of elements defining the operation of context and meaning:

- 1. An action
- 2. Meaning coming out of the action
- 3. The action being placed in the context

- 4. The meaning conveyed by the action is easily recognized in that particular context
- 5. The action has associations with other actions or meanings
- 6. These associations are constitutive of the actions' meaning (semiotic meaning according to Lessig)
- 7. Actions have a range of meanings even if they do not have a single meaning
- 8. The question becomes how this range of meanings is constructed and how it may be changed

The acts of meaning construction and change are synonymous in Lessig's work: since meaning is always relying on existing associations, since there is always some historicity in the concept of meaning, its construction constitutes some form of change.

Lessig's description of meaning's construction has the following consequences:

- because of the associations between various actions, they have implications for a wide range of individual and social actions
- 2. because of (1) they have a non-optional character

Lessig has used the term "association" in order to describe the operation of meaning. However, he considers such term as rather "static" or lacking the agency that the term "meaning" implies and which Lessig prefers to use. As described above, meaning for Lessig is produced by the association between text and context. The former acquires meaning ("activates the association") when placed within a particular context. Context is what provides text with meaning. Lessig is interested in how such operation is effected (1995c).

We could turn thus to a more social definition of context as "the collection of understandings or expectations shared by some group at a particular time and place." (Lessig, 1995c). The elements of the definition are rather important:

- 1. a collection of understandings or expectations
- 2. shared by some group
- 3. at a particular time and space
- 4. the understandings or expectations have to be relatively uncontested

Lessig uses a term borrowed from Bourdieu, i.e. "social magic", in order to express the contextually uncontested nature of certain expectations or understandings (Bourdieu, Passeron and Nice, 1977; Bourdieu, Chamboredon, Passeron and Krais, 1991). Though Lessig emphasizes the uncontested part of context, the contested part is of equal importance. It remains an aspect of the same importance that there is a social agreement not merely on the meanings that are contested but also on those that are uncontested. Whether contested or uncontested, meaning depends on the costs associated with its change in a particular context, the more the costs the more uncontested it seems; the less the costs the more contested it appears. What characterizes the context is the two elements ontological and normative mentioned above: the geography of associations and the costs of their change.

Another element that needs to be pointed out is that an "action", a "text", a "token" may be associated with other tokens or other meanings. From such description we may derive a meaning conceptualization in Lessig's work that differentiates between token and context in terms of complexity and between token and meaning in relation to the degree of reification (Lessig, 1989; 1993; 1995c; 1996b; 1997c). A token is related to other tokens, that is other reified entities or meanings, in other words with associations of tokens with a range of costs regarding their meaning. A token may constitute the reified sum of associations that then is placed within another space of associations and when the associations are activated meaning is conveyed.

The Russian doll nature of token, context and meaning is further reinforced in Lessig's understanding of social meaning's "pedigree":

"Social meanings carry with them, or transmit, the force, or contestability, of the presuppositions that constitute them. They come with the pedigree, presumed or argued for, of their foundation. (...) Social meanings carry with them the history of the transformations that make them contested or not: the moment the premises upon which they are founded become invisible, these social meanings are in their most powerful moment." (Lessig, 1995c p. 961)

What happens at this "most powerful moment" of the social meaning is a particularly interesting issue to ponder on: it becomes the constituent moment of the construction of a token, a reified incarnation of the meaning or the founding moment of the structural features of a particular context. The pedigree of a social meaning in relation to a

particular token constitutes the sum of associations contained in this token or this meaning and their respective costs.

Lessig provides with such conceptualization a more focused definition of social meaning construction: It is

"[t]his process of changing contexts to change social meanings--the process of changing the associations, of switching on certain links while switching off others" (Lessig, 1995c p. 962)

Interestingly Lessig refers to the change of social meaning as a result of changing the underlying structures rather than the text itself, which may remain stable. To a great extent this is a result of the problem domain that Lessig investigates: in the case of constitutional law it is the context rather than the text that is more often changed. Another reason why context is more interesting for Lessig is that legal regulation in the form of constitutional provisions acknowledges the existence of tokens but not easily that of context as it application domain.

Lessig provides the following steps for changing social meaning:

- "In the terms I have offered so far, social construction proceeds by breaking up the understandings or associations at a particular time or built into a relatively uncontested context, and upon which social texts have meaning." (Lessig, 1995c p. 962)
- 2. "It proceeds by remaking that which is taken for granted, and which gives a particular text an unwanted meaning. It functions by switching on new associations." (Lessig, 1995c p. 962)

Lessig points out that the switching to these new associations requires effort, in other words there is always a cost in effecting change and this cost relates to the change being the result of collective action. As seen in Code (Lessig, 1999f; 2006d), Lessig regards this effort or cost as one of the foundations of democratic order and as such he argues that should be maintained on the Internet as well.

To sum up our findings up to this stage and the questions left to be answered, Lessig believes that social meaning is a function of token and context, that it is constructed, in the sense of being the result of a conscious effort, that context comprises of costs for the range of potential meanings and that social meaning is constructed by switching on and off associations. The next question, thus, becomes which are the mechanisms for establishing new associations and for creating new ones.

4.1.3 Establishing associations and changing the existing ones: the birth of regulation and the mechanisms for resolving regulatory problems

In order to investigate Lessig's construction process, we will need to start with his approach to the relationship between agent and structure or the individual and the social. In the "Regulation of Social Meaning" (Lessig, 1995c) Lessig refers to Pierre Bourdieu (Bourdieu, Passeron and Nice, 1977; Bourdieu, Chamboredon, Passeron and Krais, 1991) as a methodological individualist in the sense of linking this process of change of social meaning to the actions of individuals. The elements of Bourdieu's work that are highlighted by Lessig are the "structures of incentives" that the individual is confronted with when facing with the "negotiation and change" of the "linguistic market". The individual is the actor that seeks to change the social but also the recipient of the effort of the social to change the individual. This is a fundamentally assumption in Lessig's meaning ontology and provides a key link to his regulatory ontology.

Lessig's understanding of the relationship between the individual and the social is exemplified in his quest to appreciate problems of collective action. We will use the "wine pond" example found in his "Regulation of the Social Meaning" (Lessig, 1995c) as, to the author of this thesis, it is a paradigmatic example of his understanding of the relationship between individual and social, the problems it poses, the regulatory implications and the places where we should look for a solution. The puzzle has as follows: a pond needs to be filled in with wine by the inhabitants of a village for the local festival. Each villager has to pure in some wine. However, she may pure in water or wine. If the number of villagers purring in wine is enough, then the overall quality will not change. There is however a point after which, if villagers keep inserting water instead of wine, the quality of the overall mixture will be significantly diluted and will cease to be drinkable. Each villager has an incentive to pure in water in order to

minimize his individual costs as long as the effect over the overall mixture has not reached the point mentioned above.

Lessig presents the village and the wine fountain problem trying as a paradigm of the collective action problem together with a range of possible solutions. In relation to the latter, he presents three ones:

- 1. Inspection: in the sense of someone controlling whether a villager is throwing in water or wine and preventing the villagers from doing the former
- 2. Shock: each villager would have a mechanism installed in her body that would cause a shock every time water instead of wine is poured in the fountain
- 3. Guilt: each villager would feel extreme guilt if she were to pure water instead of wine in the fountain

The pattern emerging from this problem applies in all three solutions:

- 1. There is a social end and deviation from supporting that end is individually sanctioned
- 2. So long as the sanction to the individual is greater than the benefit from defecting from a particular social end, the individuals will support that end
- 3. If the social benefit is greater than the cost of the sanction for the society, then there is reason for society to create such a sanction

These three assumptions by Lessig provide the foundations for regulatory birth. Objective of this thesis is not to go deep into norm theory, but merely to explicate Lessig's understanding of regulation and meaning operation.

Lessig uses Olson's definition (Olson, 1971; 1982) of selective incentives in order to classify all his three solutions as selective incentives:

"A selective incentive is any incentive "that applies selectively to the individuals depending on whether they do or do not contribute to the provision of the collective good." (Lessig, 1995c p. 996)

The next step is to try and analyze the operation that a concept like Guilt would have in the regulation of the individual's actions in order to solve the problem of collective action. The logical schema is of the following form:

- 1. Guilt is a kind of social meaning
- 2. It ties to the incentive of the individual
- 3. Hence, social meanings can operate as selective incentives

Lessig also makes the following logical steps:

- 1. Social meanings construct a certain semiotic content to an individual act that gives it a particular characterization such as "cheating" or "disloyal".
- 2. Individuals "internalize" these norms and feel their semiotic content
- 3. This is how regulation through social meaning operates

Lessig draws as a result three conclusions:

- social meanings can function as selective incentives to induce action according to a social norm or to achieve a collective good
- 2. these meanings that are solutions to collective action problems are collective action problems themselves
- 3. "The very same influences that induce an action according to a social norm also induce resistance to efforts to change a social norm." (Lessig, 1995c p. 997) This is a compliance result of the social meaning construction. "Social meanings act to induce actions in accordance with social norms, and thereby impose costs on efforts to transform social norms." (Lessig, 1995c p. 997) This results in making the introduction of any social norm particularly difficult as the costs of changing the social meanings associated with them are particularly high. As a result defensive construction of meaning tends to be much easier compared to expansive construction.

Lessig makes it clear that he is not against expansive/ offensive construction or change; he just makes the point that it is much easier to make defensive rather than expansive constructions.

The nature of Commons Lessig is interested in may be divided into two kinds or seen as having two dimensions: a regulatory or normative dimension (the problem of constructing a social norm) and an actual resource dimension (the problem of ensuring the provision of a common pool resource). The two are mutually supportive and operate in a self-producing way, but their dialectics need to be put somehow into operation like a perpetual motion machine that will only stop if enough friction is developed.

Lessig deals in his early work mainly with social norms and their founding social meaning as problems of collective action, whereas other forms of regulation are not seen as problems of similar nature. Nevertheless, the provision of both architecture in its regulatory dimension and law may be construed as problems of collective action. Actually, when they are not construed as public goods, they cannot fulfill their regulatory function or they cannot fulfill it in the most effective and efficient way (sections 4.4.1 to 4.4.3).

Finally, though the problems of collective action are solved with other problems of collective action, this is not always the case: the electric shock mechanism installed to the villagers of Lessig's example is not necessarily collectively build (though we could always argue to the opposite from a material semiotics perspective); however it provides solutions to a collective action problem. The interrelation between non-public goods as solutions to common pool resources problems as well as the broader issue of the mechanisms for the production of public goods in Lessig's theoretical universe is the theme of the following section of this chapter and will allow us to appreciate further the link between meaning and regulation in Lessig's work.

4.1.4 Techniques for the construction of Associations

Lessig presents four techniques for changing or constructing social meaning. All four are about "how links in associations are made or broken, such that texts have or no longer have associated meanings." (Lessig, 1995c) They may be grouped into two types:

- 1. semiotic techniques: they change meaning directly by interfering with existing meanings
- 2. behavioral techniques: they change meaning indirectly by inducing certain behavior that over time will affect these meanings

Lessig evokes the image of the meaning manager as a fictional actor, governmental or non-governmental that "has identified a social meaning that is to be transformed and must find techniques to achieve this transformation."

Types of tools for the change of social meaning:

- 1. Technique I (Tying): In these cases, the social meaning architect or meaning manager attempts to transform the social meaning of one act by tying it to, or associating it with, another social meaning that conforms to the meaning that the architect wishes the managed act to have. The tied text thereby gains some of the associated meaning of the tied-to text. (Lessig, 1995c) Lessig mentions the example of M. Jordan in Nike's or GAP's commercials. Lessig makes also the following points:
 - it may be used for preserving (defensive construction) or changing meaning (expansive/ offensive construction)
 - o it may have a positive or negative value

Lessig refers to the "focusing" of a meaning as an integral element of the tying process: "by making an association that clarifies the meaning along some dimension, sometimes by implicitly breaking another link that before existed." (Lessig, 1995c p. 1010)

2. Technique II (Ambiguation): "With this technique, the architect tries to give the particular act, the meaning of which is to be regulated, a second meaning as well, one that acts to undermine the negative effects of the first." (Lessig, 1995c p. 1010) Lessig considers this as a much more interesting technique compared with the first one. This is because it operates in a counter-intuitive way to the one we have been accustomed in relation to the operation of law, it being an instrument of clarifying rather than obscuring things. However, in our case we have the situation where laws operate to obfuscate rather than clarify meaning.

Lessig makes clear that tying or ambiguation is not always successful. The point however is not whether these techniques are successful or not but rather which are the relevant techniques for constructing meaning.

- 3. Technique III (ritual): The third technique is behavior-focused and aims at inducing actions that tend either to undermine or to construct a particular social meaning. Here Lessig offers the example of the West Virginia schools saluting the flag ritual or the education example. "Education thus proceeds (1) through a practice, (2) directed by an authority, (3) that coerces--without appearing to coerce--acceptance of the substance of what is taught."
- 4. Technique IV (inhibition/ coercion): "a regulation designed to inhibit a certain behavior that would otherwise aid in the construction or reinforcement of a disfavored social meaning." Lessig brings the examples of Segregation, real estate and race, anti-miscegenation and anti-sodomy laws.(Lessig, 1995c)

Lessig highlights the link between the four tools that have been just identified and the collective action problem:

"All four techniques are solutions to this collective action problem, for each is transformative of the selective incentives facing an individual, at least so far as the link, or break of a link, identified in each succeeds in a sufficiently large proportion of the collective." (Lessig, 1995c p. 1015)

The point that Lessig raises is even more interesting: the fictional entity of the meaning manager has the opportunity to do something that individuals on their own cannot do: the meaning manager is able to add meaning to particular actions or types of behavior. The meaning manager is able to change the cost of particular actions and thus to change the social meaning or norms.

Lessig sums up the operation of each of his tools as follows:

"Tying raises (or lowers) the value of the new meaning; ambiguation confuses its cost; inhibition increases the cost of the old, rejected meaning; rituals serve to coordinate individuals in support of a new meaning."(Lessig, 1995c)

Lessig adds an extra qualifier to his construct, namely that there is need for any meaning manager –particularly if that is the government or any other powerful group- not to be seen as a source of regulation. He brings the example of doctors providing advice against abortion or not providing the relevant information as an indirect effort by the government to produce regulation.

The point that Lessig makes is that the process of meaning management could also be seen through the Russian doll or Onion example: it needs to be "laundered" before it is delivered: this could be done through tying any such effort with any independent third party e.g. of the anti-abortion advice given by doctors to pregnant women. (Lessig, 1995c)(Lessig, 1996e; 1998d)

Lessig stresses out several times in his work that it is much easier to maintain the meaning rather than to change it, in the same way it is much easier not to appear as a regulator than to explicitly appear as such. Lessig brings the example of the communist ideology in the U.S.: it would be brainwashing to try to turn U.S. citizens into communists but it is perfectly fine to brainwash the population about the sanctity of the market or democracy. He refers to the fact that the Americans have been particularly resistant to any propaganda by the state but do not seem to perceive corporate propaganda in the same way.

Lessig qualifies successful regulation upon the following conditions:

- Timing "Like surfers, legislators . . . who wish to change everyday social norms must wait for signs of a rising wave of cultural support, catching it at just the right time." (Schwartz, Baxter and Ryan, 1984; Lessig, 1995c)
- 2. Extent of punishment or proportionality of the punishment. It is also the need to provide alternatives or accommodations for the deviants "A second limitation is the extent of the punishment for deviance from the emerging social norm. What is required for the inducements not to backfire is that punishments be proportional and that there be alternatives or accommodations for smokers. This reduces the cost of the emerging norm, and hence makes it easier for the nonsmoker to feel justified in enforcing the nonsmoking norm. To make the transition smoothly, both the enforcers and the deviants must be able to treat each other less as "criminals," and more "as errant family members.""(Lessig, 1995c p. 1031)

The first interesting point he raises is that there is not only tying regulation but antitying regulation as well, the latter being a way to prohibit certain forms of social construction: for instance successful living with smoking. Another aspect of the phenomenon Lessig raises is that of ambiguation being based upon what Joseph Raz calls "practical authority", that is "the instinctive desire of individuals to follow social rules or (...) the instinctive desire of individuals to conform" (Kagan and Skolnick, 1993; Lessig, 1995c).

Referring to inhibition of certain behavior Lessig explains that it may be effected not by targeting the whole of the population in one go but rather "narrowly by targeting specific groups, with the aim to weaken social support for the behavior itself" (Lessig, 1995c).

4.2 Internalization, Immediacy and Plasticity

In this section we further complement Lessig's model of regulatory construction by adding three more variables: internalization, immediacy and plasticity.

As mentioned in "Understanding Changed Readings" (Lessig, 1995d), Lessig borrows the term 'internalization' initially from social psychology and specifically from Elliot Aronson's as one of his three descriptions for three responses to social influence, the other two being compliance and identification (Aronson, 1995). Lessig will later (2006d) provide a more comprehensive definition of internalization based on the work of Cooter (1996a; 1996b) who is also mentioned in the names of the people Lessig included in his acknowledgements of "Regulation of Social Meaning" (Lessig, 1995c):

"By internalization, Cooter is just describing the same sort of subjectivity that happens with the child and fire: the constraint moves from being an objectively ex post constraint to a subjectively ex ante constraint. The norm becomes a part of the person, such that the person feels its resistance before he acts, and hence its resistance controls his action before he acts. Once internalized, norms no longer need to be enforced to have force; their force has moved inside, as it were, and continues within this subjective perspective. In my view, we should see each constraint functioning in the same way: We subjectively come to account for the constraint through a process of internalization. Some internalization incentives may be stronger than others, of course. But that is just a difference." (Lessig, 2006d p. 397)

Lessig further identifies two more elements that regulation may have, that is, immediacy and plasticity. Lessig provides definitions for both in the New Chicago School (Lessig, 1998d) and Code (Lessig, 1999f; 2006d), the former being a more comprehensive explanation of his understanding of these two elements.

"By immediacy, I mean the directness of a particular constraint-- whether other actors, or institutions, must intervene before the constraint is effective as a constraint. A constraint is immediate when its force is felt without discontinuity of time, or agency." (Lessig, 1998d)

Lessig identifies physical constraints as being the ones with greater immediacy compared to legal forms of regulation. The greater the immediacy the greater the effectiveness and efficiency of a certain regulatory modality:

"All else being equal, the more immediate a constraint, the more efficient or effective it is as a constraint; the less mediated, the less effective or efficient is its constraint. For one seeking a more effective constraint, then, making its effect more immediate is one possible way." (Lessig, 1998d p. 679)

Immediacy is seen by Lessig as a variable that is possible to be changed over time as well as one that relates to the subjective force of a constraint:

'Immediacy is important in part because of its predictive force. An immediate constraint is more likely to be effective. But more significantly, immediacy is important because the immediacy of a constraint can in principle be changed. The norms of table manners might operate only objectively for a young child; but over time, they can be made to operate subjectively as well. Whether and how the immediacy of a given constraint is changed depends on its plasticity. Some mediated constraints can be made immediate" (Lessig, 1998d)

The way and degree of possible changes of regulation is described in Lessig's work under the term plasticity:

"Plasticity describes the ease with which a particular constraint can be changed. (...) Plasticity also describes by whom a constraint can be changed. A constraint can be either individually or collectively plastic." (Lessig, 1998d p. 679)

The difference between collectively and individually plastic regulations is one that relates both to their effectiveness and their democratic character:

"This distinction between collective and individual plasticity is relevant to the effectiveness of a given regulation. The less individually plastic a constraint, the more effective it is as a constraint; the more collectively plastic an otherwise individually nonplastic constraint, the more regulable that constraint is as a constraint." (Lessig, 1998d p. 679)

4.3 Four Modalities of Regulation

One of Lessig's most powerful constructs is that of the four modalities of regulation, a comprehensive explanation of which appears originally in the New Chicago School (Lessig, 1998d) paper and then constitutes the underlying theme in Code (Lessig, 1999f; 2006d). Traces of the idea of the four modalities of regulation may be seen in most of Lessig's papers in the 1990s when he is exploring the links between regulation and meaning. However, the use of the term modalities and its explicit analysis occurs only when dealing with issues of cyberspace regulation particularly in the papers of Law and the Horse (Lessig, 1999g), The Path of Cyberlaw (Lessig, 1995e), The Zones of Cyberspace (Lessig, 1996f), Reading the Constitution in Cyberspace (Lessig, 1996d), The Constitution of Code (Lessig, 1997a) and of course the New Chicago School (Lessig, 1998d). Lessig's four modalities will appear as a background model in most of his subsequent work (1998d; 1999c; 2000a; 2000b; 2000c; 2000d; 2001a; 2001b; 2001c; 2001d; 2002a; 2002c; 2002d; 2003a; 2003b; 2003c; 2003d; 2004b; 2004d; 2004 ; 2006b; 2006c; 2006d) and will be one of the most influential constructs Lessig has ever produced.

Lessig's definition of regulation is of particular interest as he deviates from the classic regulatory definitions as seen e.g. in the work of Ogus (1994; 2001; 2002; 2004) which views regulation as the intentional action by some policy maker:

"As will become obvious, I mean "regulation" here in a special sense. Ordinarily, "regulation" means an intentional action by some policy maker. (...) I do not mean the term in that sense. I mean the constraining effect of some action, or policy, whether intended by anyone or not. In this sense, the sun regulates the day, or a market has a regulating effect on the supply of oranges." (Lessig, 1998d p. 662)

Lessig identifies four modalities or forms of regulation or constraint:

"Behavior is regulated by four types of constraint. Law is just one of those constraints. Law (in its traditional, or Austinian, sense) directs behavior in certain ways; it threatens sanctions ex post if those orders are not obeyed. (...) Social norms regulate as well. (...) Norms constrain an individual's behavior, but not through the centralized enforcement of a state. If they constrain, they constrain because of the enforcement of a community. Through this community, they regulate. So too do markets regulate. Markets regulate through the device of price. (...) This constraint functions differently from a sanction; so too is its
meaning distinct from the meaning of a sanction. It is distinct from law and norms, even though parasitic on law (property and contract) and constrained by norms (again, one does not "buy" a "friend"). But given a set of norms, and scarcity, and law, the market presents a distinct set of constraints on individual and collective behavior. It establishes a third band of constraint on individual behavior. And finally, there is a constraint that will sound much like "nature," but which I will call "architecture." I mean by "architecture" the world as I find it, understanding that as I find it, much of this world has been made. (...) These features of the world--whether made, or found--restrict and enable in a way that directs or affects behavior. They are features of this world's architecture, and they, in this sense, regulate." (Lessig, 1998d p. 662)

The choice of four modalities by Lessig is based primarily on the influences he has received from different authors in relation to each modality [E.g. Reidenberg (1996) for Technology and later Frug for Architecture (1999), Ellickson (1991; Ellickson, Rose and Ackerman, 1995; 2002) for Norms] acknowledging that there are sources of regulation other than the law, what he calls the "departments" of the "old Chicago" school. The various modalities of regulation may be classified in accordance to their characteristics, some of which, such as plasticity, immediacy, and degree of required internalization have already been discussed above (section 4.2). Other features that emerge out of the New Chicago School relate to whether the regulation is enforced before (*ex ante*) or after (*ex post*) the act that is to be constrained as well as whether the structure and enforcement of the regulatory modality is centralized or decentralized.

Most of these features provide an indication for the overall tendency of a certain modality of regulation but do not provide the essential characteristics of each one of them. As a matter of fact, Lessig has been often criticized for presenting architecture as a rather deterministic though non essentialist model of a modality of regulation (Murray, 2007; Murray and Scott, 2002; Mahoney, 2004). The classification in terms of the four modalities has also been criticized, especially in the European literature by Murray and Scott (Murray and Scott, 2002) in relation to the way in which the choice of four modalities lacks the detail of more elaborate structures. Nevertheless, despite any theoretical flaws that Lessig's construct may have, its simplicity and ease of use have been enough to make it one of the most widely used tools for analyzing Cyberspace regulation.

To appreciate the reasons why Lessig opts for such a schematic -and crude- analysis of the regulatory modalities we need to understand the questions he raises in his work. Lessig explores the ways in which the various modalities of regulation interact with each other. This is done either in the form of combined action or in the form of one modality substituting the other. Lessig explicates the implications such interactions have on the regulated object. He acknowledges the fact that the Old Chicago School has dealt with much of the problems he is working on and particularly the interrelationship between law and markets (Williamson, Winter and Coase, 1991), law and norms (Ellickson, 1991) and law and architecture (Foucault and Sheridan, 1979). Lessig is interested first in providing a schematic about these dialectics and second to raise a series of questions in relation to the implications they have.

Lessig's key argument is that in such an environment, where regulation is not conducted merely by the laws, the law is not displaced but has instead acquired an even more critical role:

"But unlike the old school, the new school does not see these alternatives as displacing law. Rather, the new school views them as each subject to law--not perfectly, not completely, and not in any obvious way, but nonetheless, each itself an object of law's regulation. Norms might constrain, but law can affect norms (think of advertising campaigns); architecture might constrain, but law can alter architecture (think of building codes); and the market might constrain, but law constitutes and can modify the market (taxes, subsidy). Thus, rather than diminishing the role of law, these alternatives suggest a wider range of regulatory means for any particular state regulation. Thus, in the view of the new school, law not only regulates behavior directly, but law also regulates behavior indirectly, by regulating these other modalities of regulation directly." (Lessig, 1998d p. 666)

The question for Lessig is what kind of results we seek to achieve with such a mix and to what extent the checks and balances our legislative system has put in place for simple law are adequate for this new regulation resulting from the "indirection" phenomenon:

"Regulation, in this view, always has two aspects--a direct and an indirect. In its direct aspect, the law uses its traditional means to direct an object of regulation (whether the individual regulated, norms, the market, or architecture); in its indirect aspect, it regulates these other regulators so that they regulate the individual differently. In this, the law uses or co-opts their regulatory power to law's own ends. Modern regulation is a mix of the two aspects. Thus, the question of what regulation is possible is always the question of how this mix can bring about the state's regulatory end; and the aim of any understanding of regulation must be to reckon the effect of any particular mix." (Lessig, 1998d p. 666)

Such questions prepare for the section 4.4 where the problems of public law displacement in an Internet environment are presented.

4.4 Constructing Cyberspace regulation

When Lessig writes Code and Other Laws of Cyberspace (1998a; 1999f; 2006d), he comes to contribute to an already existing discourse on the regulability of Cyberspace (Lessig, 1999g) but at the same time, he comes with his own theoretical biases and research questions that still linger and that will be tested both theoretically and practically in this new heavily technological environment.

Lessig enters the Cyberspace regulation debate at a moment where the prevailing opinion is the unregulability of Cyberspace (Johnson and Post, 1996)(Post, 1995; 2000) to express a dramatically different argument: Cyberspace is inherently regulable and as a matter of fact the problems in Cyberspace do not have to do with the lack of regulation but rather with its abundance and most importantly the absence of democratic character in their construction and operation (Lessig, 1995e; 1996f; 1998d; 1999f).

Lessig will express this opinion in Zones of Cyberspace (Lessig, 1996f), Path of Cyberlaw (Lessig, 1995e), Reading the Constitution in Cyberspace (Lessig, 1996d), Post Constitutionalism (Lessig, 1996e), Intellectual Property and Code (Lessig, 1996a) and most importantly with Constitution and Code (Lessig, 1996-1997), the Laws of Cyberspace (Lessig, 1998a) and the Law of the Horse (Lessig, 1999g) that will constitute along the New Chicago School (Lessig, 1998d) the foundations for the two versions of Code (Lessig, 1999f; 2006d). In all these papers Lessig will expand his work of the New Chicago School in order to express his view that technology is a modality of regulation increasingly influencing to a greater extent the rest of the regulatory modalities and hence its content needs to be regulated. Lessig views technology as the quintessence of the argument that regulation is constructed and hence that technology's regulatory content is equally constructed. Lessig's effort in all his papers is first to expose the fact that Cyberspace has a regulatory nature; second, that is constructed; and third that we need to establish mechanisms that allow its democratic construction. Each of these elements deserves special attention.

The first element has to do with the relationship between Cyberspace and regulation. Lessig identifies the dual nature of Cyberspace as an architecture clearly advancing his New Chicago School argument (Lessig, 1998d): Cyberspace may be regulated *and* also function as a form of regulation. These two arguments are often collapsed into one in Lessig's work but it is instructive to separate them. Cyberspace is presented as inherently regulable in the sense that the technologies it comprises of may be manipulated in such a way so as to produce a desired result. It is also regulable in the sense that such manipulation is possible irrespective of the degree of deviance that indeed abounds and in early cyberspace existed to an even greater extent. Lessig accepts that deviance is possible, but this does not cancel out the regulatory effect of technology.

In being constructed Cyberspace comprises of technologies that define the basics of its operation. If control over these technologies is possible, then control over cyberspace is possible. Lessig in his argumentation collapses two arguments: first that cyberspace as a form of technology is constructed in such a way that other technologies built upon it may be regulated provided the relevant changes are made. This is Lessig's argument concerning the nature of Cyberspace as constructed. Second, behavior over the Internet is much easier controlled as its conditions are set by technology. Combining the first with the second premise he comes to the conclusion that behavior over the Internet is easier to regulate compared to the one in the real world.

Lessig's regulatory focus is on the ways in which technology may be manipulated in order to constrain behavior within a certain context. When the context is comprised of technology, then Lessig believes that the possibilities of regulating behavior are far greater than in a non Internet environment where the behavior is not defined by technology. The fact that there are two different stages in the regulability question, i.e. regulation of the technology and regulation of the behavior framed by such technology does not provoke their separate treatment by Lessig. This constitutes one of the basic limitations of his work on technology as a regulatory modality and is reflected in much of the criticism he has received (Murray and Scott, 2002).

The second element in Lessig's work has to do with technology as a constructed entity (Lessig, 1996d; 1996e; 1996f; 1997a; 1998c; 1998d; 1999b; 1999e; 1999f; 1999g; 2000a; 2001a; 2001b; 2002c; 2003b; 2006d). The fact that the Internet is a constructed

and not natural or given entity is a very crucial aspect of Lessig's work. First, it means that what Cyberspace was at the time when Lessig started writing about it would not necessarily remain the same in the future. Actually much of Lessig's work is devoted in warning about what Cyberspace could become (Lessig, 2000a). Second, that since the Internet has regulatory effects, who participates in the construction of cyberspace becomes a very relevant question in the same way that the question of who participates to the construction of a regulatory instrument is a relevant question for more traditional forms of regulation such as the law. Third, that since Internet is constructed and hence susceptible to change, then there is space for activism, for seeking its content to be adherent to certain socially agreed values.

By revealing the nature of Cyberspace as constructed, Lessig makes the first step towards the emancipation of the subjects regulated by Internet architecture: once it becomes apparent that it is not given, there is space for activism supporting change. It is not merely that Cyberspace is constructed and as such it requires a response; it is a form of regulation that needs to be constructed in a way compatible with the values, principles and traditions on which an agreement within a certain context has been achieved. The principles according to which cyberspace is to be constructed becomes a specific self-standing question in Lessig's work.

The act of construction in the case of Architecture is one that involves associations that do not confine themselves in the realms of non-physical interpretation but are rather actual associations between technologies and regulations of different modality (e.g. between technology and law) or level (e.g. between technical standards and End User Licence Agreements). Lessig does not investigate the issue of the kind of constructions created further as he focuses more on the exploration of the ways in which participation in the construction of architecture should be facilitated.

This realization of the constructed version of regulation raises issues of its democratic pedigree (Lessig, 1989). Lessig examines this part of construction when dealing with the concept of plasticity (Lessig, 1989) by investigating the degree of plasticity (high or low) and its kind (collective or individual). His view is that technology is plastic but not necessarily collectively plastic and his interest is how it is possible to achieve and maintain plasticity and indeed collective plasticity. This is one of the key questions in

Lessig's Cyberspace regulation work and relates to the questions he poses in all his papers regarding the democratic origins of different modalities of regulation.

These links are apparent in the way Cyberspace regulation is treated in relation to conditions of complexity and uncertainty. Lessig initially views the issue of regulation and Cyberspace or actually regulation and human behavior over Cyberspace from a reactionary and legal perspective: his questions relate to how legal regulation should respond to the radical change in the new context that Cyberspace constitutes. His answer is that legal response first has to be of an incremental and gradual fashion that will give space for a better understanding of its operation and second that it has to be conducted in a way that will allow the transfer of the principles and values of the off-line world to the online world. The latter suggestion is of particular interest as it links to issues of constitutionalism Lessig has dealt with in his previous work.

If such values are to be transferred in accordance to the maxim Lessig has provided in the Fidelity and Translation papers (Lessig, 1989; 1993; 1995b; 1995d; 1997b; 1997c), it needs to be done by a political body. The magnitude of changes is such that a body like the courts, which is entrusted with non-political powers, should differ in favor of a more political body like the parliament, the legislator.

However, and this is the most interesting part in Lessig's response, even the legislator would not be the institution most appropriate for providing final solutions since there is still such uncertainty that the legislator is not capable of providing crystallized norms about how Cyberspace should be regulated. Lessig proposes instead the lower courts as being the most appropriate for providing answers to Cyberspace regulation questions noting at the same time that they have to be extremely careful in the way they provide such solutions.

Lessig's suggestion derives from his understanding of the essence of the democratic foundations of the Common Law: the democratic pedigree of the process derives not from the fact that everyone has a word in the formation of a decision but rather from the fact that decisions are being reached over a span of time and across diverse contexts. In cases of great complexity and uncertainty such a solution seems to be the best possible available. Complexity is reduced by spreading the cases across contexts and by examining each one of them within a specific context; uncertainty is reduced by

establishing a way of dealing with such problems across time through the repetition of problems and solutions.

By deconstructing the discourse in which Lessig's Cyberspace papers are placed, his position in the context of his other writings and the subsequent criticism he received we may deduct some interesting results. The issues related to cyberspace regulation are often collapsed into a single question, whereas they should be broken up into two. The collapsed question is whether Cyberspace should or could be regulated.

Such question may be seen from two perspectives: first, how can the national legislator respond to the emergence of cyberspace and second, whether there are some fundamental values that should govern the whole of cyberspace regulation. Lessig's response to the former of the sub-questions is indicative of his response to the latter. Lessig is clear that behavior on Cyberspace may be regulated because technology inherently has regulatory properties and is to a certain extent malleable or plastic. This leaves the second question open. For Lessig, the real question is the latter rather than the former. How should we decide to form Cyberspace so as to regulate our behavior over it is the essence of any regulatory question about cyberspace. Not very surprisingly, Lessig's question is a constitutionalist's question: who or what is the meta-regulator in cyberspace? Extending such question Lessig asks how should we discover or construct such a meta-regulator and what should the role of the law in such a process be.

4.4.1 The locus of regulatory building over Cyberspace

Before proceeding to Lessig's next set of research questions that will assist in our exploration of his ideas, we would like to return to and summarize two of his techniques for identifying the proper regulatory response for Cyberspace and his idea of the kind of constitutional politics that would be the most appropriate. In terms of the regulatory response Lessig presents the heuristic of Common Law as one that could deal with the complexity and uncertainty of Cyberspace through a spread in time and context and that being the most democratic solution by managing to capture in the regulatory solution the multiplicity of situations rather than merely the multiplicity of opinions. In terms of a fundamental regulatory text, Lessig following the example of the post-communist Europe, he would suggest the collapse of constitutional and common politics through a

transformative rather than codifying Cyberspace constitution. Going back to the "Derivability" paper Lessig will evoke Holmes and Sustein (1995) and Levinson (1995) to suggest avoiding the idealization of the constitution and instead "dragging" it into common politics so as to involve the maximum amount of actors:

"As Holmes and Sunstein write, "Let constitutional politics collapse into ordinary politics.... Let the constitutional process drag on for several years, one *pro tempore* arrangement replacing another."" (Lessig, 1996c p. 877)

It is at this stage that we need to highlight the main elements in Lessig's research project regarding the identification of a Cyberspace meta-regulator. One of the primary mechanisms is the investigation of the regulatory conditions in multiple contexts. We have seen Lessig emphasizing the role of the communities as a regulatory form that produces norms in his "Regulation of the Social Meaning" (Lessig, 1995c). In Zones (Lessig, 1996f) as well as in the "Law of the Horse" (Lessig, 1999g), "Code" (Lessig, 1999f) and the "Future of Ideas" (Lessig, 2001b) Lessig spends substantial length in investigating communities in Cyberspace. Lessig is interested in the way their norms develop as well as in the ways in which they constitute places where norm development and enforcement takes place.

The second element Lessig is interested in is that of Internet's "natural" regulatory geography or how the different technologies of regulation are incorporated in the original Internet Protocols: what kind of regulation do they allow for and what they tell us about the kind of regulation we should look for on the Internet. This is the part of Lessig's work that is most influenced by the work of Cyberlibertarians though Lessig is always interested in the regulatory dimension of the response it evokes. Lessig explores thus the world of the "original" or early Internet as a "free" space, a space where there are no restrictions or if there are any, they are in the form of borders not boundaries. In a series of papers starting from the "Zones of Cyberspace" (Lessig, 1996f), "Post Constitutionalism" (Lessig, 1996e), "Reading Constitution in Cyberspace" (Lessig, 1996d), "Code" (Lessig, 1999f), "The Architecture of Privacy" (Lessig, 1999e), "Zoning Speech on the Internet" (Lessig, 1999b), "Cyberspace and Privacy" (Lessig, 2000c), the "Death of Cyberspace" (Lessig, 2000a) and of course the "Future of Ideas" (Lessig, 2001b), Lessig will deal with a transition from a world without boundaries to one with multiple boundaries. The word "boundaries" is often used by Lessig to express something similar to constraints or regulations. The main difference between the two

worlds is the need for permission to be granted on the basis of the zone in which an individual belongs in order to perform actions that in the original Internet were unconditional.

Lessig is interested in the way in which this transition from open or free environments to closed ones occurs with the assistance of the law and without the involvement of the regulated subject. This new regulatory trend has four distinct features: first, it demarcates a transition from non controlled to controlled, permission based or zoned environments; second, the regulatory features of technologies are employed in order to perform such transition; third, this transition is being done with the support of the legal regulation; and fourth, the law is not controlled by the regulated stakeholders but by private entities not reflecting the same considerations of balance that the public law provided.

Lessig refers to the work of Richard Ford (1994) and Jerry Frug (1996) in order to describe the movement from a world where open access in real space is possible to one where access is restricted and how this may be effected through the use of architectural or other devices. He also refers to the work of Monroe Price (1995) in order to show the movement from an open terrain to a closed one: "(...) from a world where boundaries are borders, to a world where boundaries are walls." (Lessig, 1996f) It is interesting to note that the reference to architectural terms in his earlier work has been done in relation to physical spaces where architecture plays a prominent role.

The question that Lessig raises –and is at the core of his work- is how democratic is this process of defining the code as regulation: engineers are the ones that write it and as such they are not democratically accountable, unless market is regarded as a form of a democratic process.

Lessig puts the main problem with the creation of code as regulation by engineers in the following schema: we move away from democratic control and into the realms of a marketplace; the problem is one of moving from the stage where we construct our choice to a place where we are merely making predetermined choices:

"Even so, note the trend: the progression away from democratic control. We will stand in relation to these places of cyberspace as we stand in relation to the commodities of the market: one more place of unending choice; but one less place where we, collectively, have a role in constructing the choices that we have." (Lessig, 1996f p. 1410)

Choice is again Lessig's prevalent theme:

"These questions point to a choice, about what cyberspace will become. One alternative is an open space; the other closed. I don't mean these are the only choices. Architectures don't come in natural kinds. My point instead is the choice—that there is a decision to be made about the architecture that cyberspace will become, and the question is how that decision will be made." (Lessig, 1996f p. 1410)

Lessig is interested in the locus of these decisions: "where" are these decisions taken and which is the result of a market vs. democracy logic. In his own words:

"Or better, where will that decision be made. For this change has a very predictable progress. It is the same progress that explains the move to zoning in cities. It is the result of a collection of choices made at an individual level, but no collective choice made at a collective level. It is the product of a market. But individual choice might aggregate in a way that individuals collectively do not want. Individual choices are made within a particular architecture; but they may yield an architecture different from what the collective might want." (Lessig, 1996f p. 1411)

Lessig up to this point has identified two classes of issues in relation to the transition from an open to a closed environment in Cyberspace. The first relates to the content and the second to the structure of the transition. The content has to do with the transition to an environment where more perfect control is possible through the employment of technologies allowing less possibilities of deviance. The structure has to do with the level and kind of input to the new regulatory environment.

Lessig focuses on two modalities that provide the end regulatory result, technology and law. Technology because it may be privately owned and it may be privately formed in accordance to the needs of a particular stakeholder and without the input of the community.

Similarly, the regulation through the law is not effected merely on the level of supporting such technologies through various Intellectual Property regimes but further through the use of private agreements in the form of EULAs that allow the tailoring of the legal rules to serve the needs of a particular stakeholder. The pattern is here similar

to the one described in the case of technology: the control of the regulation moves from the public to the private sphere.

4.4.2 Private Ordering, Free Open Source Software and the Commons

While looking for the meta-regulator in Cyberspace, Lessig has stumbled upon the rise of private order in Cyberspace. Lessig will express his concerns as early as in the "Constitution of Code" (Lessig, 1997a) which is the sister paper of "IPR and Code" (Lessig, 1996a).

"Code is a kind of private law, protecting the interests of the author; but unlike the public law protecting the interests of the author (copyright), nothing guarantees that code will preserve the public values implicit in that public law." (Lessig, 1997a)

As expressed in a series of papers dealing with the limits of constitution in Cyberspace, Lessig's problem is that existing institutions like the courts or the legislator cannot provide a series of uniform democratic principles on the Internet. This is the result first of the lack of a single jurisdiction and second of the lack of the appropriate tools that could provide a series of values to which we should adhere to over Cyberspace. Lessig does not differentiate between the two aspects of the problem, content and structural at this stage and this is particularly important as it implies his acknowledgment of the interrelation between the two.

By the time of publication of Lessig's third book, "Free Culture" (Lessig, 2004d), most of his predictions in the "Future of Ideas" (Lessig, 2001b) have been confirmed. Cyberspace was increasingly following a trajectory towards private ordering and regulatory zoning. Lessig's research interest has accordingly changed towards a direction following Barlow's original Declaration of Independence (Barlow, 1996): Lessig was increasingly trying to identify the regulatory features of the free communities in Cyberspace and see how he could interface them with the existing state derived regulatory structures. The way in which Lessig's research agenda has been formed in the late 1990s and after 2000 is the result of the impasses to which his previous research has led him. In "IPR and Code" he identifies this frustration with existing meta-regulatory instruments:

"My claim is that our ideas, or intuitions, about how to preserve the space of liberty that our framing document left, do not translate well when confronted by code. Code confuses us." (Lessig, 1996a)

In the "Constitution in Cyberspace" he will express his concerns about the politicization of code:

"(...) we need to think about who is making the code. If code is political, then it is not the task of engineers alone. If there are fundamental questions about how cyberspace is to be structured, these are questions that should be addressed by the citizens of cyberspace. If code constitutes cyberspace, then citizens must choose the code. But as it is, the architecture is the product of private interests-whether the relatively open Internet Engineering Task Force or the absolutely closed Microsoft Corporation." (Lessig, 1996-1997)

After realizing the rise of the private ordering and the failure of public regulation to avoid capture -let alone resist to such a trend- Lessig has actively sought with papers like the "Architecture of Innovation" and "Open Societies" to identify the regulatory features of the systems of code production featuring the most democratic characteristics. In his subsequent papers Lessig's research strategy shifts towards the examination of two phenomena: first the one of Free/ Open Source (Lessig, 1996-1997; 1999a; 1999c; 1999d; 2000d; 2001a; 2001b; 2002a; 2002c; 2002d; 2003a; 2003c; 2004b; 2004c; 2004 ; 2006b; 2006c); second, the way in which the privatization of regulation delimits particular domains of action as well as the implications such zoning may entail (Lessig, 1996f; 1997a; 1998c; 1999b; 2000a; 2001a; 2001a; 2001c; 2001d; 2002a; 2004c; 2004 ; 2006c).

In the study of FLOSS Lessig will focus on those characteristics of the production of code that seem to be the most important for providing access to the regulatory process in a way similar to the one we have seen in the public forms of regulation. Lessig is influenced by the work of Moglen (1997; 1999) and Benkler (1998; 1999; 2000; 2001; 2002) on the properties of FLOSS and will present it as a way of building code that is most compliant with his idea of participation without necessarily identifying it with a pure democratic process. A closer look into Lessig's influences in relation to Open

Source is revealing of the type of problems to which he seems to be looking for a solution. To do that we will need first to revert to the notion of code as regulation and the process of its construction.

We have repeatedly presented the way in which code is viewed as a form of regulation by Lessig and, as a matter of fact, a constructed form of regulation. In the "New Chicago School" Lessig (1998d) has used the metaphor of construction for code in order to draw a parallel with meaning construction adding to it that the construction is in the case of code taking place in the literal sense of the word. Going further back to the "Regulation of Social Meaning" (Lessig, 1995c) we have seen how Lessig would present the problem of social meaning construction as a problem of collective action. We have also seen how he suggested using various association construction techniques in order to solve selective incentives problems.

Returning to FLOSS and to Moglen's (1997) understanding of the whole phenomenon as expressed first in Benkler's (2002) and later in Lessig's work (2001b; 2004d; 2006b; 2006c), the problem of selective incentives is resolved through the establishment of a Commons Based Peer Production (CBPP) mechanism. Benkler and Moglen before him see the FLOSS as a model that allows the production of code in a decentralized but coordinated way that constitutes a reflection of the way in which the Internet operates. The interesting part in Moglen's work is that he poses the question not as a question of how incentives may be provided for someone to produce software but rather as a question of how to remove the friction for such production to occur. The problem for Moglen is not that there are not enough incentives but rather that there are lots of constraints. The question for him is not hence how to create mechanisms for encouraging incentives but rather how to create structures that remove frictions.

Benkler and Moglen are focused on the production and innovation part of the FLOSS phenomenon but in Lessig's work FLOSS has a primarily political dimension: it reflects a mechanism that provides a solution for the creation of associations and solves the construction problems seen in Lessig's earlier work regarding meaning construction. Such conceptualizations are seen in his "Open Code and Open Societies" paper (Lessig, 1999c) but also in the "Free Software Free Society" (Lessig, 2002d). The underlying message of this part of Lessig's work is that the way in which such forms of production are organized allows a kind of participation that is not exhausted at the level of making

choices as is the case for instance in a scenario of regulatory arbitrage but rather allows the individual to participate in the construction of the regulation.

Another reason why FLOSS is of particular interest to Lessig is that it constitutes, as Lessig is aware of [see for instance his references in the first and second editions of Code (Lessig, 1999f; 2006d)], a continuation and crystallization of the mode of operation and ethos of the Internet Protocols by the Internet Engineering Task Force. Richard Stallman with the creation of the General Public Licence crystallized in the form of a Copyright licence the social norms underlying the construction of the Internet Protocols, which to Lessig have a primarily regulatory nature (Stallman, 2002). Lessig has never concealed his admiration for Stallman's work and for the General Public Licence (Lessig, 2005i; 2005j). Lessig's interest in Stallman's work may be attributed among other reasons to the fact that it constitutes the paradigm of what Lessig was looking for in the form of a meta-regulator on the Internet.

The GPL functions as an interface-concept between the social norms of the Internet and the state regulation that Lessig is looking for. It is in a sense this hybrid that represents in its best the *Cyber-libertarian realism* Lessig seems to be adopting in his work. Though it constitutes private regulation in the form of an End User Licence Agreement it contains many of the features that Lessig finds in public regulation. This makes us revisit Lessig's Cyber-paternalism not as an essentialist but rather as utilitarian stance: what he is mostly interested in is the representation and participation objectives to be materialized. Whether the state will continue to play a key role in the realization of such objectives is not as important as he materialization of the objectives themselves. The state is instead presented as an existing institution that cannot be ignored and as such sets the framework, the field or the formative context in which different forms of regulation to be rolled out. What we will further argue in the analysis of the Creative Commons case is that in the same way Lessig believes that the meaning context is subjected to change, similarly the regulatory formative context is constructed and through a series of mechanisms it may be also subjected to change.

In that sense the GPL constitutes an example of or a challenge to the way in which the legal regime operates in Cyberspace: if Copyright as a public form of regulation is indeed an impartial form of regulation then it should facilitate a mode of private regulation characterized by the existence of public values. The GPL constitutes an

acceptance of the fact that Law is still a relevant modality in cyberspace and that private agreements in the form of licences constitute much of the meta-regulators that set the conditions for the way in which the technology is built. It also constitutes a strong indication that the meta-regulator Lessig is looking for will not appear in the form of a uniform and monolithic but in the form of a decentralized and differential instrument.

Lessig focuses on the elements of the GPL that support innovation and will concentrate in particular in its end-to-end features (Lessig, 1999c; 1999d; 2001b; 2002a; 2002d; 2003a). Lessig initially explores these ideas in the "Architectures of innovation" (Lessig, 2001a) and further analyzes them in the "Future of Ideas" (Lessig, 2001b). There, he also presents the principles of End-to-End architecture the Stupid Network or the Humility principle as the basic concept supporting the innovation model of the GPL and as essentially being the principle behind Moglen's (1997) idea of removing the obstacles from the Network in order to achieve innovation.

The ability to participate in the construction of code and the definition of its regulatory characteristics seems to be conditioned on pragmatic and legal circumstances. The pragmatic conditions relate to the ability of the individual to program or participate in the discussions related to the production of code; the legal conditions relate to the obstacles raised by the law to participate in such discussions even if the pragmatic conditions are fulfilled. Moglen's equivalent of the Faraday law for the Internet as later expressed in Benkler's work on Commons Based Peer Production (Benkler, 2002) expresses precisely the capacity of Internet Technologies to remove the obstacles for a broader participation in the construction process.

In this framework of thinking, the concept of innovation or the concept of End-to-End architecture is translated politically as a structure that provides more possibilities for new opinions to be expressed and debated. What is crucial here is to elaborate on the operation of the structure supporting the political process of construction of the regulatory artifact and its presuppositions, whether we call them code, meaning or law: the structure or the meta-regulator does not operate in the same way as Lessig describes regulation: it does not operate as a constraint but rather as an enabler. The meta-regulator remains agnostic of the regulatory will of the ends; following the steps of the Stupid Network principle, the Cyberspace meta-regulator model is that of a "stupid" or

"hollow" regulator: It lacks any regulatory content; it needs to remain "humble" and listen to what the ends have to say (Lessig, 2001b).

Incarnations of this model are found in abundance in the Internet Context: the Internet Protocols are a good example. Lessig devotes a great part in all his books, "Code" in both versions (Lessig, 1999f; 2006d), "The Future of Ideas" (Lessig, 2001b) and "Free Culture" (Lessig, 2004d) as well as a series of papers like "Commons and Code" (Lessig, 1999a), "The Death of Cyberspace" (Lessig, 2000a), "Open Access to Cable Modems" (Lessig, 2000d) and "Architecting Innovation" (Lessig, 2001a) in exploring such models and in describing how the Internet Protocols are constructed and operate. The World Wide Web is presented as another example of a technological incarnation of such a principle. The way in which the decision making process in the Internet Engineering Task Force and the WWW Consortium takes place is an organizational crystallization of the same principle. The various Internet Communities and mailing lists are the community expressions and the GPL and the other open and free licences are the legal manifestations of the same idea.

4.4.3 The regulatory dimension of the concept of commons

Two elements from Lessig's approach of the Commons Based Peer Production phenomenon and its incarnations are of most relevance to this thesis: first, his focus on the GPL as a mechanism that constitutes the missing link between the early Internet and a way to achieve a degree of self-commitment in the future Internet; a tool for preserving much of the principles found in the early Internet that have managed to support innovation. Second, the multiple examples of application of the e2e principles and in particularly the relationship between (a) an open process for the production of an artifact with regulatory features such as the Internet Protocols and (b) the end product being itself a regulatory artifact that allows the production of other regulatory artifacts with open principles. This Russian Doll or Onion structure is reminiscent of Lessig's earlier work on collective action problems (Lessig, 1989; 1993) and the links between meaning and norms (Lessig, 1995c; 1996b), though here the focus is slightly different, that, is on how open regulatory artifacts facilitate the production of more open regulatory artifacts. Lessig does not establish any causality between the two but following Moglen (1997) and Benkler (2002) illustrates the reasons why such tactics are beneficial for innovation purposes.

Lessig oscillates between the concepts of free speech and property. Revisiting the Regulation of Social Meaning (Lessig, 1995c) can be proved again extremely useful to understand the implications of using those two concepts. In that paper, Lessig asks the question of how unconstrained or free access to the creation of meaning may be preserved and which is the operation of the Free Speech doctrine in the US constitution. Through such an analysis Lessig concludes that social meaning is regulated not merely by the state but also by other regulatory modalities, which even lack the institutional legitimization of the state and that in the existing regulatory and U.S. constitutional framework are left unconstrained. These new regulatory forms are able through the manipulation of the context, of the essential understandings of the society, to change social meaning without the state to have the devices to regulate them.

His call is one that echoes his later Cyber-paternalism, that is, the need for the state to intervene to allow the operation of a space free of regulations. Lessig will advance this argument in a series of papers dealing with issues of Free Speech (Lessig, 1995c; 1998c; 1999b; 1999c; 2001b; 2002d) and Intellectual Property Rights and the Internet issues [e.g. (Lessig, 1995c; 1998c; 1999b; 1999c; 2001b; 2002d)(Lessig, 2004a; 2004b; 2004)]. In the latter, Lessig will present how the operation of private agreements and technologies with the support of provisions of the kind of the Digital Millennium Copyright Act and the WIPO treaties will support the subsistence of property rights over regulatory forms such as technology and increasingly threaten to appropriate free culture. In that sense, Lessig speaks of an enclosure of culture and a potential enclosure of meaning that needs to be resisted. Lessig sees the enclosure of content through Copyright Laws supported by the application of private agreements and technological measures as an attack against free speech. He thus objects to the expansion of Copyright over the Internet through his participation to the Eldred Case with no particular success (Lessig, 2004c). It is important to realize that all these issues arising from the enclosure of culture are symptoms of the deeper problem of the decreasing of participation to the regulation production process.

We need to underline the qualitative difference in the argument found in the "Regulation of Social Meaning" (Lessig, 1995c) compared to the argument in 'Free

Culture" (Lessig, 2004d). In the former, the state law is presented as inadequate to protect free speech and the need for some new protection mechanism is sought. In Free Culture the argument is advanced: the state law is not merely inadequate; it has been captured and subverted by private interests so as to support them rather than the public interests. Whereas state intervention was required in the first argument, in the second it is not clear whether it is a different and more forceful state intervention that is required to absolve the outcomes of previous interventions or the abolition of captured state regulation is the desired objective. The problem is that in order to achieve Free Speech or Free Culture what is needed is a non-regulation zone, which nevertheless in a multisource regulation world is neither feasible nor realistic an option. As a result, other solutions need to be sought.

An instance in Lessig's professional trajectory that may be helpful for appreciating his stance in relation to the establishment of Free -as unregulated- spaces is his involvement in the Microsoft case (Levy, 2002). The Microsoft case may be described crudely as a competition law or anti-trust case, in other words as a case where someone obstructs the entering of other actors to a playing field under the same terms and conditions. Lessig's view of the commons, of the public domain is very much close to an access to essential facilities doctrine and is, in that sense, very much influenced by Richard Stallman's conceptualization of Free Software as well as of the operation of the Internet Protocols: in an ideal world the access to these commons would be free both of any charge and any obligations of other kind; however, in the absence of such conditions we could opt for the second best solution of the commons as a space where access is provided on non-discriminatory terms (Lessig, 2004b; 2004c; 2004d; 2004 ; 2006b; 2006c).

To this conceptualization coming from anti-trust law we need to add a further element derived from Lessig's US constitutional and cultural background as well as his conservatism: that of respecting the private property. In all of his work Lessig has been an advocate of conservation though a particular kind of conservation, that of innovative conservation. From his early fidelity and meaning papers to the cyberspace regulation period of his work to his latest papers on the public domain or the books on Free Culture and the Future of Ideas Lessig's work talks over and again about how it is possible to adhere to traditions, principles and values of the past. However, Lessig is interested in adhering to such creatures of the past for the reason of them constituting a social agreement that needs to be honored. If it is to change, Lessig seeks to make sure that some meta-regulation mechanisms will be in place to maintain participation while preserving autonomy of the individual. Lessig holds that in the Cyberspace environment the state regulation is still relevant. Hence, private property legal conventions such as the ones of Copyright are still valid and need to be respected even if such property rights are the ones responsible for the privatization of the regulatory environment.

Combining these two features of Lessig's understanding of the common space we get his version of the way in which it may be constructed: The Commons or the Free Culture may be construed as an area where access either is not hindered or is available under non-discriminatory terms. Nevertheless, this is not due to the fact that permission is not required but rather because permission has been already granted. The Free space that will emerge is not a space regulated under a single set of rules but rather the net result of a myriad of permissions that have been granted in advance. In such a system we remain agnostic with respect to the content of the regulation. Provided that a series of proprietary relationships and state regulations still exist and are relevant, the effort to produce such a free space should be focused on the provision of the tools so that it is possible to be produced. The construction of the regulation through the provision of the meta-regulatory tools will occur in the same way as the meaning construction described in the "Regulation of the Social meaning". Accordingly, similar tools need to be employed (sections 4.1.3).

What is the most important aspect of Lessig's work is perhaps that his understanding of this Commons is that of commons as in common law rather than commons as common property: this new commons is to be created as a result of the osmosis of a multitude of different micro-regulatory environments placed across time and context. The orientation of such commons is one directed towards unhindered access and interoperability of micro-regulatory regimes. The details in which these tools are to be affected are not covered in the theoretical part of Lessig's work, though we have seen a rather comprehensive account of its conceptual biases. For this implementation we need to revert to the particulars of the Creative Commons case which is the theme of the sixth and seventh chapters.

4.5 Positioning Lessig's work in the relevant literature

In the previous sections we presented the fundamental constituents of Lessig's regulatory ontology. This section illustrates the links that may be drawn between Lessig's work and other writings from regulation, Free Libre Open Source Software (FLOSS) and Information Infrastructures (II) literature. The objective is not to claim that Lessig has been necessarily influenced by the relevant literature, but rather that we may position his work within the broader literature seeks to explore the regulatory, FLOSS and II phenomena. This chapter is divided in three parts: in the first part we explore the aspects of the regulatory theory that are closest to concepts employed by Lessig; in the second part we identify characteristics of the FLOSS model that have been relevant to Lessig's regulatory model; the third part approaches a certain set of authors dealing with II and are influenced by Actor Network Theory to draw links between the notion of the Information Infrastructures designer and the meaning manager or cultivator of regulation as seen in Lessig's theory and the CC case respectively.

In relation to regulatory theory, there are three basic features that relate most to Lessig's work and the theme of this thesis (section 4.5.1): First, the changing concept of regulation and the respective ways of understand such phenomenon; second, different types of problems related to the regulatory phenomenon; and third the issue of non-state regulatory actors and the problem of lack of participation in the formation of regulatory instruments.

With respect to the FLOSS literature in section 4.5.2 we are interested in the features of FLOSS development and FLOSS related research that resemble the regulatory commons model we present in chapters six and seven and Lessig's theory we have described in chapter four.

Finally, in relation to standards and Information Infrastructures, section 4.5.3 initially explores the relationship between the FLOSS model and the Internet Engineering Task Force organizational structure and operation to then view how such model relates to the CC and iCommons organizations. It also examines how the understanding of standards

and IIs from an ANT perspective resembles Lessig's understanding of regulation and also links to the regulatory theory presented in section 4.5.1.

The positioning of Lessig's work within the aforementioned streams of literature is important as each one of them relates to a different aspect of his work. In addition, a presentation of different theoretical approaches to some of the problems Lessig has investigated allows us a better understanding of the theoretical concepts that Lessig has developed.

The regulatory theory is the one that most clearly relates to Lessig's research. As we have mentioned in sections 4.1 to 4.4, Lessig's research is primarily focused on an assessment of the regulatory phenomenon with respect to change and the technology factor. The literature presented in section 4.5.1 features the latest developments in regulatory theory and investigates two aspects of the relevant body of work that are most relevant to this thesis: first, how regulation is increasingly produced by sources other than the state; and second what are the implications of such developments for the role of the sate. The regulatory literature explores how the role of the state changes from one aiming at the production of rules to one aiming at their cultivation. In such new context, the role of participation and representation is to be reassessed and the role of technology to be questioned.

Linking Lessig's work with FLOSS related research is also important for understanding the foundations of the former's research and their applications in the CC project. Lessig has been a vocal advocate of the applications of FLOSS beyond software and has been particularly influenced by Moglen (1997) and Benkler's (2002) work. Section 4.5.2 investigates which are the features of FLOSS that are most relevant to Lessig's work and the CC project. It also explores the characteristics of FLOSS-related research that are close to the features of Lessig's work. Section 4.5.2 illustrates the implications of viewing software as regulation and regulation as software in relation to Lessig's work.

Finally, in section 4.5.3 we relate Lessig's work with the ANT influenced work on Information Infrastructures (IIs) and standards. Two aspects of the relevant work are of relevance to this thesis: (a) approaching technology as a control mechanism and the standards as a form of agreement that, nevertheless, (b) cannot be controlled or designed

but has to be cultivated or hosted. These two facets of the IIs literature further emphasize the links with the regulatory theory, FLOSS research and Lessig's work: Regulatory theory similarly to Information Infrastructure and Standards literature views technology as an instrument of control whereas it acknowledges that, like any other regulatory instrument, it may only be cultivated and not designed. FLOSS as a development model has been based on the development principles of open standards. Finally FLOSS constitutes a paradigm for a model which allows a discourse-based and decentered development of technology as regulation or regulation as technology to take place.

4.5.1 Positioning Lessig's Work within Regulatory Theory

Lessig's definition of regulation seems to depart from what is described in literature as "Command And Control" regulation (CAC) as expressed in the definition by Ogus (2004) as quoted by Lessig (1998d p. 662). This understanding of regulation as solely driven by the state and as the result of designed policy action seems increasingly obsolete. To quote Black (2001b p.105):

"As many have noted, "command and control" is more a caricature than an accurate description of the operation of any particular regulatory system, though some are close to the caricature than others. Essentially the term is used to denote all that can be bad about regulation: poorly targeted rules, rigidity, ossification, under- or over-enforcement, unintended consequences." (Black, 2001b p. 106):

Black identifies CAC with what she calls "centred" regulation and presents a series of its features, namely that it assumes (a) "the state to have the ability to command and control" (b) the state "to be the only commander and controller" (c) the state "to be potentially effective in commanding and controlling" (d) regulation "to be unilateral in its approach (governments telling, others doing)" (e) regulation "to be based on simple cause-effect relationships" and (f) "a linear progression from policy formation through to implementation" (Black, 2001b p. 106).

The image of "centred" or CAC regulation does not easily match Lessig's regulatory perspective that is closer to the concept of *governance* than that of government. Trying

to define the regulatory phenomenon, as Brownsword notes (2005; 2006), is increasingly becoming a daunting task precisely because "[r]egulation has become an unwieldy concept". There seems to be a variety of definitions of the regulatory phenomenon that follow a broader trend of moving away from a strict sense, statecentered regulation as described above to a more "decentred" (Black, 2000; 2001a; 2001b; 2002b) or "smarter" regulation (Baldwin, 2005; 2006) that is now positioned within a "post-regulatory state" (Scott, 2004a).

Black identifies the core of the difference between "centred" and "decentred" approaches to the regulatory phenomenon as the outcome of fundamentally different ontological assumptions about both what constitutes regulation but –more importantly-about the nature of the society in which regulation is to be placed (Black, 2001b). Black identifies seven aspects of a "decentred" approach to regulation: (a) complexity, both in the sense of causal complexity and "complexity of interactions between actors in society" (b) fragmentation and construction of knowledge (c) fragmentation of the exercise of power and control (d) the recognition of the autonomy of the social actor (e) "the existence and complexity of interactions and interdependencies between social actors, and social actors and government in the process of regulation" (f) "the collapse of public/ private distinction in socio-political terms, and a rethinking of the role of formal authority in governance and regulation" (g) "the set of normative propositions as to the regulatory strategies that should be adopted" (Black, 2001b p. 110)

Each of Black's points may be used in order to further explicate Lessig's approach to the regulatory phenomenon and to position his theory within the relevant regulation literature. Complexity and its relation to regulation is an overarching theme in Black's work [e.g. see (Black, 2000; 2001a; 2001b; 2002a; 2002b; 2003; 2005; 2007)]. In a way similar to other authors before her, such as Grabosky (1995) or Braithwaite and Drahos (2000), Black acknowledges the complexity both of the environment within which regulation is to be placed and the relationship between the regulatory subject, the regulator and the regulatory content. The assumption of having to deal with a complex setting is incompatible with an understanding of the regulatory effort as a mechanistic process that may wield the desired result just through careful in advance design. In Black's aforementioned points, complexity predominantly appears under (a) and (f); it is however present in almost all the aspects of her "decentered" approach.

The problem of complexity both as an external (the environment in which regulation is to be placed) and internal (the complexity of the regulatory instrument itself) is also dealt with in Lessig's work. His approach to the phenomena of regulation and meaning are away from any positivistic perspective [e.g. in (Lessig, 1989; 1993; 1995c; 1996b; 1996d)]. The way in which he sketches various regulatory solutions [e.g. in (Lessig, 1995c)] implies an acceptance of an environment of great complexity that cannot be tackled with instruments assuming linear cause-effect relationships between regulation and its effects. In addition, Lessig introduces the element of uncertainty in his work as he is primarily interested in the relationship between change and regulation (sections 4.1, 4.1.1-4.1.4), the latter operating both as a response to and as a driver of change.

The issue of how regulation responds to contextual change introduces the pressing problem of uncertainty and complexity in regulatory design. Particularly in the online environment Lessig aims at identifying those regulatory instruments that are the most appropriate for handling increasing complexity and uncertainty. As mentioned in section 4.4.2, Lessig's interest in FLOSS stems from an understanding of such a development model as a way of tackling problems of complexity and uncertainty in regulatory development. In the same way as software development has found many solutions to the aforementioned problems [e.g. Von Krogh and Hippel (2006) or Von Krogh and Spaeth (2007) making reference to Brooks' (1995) work] through the FLOSS development model, regulatory development in Lessig's work appears to be seeking for the development of related open ended models.

The second aspect of Black's "decentred" regulation, i.e. the fragmentation and construction of knowledge, follows the complexity issue and is particularly relevant to the "distantiation" phenomenon described in section 3.6 of this thesis. Black refers to two aspects of the phenomenon of information asymmetry and regulation that are relevant to this thesis: first that the regulated subject may have greater knowledge than the regulator in relation to the problem domain; and second, that there is not a single actor that could have all the necessary knowledge in order to provide the relevant regulatory solution. As Black notes (2001b p. 107), this is not something new and the self-regulation approaches are to a great extent attempting to resolve this problem, particularly in relation to its former aspect by providing more regulatory power to the

regulated subject. However, what the "distantiation" phenomenon implies is that such information asymmetry is very likely to increase the costs of enforcement and potentially lead to regulatory failures. The idea of an end-to-end regulatory model, as presented originally in section 4.4.2 and then in section 7.1.3, accepts this knowledge asymmetry as a feature of a technology-intensive regulatory environment. It then seeks to orchestrate a process producing the regulatory instrument as a result of the interactions of more than one privileged regulatory actor, i.e. the state or any other formal regulator.

Black emphasizes the fact that regulation is not merely fragmented but also constructed (1997; 2001b; 2002b). This is a particular important aspect of her work since it is possibly also the key aspect in Lessig's work in relation to regulation [e.g. (Lessig, 1989; 1993; 1995b; 1995c; 1995d; 1995e; 1996b; 1996c; 1996-1997; 1997c)]: the latter emphasizes the constructed nature of the concepts upon which regulation is founded. He also invests considerable effort in illustrating both the way in which the meaning of a regulatory instrument, such as the law, is constructed and -most importantly- what is the constructing capacity of different regulatory modalities.

Black is greatly influenced by autopoietic theory and the work of Teubner [e.g. (Teubner, 2005) or (Teubner and Bankowski, 1993)] in particular, though she also makes references to Callon's sociology of translation (1986), new-institutional theory (Powell and DiMaggio, 1991) which forms the intellectual background of much of Lessig's early work on the regulation of social meaning (Lessig, 1995c; 1995d; 1996b). Construction, whether of social meaning or of "imbroglios" of humans and non-humans (Latour, 2005), meaning and regulation is at the center of Lessig's approach to the regulatory phenomenon. It is the way in which such constructions take place, who may, who *does* actually participate to such process and who is to be affected by such regulatory results that are the fundamental questions asked by Lessig. Furthermore, in this thesis the Copyright crisis (section 2.2) is also presented as a problem of construction costs (sections 3.6 and 7.1.1.) and the ways in which such constructions may be instrumented in the most cost efficient fashion (sections 7.2.1. to 7.2.5).

The third aspect of regulation that Black highlights, i.e. the fragmentation of the exercise of power and control flows naturally from the aforementioned points. Black

acknowledges more than one sources of regulatory power, the state being one only among many and not necessarily the most important in different contexts. This is also a key element of Lessig's approach to the regulatory phenomenon. The model of the four modalities of regulation essentially echoes an understanding of the multi-source nature of the contemporary regulatory environment. Greatly influenced by Ellickson's work [e.g. (Ellickson, Rose and Ackerman, 1995; 2002)], Lessig has started from problems of meaning construction and community norm building to gradually move to higher level regulatory problems that involve technology, markets, law and social norms. However, the issue of the norm creation by a certain community or community of practice is at the core of both Lessig's academic [e.g. in (Lessig, 1996e)] and activist work [see e.g. (Lessig, 2005f; 2005h)]. We explore the idea of formal vs. non-formal regulation in sections 6.4.4 and 6.5 and we have already seen in section 3.6 the problems caused by the tension between formal, state derived regulation and native regulatory forms contained in different utilitarian artifacts facilitating daily human interaction.

The fourth aspect of a decentred understanding of regulation has to do with the autonomy of the actors in the sense of their behavior not being seen as a constant but rather as a perpetually changing variable, the regulation not really being able to remain static. The work of Grabosky on counterproductive regulation (1995) is indicative of his understanding of the regulatory phenomenon as something both internally complex and something targeting a very complicated and constantly changing system. In Lessig's work the ever-changing concept of the context in relation to the regulatory actor is very intense particularly in the segment of his work related to social meaning [e.g. (Lessig, 1995c; 1995d; 1996b)]. It is also the basis for Lesssig's fundamental question which relates to the way in which the regulator may respond to change (sections 4.1 to 4.1.4). In Chapter three we have seen how such a problem has led the regulator in the case of Copyright to move to more flexible regulatory forms, with shorter and more individually plastic regulatory instruments (section 3.1). This fourth aspect of decentred regulation adds to the overall issue of complexity that was initially mentioned and gives a strong indication of why the regulatory intervention should be one that acknowledges existing regulatory forms and tries to cultivate the ones that are closer to its regulatory objectives (see e.g. (Brownsword, 2006) and his references to situational regulation]. It also indicates why the CAC type of regulation is impossible in environments both of great complexity and volatility.

The complexity of interactions and interdependencies in the process of regulation that is characterized by Black as the fifth aspect of the decentered approach to regulation is also found in Lessig's regulatory ontology. Black relates the image of regulation as "a two-way, or three- or four-way process, between all those involved in the regulatory process, and particularly between the regulator and the regulatee in the process of regulation" (Black, 2001b p.109), (Black, 1998a) to the work of Offe and Keane (1984), and Hancher and Moran (1989). Offe's model of regulation being actually "coproduced" by a variety of actors directly relates to Lessig's idea of indirection, that is, a regulatory result being achieved through the intervention of more than one modalities, which are all aiming at the behavior of the regulatee. Accordingly, the "regulatory space" offered by Hancher and Moran brings about the idea of regulation being produced not necessarily through direct regulation that appears as such to the regulated subject but rather as the outcome of a configuration of the environment of the regulatee in such a way so that the control of her behavior is actually achieved. This idea of regulation as "webs of influence" (Rhodes, 1995; 1997; Black, 2001b) can be clearly related to the term "architecture" or "nature" used by Lessig (1998d; 1998c; 1999f) to originally describe technology as one of the four modalities of regulation that appears as a background that though invisible it is the one that frames and organizes behavior.

This aspect of Lessig's work may also be associated, though not identified, with the idea of "situational crime prevention" as expressed in the work of Von Hirsh, Garland and Wakefield (2000) and explicitly linked to Lessig's work (1998d; 1999f) by Brownsword (2005; 2006). The situational approach advocates a crime prevention approach based on "social order as a problem of system integration" (Von Hirsch, Garland and Wakefield, 2000 p. 183). The crux of such an approach is that the environment within which human action is placed is configured in such a way that dissidence is very unlikely to occur even as a possibility. Brownsword (2005 p. 12) quotes Garland on this issue:

"The criminologies of everyday life thus offer an approach to social order that is, for the most part, amoral and technological" (Von Hirsch, Garland and Wakefield, 2000 p. 183)

This approach emphasizes the importance of technology in constructing such regulatory environments but also emphasizes the integrated to human activity nature of such regulation. In section 7.1.2 we describe such regulation as native in the sense that it does not disrupt but rather supports the daily activities of the regulated subject and thus has a very low enforcement cost.

Another facet of the construction-cultivation (for the use of the term in the CC case see section 7.2) of a regulatory environment rather than a specific regulatory instrument is the eradication of the private/ public distinction in relation to the source of the regulatory phenomenon. This is described by Black as the sixth aspect of a decentred understanding of regulation (Black, 2001b p. 110). Such an approach is primarily seen in the increasing mobilization and use of private institutions ranging from organizations to legal instruments like licences in order to achieve a certain regulatory objective. Black quotes the work of Streeck and Schmitter in relation to "private interest governments" (1985) as an example of how the analytical distinction between private and public is of limited utility in a modern regulatory environment. In accordance, to the work of Ellickson on community based regulation [e.g. (Ellickson, Rose and Ackerman, 1995; 2002)] or Rhodes' work (1995; 1997) on governance, Black refers to the phenomenon of private organizations increasingly creating their constantly expanding regulatory domains that often interface or interrelate with governmental regulation.

We have seen in Chapter Three the phenomenon of privatization of Copyright related regulation as a constant trend in environments where digital technologies are in place. More specifically, we have seen the use both of private legal instruments, such as End Use Licence Agreements (section 3.1), in the formation of the regulatory content of contemporary Copyright regulation and the use of privately build technologies, such as Technical Protection Measures, in order to control in a more appropriate fashion a context that is rapidly changing as a result of technological advancement.

The rise of private regimes of regulation in the area of Copyright has been raised by various authors, not least among them Elkin-Koren [e.g. in (Elkin-Koren, 1997; 1998)], Littman [e.g. in (Litman, 1994; Littman, 1998)], Boyle (1996)] and Benkler [e.g. in (Benkler, 1998; 2000; 2006)] whose arguments were provided in more detail in chapter three (sections 3.2 to 3.5). In regulatory theory we have also recently seen a series of papers emphasizing the role of Non Governmental or private Organizations in the production and management of regulation [e.g. (Perez, 2002; Hutter, 2006a; 2006b;

Hutter and O'Mahony, 2004; Lezaun and Soneryd, 2006; Tully, 2004; Scott, 2002; 2004b)].

What needs to be noted in this section is that while regulatory theory emphasizes the importance of such institutions in the regulatory production process and focuses on institutions in the level of the organization, the Copyright literature is more critical to any withdrawal from public regulation in favor of private regulatory schemes and focuses more on private regulatory instruments such as technological measures and End User Licence Agreements [see e.g. (Benkler, 2000; Elkin-Koren, 1998; Boyle, 2003c; 2004)]. In order to appreciate where Lessig's work is positioned in relation to these two strands of literature, it is important to relate his work to the way in which both social meaning and technology- based forms of regulation are constructed, at which point they become background to the operation of daily human activities and which are the implications of such a transition.

Lessig in several of his writings places social meaning and technology on the same level of operation: the "structures of understanding", the "formative context", the "architecture" are all constructions, that nevertheless may become at a certain time and through a series of interaction "non-contestable" and gradually invisible. We have seen in section 4.1.4 that the most powerful moment in the association construction is when such associations become invisible. In the case of technology this is echoed in Lessig's work in the reluctant though revealing use of the term "nature" and then "architecture" to describe technology-based regulations (Lessig, 1998d; 1999f). As Lessig notes (1989), each set of associations carries with it the pedigree of its creation and as such the strength of their cohesion (see also section 4.4). When technology or meaning associations become part of the "nature" or the non-contested background, they are at the peak of their regulatory capacity.

This is also expressed in Boyle's understanding of the way in which regulation operates in cyberspace as quoted by Brownsword (2005 p. 17):

"The attraction of technical solutions is that they apparently elide the question of power –both private *and* public- in the first place. The technology appears to be 'just the ways things are'; its origins are concealed, whether those origins lie in state-sponsored scheme or market-structured order, solutions are less contentious; we think of legal regime as coercing, and a technological regime merely shaping – or actively facilitating our choices" (Boyle, 1997c p. 205)

This is a particularly important moment in our effort to position Lessig's work within the broader regulation literature as it provides us with three of its most distinguishing features: First, that Lessig is interested in a particular type of regulation that not merely transcends the classic state driven CAC regulatory model, but also becomes part of an uncontested background. Second, the way of approaching the regulatory phenomenon requires a higher level description that would applicable both to a CAC and a postregulatory or decentered model and this may be found in a language or meaning driven approach. Third, this new way of understanding regulation raises primarily questions related to its legitimization and such questions inevitably require an investigation of the ways in which regulation is build and involves questions of representation of the regulatees, humans or non-humans.

We have already provided an overview of Black's understanding of the transition from a CAC to a decentered regulatory model. Lessig's approach is very close to Black's understanding of regulation, though it is his work on Code as a form of regulation [particularly (Lessig, 1998c; 1999f)] rather than his work on meaning [e.g. (Lessig, 1989; 1995c)] that is most often quoted by authors like Scott (2001; 2004a; 2004b), Baldwin (2005; 2006), Black (2001b; 2002a; 2002b) or Brownsword (2005; 2006). We have also seen that such understanding of technology or architecture as a background form of regulation is very close to a "situational" approach to regulation, that is, a form of regulation that does not leave the discretion to follow the rule or not to the regulated subject but is rather self-executed or self-enforced.

Lessig emphasizes three of the facets of such a regulatory environment: first, that technology has a greater degree of immediacy compared to traditional Law-based forms of regulation. Second, that its strength does not derive from the fact that it cannot be opposed, but rather from the fact that it is not even considered by the regulated subject as a form of regulation but rather as part of the context. This is a point that is also seen in the work of Boyle (1997c) or Brownsword (2005). Third, technology-based regulatory forms do not lie in isolation from the rest of the regulatory forms, particularly

the ones deriving from the state; they operate in conjunction in order to achieve the desired regulatory result with greater force.

Similar to the concept of "architecture", "nature", "technology" or "situated regulation" is what Scott refers to as the metaphor of the "regulatory space" (Scott, 2001 p. 329):

"The chief idea of the regulatory space metaphor is that resources relevant to holding of regulatory power and exercising of capacities are dispersed or fragmented. These resources are not restricted to formal, state authority derived from legislation or contracts, but also include information, wealth and organisational capacities. The possession of these resources is fragmented among state bodies, and between state and nonstate bodies. The combination of information and organisational capacities may give to a regulated firm considerable informal authority, which is important in the outcome even of formal rule formation or rule enforcement processes. Put another way, capacities derived from possession of key resources are not necessarily exercised hierarchically within the regulatory space, regulator over regulatee. We recognise the presence within the space not just of regulators and regulatees, but of other interested organisations, state and nonstate, possessing resources to a variable degree. Relations can be characterised as complex, dynamic and horizontal, involving negotiated interdependence. This re-conceptualisation of regulatory processes is important in understanding the limits of law within regulation."

As Scott indicates, the concept of "regulatory space" is borrowed by the field of social and political science and particularly from the work of Hancher and Moran (1989) and is very close to Black's notion of decentered regulation (2000; 2001a; 2001b; 2002a; 2002b). The indirection concept that we have seen in Lessig's work finds in the case of the "regulatory space" its counterpart in the concept of heterarchies instead of hierarchies: this multi-source regulation is not dictated by an overall "big" metaregulator, such as a constitution; or it is extremely difficult to be regulated by such an institution because of the different and diverse nature of the regulation producing institutions that are of such a character that they evade the traditional legal hierarchies. This is the problem that Lessig has originally identified in his work on the regulation of social meaning emphasizing that U.S. constitutional law is designed to control the text of the law whereas regulation is increasingly effected trough the manipulation of the legal context (Lessig, 1995c; 1996b). Lessig then tried to analyze this context using the construct of the four modalities of regulation (1998a; 1998d; 1999f), whereas, in regulatory theory there have been different efforts to produce a model for analyzing this regulatory space, with the model of Murray and Scott (2002) based on cybernetics being the closest one to both streams of literature.

Special reference needs to be made to another term that may be related to "regulatory space" and that is Scot's concept of the "post-regulatory state" (Scott, 2004a). The notion of the "post-regulatory state" is very close to the idea of decentered regulation and its primary contribution relates to the emphasis it places on viewing the state not as the sole locus of regulatory production. This is the same assumption found in Lessig's work in relation to the dilution of the state's ability to intervene in the formation of the regulatory landscape, though from a different perspective. Scott examines the evolution of the regulatory phenomenon as one related to the gradual re-conceptualization of the role of the state from one providing a particular set of services in the case of the "welfare state" to one regulating the provision of such services in the case of the "regulatory state" to finally one being not the sole locus of regulation in the case of the "post-regulatory state". Similarly to Lessig, Scott concludes that the role of the State is not diminished but rather transformed and in the era of governance becomes one of a Meta-Regulator rather than one of regulator. Following the model of Rose's (2000) and Parker's (2002 p. 297) Meta-regulator and influenced by Foucault's work on governmentality (1991), Scott is envisaging a new role for the state as the metaregulator in a complex ecology of regulators of different levels and kinds:

"[The] post-regulatory state is a state of mind which seeks to test the assumptions that states are the main loci of control over social and economic life or that they ought to have such a position and role. In the age of governance regulatory control is perceived as diffused through society with less emphasis on the sovereign state. This preliminary investigation of the legal dimension to the postregulatory state is a long way from asserting the unimportance of law to contemporary regulation. At a descriptive level the analysis offers a wider array of norm-types and control mechanisms relevant to understanding regulatory state. Normatively the analysis is suggestive of alternative functions for law to asserting command. In particular it emphasises the role of law in structuring or proceduralising both state and non-state activities which are premised upon alternative instruments and/or institutions of control. But there are both theoretical and empirical challenges to be addressed." (Scott, 2004a p. 20)

Such an approach is very similar to the problem that Lessig poses in the New Chicago School in relation to the role of the constitution in Cyberspace as a meta-regulator. It also relates to the transcendence of national jurisdictions and traditional sources of regulation and what it entails for the state's role (Lessig, 1996d; 1996e; 1997a; 1998d). In this series of papers Lessig envisages a research program of what he calls "post-constitutionalism" the outline of which is presented in a form of a series of questions in the final part of his New Chicago School paper. As we have seen in sections 4.4 this quest will gradually lead Lessig to the identification of a model for regulation building that is based on a discourse- and process- oriented approach. Such approach is mostly expressed in the case of FLOSS development as an open regulation building development exercise. In that sense Lessig's model resembles both the "proceduralization" regulatory model (Black, 2000; 2001a) and the "discourse analysis" model described in Black's (2002a) "regulatory conservations".

Another more recent paper by Black (2007), "Tensions in the Regulatory State" is also important for appreciating yet another aspect of the regulatory phenomenon appearing in the case of Copyright as presented in chapter three and related to Lessig's effort to describe a meta-regulator for cyberspace. Black in Tensions refers to the contrast between smart and better regulation. Similarly to the papers written by Baldwin two years earlier (2005; 2006), Black seeks to explore how the tendency for more decentralized and multiple forms of regulation advocated by the "smart" regulation model (Gunningham, Grabosky and Sinclair, 1998) is related to the criteria for "better" regulation where a more consolidated regulatory model for the meta-regulator is advocated. Black examines the two trends in regulation building to highlight how they occur on different levels:

"[W]hilst there may be institutional consolidation in one part of the regime, the regime as a whole may still display characteristics of polycentricity. Even though parts of a regulatory regime may look at the institutional level to have become more "centred", within that regime different actors can be enrolled within that regime in a way that a focus on formal institutional structures overlooks." (Black, 2007 p. 66)

In the case of Copyright a similar move is being experienced as on the one hand we have the emergence of high-level regulatory structures in the form of international treaties, such as the WIPO 1995 Internet treaties and regional instruments such as the EU Copyright Directive, while on the other hand we see that the implementation of the national regulatory structures occurs in the level of standardized EULAs that are micro

implemented (see sections 3.1 and 3.6). In such an environment, the individualities of which are also acknowledged by Lessig [e.g. in (Lessig, 1996a; 1998d; 2003c)] the issue of the development of a meta-regulator or the post-constitutional entity becomes an issue that requires centralized effort, state intervention or at least interfacing with the existing legal machinery but at the same time a decentered and self-regulatory or grounded approach. This is closely linked to the question of whether Lessig is an advocate of a state or private driven regulation that we have posed at the outset of chapter four (section 4.1) and which has led us to the conclusion that Lessig is pragmatically oriented towards a private regulation with public values (section 4.5).

In order to explore the constituent parts of such a regulatory model as well as the process that could gradually lead to the development of such a meta-regulator, we need to return to the basics of the regulatory phenomenon. Hood, Rothstein and Baldwin (2001 p. 23-27) have developed an abstraction to describe any form of control that is applicable both to CAC and decentered regulatory models. This abstraction that forms the main heuristic for Murray and Scott (2002) to advance Lessig's four modalities regulatory model, is repeated by Scott in his "post-regulatory state" paper:

"Underlying the scepticism about the regulatory state the various analyses have in common an attempt to grapple with the problem of control. At the highest level of abstraction any system of control consists of (1) some kind of standard, goal, or set of values against which perceptions of what is happening within the environment to be controlled are compared through (2) some mechanism of monitoring or feedback which in turn triggers (3) some form of action which attempts to align the controlled variables, as they are perceived by the monitoring component with the goal component. For classical regulation the goal component is represented typically by some legal rule or standard, the feedback component by monitoring by a regulatory agency, government department or self-regulatory organisation and the realignment component by the application of sanctions for breach of standards." (Scott, 2004a p. 3)

The existence of multiple such systems within a particular context creates the problem of how to coordinate and control not merely or directly the behavior of the human regulatee but rather the operation of different control systems. Besides the several postor meta- regulatory systems presented in the previous paragraphs, Black offers an additional perspective of the characteristics that such meta-regulatory should have by identifying the risk-based regulatory approaches (Black, 2005; 2007). Two aspects of Black's work on risk-based regulation are of relevance to this thesis: one having to do with the level on which risk is positioned in relation to the regulatory phenomenon; and a second one related to the impact of risk-based approaches on the problem of regulatory accountability and legitimization. Black identifies risk-based regulation not merely as regulation that aims at the reduction of risks rising from particular conduct, such as environmental risks, but also as the assessment of regulation in terms of its failure risks (Black, 2007 p. 67). Black's approach that is based on the regulatory approach found in the Hampton report (2005), assumes that through a continuous evaluation of the regulatory intervention, the regulatory landscape is to be constantly controlled. As Black (2007) notes, such an approach raises the issue of accountability of the regulator and the legitimization of the meta-regulatory control.

Though Lessig is not interested in issues of regulatory assessment and the issue of the risk from organizational failure of the regulatory authorities does not appear in Lessig's work, there is an overall sentiment that the current Copyright Laws systematically fail to address the needs of a new class of creators that are under-represented in the relevant regulatory instruments (sections 3.2 to 3.6 and 7.1.1). This is particularly clear in Lessig's most recent work on Creative Commons (Lessig, 2004b; 2004c), but it also appears in his work on regulation of cyberspace (Lessig, 1999d; 1999f; 2001b). The Copyright system seems to be suffering from what we have described in sections 3.6 and 7.1.1 as regulatory distantiation: the mechanisms of accountability and legitimization are not really in place and since there is no access to the means of regulatory production, there is a gap between the creative practices of new classes of creators and the content of the existing regulatory forms (national laws and international treaties).

As we have seen in sections 3.3 to 3.5 Lessig, Boyle and Benkler have all identified the political importance of the IPR regulatory framework for the Information Society and the problems stemming out of the opacity of a multi-source - multilevel regulatory environment. Lessig's effort to construct a post-constitutional model for the meta-regulation of cyberspace aims at identifying a process which could support the production of a regulatory system allowing the more accurate and balanced representation of different actors in the IPR regulatory ecosystem (Lessig, 1996e). In

this effort, Lessig places particular emphasis on language or semiotic perspective of the production of meaning as well as on different forms of regulation, particularly technological ones. We have described this trajectory of Lessig's work in detail in chapter four to conclude (a) that a major task of any regulator is to intervene to the process of collective or social meaning production (b) that technology as a regulatory modality in order to achieve the desired legitimization requires to be collectively developed and to be potentially collectively reformed as well and (c) that the archetype for such a development of a regulatory form is the FLOSS model or the mode of working of the IETF (see also section 4.5).

It is apparent that particularly in Lessig's meaning- and regulation- related work there is a strong inclination to transfer the focus of the debate to the process in which regulation is produced rather than the actual content of the relevant regulations. Lessig asks the question of how regulation should respond to contextual change only to find that such a response should be the result of the kind of mandate the regulator obtains from society. Lessig's original question is thus rephrased in a new form: in a multi-source regulatory environment with no single meta-regulator, how should we establish a process that will allow such representation to take place and how will we ensure that this regulation remains collectively plastic. Lessig's final answer is that the FLOSS model of software development represents such an attempt for a process that allows participation to the formation of the regulatory modality of technology (sections 4.4.1 to 4.4.3).

This re-conceptualization of the problems appearing in a multi-source and embedded to daily social practices regulatory environment as problems of participation and legitimization is found in Lessig's meaning and regulation work in the 1990s but makes an even clearer appearance in a series of two more recent papers by Brownsword (Brownsword, 2005; 2006) referring explicitly to the former's work. Brownsword poses as the most important aspect of a technology-based regulation the lack of the ability of the regulatee to make a conscious choice to obey or violate its regulatory content. For Brownsword, such form of regulation that –in Lessig's terminology- has a maximum degree of immediacy and individual plasticity (Lessig, 1999f) is problematic for a democratic state. This seems to be one of the problems also originally identified by Lessig in Code (Lessig, 1999f) and Zones (Lessig, 1999b) and is closely related to the problem of distantiation identified at the end of chapter three.
Similar are the concerns appearing in Black's work and particularly her Proceduralising Regulation (2000; 2001a) and Regulatory Conversation (2002a) papers. In these papers, though having a different starting point from Lessig, Black draws similar conclusions. Strongly influenced by Teubner's autopoietic approach (Teubner, 1997; Teubner and Bankowski, 1993; Teubner and Febbrajo, 1992) (Teubner, 1983; 1987) Black provides a description of what in this thesis is called the distantiation phenomenon, as a problem related to the failure of law to follow or translate practices from different areas or "systems" of social action:

"The implications for regulation are that the political system may attempt to use law, and law may in turn try to act on other social systems, but both attempts will fail to the extent that the norms that they try to impose are outside the paths and limits of the self-reproduction of those systems they try to act upon (i.e. to the extent that they go beyond the 'structural coupling' of those systems). This failure results for Teubner not only in a crisis of effectiveness for the welfare state, but in a crisis of legitimacy for law. For if law's legitimacy lies in its successful implementation of political goals, then legitimacy will be lost as implementation fails." (Black, 2000 p. 4)

Black then proceeds in presenting the solution advocated by Teubner and the one being most related to Lessig's approach for a post-constitutional regulatory framework. The idea is not to engineer or construct regulation but rather, as we will also see later in this chapter and in section 7.2, to advocate an approach of regulatory cultivation:

"In Teubner's analysis the only way to avoid regulatory failure is to move forward to adopt a new legal paradigm. It is to move from the legal paradigm of material or regulatory law to that of procedural law. Procedural law is the adoption of indirect mechanisms for regulating social behaviour, the regulation of organisation and procedures, the redistribution of power and competences. It is the replacement of state control with effective internal control; the creation of structural conditions for an 'organisational conscience' that would reflect the balance between the system's relation with other systems and its relationship with itself. Procedural law is a shift to more indirect and abstract guidance mechanisms, but ones which are, like material law, purposive in their orientation. It is the recognition of a heterarchical and not hierarchical relationship between politics, law, and other social systems; its central characteristic is decentral, context regulation. It attempts to affect (irritate) the system in such a way that it moves from its current state to that which is required. It is 'social gardening' rather than 'social engineering'." [(Black, 2000 p. 5) quoting Teubner (Teubner, 1992)]

Black also very close to Lessig's four regulatory modalities and indirection model appearing in the New Chicago School paper (Lessig, 1998d) and influenced by autopoiesis as appearing in Dunshire's work (1996) presents a "decentered" regulatory strategy as one based (a) on taking advantage of existing regulatory mechanisms and there interaction (b) on intervening only indirectly and often letting the inertia of the system creatively work in a beneficial to the regulator way:

"This [decentered] strategy can take a number of forms. It can be the use of 'dominium', the economic resources available to the state in the form of the imposition of taxes or the award of subsidies or incentives, or in the firm, the structuring of salaries. It can involve the use of neo-corporate strategies, of the deployment of the governance resources of associations and corporations for the purposes of achieving state ends. It can be manifested in strategies of balancing or 'collibration': manipulating the conflicts of others in order to achieve the outcome desired--loading the balance, tweaking the springs, to alter the conditions of engagement between actors. It can take the form of reflexive legal strategies--the use of law not to impose substantive ends but to structure decision processes to ensure that the result achieved is acceptable." (Black, 2000 p. 4)

Black in the two parts of the Proceduralising Regulation papers (Black, 2000; 2001a) is concerned with the identification of the legitimizing conditions for the genesis of regulation and in that sense it resembles Lessig's endeavor to legitimize regulatory content in the face of contextual change. In Black's model similarly to Lessig's FLOSS conceptualization, the idea is that the regulatory power is positioned at the ends of the network, that each regulatee may act as a "self-regulator" (Black, 2000 p. 11) and that the role of the regulator should be one of a "mediator":

"mediating between deliberants, mapping the discourse positions, regulating and facilitating their decision-making process, but leaving to them the ultimate decision of whether or not to make a decision, and if so what decision to make." (Black, 2001a p. 2)

Black views the process of regulatory building as one of discourse development and suggests discourse analysis as the preferred tool of analysis for its study (Black, 2002a). Black understands regulation "in large part [as] a communicative process. Communications between all those involved in the regulatory process concerning that regulatory system are an important part of their operation. Understanding such

regulatory conversations is thus central to understanding the 'inner life' of that process' (Black, 2002a p. 164).

Black in her understanding of regulation as a communicative process seems to be influenced by New Institutional organizational analysis (Powell and DiMaggio, 1991) as much as by Habermas (1987a; 1987b), an influence which is also strong in Lessig's work related to meaning and regulation (Lessig, 1989; 1993; 1995c; 1995d; 1996b).

In Regulatory Conversations Black explores five contentions that are closely related to Lessig's work on meaning and regulation and are also strongly present in the Creative Commons design:

"First, as to meaning and coordination: that the meaning of language is in its use, that use and therefore meaning will vary with context and with genre, and that the development of shared linguistic practices entails coordination and forms the basics of social action." (Black, 2002a p. 165)

This is an argument that appears in great extent in Lessig's series of meaning papers (Lessig, 1989; 1993; 1995a; 1995b; 1995c; 1995d; 1996b; 1996c; 1997c; 1998b; 1998c; 1999b). All three aspects of this argument set the basics of the interaction between meaning and regulation appearing in Lessig's work. It is the changes in context that are the main focus of Lessig's work as well as it is the assumption that this formative context frames behavior and that drives his interest in exploring the ways in which it may be regulated.

The second contention explored by Black does not appear in Lessig's theoretical work with the same strength or clarity but operates as a background concept in his Creative Commons work (Lessig, 2003c) and particularly his series of newsletters (Lessig, 2005a; 2005b; 2005c; 2005d; 2005e; 2005f; 2005g; 2005h; 2005i; 2005j; 2005k; 2005l). Black explores the construction of identities, whereas the Creative Commons project constitutes a conscious effort to construct identities and in particular to change the meaning of sharing-reusing and remixing from an act of piracy to one of creativity: the "pirates" of the existing Copyright system are the "creators" of the Creative Commons system (see sections 7.1 to 7.3). Black explains at the outset of Regulatory Conversations her understanding of the identity construction process:

"Secondly, as the construction of identities: that communicative interaction is representative and in particular produces identities which in turn affect social action." (Black, 2002a p. 165)

The third and fourth contention explored by Black relate to the framing capacities of language and its power implications. Lessig initially refers to these issues in his meaning papers. In the Regulation of Social Meaning (Lessig, 1995c) and Social Meaning and Social Norms (Lessig, 1996b), he is particularly interested in the ways in which orthodoxies may be both created and operate as another source of control much stronger than legal regulation. As we have seen in section 4.1.4, Lessig identifies specific mechanisms of producing such orthodoxies but is also interested in the ways in which social values that have been embedded in "texts", in the broader sense of the term, may be retained or altered in the face of changing circumstances. Black's description of the element of power in language is as follows:

"Thirdly, as to the relationship of language, thought, and knowledge: that language frames thought, and produces and reproduced knowledge. The fourth, closely related, contention is that language is ultimately related to power: that it is marked by the values of social groups, that it encodes perspectives and judgments, and can instantiate certain perspectives or orthodoxies" (Black, 2002a p. 165)

The last contention that Black explores is that of the contestability and potential changeability of meaning, power, thought and knowledge:

"The final contention considered is that meaning, thought knowledge, and power are contestable and contested; meaning and thus thought, knowledge and power, is never fixed ad so is open to contestation and change." (Black, 2002a p. 165)

This constitutes the starting point in Lessig's work in the late 1980s – early 1990s: how should regulatory instruments of meta-level, such as the U.S. constitution, respond to change (Lessig, 1989; 1993). Lessig moreover seeks to explore how change may be provoked and how regulation may be used to change contextual structures in order to affect social action. However, Lessig and Black's positions are not exactly coinciding. Lessig assumes that though meaning or any similar structure (such as technology from a material semiotics perspective) may be potentially always susceptible to change, this however, does not necessarily entail that the costs of changing any meaning structure

are always the same. On the contrary social meaning may be in certain contexts noncontested in the sense that the costs of changing meaning are such that make such change impossible. The problem that Lessig explores is how such change may be effected and which are the mechanisms to intervene in a particular setting so that these costs are altered and consequently meaning is changed.

In that sense, Lessig's research constitutes also an attempt to explore how the "regulation as gardening" (Black, 2001a) model should be implemented. As we will see in section 7.2, Lessig sketches and implements with the CC project a two tier model for the way in which regulation may be developed: a construction model based on principles of meaning construction (sections 4.1.4, 6.1-6.2 and 7.2.1) and a cultivation model (sections 4.4, 6.4, 7.2.2.) inspired by the communicative process occurring in a FLOSS development setting. Lessig's model though related to many of the other regulatory models presented in this section and though very close to Black's regulatory conceptualizations, it differs in the sense that it addresses a nexus of regulatory relationships that appear mainly at the contractual level and are interfaced to the international and regional treaties regime through national legislations. In that sense it is closer to the regulatory models presented by Brousseau (2005) though again Lessig is explicitly interested in the regulation of individuals rather than legal persons which tends to be the focus of much of the regulatory literature.

Lessig's work both in its theoretical and activist dimensions, is very much concerned with problems of legitimization, representation and translation. All three issues are found in the work of Black [e.g. (Black, 2002a; 2002b)] or Scott (2001; 2004a) but again the latter are more interested in the ways such issues are addressed by a more classic, state driven regulator, whereas in Lessig's work these issues are posed initially in the framework of the U.S. constitutional law [e.g. in (Lessig, 1995a; 1995d)] and later as a broader issue related to new forms of regulation, such as technology, that do not necessarily reside with a state regulator [e.g. (Lessig, 1996d; 1997d; 1999g)].

Finally, though the representation of different technologies in a regulatory instrument is important as a background problem in Lessig's regulation and technology papers, and is expressed mainly through the mechanism of indirection, there is no explicit reference to it in his theoretical work. On the contrary, we have a comprehensive treatment of the issue from a regulatory perspective by Teubner (Teubner, 2005) and a more incidental one by Black when referring to the Translation process (Black, 2001a; 2002a) mainly influenced by Callon's work (1986). Interestingly, as we will see in the treatment of the Creative Commons case (chapters six and seven), the issue of representation of hybrids of humans and non-humans within the CC licences will explicitly appear and Lessig will take a position in relation to the adoption of v.3.0 of the CC licences (particularly in sections 6.4.3 and 7.2.2).

4.5.2 Understanding Lessig's regulatory approach with respect to FLOSS development

We have already seen (sections 4.4.1 to 4.4.2) how Lessig has been particularly influenced by the FLOSS model in his work and how he has used it primarily in two ways: first, as an alternative to the mainstream Copyright model for the production initially of software and subsequently content (with the CC project); and second, as a model of governance for architecture-based regulation on the Internet. It is the latter use of the FLOSS model as a meta-regulatory model that has been of most interest to this thesis.

Lessig's adoption of the FLOSS model in relation to regulation occurs in two stages: first, by acknowledging the regulatory dimension of software on the Internet and identifying the lack of collective plasticity in its creation, Lessig seeks for a development model that would have a greater degree of collective plasticity (Lessig, 1999f). He views FLOSS as such a solution and hence advocates such model for the development of technology based regulatory forms. Second, having identified a pattern away from collective and towards individual plasticity in the area of classic legal regulation as well as a trend of regulation to operate in multiple layers through indirection (Lessig, 1998d; 1999g), Lessig explores how the FLOSS model may be applied in regulatory modalities other than software.

To sum up the two moves in Lessig's work, we see in the first move an understanding of software as regulation and, in the second, an understanding of regulation as software. To enhance our understanding of Lessig's work and following the review of the regulatory literature, we need to place such conceptualization of technology and regulation within the relevant FLOSS literature. In this effort we will make references not merely to Lessig's academic work but also to his CC project and his formal statements regarding its progress and evolution (particularly as described in chapters six and seven). The objective is to view which of the features of regulation as approached in Lessig's work related to three streams of literature: FLOSS, Standards and Information Infrastructure literature.

Though the "Free Software Manifesto" (Raymond, 2001) or "The Open Source Definition" (Perens, 2006) have dominated the understanding of FLOSS at least in the mid 1990s, three elements of FLOSS presented by O'Reilly (O'Reilly, 2006) referring to the FLOSS phenomenon are more likely to provide a simple and coherent set of features that seem to characterize software development and has influenced Lessig in his approach to the regulatory phenomenon. In a presentation of FLOSS as a paradigmatic shift in the Kuhnian sense (Kuhn, 1962) O'Reilly identifies FLOSS as the expression of "three deep, long term trends: (a) the commoditization of software (b) Network-enabled collaboration and (c) software customizability (software as a service)"

O'Reilly's paper is particularly important as it provides us with links to different parts of this thesis. As seen in sections 6.1 and 6.2, O'Reilly has been portrayed by CC as one of the pioneer users of the CC licences and has actually introduced one of their variations. O'Reilly has also been involved in the Open Content movement as presented in section 6.2. Finally, he refers both to Lessig's work (1999f) in his paper and is influenced by Kuhn's work in relation to his understanding of paradigmatic shift which to a great extent is a constructivist one, similarly to Lessig's regulatory ontology.

In the first of the three trends that O'Reilly identifies, he is influenced by the relevant definition by Stutz (2004b):

"The word commodity is used today to represent fodder for industrial processes: things or substances that are found to be valuable as basic building blocks for many different purposes. Because of their very general value, they are typically used in large quantities and in many different ways. Commodities are always sourced by more than one producer, and consumers may substitute one producer's product for another's with impunity. Because commodities are fungible in this way, they are defined by uniform quality standards to which they must conform. These quality standards help to avoid adulteration, and also facilitate quick and easy valuation, which in turn fosters productivity gains."

O'Reilly links directly the commoditization of software with standardization and the use of communication-oriented technologies such as the Internet. As we will see later in this section, links to the relevant literature also appear in Lessig's work. What is important in relation to the commoditization and subsequent standardization of software is that a similar trend is gradually seen in the realms of licensing agreements. When Lessig refers to the "stealing" of the idea of public licensing from the Free Software Foundation (Lessig, 2005j), he essentially identifies the likeness of licensing as a commodity to software as a commodity.

Of course, the two are not identical and is Lessig also not referring to a "licensing commoditization". On the other hand standardization of licences still remains one of the main and outer objectives of the CC project. We illustrate this process in greater detail in sections 6.1 to 6.4.5. Though there is no such thing as a "marketplace" in the strict sense of the word for a public licence, the history of Open Content licences (sections 6.1 and 6.2) indicates that the CC licences had and still have to compete with a series of other licences that perform similar roles. The process of the CC licences standardization, described by Lessig in his first series of newsletters is similar to the one described again by Stutz (2004a) and quoted by O'Reilly regarding software:

"It occurs through a hardening of the external shell presented by the platform over time. As a platform succeeds in the marketplace, its APIs, UI, feature-set, file formats, and customization interfaces ossify and become more and more difficult to change. (They may, in fact, ossify so far as to literally harden into hardware appliances!) The process of ossification makes successful platforms easy targets for cloners, and cloning is what spells the beginning of the end for platform profit margins."

This process, similar to the "irreversibility" as presented in the work of Hanseth (1998), is a process that we also see in the case of CC and the overall landscape of Open Licensing, e.g. through the standardization efforts of FSF (Free Software Foundation, 2004) and the Debian group (Debian, 2006).

It is also interesting to compare Lessig's objective of using a standardized licence with the effects of commoditization in the software industry. Christensen's law of conservation of attractive profits (Christensen, 2004) seems to be very close to Lessig's idea of using the standardized licences as an instrument for setting up a commons upon which further services could be established:

"When attractive profits disappear at one stage in the value chain because a product becomes modular and commoditized, the opportunity to earn attractive profits with proprietary products will usually emerge at an adjacent stage."

The same logic seems to be underlying much of the "less legal friction" rationality (section 6.2) behind the introduction of standardized and easy to interface with technology-based licensing schemes such as the CC licences.

A related feature of the CC licences that appears in great strength in the FLOSS development case is that of the modularity of the licences in a way similar to the modularity of software. The use of standardized but modular Licence Elements (Lessig, 2005b; 2005g; 2005l) also seems to be taken from FLOSS, used by Christensen to describe the way in which innovation is possible (Christensen, 2004) (Christensen, 1997; Christensen and Raynor, 2003) and as we will see in section 6.4.1 to 6.4.4 similarly to software it plays a fundamental role in the coordination of the different contributors. Weber (Weber, 2000) following the work of Lerner and Tirolo (2002) views the use of a modularized architecture as a key contributor to the reduction of complexity to the organizing of the development process and as such a response to the issues related to software development presented by Brooks (1995).

The second basic FLOSS feature that O'Reilly identifies, the Network-Collaboration element, is possibly the most apparent in the way in which the CC licences are developed. This is closely related to the idea of "take law into your own hands" (Cone, 2003) campaign seen in the CC audiovisual material, the idea of the end-to-end argument (Saltzer, Reed and Clark, 1984) so popular with Lessig's writings also mentioned as the concept of humility (Lessig, 2004d), the concept behind Benkler's Commons Based Peer Production (Benkler, 2000; 2002) or the generativity argument originally developed by Zitrain (2006) and used by Hanseth and Nielsen (2007) in the Information Systems standards literature.

Interestingly, when describing the way in which FLOSS operates, O'Reilly uses the term "architecture of participation" directly making reference to Lessig's work describing architecture as a modality of regulation (Lessig, 1999e; 1999f) and Kapor's work (2006) where the political nature of architecture is emphasized. O'Reilly quotes Linus Tovarlds indicating that to a great extent the ability to collaborate in an e2e way is possible only when a certain type of architecture is in place:

"'I couldn't do what I did with Linux for Windows, even if I had the source code. The architecture just wouldn't support it'. Too much of the Windows source code consists of independent, tightly coupled layers for a single developer to drop in a replacement module." (O'Reilly, 2006 p. 266)

Tovarlds' point, combined with O'Reilly's comments is of extreme importance, as we see in sections 4.1 to 4.3, for the design of Lessig's post-constitutional meta-regulator on Cyberspace (Lessig, 1996d; 1996e; 1996-1997). The architecture that will allow the open participation to the development of a regulatory instrument has to be designed in two levels: on the one hand there needs to be the infrastructure (such as the mailing lists) that will allow the unhindered contribution by the ends of the network (section 6.4). This is to be achieved through a system of open and public mailing lists, such as the ones used for the development of FLOSS. On the other hand, the artifact that is to be developed, i.e. the licences, has to be modular and standardized so that the collaboration of an open number of developers is indeed possible. The idea is to develop a set of licences that has a Linux-like rather than Windows-like internal structure (section 6.3).

The idea of the modularization and participation is very close to the idea of customizability and identification of software as a service presented by O'Reilly as the third feature of the FLOSS model. The point that O'Reilly makes relates to an appreciation of the FLOSS outcome being more a process than a product. O'Reilly makes reference to cases such as Google, the original Napster or Amazon to notice that it is the participation of the user and the resulting process that matters more than a naked end-product. This is also very much in the crux of Benkler's argument (also using the same examples) related to the Common Based Peer Production (Benkler, 2002) model that constitutes an abstraction applicable beyond FLOSS in the strict licensing-based sense. Lessig also uses a similar set of examples in his more recent two books (Lessig,

2001b; 2004d) but it is only in his early papers we see a link to the use of such processes for the production of regulation rather than content.

The understanding of standards as Actor-Networks [see e.g. (Latour, 1999; 2005) or (Callon, 1986; Callon and Latour, 1992)], as hybrids of technologies, people and process that are constantly evolving reaching stages of temporary but always potentially contestable stability is ontologically very close to the aforementioned understanding of FLOSS. Particularly in the work of Hanseth and Monteiro (1998), Hanseth (Hanseth and Braa, 1998) (Hanseth, Ciborra and Braa, 2001) and Ciborra (Ciborra, 1998) we have such conceptualizations of standards or Information Infrastructures that contributes to the understanding of any participatory development process as something aiming beyond the production of a stand alone artifact.

Before proceeding to a more detailed positioning of Lessig's work within the Information Infrastructures and Standards literature, we will briefly make a link with the features of the FLOSS literature as presented by Von Krogh (Von Krogh and Spaeth, 2007) that may be also found in the work and activities of Lessig, particularly in relation to the CC project.

Von Krogh and von Hippel's (2006) three tier classification of the FLOSS literature identifies three main streams, i.e. (a) developer motivation (b) governance, organization and innovation process and (c) competitive dynamics. Lessig's work is closer to the research output provided by the second group. Besides Benkler's work [e.g. (Benkler, 2002; 2003b; 2006)] to which we make specific reference in sections 3.3 to 3.5 and which presents the model of Commons Based Peer Production as the primary governance structure dealing with coordination and organization aspects of FLOSS projects, other researchers have also dealt with different aspects of organizing of FLOSS projects. One of the most prevalent themes has been the ability of FLOSS projects to remain open while at the same time not being diluted through a process of continuous "forking" (Koch and Schneider, 2002; Kogut and Metiu, 2001), that is the breaking down of one project into other related projects.

While the issue of retaining the coherence of a FLOSS project while allowing incremental innovation remains at the core of the FLOSS organizational literature,

Lessig's academic work seems to be lacking such detail of focus. Thus, while FLOSS is presented as a model for more participatory production of software as regulation and its capacity to innovate is emphasized in Lessig's work [e.g. in (Lessig, 2001a)], the question of organizational coherency remains out of his focus. What the FLOSS literature illustrates is that in such projects participation and contribution is not evenly distributed or structured even at the level of designing a project's internal governance mechanisms. Von Krogh and Spaeth (2007) identifies the role differentiation as the main mechanism through which the reduction of the risk of forking is mitigated. Similarly to Benkler that identifies the basic governance mechanism behind any FLOSS project being between markets, hierarchies and communities (Benkler, 2002), Demil and Lecocq (2006) make a similar observation and presents the FLOSS organizational structure following a layered model. In such a model, the governance of the contributors occurs through a layering of their decision making abilities in the sense of influencing the direction of the core development. Crowston and Howison (2006) present this organizational model using the metaphor of the onion. Von Krogh, Spaeth and Lakhani (2003) follow a similar model referring to peripheral and core developers.

Lessig presents FlOSS in a rather simple way in his work. This is the result of the time when it appears, which is mid to end 1990s, when the understanding of FLOSS projects and their governance has been less sophisticated than ten years later. However, it is also the result of the level and focus of Lessig's FLOSS related work: in his cyber-regulation papers [e.g. (Lessig, 1998a; 1999b; 1999c; 1999d; 1999f; 1999g)], Lessig has as a departure point the political nature of architecture-technology and uses FLOSS as a model to illustrate that it is possible to have a more participatory process in its development (Lessig, 1999d). In addition he emphasizes that such participatory process is necessary in order to retain the public values and legitimization we have in classic legal regulation: if legal regulation is to be substituted with technological regulation, then the same checks and balances have to be put in place (Lessig, 1998d). However, when his interest shifts to the issue of non-balanced rights allocation, the interest to FLOSS becomes more one related to its capacity to allow innovation (Lessig, 2001a). This is the way in which Lessig's understanding of FLOSS has been popularized in his two latest books (Lessig, 2001b; 2004d). Finally, in the phase of the development of the CC project the focus shifts on the question of how participation may be achieved for the production of a legal instrument. This time the regulatory instruments is of a different

level than legislation: while using a governance mechanism (mailing list) and internal mechanism (standardization and modularization), the issue of organizing the production of the regulatory instrument appears not as an explicit concern but rather as a background issue.

Thus, this thesis comes to fill the gap between the FLOSS literature and Lessig's transposition of the FLOSS model in a different context. As we see in chapters six and seven, our research attempts to identify the ways in which the development of the CC licences is organized and the way in which the project is held together without being constantly forked. Though this is not an anthropological study of FLOSS, it follows Zeitlyn's (2003) work in the sense that it attempts to trace the development of the governance structures within the Creative Commons project and understand how different norms are developed and contained. The focus on the interactions between users, the patterns of participation and the ways in which innovation and stability occur that are presented in sections 6.4.1 to 6.4.5 are all contributing to an identification of the different internal regulations within the CC project.

Another interesting aspect of Lessig's work and particularly the way in which the CC project implements some of its features, is that it transfers the FLOSS model in a different context. In that sense, it reverses the way in which the Free/ Open Licensing and the development process operate: instead of using a Free/ Open licence in order to support or directly govern a development process, the development process is used in order to produce a set of Free/ Open Licences. This is not an entirely new model and as we see in sections 4.4.1 to 4.4.3 and 6.1 to 6.5 there has been a gradual process that led to such a result. Lessig initiated a similar effort with the collection of legal documents for the support of the Eldred case (Lessig, 2004c) through the Open Law project (Open Law, 2003) to then gradually move to the production of the CC licences.

Lessig's efforts with both the Open Law and subsequently CC projects have as their precedent the Groglaw project. The latter being a project run by Pamela Jones essentially used FLOSS principles in order to collect legal material for the SCO v. IBM case (Jones, 2006). In a broader sense, the FLOSS principles have been presented as a more general production model by Benkler (2002), whereas Shah (2006) has presented

how concepts of openness and collaboration have governed innovation in the area of sports design.

A final aspect of Lessig's work that resembles the literature concerning FLOSS development has to do with the impact, theoretical tension, transparency and communal reflexivity aspects (Von Krogh and Spaeth, 2007) of the way in which both his academic work and the CC project develop. Lessig's work, especially after the end of 2002 with the initiation of the Creative Commons and the gradual shift towards more popular ways of writing [compare for example the Regulation of Social Meaning (Lessig, 1995c) or Fidelity (Lessig, 1993) with Free Culture (Lessig, 2004d) or The Future of Ideas (Lessig, 2001b)], has an impact that is not confined in the realms of academia but has a visible impact on the real world. This seems to be Lessig's own intention as exemplified in his latest career turn to fight corruption (Lessig, 2007a), but also in his vision to effect social change through a series of meaning construction strategies (section 4.1.4).

This is very much like research on FLOSS that has a greater social impact than merely being addressed to a limited academic audience. Von Krogh an Spaeth (2007) present (2007) a series of areas on which FLOSS has an impact raising from changes in the software industry landscape (Bonaccorsi and Rossi, 2003) to issues of digital divide (Bokhari and Rehman, 1999) and national policy drafting (Waring and Maddocks, 2005). Lessig, however, is closer to authors like Raymond (2001), O'Reilly (2006) or Stallman (2002) that were also involved in the entrepreneurial activity, business or software development and through their activities rather than their theoretical work have managed directly to influence the field. Raymond and Stallman are the closest to Lessig's work in the sense that their writings [e.g. (Raymond, 2001)], licences [e.g. (Stallman, 1999)] and activist work have contributed to the formation of the FLOSS field.

The theoretical tension aspect that appears in FLOSS literature suggesting an alternative to mainstream innovation theories (Von Krogh and Hippel, 2003) (Schoonhoven, 2003) is also present in Lessig's work. The latter following Benkler (1999; 2002; 2006) and Boyle (1996; 1997a; Boyle, 2003c) is in favor of an innovation model based on the increase of the Public Domain or the Commons rather than the provision of incentives

for creativity. As we have seen in sections 7.1 and 7.1.3, and following Moglen's Law (1997), Lessig is interested in innovation as a result of the removal of obstacles rather than the provision of incentives. Lessig uses this kind of model particularly in his later and more popular work for describing creativity in relation to software and content. However, in his earlier work on meaning, he is more interested in the way in which mechanisms supporting collective action, such as FLOSS models, may be used in order to change meaning and consequently lead to social change.

As Von Krogh and Spaeth note (2007), FLOSS cases demonstrate the transparency element in the cases to be studied. Transparency appears both in the sense of having public archives for discussions in software development or public meetings for making some critical decisions. Though Lessig in his academic and more popular work is not interested in providing a detailed analysis of the way in which a mailing list operates and the reference to public events is only done with respect to rituals in The Regulation of Social Meaning (Lessig, 1995c), we see that both tools are used in the case of the CC project. As presented in chapter six, this thesis explores mainly the way in which public interactions over the mailing lists take place and derives information from the documentation of the CC Brazil launch (Passman, 2004) as a public event where aspects of Lessig's theoretical work seem to be implemented. It is important to note that in the CC case, though both lists and public events are places where discussions take place, the author's personal experience and monitoring of the development of the CC project indicates that (a) decisions are often being taken in closed fora such as the CC board, where no minutes are kept neither public access is available and (b) bottom up interactions often happen in informal settings before or after the formal meetings where the CC national project representatives have the opportunity to interact and discuss the CC development future.

The concept of "communal reflexivity" used by Von Krogh and Spaeth (2007) is also present both in the CC-related research [e.g. (Cheliotis, Chik, Guglani and Tayi, 2007)] and Lessig's work [e.g. (Lessig, 2004c)]. Strongly related to the impact aspect illustrated above, the "communal reflexivity" approach views the FLOSS research directly feeding into the relevant community:

"The community of open source software developers, contributors, and users share a strong interest in why, what, and how the community operates. We term the ongoing engagement in a dialog about the functioning of the community "communal reflexivity."" (Von Krogh and Spaeth, 2007 p. 246)

Lessig in the late 1990s identifies a series of issues related to cyberspace regulation [e.g. in (Lessig, 1995e; 1996d; 1998a; 1998d; 1999f; 1999g)] and moves then to a more detailed presentation of the problems related to increased zoning in the way Cyberspace works [e.g. in (Lessig, 1996f; 1998c; 1999b)]. He finally focuses on issues of how an alternative or complement to the existing Copyright system could work in order to encourage and support collaborative forms of creativity employing Internet technologies (Lessig, 2001b; 2002a; 2002c; 2003b; 2003c; 2004d; 2004). In parallel, as we have seen in sections 4.4.1 to 4.4.3, he gets engaged with a series of efforts in various levels to effect change toward the direction advocated in his academic work: from serving as an expert in the Microsoft case, to initiating the Eldred Case, the Open Law project and then the Constitutional Commons, Counter Copyrights and finally Creative Commons, Lessig has actively tried not merely to interact with but also to build a community that could support views similar to his in relation to creativity and innovation.

Lessig's work has been followed by a series of other studies that have tried to explore the ways in which the CC project is developing. Similar to studies like the ones of Ghosh's,Glott, Krieger and Robles (2002) or Lakhani and Wolf (2005) in the FLOSS field, we have studies like the ones of Fitzgerald (2007), Hancock (2007), Hietanen, Oksanen and Valimaki (2007), Tsiavos (2007) or Cheliotis, Chik, Guglani and Tayi, (2007) that have been presented in different CC-related events and have exercised great influence to the ways in which the CC phenomenon is approached by the relevant community.

Finally, Von Krogh and Spaeth (2007) refers to the concept of "proximity" as yet another distinct feature of the FLOSS literature that describes the close relationship in the model behind FLOSS and science. Lessig also refers to this proximity to justify why a similar model is applicable also in the case of content development and this is one of the most apparent aspects of his later work. However, Lessig also views such a model to be common in the production of regulation. As we describe in section 6.4.5, the production of a regulatory commons has on its basis a similar rationale with FLOSS or the science community. As Von Krogh notes for FLOSS, the proximity to science creation does not mean that the two coincide. This is also valid for the development of the regulatory commons: they do not happen in the same way or for the same reasons as FLOSS, science or even the creative commons. However, it is the same model that supports their production. The realization of this common model is apparent in Benkler's work referring to the Commons Based Peer Production (Benkler, 2002), but what this thesis illustrates by revisiting Lessig's early work is that such model is also applicable in the case of regulatory production and innovation.

4.5.3 From FLOSS to Standards and Information Infrastructures

As we have seen in the previous section, Lessig's interest in FLOSS moves beyond its specific implementation in the case of software development. This is apparent in the treatment of the Internet development in all of Lessig's work. Two aspects of Internet's development are of particular relevance to this thesis. First, that the Internet protocols are viewed as a technical standard of a clearly regulatory character. Though as we see in section 7.1.2, in this thesis we are more inclined to talk of technologies having regulatory features than of technologies as modalities of regulation, Lessig's point is still relevant: the Internet standards operate as a form of regulation that allow an open and unrestricted mode of application development. Second, the process of developing this standard has been an open one, where different participants have had the opportunity to express their own views on how the protocols were to be developed.

Hence, Lessig is an advocate of the end-to-end model (Saltzer, Reed and Clark, 1984) in two levels: first, in the level of the Internet Protocols allowing an end-to-end development of applications over them; and second, in the level of production of the Internet Protocols in the sense of following an end-to-end model in the management of the relevant contributions. Most commentators tend to emphasize the first aspect of the e2e model; however, it is the second aspect of Lessig's work that, as this thesis argues, operates as the model used for the development of the CC licences and forms a more general model for how regulation is to be constructed. Brander's account on the Internet Engineering Task Force (IETF) history provides a good link between open standards and FLOSS:

"The IETF and its standards have succeeded for the same sorts of reasons that the Open Source community is taking off. IETF standards are developed in an open, all-inclusive process in which any interested individual can participate. All IETF documents are freely available over the Internet and can be reproduced at will. In fact the IETF's open document process is a case study in the potential of the Open Source movement." (Bradner, 1999 p. 47)

The Creative Commons and iCommons organizations have been both greatly influenced by the organizational structures of the IETF and the Internet Society. Lessig refers to such organizations as the ancestors of FLOSS in his Free Culture (Lessig, 2004d pp. 7, 262, 276-77) and the Future of Ideas (Lessig, 2001b pp. 34-44) books. There have also been explicit references to the organizational structure of the iCommons following the one of IETF during the iSummit 06 (iCommons, 2007; Ford and Chance, 2006; Ford, Ito, Henckel, Keller, Lemos, Lessig, Medak and Wales, 2006; Faris, 2006a) when the former's organizational structure was still under formation. The two basic characteristics of such organizations, i.e. the use of mailing lists and the organization of annual meetings, are common and both seem to be related to the ideals and concepts of FLOSS. The way in which decision making takes place in the case of IETF is also similar to the one of CC in relation to new specifications of the licences:

"The IETF motto is "rough consensus and running code." Working group unanimity is not required for a proposal to be adopted, but a proposal that cannot demonstrate that most of the working group members think that it is the right thing to do will not be approved. There is no fixed percentage support that a proposal must achieve, but most proposals that have more than 90% support can be approved and those with less than 80% can often be rejected. IETF working groups do not actually vote, but can resort to a show of hands to see if the consensus is clear." (Bradner, 1999 p. 50)

The decision making process and governance of IETF and the Internet Society is not necessarily adopted in exactly the same way in the case of the CC and iCommons and as a matter of fact it has raised considerable concern among the delegates of national CC projects. The main concern has been the lack of clearly set out governance rules and the lack of democratic participation and accountability in the decision making process. Though the "rough consensus and running code" model may be directly applicable in

the case of the CC licensing building, as we see in greater detail in sections 6.4.1 to 6.4.5 this is not necessarily the case with greater CC policy decisions.

The issue of participation to the formation of a standard and the Internet standards in particular plays a key role in Lessig's work as it relates to the issue of collective plasticity of regulatory instruments. Interestingly, the issue of collective standard formation has also been the focus of a stream of Information Systems literature that makes an approach from the perspective of Actor Network Theory and is interested in the organizational aspects of standards production [e.g. (Hanseth, 1998; Hanseth and Braa, 1998; Hanseth and Aanestad, 2002; Ciborra, 2000a; Ciborra, 1998)].

The literature of standards is particularly relevant to Lessig's work. Standards constitute a specific form of technical regulation that has as its focus primarily non-humans but may be implemented only through a combined human and non-human action. The underlying ontology of the ANT-standards literature stream assumes that a technical standard has an entity that is beyond its mere specification as expressed in the form of a document. The standard is instead a hybrid of humans and non-humans and is materialized only through its implementation. The standard is, according to such an approach, a Network of Actors, humans and non-humans, that are all held together through a mutual agreement that makes them align and stick together (Hanseth, 2002a).

This conceptualization of the standard is very close to the conceptualization of the regulatory phenomenon as seen in Lessig's work: regulation is not exhausted in the text of the law but does actually find its materialization either through a process of interpretation as occurring within the institutional context of U.S. constitutionalism or through a process of "indirection", that is, a process where different modalities of regulation influence each other to realize all together a particular program of action (Lessig, 1989; 1995c; 1995d; 1996d; 1999f; 1999g; 2003b; 2004b).

Both the standards-ANT literature and Lessig's work have a common understanding of the regulatory phenomenon that is based on a semiotic approach that moves beyond the strict sense of text-as-written-material to material semiotics where (a) the text or token can be anything that has an agreed and in context uncontested meaning encapsulated in a particular artifact and (b) the interpretation is conducted not merely by humans but also by non-humans in the sense of being configured in accordance or in opposition to the program of action of the text (Callon, 1986). In the same way that in Lessig's work we have the concept of association construction as the objective of any regulatory effort (Lessig, 1995c), in the standards-ANT literature, the standard is viewed as an effort to establish an Actor Network where the content of the standard has been linked to humans, organizations and other technical artifacts (Monteiro, 2000).

We have described in chapter four how in Lessig's work we gradually move from the concept of a U.S. supreme judge interpreting the U.S. constitutional Law to the interpretation of the technological context, then gradually to the interpretation of the technological context in the letter of the law, and finally the interpretation of the law in the specifications of the technology. In this trajectory of Lessig's work we view a similar pattern towards the four moments of translation appearing in Callon's work (Callon, 1986) and being on the basis of many of the standards and ANT papers [e.g. (Hanseth, 1998; Hanseth and Braa, 1998; Hanseth and Aanestad, 2002; Hanseth, Jacucci, Grisot and Aanestad, 2006)]. Moreover, in Lessig's effort to assess the costs of change by estimating the degree to which a particular meaning is in context non contestable, we are presented with a model that is again similar to the idea of irreversibility in an Actor Network. An Actor Network becomes irreversible when the costs become prohibitive for a change to be effected (Hanseth, 1998).

Thus the enterprise of constructing a standard resemble the effort of constructing meaning or regulation; and the effort to cultivate an open standard has a series of common elements with the effort to cultivate an open regulatory instrument. Lessig's work has as its starting point references to the open standard development process of the IETF to gradually move to a model of creating meaning and finally to a project that openly seeks to produce a set of regulatory instruments, i.e. the CC licences. The IS literature on standard setting as a purely technical issue to gradually move to a more sophisticated approach employing ANT and lately making reference to Lessig's work in relation to technology or architecture as a modality of regulation (Hanseth and Nielsen, 2007)

Another stream of the IS literature that is very closely related is the one of Information Infrastructures, particularly the work of Ciborra (1998; 2000a; 2002; 2004) and Hanseth (Hanseth, 1998; 2002a; 2002b; 2004; Hanseth and Monteiro, 1998; Hanseth and Braa, 1998; Hanseth and Aanestad, 2002; Hanseth and Nielsen, 2007; Hanseth and Lyytinen, 2007; Hanseth, Monteiro and Hatling, 1996; Hanseth, Ciborra and Braa, 2001; Hanseth, Jacucci, Grisot and Aanestad, 2006), which are very close to Lessig's idea of how architecture or technology regulate both human behavior and other modalities of regulation. The ANT approach to infrastructures, that is explained by Monteiro (2000), views them as complex heterogeneous networks that may be cultivated through a series of steps that resemble Lessig's suggestions to the fictitious "meaning manager" to develop meaning through regulatory mechanisms. Hanseth and Lyytinen (2007) provide a detailed account in a rather prescriptive manner of how Information Infrastructures could be developed; Ciborra presents the case of the Hoffman-La Roche (Ciborra, 2000c) as a case of non-hierarchical -and to our definitions open- process of Information Infrastructures development; and Nielsen and Hanseth (2007) present the case of mobile Internet services development as a process of Information Infrastructure development that is explored through the work of Lessig (1999f), Benkler (2000; 2006) and Zitrain (2006).

In all these examples we may trace the development of a school of thought within the IS discipline that is very close in relation to the issues it is interested in with the problematic Lessig's work is raising. However, in all this stream of IS literature, as in the regulatory theory presented in the first part of this chapter reference to Lessig's work is confined in three or four of his works, i.e. the Code and Other Laws of Cyberspace (Lessig, 1999f), the New Chicago School (Lessig, 1998d) and Free Culture (Lessig, 2004d) or the Future of Ideas (Lessig, 2001b). Reference to the first two occurs in relation to Lessig's introduction of technology as modality of regulation without paying much attention to the concept of indirection, whereas reference to the latter two books of his is clearly related to his effort to introduce FLOSS principles in the area of content or his support to the Free Culture movement through the CC project. Lessig's more sophisticated conceptual structures appearing in his earlier work on meaning or cyber-regulation remain to a great degree unknown to the broader regulation and IS literature.

Hanseth and Lyytinen's definition of what constitutes an infrastructure is illustrative of the relationship between their work and Lessig's interest in meaning and regulation:

"An [Information Infrastructure (II)] is a shared, evolving, heterogeneous installed base of IT capabilities developed on open and standardized interfaces. It forms complex inter-organizational socio-technical ensembles like the Internet or EDI networks. Its are large, complex and heterogeneous; they evolve over long periods and adapt to unknown needs. Its are designed as extensions to or improvements on the installed base which influences how new IIs can be designed. The proposed theory addresses the design challenge of tackling the inherent complexity, scale and functional uncertainty of IIs." (Hanseth and Lyytinen, 2007 p. 1)

The problem Hanseth and Lyytinen are preoccupied with is very similar to the one Lessig deals with, but they have a different starting point. The former seek to develop a design theory for the development of an infrastructure, whereas the latter to provide a set of guidelines for the regulation of social meaning originally and then for regulatory design in an Internet environment. Whereas Hanseth and Lyytinen's problem seems to be a technical one that has to do with the process and Lessig's approach one that is more concerned with the regulatory content, as Black has suggested in her Proceduralizing Regulation papers (Black, 2000; 2001a), the two are closely interrelated.

Further, as we have suggested in chapter three describing the regulatory distantiation problem, it is the lack of participation in the regulation building process (procedural issue) that is the actual cause of the lack of balance in the content of Copyright related regulation (substance issue). The relationship between the two approaches is also apparent in the ontological commonalities that we have described above. Though Lessig's work is never as prescriptive as the one by Hanseth and Lyytinen, he is also deeply concerned with the process through which we may establish a meta-regulator in cyberspace. The features of Information Infrastructures presented by Hanseth and Lyytinen resemble the core of the problem that constitutes Lessig's departing point in relation to regulatory design:

"1) IIs are large and complex; 2) IIs must adapt to functional and technical requirements unknown during the design period; 3) IIs are designed as extensions of or improvements to existing IIs; and 4) they combine diverse components that are not under the control of a singular designer." (Hanseth and Lyytinen, 2007 p. 2)

Such features of IIs are very close to the features of Black's decentered regulation (Black, 2001b) or Lessig's ecology of different modalities of regulation (Lessig, 1998d) that accumulatively regulate individual behavior through the mechanism of indirection. Accordingly, the designer of Hanseth and Lyytinen is the equivalent of Lessig's "meaning manager" (Lessig, 1995c).

Two further features of design of Information Infrastructures bring them closer to the question of open regulatory development: in accordance to Hanseth and Lyytinen's definitions, they have to be open and adhere to shared standards. Openness is defined by them as follows:

"Openness in design signifies the lack of borders in terms of the II's scale, scope or function. This feature supports IIs' continuous growth as they cannot erect limits with regard to the number of elements they include, e.g., applications integrated, computers linked to the Internet, the number of users or the number of functions they support. An II must also be open in that it sets no limits as to who can participate in its design. Lastly, since openness is temporal and an infrastructure has no definitive start and end times, its development is principally open in time." (Hanseth and Lyytinen, 2007 p. 11)

This concept of openness is very close to the principles set by the Free Software Foundation (Free Software Foundation, 2004) and incorporated by Lessig in his understanding of how the CC licences are to be built (Lessig, 2005j) or how the problem of regulatory distantiation presented in chapter three may be resolved (Lessig, 2006a; 2006e).

Accordingly, the issue of standards as agreements is a key part of the understanding of Hanseth and Lyytinen's approach. Quoting David and Greenstein (David and Greenstein, 1990) they refer to the standard as agreement and in that sense they focus on one of the basic features of regulation as also perceived by Lessig, that is, IIs as the result of negotiations rather than the fruit of a Command and Control strategy:

"IIs are built on standards that "as general agreements between producers and users of technology" form another element of design space. Standards thus describe *agreements* among user communities concerning the structure and functionality of the II while the material infrastructure conforms to and implements the specified standard set. Therefore, II design is never unilaterally controlled and involves negotiation across multiple social worlds." (Hanseth and Lyytinen, 2007 p. 11)

Reaching an agreement, as indicated by the ANT approach and as appearing in Lessig's work does not merely involve human but also non-human actors. As illustrated in sections 6.4.3 and 7.2.2. in relation to version 3.0 of the Creative Commons licences, it is not merely the arguments of the humans that are taken into consideration but also the representation of Technical Protection Measures technologies or the Debian and FSF standards that are all taken into consideration before the wording of a licence is actually formed. In the case of Lessig's work this is expressed in the existence of different types of technologies either contributing or opposing to the regulatory content of a certain modality of regulation. In that sense, a TPM system like the one of iTunes is supportive of the DMCA provisions related to technical measures of protection, whereas a system like the Azureus Torrent client is opposing them. In order for a regulatory system to achieve its objectives, this agreement has to be reached. This is particularly well expressed in the realms of regulatory theory in the more recent work of Teubner (2005), where non-humans are viewed as actors that are indeed playing a role in the attainment of agreement, are represented in regulatory instruments and contractual agreements and *should* be taken into consideration when the design of such instruments is to take place.

We may trace a resemblance between the opposition of the decentered (Black, 2001b) approach to regulation to the CAC regulatory approach with the opposition of the ANT/ new institutional theory approaches to Information Infrastructures to the more managerial or engineering approaches to IIs design (Ciborra, 2000b). Accordingly, Lessig's work is easier to position within the critical legal studies, literatures which opposes legal positivism (Tushnet, 1991). In all these dichotomies we view a more generic trend illustrating the tension between approaches that take into consideration complexity and uncertainty and attempt a more participatory approach, and approaches that follow a more linear and simplistic model for appreciating the same phenomena.

Ciborra's (2000a) seminal work "From Control to Drift" features exactly the presuppositions behind such tensions and proposes a model for appreciating control in the Information Infrastructures setting. The Information Infrastructures literature as

described in Ciborra's work (2000b) traces the trajectory of information technology from the level of the tool to the level of the ubiquitous installed base. The pervasiveness of IT as explicated in the case of an Information Infrastructure is expressed in the two features identified by Hanseth and Lyytinen, i.e. openness and reliance on standardsagreements.

The proximity of Ciborra's and Lessig's work lies not merely on the fact that both view technology or Information Infrastructures as a modality of regulation or as framework in which behavior is defined, but most importantly in the way in which the control of such technology is approached. The case of Hoffman-La Roche [see (Ciborra, 2000c) and the more recent (Nielsen and Aanestad, 2006)] that Ciborra uses as a primary example for describing how "drift" as the opposite of strict hierarchical control operates is expressive of the links between his work and that of Lessig's. The information system described in the Hoffman-La Roche case is an Intranet that is built in the same openended and end-to-end principle as the Internet protocols. The way in which several applications are added to such a network within a corporate setting is exactly Lessig's description of the reasons why the Internet allows innovation. Ciborra's contrasts such a model to the ERP systems and Lessig's the un-zoned early Internet before the mid 1990s with the post 1990s Internet where "zoning" is the prevalent strategy and control appears as the primary concern.

Ciborra refutes the position that technology may be directly controlled through a classic single point or be developed only on the basis of an *a-priori* set of requirements. Instead, the development of Information Infrastructures is seen as a much more complex process of co-definition of the desired outcome through collaboration or coercion. Lessig also gradually acknowledges in his work that technology, similarly to meaning or any other form of regulation, has to be developed in such a way so that a collective action problem is solved. As explained in chapter three and explicated in the case of Copyright, it is not that a regulatory instrument cannot be developed through a direct command and control strategy but such an approach is deemed to increase enforcement costs. Black's decentered regulation approach (Black, 2001b) makes similar conclusions: not only is technology used increasingly as a means for producing a desired regulatory result, but it is regulation in general that needs to be developed in a more cooperative, inclusive, non-centralized and open fashion. Hence, Ciborra (2000b)

and Hanseth (2002a) use the term cultivation in relation to IIs, whereas Fitzgerald (2007) and Tsiavos (2007) use the same term in relation to Creative Commons, Lessig (2004d), Benkler (2001) and Boyle (1997a) refer to ecologies and institutional ecosystems, and Black and Teubner refer to gardening [(Black, 2000 p. 5), (Teubner, 1992)]

The common denominator in all such approaches is that the developer of an Information Infrastructure or a regulatory instrument: first is not building something from scratch, as there is always an installed based which she has to take into consideration; and second, that such a developer or cultivator cannot predict the outcome of her effort but only tries to influence the regulation or information infrastructure towards a certain direction taking into consideration a multiplicity of other actors playing a role as important as that of the cultivator's. The concept of cultivation is most clearly understood when contrasted with that of construction as Hanseth and Lyytinen when quoting the work of Dahlbom and Janlert do:

"[When we] engage in cultivation, we interfere with, support and control, a natural process. [When] we are doing construction (i.e. design in traditional sense (authors)), [we are] selecting, putting together, and arranging, a number of objects to form a system... [Cultivation means that] ...we .. have to rely on a process in the material: the tomatoes themselves must grow, just as the wound itself must heal." (Dahlbom and Janlert, 1996 pp. 6-7)

The guidelines provided by Hanseth and Lyytinen in relation to the development of an Information Infrastructure are expressive of precisely such a philosophy. They provide five principles for designing an Information Infrastructure that are based on the kind of understanding we have described above:

"1. Design initially for usefulness: Design the II so that it is initially useful even though the first users do not get any value from the number of users using the infrastructure

2. Draw upon existing installed bases: Utilize existing infrastructures as much as possible in the diffusion of the infrastructure

3. Expand installed base by persuasive tactics to gain momentum: Build an installed base as fast as possible.

4. Make it simple: Each element in the II should be as simple as possible

5. Modularize by building separately key functions of each infrastructure, use layering, and gateways" (Hanseth and Lyytinen, 2007 p. 23)

All five elements that Hanseth and Lyytinen identify may be seen in conjuncture with Lessig's techniques of association construction for meaning development and the features of FLOSS development that we have identified in sections 4.4.1 to 4.4.4. These five elements in conjunction with Lessig's association construction techniques provide a first framework for how a construction-cultivation model may be developed. The common element in both cases is that there is a great appreciation for existing IIs or regulatory infrastructures. Hanseth and Lyytinen underline that there may already be infrastructures in place that need to be taken into consideration before a new one is to be developed; Lessig also places emphasis on the existence of a certain social meaning that needs to be altered but it cannot be changed without some form of mechanism that allows the channeling of collective action. The two models seem to be linked with each other through various mechanisms of tying as we have seen in section 4.1.4. Lessig's model also contains the element of ambiguation that is not found in Hanseth and Lyytinen's model, whereas it is may be seen as related to the *interessement* moment in Callon's (1986) four moments of translation model: in order to achieve the construction of certain set of associations, the rest of the associations are blurred or blocked. A FLOSS, cultivation or end-to-end model comes as a detailed add on to the Hanseth/ Lyytinen and Lessig's meaning construction model to present particular technical implementations (e.g. through mailing lists) of how it is possible to give voice to the ends of a network and thus allow the cultivation of a certain regulatory ecology. In conclusion, all such models seem to be gradually moving toward the same direction of allowing regulation to be developed by the regulated subject rather than by a distantiated center.

4.6 Conclusion

The analysis conducted in this chapter provides a first list of answers in relation to the three puzzles posed at the outset of this chapter (section 4.) in relation to Lessig's work and allows the construction of a theoretical framework through which the Creative Commons case should be seen (chapters six and seven) in order to address Elkin-Koren's concerns (chapter two).

Starting with the first question, the conclusion that emerges from an analysis of Lessig's theoretical work is that his interest in Intellectual Property rights is driven by his broader interest in the post-constitutional and meta-regulatory politics over the Internet (section 4.4). His focus initially on the construction of the Internet Protocols, then on the Free Open Source Movement, and finally his initiation of the Creative Commons project seem to be the result not merely of his interest in the enclosure of the Public Domain or the Commons but also his deeper concerns regarding the de-democratization of a space like the Internet (sections 4.4.1 and 4.4.2) and his concern for identifying a meta-regulator for its governance (section 4.4.3). Further to that Lessig's interest seems to be in identifying the principles that should govern particular domains of action over the Internet and that would be able to influence the politics of the real space environment (section 4.4.3).

The answer to the second question regarding innovation and conservation relates to Lessig's research project as identified throughout this chapter: Lessig is interested in preserving values, principles and traditions for which there is a social agreement (sections 4.1 to 4.1.4). In his quest for fulfilling such an objective, Lessig accepts the national and international laws as being the domain to start with for the investigation of such principles. When such investigation fails, Lessig moves into an exploration of the values expressing agreement within a particular domain. In that sense he needs to be innovative in his exploration. Lessig's world view is not that these principles exist and are necessarily to be discovered but potentially that they need to be agreed and as such his objective becomes to provide the tools to the individuals for expressing and negotiating such principles. Lessig's work on construction is particularly useful in that sense (section 4.1.4). Though he believes that such construction is possible he also believes that it may be directed and as such there is need to provide the safe-guards of public law or the safe-guards of democratic accountability and transparency for the discovery and construction of these values (section 4.4).

The third question is answered by viewing Lessig's approach of state intervention and public regulation principles as two distinct issues: a regulatory instrument may be private in origin but susceptible to collectively plastic formation. While acknowledging the existence and influence of national legislation Lessig also acknowledges their inherent limitations and the multi-source regulatory environment the Internet constitutes (sections 4.2 and 4.3). In his quest for the meta-regulatory values Lessig will seek for a non-uniform, decentralized and as close to the regulated subject mode of meta-regulator. Such an investigation will lead him into an investigation of the principles contained not any more in the U.S. constitution but in the Internet Protocols and the modes of working of the Internet standard setting bodies to then move into their crystallization into the General Public Licence and finally suggest a similar model for the content in the form of the Creative Commons project (section 4.4). Lessig views the free construction of meaning, the free culture, to be threatened by the privatization of regulation through end user licence agreements, the capture of Copyright law by private interests and the subsequent virtually unrestricted legitimization of the technical measures of protection; however, he tries to respond with an innovative conservation measure: by providing tools for the construction of private regulation in accordance to public law principles.

The investigation of the three puzzles regarding Lessig's work presented at the outset of this chapter provided the constituent elements for a conceptual framework allowing an approach to the CC project not merely as an effort to establish the creative commons but also as a regulatory phenomenon seeking to deal with the overall issues related to the Copyright phenomenon as described in chapter three.

In sections 4.5.1 to 4.5.3 we have seen how Lessig's work is related to different bodies of literature ranging from regulatory theory, to FLOSS literature and a certain stream of Information Infrastructure research.

Section 4.5.1 deals with the ways in which regulatory theory approaches some of the issues that Lessig also deals with in his work. In particular we explore Black's work [e.g. (Black, 1997; 1998b; 2000; 2001a; 2001b; 2002a; 2002b; 2007)] and the way in which our understanding of the regulatory phenomenon shifts from one of a Command and Control model to one of a more decentered structure. The repositioning –and questioning- of the role of state in such a multi-source regulatory environment is featured in Scott's (2004a) post-regulatory state and in Baldwin's (2005) quest for smart or better (2006) and Braithwaite's (2000)responsive regulation. Black and Teubner's (Black, 2000; Teubner, 1992) approach to regulating as gardening of existing regulatory forms seems to be bringing together all the aforementioned issues: in such a model the

regulator seeks to take advantage of pre-existing regulatory tendencies rather than to produce regulation as if there is nothing already in place. This brings us to the problem of situational regulation, that is, regulation that is not experienced as such by the regulatee but is embedded in existing structures. Brownsword (2005; 2006) emphasizes the lack of choice the individual has in following or not such regulatory structures and hence questions the degree to which it is limiting to the freedom of the individual. All these issues are related to different aspects of Lessig's work on regulation as explained in chapter four and conclude to the same results as chapter three, that is that the problem with such a regulatory environment is that a different regulatory approach is needed from the one currently followed by mainstream Copyright theory and such an approach is found initially in Lessig's work and subsequently in its implementation in the CC project.

In section 4.5.2 we have the opportunity to view how the FLOSS model and the related research feature characteristics that are found both in Lessig's approach to the regulatory problem and the CC implementation. More specifically, we present O'Reilly's (2006) three Cs model (commoditization, customizability, communication) describing the main features of FLOSS software and then see how these same features appear both in the regulatory model Lessig presents in his work and the CC project. We also explore how the various aspects of FLOSS related research as presented by Von Krogh and Spaeth (2007) resemble Lessig's work and its application to the CC project. The outcome of this investigation is to appreciate software as regulation and regulation as software and to trace the implications of the transition of a model that was originally created for the development of software to the context of the development of a regulatory instrument.

Finally, section 4.5.3 returns to the origins of the FLOSS phenomenon and the use of a similar model for the development of standards, the Internet Protocols in particular, before the formal advent of FLOSS. A standard having the character of a regulatory instrument has features that make such a mode of development particularly suitable for it. A standard requires the construction of associations between those willing to use the standard (technologies, humans and organizations) in order to properly function. An Actor Network Theory inspired approach to standards (Monteiro, 2000) and Information Infrastructures emphasized precisely an understanding that views them as

hybrids of humans and non-humans that have to be cultivated rather than constructed. We examine the work of Ciborra (2000a) and Hanseth (Hanseth, 2002a; Hanseth and Aanestad, 2002) and we draw links with Lessig's and Black's regulatory models. Finally, we compare Hanseth and Lyytinen's (2007) five design principles with Lessig's association construction techniques and make a quick reference to Callon's four moments of translation (1986). Section x.3 concludes with an emphasis on the cultivation model that assumes that any regulator should seek to take into consideration and cultivate existing regulatory structures.

This chapter concludes the series of the two chapters that present the facets of literature related to this thesis: the Copyright issue (chapter three), Lessig's work as adapted to a conceptual framework for the CC project (sections 4.1 to 4.4) and the positioning of his work within the broader literature on regulation, FLOSS, standards and Information Infrastructures (sections 4.5.1 to 4.5.3). The following chapter deals with the research design followed in this thesis and further explores links between Lessig's work and notions from Actor Network Theory.

5. Introduction

The objective of this chapter is to illustrate the methodology used in this thesis for the collection and analysis of the data related to the CC project as presented and analysed in chapter six and discussed in chapter seven. In this section we present the basic philosophical biases of the research method and the way it links to previous chapters of this research.

Information Systems (IS) is a social science discipline that has been characterized as social systems of which Information Technology is one aspect (Galliers, 1992), and as such invites a multiplicity of methods for approaching the object of study. The boundaries between the social and the technological are not set. As a result, a long debate has been initiated regarding the way in which the technological artifact should be treated (Orlikowski and Iacono, 2001) (Monteiro and Hanseth, 1995). The discourse on the way technology should be approached in the context of the IS field has often raised questions regarding the way in which different disciplines may contribute to its investigation (Avgerou and Rovere, 2003). This understanding of the multiplicity of sources for informing our investigation of the technological artifact has led to the implicit conclusion that there is no single or universal methodological approach that could include all the domains of knowledge needed for the study of Information Systems (Galliers, 1992). However, while research agrees that a universal methodological approach is not advisable or feasible in the case of IS, the combination of multiple research approaches or the introduction of new ones from other disciplines is an issue examined by various researchers of the IS field (Galliers, 1994; Miles and Huberman, 1994; Yin, 2003; Lee, 1991)

Lessig's ontological assumptions regarding regulation presented in chapter four (particularly sections 4.1.1 to 4.1.4) predispose towards a methodological approach that seeks to trace the constitution of associations. This thesis views the CC project as an

effort aiming primarily at the increase of participation to the constitution of regulatory associations and is directly influenced by Lessig's understanding of the e2e model as a paradigm for allowing the expression of the ends of a regulatory network (sections 4.4.2 and 4.4.3). Such a model is compatible with the concept of 'sociology of associations' seen in Actor Network Theory (ANT) to describe the way in which social phenomena are constructed (Latour, 2005). The understanding of technology as an association assembly and the treatment of the social and the technical on equal terms are the features of ANT that are closest to the Lessig vocabulary for describing the regulatory phenomenon and in that sense we regard it as the most appropriate means for informing our data analysis.

In this research we combine a variety of data types and data collection and analysis techniques in order to critically approach the phenomenon of Copyright and Creative Commons. In that sense, this research seems to be falling under the broader tag of critical studies having as its main task to critically assess the restricting conditions of the *status quo* (Orlikowski and Baroudi, 1991). This thesis comes close to two of the founding conditions for being characterized as critical research: (a) it investigates the relevant phenomena at a situated level and (b) it seeks to critique assumptions that are taken for granted (Alvesson and Willmott, 1996; 2003)

The critical philosophical assumptions driving this research are compatible with the main ontological framework of its basic constituent parts, which is that of critical legal studies: First, Lessig, whose theoretical work as we have seen in chapter four is the conceptual basis of this thesis, in his early work (Lessig, 1989) emphasizes the importance of critical legal studies as a discipline that explores the conditions of social change, something that, as we will see, is a core investigation task in most of his later work both academic and in the CC context:

"Along one front of the battle between Critical Legal scholars and others is a struggle over the nature of social transformation, a debate over the ease with which a society should be able to change itself from what it is to something else"

This research aims at exploring how the CC project operates as a social transformation project that supports the regulatory autonomy of the creator and aims at the resolution of the distantiation problems presented in section 3.6.

Second, Elkin-Koren's (2005) and Dussolier's (2006) work, which is our primary source of the academic critique of the CC project as we have seen in sections 2.3 to 2.8, is also heavily influenced by the field of Critical Legal Studies though they both contain elements of doctrinal analysis in their approach to the issue of CC licensing.

Third, the Commons literature, particularly the work of Boyle (1997a; 2003c) and Lange (Lange, 1981; 2003a), which we have seen in sections 3.3 and 3.4, also falls under the broader category of critical legal studies and to a great extent informs our investigation of the CC project as we also explain in section 7.1.

Fourth, all regulation theory references used in section 4.5.1 ranging from the work of Black [e.g. in (Black, 2002b)] and Teubner [e.g. in (Teubner, 1992)] to that of Baldwin [e.g. in (Baldwin, 2006)], Scott [e.g. in (Scott, 2004a)] and Brownsword [e.g. in (Brownsword, 2005)] are all critical to the Command and Control regulatory model. The same is valid with respect to the FLOSS literature as Von Krogh [e.g. in (Von Krogh and Spaeth, 2007)] notes (section 4.5.3) and the references to Ciborra's [e.g. in (Ciborra, 2000a; 2002)], Monteiro's [e.g. in (Monteiro, 2000)] and Hanseth's [e.g. in (Hanseth and Lyytinen, 2007)] work that are critical of the mainstream or "managerial" Information Infrastructures literature.

Accordingly the collection and analysis of the relevant data are informed by a critical research approach seeking to unveil the reasons behind the choices made in the CC project that appear as inconsistencies in the CC critique (section 2.6).

This chapter comprises of two parts. In the first part (sections 5.1, 5.1.1 and 5.1.2) we explain why ANT has informed our data collection and how we have followed "in action" the CC actors, specifically through their interactions over the cc-licenses mailing list. The second part (sections 5.2, 5.2.1 and 5.2.2) deals in detail with the ways in which different aspects of the data analysis contribute to the exploration of the character of the CC project.

The following section presents how ANT and Lessig's theoretical work share some common ground and they way such a combined approach could inform the data collection and analysis.

5.1 Research Design

The core of the methodological approach followed in this thesis is to view regulation not as a ready made, uncontested and black-boxed artefact but rather as a set of associations potentially susceptible to change and intervention. This is an aspect of our research we have partially investigated in the critical review of Lessig's approach to the issue of regulation and Cyberspace in sections 4.4.1 to 4.4.3. Consequently, when investigating the CC project we are interested in the way in which the constitution of associations is facilitated in order to produce the CC set of licences. ANT is informative of the way in which we could approach the issue of data selection and collection to serve the purposes of our research:

"We study science *in action* and not ready made science or technology; to do so, we either arrive before the facts and machines are blackboxed or we follow the controversies that reopen them." (Latour, 1987)

ANT refers to science and technology but as we have seen in Lessig' work in chapter four (section 4.3) in the same way as Latour speaks about the social in terms of associations, Lessig uses the same heuristic in order to describe the regulatory features of technology, regulation, markets and social norms [e.g. in (Lessig, 1998d; 1999e)].

The most appropriate starting point for the identification of the CC project elements that are likely to be issues of controversy is the critique of the CC project, which was presented in sections 2.2 to 2.8. The first aspect of the critique that is relevant to the methodology design is its focus: the CC critique relates to the CC licences and the kind of meaning or associations they produce. The second aspect of the critique relates to the issues identified in relation to the licences. The basic concerns of the critique relate to the fuzzy ideology they produce and the way in which the use of more than one licences

with no common set of principles could be detrimental to the concept of the Commons as identified in Elkin Koren's work (2006a).

Both the basic constituents of the CC critique inform the choice of data range that is to be collected and analyzed. Since the main area of controversy relates to the licences it is the construction of the licences that should define the area of our data selection. The critical review of the literature related to the Copyright – Technology interaction in chapter three and Lessig's regulation-as-association ontology of chapter four explain why we are interested in the process of the CC licence constitution rather than their application.

In section 3.6 we have identified that the crux of the distantiation phenomenon is the alienation of the creator that bases her work on the reuse and remix of content or the user that wishes to share copyrighted material from the process of regulation development. In sections 4.4.1 to 4.4.2 we have seen how in Lessig's analysis this distantiation phenomenon may be described as a gradual process of excluding certain classes of authors from the process of regulatory association creation and how this is a phenomenon that is particularly intense over the Internet. The critique of the CC project in sections 2.2 to 2.9 has indicated that the CC project seems particularly problematic if conceptualized as a project aiming solely and directly at the support of the Public Domain and the resolution of the imbalances identified in section 3.2.

A combination of all the above in the face of the inability of the CC project to directly achieve the creative commons poses the fundamental question that is explored in this thesis: If the CC project cannot directly produce the creative commons, do we have reasons to believe that it could indirectly achieve the same objective by allowing access to the formation of the CC licences in non discriminatory terms? To use Lessig's vocabulary in relation to the regulatory dimension of the Commons we have identified in section 4.4.3, we could pose our basic research question in relation to whether the CC project could be seen as a regulatory commons project.

Such a perspective requires an exploration of the way in which the most contested aspect of the CC project, the CC licences, is actually constituted. It requires following the various CC actors in their interactions to build the licences and explore the results of
their actions in the face of the contribution to a regulatory commons that could support the creative commons.

The CC critique is employed again, after the analysis of the relevant data in chapter six, in the discussion chapter (particularly sections 6.2.4, 6.2.5 and 6.3) in order to assess the degree to which an approach that views CC as a regulatory commons could explain the controversy points raised in sections 2.2 to 2.9.

In the following two sections we present how Lessig's conceptual framework is related to the ANT approach and the ways in which an ANT inspired approach could facilitate the design of the data collection and analysis in this research.

5.1.1 Links between ANT and Lessig's work

Lessig in his early work is particularly interested in the concept of meaning which he employs as an alternative term for associations, arguing that meaning is preferable as implying agency in contrast to associations that offer more passive connotations (section 4.1.2). An association or meaning is activated when a token or text is placed within a particular context. Lessig clarifies that the use of the term text or token should be perceived in its broadest sense as an effort to apply semiotics to all kinds of entities. Lessig's predicament resembles in that sense the description of ANT as a "relentless application of semiotics" (Law and Hassard, 1999), though his interest is more one of how the association constructions are actually made rather than one of adopting a specific theoretical stance. This is expressed in his early work (Lessig, 1989) in his statement that he is interested in "pragmatics rather than semantics" (section 4.1.1).

The interest in associations in Lessig's work is of particular relevance as his overall orientation is towards the problem of regulation. Society in Lessig's work disappears between the concepts of meaning and regulation. The social as such exists only in relation to the two aforementioned notions. This is reminiscent of Actor Network Theory's implicit ontology regarding society: "there is no such a thing as society" (Latour, 2005 p. 5); there are only associations that need to be followed if anything is to be studied. Lessig is also interested in the tracing of such connections in order to

construct regulation. He is further interested in the cost any attempted construction may entail and in that sense he is close to the ANT approach viewing the notion of the Actor Network being one requiring *work* or effort in order to be constituted (section 4.2).

In the process of following different actors we essentially trace their workings, the trajectory of associations they create as they proceed into the construction of the entity we investigate, i.e. the Creative Commons project. The aspect of Latour's definition of the Network that is most relevant to our research is the one approaching it not as a given but rather as the end result to which effort has to be invested. In Latour's words:

"Work-nets could allow one to see the labor that goes on laying down the *net*-works: the first as an active mediator, the second as a stabilized set of intermediaries" (Latour, 2005 p. 132)

Such a network is not something fixed but rather something constructed that could always collapse:

"To make it fit our purposes, we have to add a fourth feature that, I agree, breaks down the original metaphor somewhat: a network is not made of nylon thread, words or any durable substance but is the trace left behind by some moving agent." (Latour, 2005 p. 132)

Even more importantly, Lessig's project is not merely the *tracing*, but mainly the *construction* of such associations: the breaking down of existing ones and the creation of new ones not only in theoretical level but also in his real-life project of the Creative Commons. Lessig is aware that these two acts, the disassembling and reassembling of associations is a costly enterprise, an enterprise that is not easy and that may be only achieved if the costs are somehow reduced. This understanding of association construction in terms of costs is similar to Latour's point that connections "are not made for free" (Latour, 2005 p. 132).

In the case of the investigation of the CC project, the way in which data and theory are used is not clearly demarcated: while Lessig's work is presented in chapter four as a theoretical work that allows us to explore the distantiation phenomenon (section 3.6) and the way in which the CC project may be conceptualized using an association language, in chapter six, Lessig and his work are presented as part of our data. In the

concepts we borrow from ANT we should also add that theory does not have a privileged position over the data collection and analysis.

In summary, the ANT concepts presented in this section indicate its compatibility with Lessig's work and set the background for the explanation of the way in which the principles of "following the actors" and tracing the construction of an Actor Network while assessing the effort it requires or the costs it entails could contribute to the detailed data collection and analysis.

5.1.2 Implications of ANT and Lessig's conceptual framework for the data collection and analysis

The idea of following the CC actors in the process of constructing the CC licences as an expression of the ANT principles identified in the previous section informs the way in which the relevant data are collected and analyzed.

The version of constructivism found in Lessig's work has also greatly influenced the way in which we have collected and analyzed our data. First, regarding constructivism, Lessig's view of law or meaning as constructed does not imply that they are 'fabricates' as in 'not-real'; the aim of Lessig's constructivism is, similarly to Latour's, to show that things could have been different (Latour, 2005 p. 89). In fact Lessig's predicament is even more 'activist': it is not merely that things could have been different but that *we can make them different*. The idea of constructivism in Lessig's work is equally focused, as in Latour's (2005 p. 89) accounts, on associations rather than on society as an amorphous whole. Lessig does not prefer the positivist over the interpretivist models or the other way around but is rather interested in the ways in which each one of them may contribute to the exploration of different aspects of the association construction phenomenon.

This is clearly manifested in the "Regulation of Social Meaning" (Lessig, 1995c) and "New Chicago School" (Lessig, 1998d) papers where he tries to combine interpretivist and positivist traditions in order to assess the net regulatory effect of meaning and new technologies regulation respectively. It is even more clearly expressed in the "Social Meaning and Social Norms" (Lessig, 1996b) paper, where he illustrates the way in which different approaches may be seen from a utilitarian rather than dogmatic perspective:

"The virtue of economics is its economy. Its sparse ontology. Its simplicity.(...) There have been critics: those who complain that too much is missed; that the reduction is not without loss; that what is essential has been lost. But in large measure, these complaints miss the mark. One does not mind pocket- sized maps, so long as they guide reasonably well." (Lessig, 1996b p. 2180)

Such approach is manifested in this thesis by choosing to use qualitative and quantitative data while following a critical perspective in order to approach the different aspects of the CC project.

The following sections deal specifically with the issue of data collection and analysis and explain how the ANT/ Lessig approach has influenced the specific choices made.

5.2 Detailed data collection and analysis

This thesis argues that the CC project primarily operates as a regulatory commons that only at a second level contributes to the creative commons. In order to explore the validity of such a position, it is necessary to explore the ways in which what we have described in chapter three as "native regulation" is actually given voice in the case of the Creative Commons project. As we have seen in chapter four, the application of an end-to-end model in the regulatory context essentially means the provision of the ability to the ends of a regulatory network to express their will. In chapter sections 4.5.1 to 4.5.3 we have seen how such an approach is common in regulation, FLOSS and Information Infrastructures theory and that the main question is how to govern such a model of meta-regulation.

In order to explore precisely this process of expressing native regulatory forms while at the same time cultivating their development towards a specific direction, we have used five types of data. These are presented in more detail in the following sections, but for the time being it is important to explain how each of these types contributes to our understanding of the regulatory cultivation and expression of native regulatory forms. The key area of our investigation is the "cc-licenses" mailing list. This is the list where public discussions over the development of the licences took place during the period under study. As explained in chapter section 4.5.2, mailing lists have been the primary instrument for the development of open standards and in particular the Internet standards by the IETF. We have also indicated in section 4.5.3 that one of the primary instruments of development adopted from the FLOSS movement by CC for the creation of the licences has been the mailing list. In the CC case, the mailing list operates as the instrument that allows the native regulatory forms to be expressed through the presentation of different cases of CC licences application by different users across time and space.

However, such a postulate needs to be further explored in the sense of who actually participates to the list and what form such participation takes, what is the structure of interactions and what is discussed over the lists. Each of these three questions requires a different type of analysis of the messages exchanged over the mailing lists and all contribute to our understanding of the phenomenon of expression of native regulation.

In terms of participation analysis, we seek to identify who are (a) the most active participants (b) the ones that are present for most time on the lists (c) the ones whose contributions have most impact and finally (d) the ones that initiate the most discussions. Such an analysis will allow an exploration of which forms of native regulation representations are more likely to appear on the lists.

In terms of thematic representation, it is important to know which are the themes that are most actively discussed on the list. This provides us with a picture of which are the regulatory issues that are of most importance to the list participants and in that sense which are the forms of behavior that are more likely to inform the creation of the CC licences. This kind of data most clearly relates native regulatory forms and the Creative Commons licences.

Finally, in terms of interaction patterns, we seek to visualize the ways in which messages initiated by different participants are likely to be linked to other participants' responses. Such a data analysis technique allows us a first view of how the regulatory

commons would look like in the case of the CC mailing lists. It shows how the native forms of regulation find their way into the CC licences through a series of interactions that –as we will see in chapters six and seven- though often seem fragmented and unrelated are linked to each other through a variety of mechanisms. The identification of such mechanisms and the explanation of their operation in chapters six and seven is key for appreciating how a mechanism that seems to be providing a flat mode of participation is actually organically cultivated toward a particular direction through static and dynamic cultivators.

The analysis of the licence operation is another analytical tool that is used in order to explain the relationship between the autonomy of the creator and the emergence of a commons. Two aspects of the licences are the focus of this study: First, the operation of the standards template found in all licences; and second the operation of the ShareAlike element. In both cases the objective is to illustrate how the commons are actually formed in the case of the operation of the licences and then (a) relate it to the critique exercised to the CC organization and (b) link it with the transition of the CC project to a project aiming at the creation of licence-based commons to the cultivation of principle-based commons (sections 6.3, 6.4.3 and 6.4.4)

Finally, we use a series of different data sources ranging from formal CC material to the Lessig 2005 series of newsletters and interviews with Lessig and Boyle in order to provide background information concerning the CC project. This kind of data are used not so much to describe how native regulatory forms find their way into the CC project but rather how the formal CC organization steers the cultivation towards the desired direction, primarily through a series of meaning construction mechanisms.

The following sections constitute a detailed presentation of the data collection and analysis in accordance to our ANT/ Lessig approach illustrated in the previous sections.

In each of the two following sections (5.2.1 and 5.2.2) we present the way in which data were collected and analyzed focusing primarily on data deriving from the "cc licenses" mailing list, as our objective is to explore the associations of the CC licences and this mailing list is the main *locus* where the relevant discussions take place. The rest of the data collected and analyzed were used either for the illustration of the construction

taking place in the CC project but occurring on a different level (CC licences legal texts to indicate construction of associations through the operation of the CC licences) or to compile a background narrative concerning the operation of the CC project (all other types of data).

5.2.1. Data Collection

Data collection took part in five stages in accordance to the five different broad types of data that were used for the exploration of the project: [i] postings on the 'cc licenses' mailing list [ii] formal material from the CC organization and other affiliated organizations [iii] Lessig's series of twelve Newsletters in late 2005 [iv] the CC licences [v] two interviews with Lawrence Lessig and one with James Boyle in relation to the various findings from the ongoing analysis of the data.

The first type of data were postings collected from the main CC mailing list, the 'cc licenses' mailing list. We have used two data sets, one (primary) operating as the main source of empirical data and a second one (auxiliary) functioning as a controlling set. The primary data set ranges from August 2002 to December 2003 and covers all interactions between the mailing list participants irrespective of their topic. The auxiliary data set was not chosen on the basis of a defined time period but rather a part of the discussion concerning v.3.0 of the CC licences and is located in August 2006.

The rationale behind the use of a primary and auxiliary data set was to explore whether the patterns appearing in the primary data sets, particularly the ones related to the interaction patterns were to be repeated in a different time. The primary data set covers the very first period of the CC project whereas the auxiliary one the latest developments on the mailing list discussions.

Each of the messages collected was inserted in the bibliographical database of the thesis including among other information, the name of the sender as appearing on the list, the URL in which it may be accessed on the ibiblio servers, the posting date and the most recent access date.

The 'CC licenses' mailing list operates on the iBiblio servers and access to the list only requires a simple registration by the user. The archives of the cc mailing lists are publicly available and may be downloaded as ASCII files or accessed directly on-line in the form of archived web pages. These archives are available in monthly units, where all postings or messages that have been sent are gathered together and presented in two alternative forms, either ordered in terms of the time they were sent or the thread under which they are placed. A 'thread' is the topic under which a message is posted and operates *de facto* as a unit for the ordering of the messages as they are sent to the various participants of the mailing list: the message is sent with a specific topic and then other participants choose to change the thread topic, create a new topic or answer to the issues posted keeping the topic intact. This chain of messages posted under the same topic constitutes the thread. The iBiblio lists allow an archiving of the messages either by date or by thread but always in monthly units. In this thesis we have chosen to analyze the messages using the time unit of the month but the classification of the thread following the default pre-classification found in the archives of the lists. It is important to note that the dates of posting of the relevant messages as appearing in the archives is sometimes misleading of their actual sending time as each message gets the time stamp of the mail server of the sender and due to the different time zones the automatic ordering done by the ibiblio servers does not always correspond to the actual time in which they have been received, and this is yet another reason why we have chosen to opt for the thread classification.

In the primary data set a variety of threads appears, whereas in the auxiliary one we follow the interactions occurring in a single thread, that of CC v.3.0. The positioning of primary and auxiliary data sets in the life-cycle of the CC project allows a further clarification of the features of the list that are time specific and those that seem to be more mailing list-ingrained.

The second type of data were formal CC data which were collected in the period between January 2005 and June 2006 and involved formal CC audiovisual and textual material. The following types of material were collected: (a) audiovisual material (b) formal CC website material (c) formal CC Frequently Asked Questions material in wiki

form (d) the CC and iCommons blogs (e) material from the Science Commons, iCommons and ccMixter sites.

Overall, we collected four CC short films, web pages from the CC, iCommons, ccmixter and Science Commons sites, one wiki related to the CC FAQ and two blogs (CC and iCommons).

A detailed list of the material that was collected in relation to the formal CC project was created indicating the type of material, the specific title of the web page, the format of material (wiki, web-page, audiovisual material, legal documentation) and the date of its creation. All relevant material was stored in pdf documents and indexed in accordance to the date of collection. This was deemed necessary due to the changes in the relevant web-pages and removal of material from the CC servers.

The data of this second category were complemented with data from two more sources constituting the direct ancestors of the CC project, the Counter Copyright and Open Law projects. We managed to collect their archived web pages from the Internet Archive and also stored and indexed them in the same way as the other CC material.

This type of data has been collected as a result of exploring the way in which the formal CC attempts to construct associations concerning its basic features and operation particularly in relation to the CC licences. This was the reason why we did not seek to collect detailed material from any source other than the CC project. The objective was to explore the kinds of associations the formal CC project was attempting to construct.

The third type of material comprises of Lessig's twelve Newsletters that were posted between October and December 2005 and describe the basic features of the CC project, respond to the various CC critics and explain the basic operation of the licences. Each of these newsletters was identified, indexed and stored in Portable Document Format.

The fourth type of material collected were the variations of all CC licences v.2.5 resulting from the combination of the three basic CC Licence Elements (Atrribution, Share Alike and Non Commercial) with the basic CC template. We collected v.2.5 CC licences, as they were the most recent version at the time of collection (January 2006).

The process of data collection and analysis has been done in an iterative and incremental way following as a criterion for the progress of the whole process the saturation of our findings: initially we have collected data from August 2002 to August 2003, then we collected data until the end of 2003 and then we used an auxiliary data set in order to control the findings of the first data set. Once the interaction patterns started to repeat themselves, the data collection stage was deemed as completed.

All data were first collected and stored and then studied by the author of the thesis. This was primarily done due to the risk of the material being removed or altered: The CC web-site, wiki and audiovisual material are constantly updated and part of the iBiblio archived mailing lists has been removed in Autumn 2006 and the author of the thesis had to request a copy from the technical advisor of CC Corp, Mike Linksvayer.

The fifth group of data collected comprised of three short interviews conducted by the author of the thesis. The first two were with Lawrence Lessig in May and June 2006 and the third with James Boyle in June 2006. Objective of the interviews was to confirm some of the findings of the analysis that has been conducted on the basis of the three first groups of data. These were semi-structured interviews where four questions were posed to each of the participants: (a) how did the CC project emerge and which are its basic features (b) which is their response to the critique of the CC project (c) whether the CC project is an associations/ regulation construction project (d) how do they view the future of the CC project and their role in it. Two of the interviews were filmed and one was tape recorded.

The first group of data (investigation of the 'CC licenses' mailing list) is the core data set as it provides information regarding the process of the constitution of the CC licences through a public consultation process where access is allowed in non-discriminatory terms. The second (CC formal material) and third (Lessig's Newsletters) data sets provided background information regarding the CC project and allowed the construction of a narrative regarding the origins and basic functions as portrayed by the CC project. The fourth group of data (CC licences legal text) allowed an investigation of the way of the operation of the CC licences, whereas the fifth group of data (CC legal

text) allowed an investigation of the CC construction from the perspective of its founders. In overall, we may see each of the five data sets providing different aspects of the construction process and in that sense each one, in its own sense, constitutes a way to follow the relevant CC actors.

5.2.2. Data Analysis

Objective of the analysis of the "cc licenses" mailing list was to follow the actors in the construction of the CC licences and explore in detail the ways in which they constituted the relevant associations that produced the formal regulatory instruments of the licences. We tried both to follow the actors in the construction making process (Latour, 2005 p. 132), but also practically trace the construction of the network as a result of their (not so transient) interactions (section 5.1). For that reason we identified three aspects of this construction process.

The first aspect related to the patterns of participation to the constitution of the licences. In that sense we were interested in seeing (a) what is the portion of the active participants that are the most active, (b) in what degree they form the agenda for the discussion and (c) what is the impact of their contribution. By assessing these three sets of criteria we would be able to examine the degree to which there is an end-to-end construction of associations as advocated by Lessig (Lessig, 2001b) and we have seen in sections 4.4.2, 4.4.3 and 4.5.

The second aspect of the analysis of the "cc licenses" mailing list related to kind of themes appearing on the list. There were two reasons why we have investigated this aspect of the mailing list: first, these data allowed to map the types of meaning-associations that were constructed on the mailing list; and second, the results were used for the assistance of the analysis regarding the operation of the licences in terms of flows of work and rights as we have explained above in relation to the third group of data.

The third aspect of the "cc licenses" mailing list constituted an analysis of the interactions over the mailing list and aimed at their visual representation. This was an

instrumental part in the analysis conducted in this thesis as it operated as bridge between the first and second aspects of the "cc licenses" mailing list and allowed a better understanding of the background narrative that was constructed through the use of the first group of data. The interaction patterns analysis also constituted a pictorial representation of the association construction efforts between the different actors (Latour, 2005 p. 132) and provided us with a first picture of how the Commons in the level of regulation (section 4.4.3) look like (see section 6.4.4. for the results of the analysis).

The very first step in the analysis of the data was to actually carefully study all the relevant postings in order to get a feeling of the overall character of the messages posted over the "cc licenses" mailing list. The author of the thesis was familiar with the context and content of a substantial part of the mailing list content participating to the CC project since March 2004 as part of the CC England and Wales team and this experience was particularly helpful for appreciating the way in which the project operated; however, the detailed studying of the message of the early period of the CC project was instructive for identifying a certain level of redundancy in the postings in the sense of spam messages that were filtered out from the subsequent analysis.

We may see the population of any mailing list being divided in three categories: those that are members of the mailing list but have made no posting, commonly known as "lurkers" in the mailing list jargon, a second category that involves members that have made at least one posting and in that sense they are classified as "active participants" and finally a third category of members that are responsible for most of the messages and the direction the overall discussion takes and are classified as "key participants". In our research we are interested only in active and key participants, whereas we have no data concerning the lurkers. In this early period we identified 55 individual participants and 30 individual spam senders whereas in the auxiliary period we have 11 individual participants with no spam senders. The primary data sample comprises of 228 messages (33 spam messages and 7 failed deliveries), whereas the auxiliary data set numbers 45 postings by participants of the list.

The investigation of the participation patterns was primarily done by enumerating the various aspects of participation from the relevant messages collected from the "cc-

licenses" mailing list and inputting all the relevant data in spreadsheet software (Open Office Spreadsheet Calculator v.2.5) which was used to make the relevant calculations and produce the necessary graphs. In order to investigate the way in which participation is structured over the list we have decided to create a series of indicators that first set the overall boundaries of participation, second focus on the participation patterns of individual participant and finally compare the two in order to provide an overall view of the situation.

The following measurements were made for the primary data set:

(m1.1) overall/ individual number of postings per month; (m1.2) average/ individual postings per month; (m1.3) maximum and minimum number of postings per month; (m1.4) overall number of participants per month; (m1.5) average number of participants per month; (m1.6) maximum and minimum number of participants per month; (m1.7) number of threads initiated per month; (m1.8) average thread depth per month; (m1.9) maximum and minimum thread depth.

In the case of the auxiliary data set we needed to slightly amend measurements (m1.6) to (m1.9) to the nature of the data since we only had to deal with a single thread. However, as we will see in section 6.4.4 we have devised the notion of 'implicit thread' in order to express thematic divisions within a single thread of great depth and thus examine the degree to which the same kind of phenomena appear within threads in more mature stages of the discussion development. Hence measurements (m1.6) to (m1.9) refer to the auxiliary data set to implicit threads' depth.

In terms of the indicators of overall postings and initiated threads at a first stage we have translated both posting and active members into percentages of the overall population and then at a second stage we have juxtaposed the one with the other. In terms of the indicators of persistence and average depth we have only turned the active members into percentages of the overall population and then segmented the population in six and seven parts accordingly to see how the top persistence and average depth identified in the project are distributed amongst the various active participants.

The indicators developed and assessed in all three approaches facilitate a first mapping of the participation patterns in the cc licenses mailing list. We have tried not merely to assess the participation in terms of postings (participation intensity) but in relation to other indicators expressing their contribution to the formation and evolution of the discussions. In that sense we sought to identify the degree to which the key participants are also the ones that form the discussion in the sense of initiating the threads (participation impact) and hence setting the main topics of discussion. We have also used indicators to identify which are the participants that produce deep threads and hence are the ones with the greatest impact to the overall discussion. Finally, we tried to measure participation also in terms of time (participation persistence) by assessing their presence on the list with at least one posting per month.

All these measurements and subsequent analysis produced a series of graphs expressing the portion of the key participants in the overall population of the active participants as well as the kind of participation (setting the agenda, impact of participation). Such indicators allowed an exploration of how does the e2e model of Commons for regulation we have seen in chapter four (section 4.4.3) operate in the case of the CC project. In the presentation of the participation analysis results in section 6.4.1 we have chosen to illustrate only the most representative cases of participation patterns from the early "cc licenses" period in terms of distributions of participation in the overall population (figures 6.3 to 6.5) and a pie chart (figure 6.6) of the participation shares of different participants in the auxiliary period. These kinds of representation illustrate who are the main actors that *actually* participate in the construction of the associations that will produce the final CC set of licences.

The next stage of data analysis was to explore the primary data set in terms of the themes appearing on the cc licenses mailing list. The grounded theory (Glaser and Strauss, 1968; Strauss and Corbin, 1990) influences that have informed our analysis have originally made the author of the thesis to use Atlas/ti as the software assisting in the analysis of the relevant data. Atlas/ti has been developed specifically with the grounded theory as its background (Muehr, 1991) and indeed allows a series of functions particularly in relation to coding that are extremely powerful and useful for an application of a grounded theory approach. We have, however, soon decided to opt out from Atlas/t as it proved to be very cumbersome for the kind of data set we had, which

was fairly limited and required a visual mode of representation and a quantitative type of analysis AtlasTi could not offer. Hence, we decided to use spreadsheet software in order to do the coding in successive layers that could be represented in the form of columns and then be able to quantify the frequencies with which certain themes would appear and the periods in which they appear more intensively. The use of generic type software for the conducting of qualitative analysis is not new and has indeed been suggested in the relevant literature (Richards and Richards, 1994) with the condition that it serves the specific needs of the researcher as was the case of spreadsheet software used in this thesis.

The analysis of the thematic representation was conducted in three successive stages. In the first stage the threads appearing each month were input on the spreadsheet in a linear fashion. This allowed us to have all threads per month and the formal representation of the topics that have been suggested during each month of the project. However, a first reading of the relevant postings revealed that the themes appearing during the discussion of each of the threads were both of a more generic and a more specific level. Hence, we conducted a first level of analysis that corresponded to the Open coding phase in the grounded theory model (Glaser and Strauss, 1968; Strauss and Corbin, 1990) where themes appearing in each thread were identified and then placed in a column next to the thread column on the spreadsheet. After having completed the collection of themes for all postings of the periods under study, we have placed them on a separate spreadsheet and tried to compile a list of second level codes emerging out of the repetition and appearance patterns of the first level codes. This stage corresponds to the axial coding in the grounded theory approach and has led us to a series of 84 codes which we regarded as the backbone of the issues represented in the mailing list discussions. 14 of these backbone codes were further broken down in three successive layers of more concrete codes: the first layer comprised of 67 new codes; eight of these codes were again broken down into 17 more codes that constituted the second layer of sub-codes; two of them were further analyzed into five final categories of 'atomic' codes. The basic code backbone has been abstracted in 15 super-codes that we regarded as a good first description of the basic thematic mapping on the list. In overall we ended up with five layers of codes ranging from Layer I which are the most abstract ones to Layer V which are the most specific ones. In the process of compiling the 84 backbone codes of Layer II we also came across a series of Layer III and Layer V codes that led

us to the adoption of a five layer structure so that we were able to have a complete picture of the various levels of themes appearing on the cc mailing list.

Layer codes were divided in three categories: first codes relating to the CC licences (CC licences operation, Commons Deed, Licence Options, Basic CC template, Disclaimers and Notices, GPL/ Copyleft/ Open Source, New Licence Variation, Local Variations of CC licences) which were the majority of the codes; second codes relating to the workings of the CC as an organization or as a list (Announcement, List Operation Issues, Technology, Statistics, Organizational Issues); and third broader Copyright issues (Broader Copyright Issues). We have also created a separate code for clarity (Clarity) that seemed to be a prominent issue cutting across the different categories of themes.

Having constructed the 15 codes we considered as the most representative of the various themes appearing on the "cc licenses" mailing list, we have revisited the open codes to see the degree to which they could actually correspond to each other and assess whether any amendments were required. This process of verification of the codes led to a new list of 21 codes based on the original 15 codes but using some of the Layer II and Layer III codes and also abstracting some of the codes of Layer I in order to describe more general behavioral trends.

The updated list was again compared to the open coding list and produced a final classification of 23 codes most accurately expressing the thematic representations appearing on the list at the granularity most expressive of the strength of the representation. In the process of producing the final list we broke down the Organizational/ Operational Issues code on four sub-codes, two of them representing the original classification from which it has derived (CC Organizational/ Technical issues and solutions; Mailing list rules) and two new ones: (a) a 'Principles' code that seemed of particular relevance as in the later stages of the CC licences mailing list the issue of principles that should govern CC or the Free Software/ Content movement or Copyright itself appears more frequently (b) a 'Linking with Free Software/ Content organizations' code that expressed the need to explore the association of CC with other related organizations. We have also rejected the CC licence Operation code as too vague and being already more accurately represented by the individual Licence Elements or the Basic licence template codes.

Once the final classification of codes was made we returned to the original table of threads per month and counted the occurrences of a theme per thread. Even if a theme appeared in more than one backbone codes found in the thread we set as a boundary the appearance of each final classification code only once in each thread. Following this process of enumeration of final classification codes per thread on a monthly basis we ended up with a comprehensive list of the code representations for the period under study. Once this table was prepared we were able to identify the levels of representation of the codes over the list. The complete table of the five layer analysis results is presented in figure 5.1

Classification I	Classification II	Rejected	Breaking Down	Final Classification
	Organizational/ Operational Issues	Organizational/ Operational Issues	Principles	
Organizational Issues			CC Organizational/ technical issues - solutions	CC Organizational/ technical issues - solutions
List Operation Issues			Mailing list Rules	Mailing list Rules
			Linking with other Free Content/ Software Organizations	Linking with other Free Content/ Software Organizations
	Compatibility/ transition			Compatibility/ transition
Clarity	Clarity			Clarity
CC licence	Authorship/ moral rights Commercial			Authorship/ moral rights Commercial
Operation	CC Related	CC Related		
GPL/ Copyleft/ Open Source Licence Options	FLOSS Related			FLOSS Related
	SA ND BY			SA ND BY
Basic CC Template	BASIC (Basic Template)			BASIC (Basic Template)
Commons Deed	CD (Commons Deed)			CD (Commons Deed)
Broader Copyright Issues	CR Related (Copyright related)			CR Related (Copyright related)
	PD (Public Domain)			PD (Public Domain)
CC Technology	Technology			Technology
Local variations of CC licences	Context (local/country)			Context (local/country)
New Licences/ variation	New Licences/ variation			New Licences/ variation
Disclaimers/ Notices	Disclaimers/ Notices			Disclaimers/ Notices
Announcement	Announcement			Announcement
Statistics	Metrics			Metrics

Figure 5.1 Layer Analysis of the "cc licenses" mailing list thematic representation

We have quantitatively analyzed the relevant data produced from the qualitative analysis of the codes by following three classes of indicators: the first one sought to set the boundaries of thematic representation on the list; the second indicator aimed at identifying the way in which the most active themes appeared in time; and the third one had as its purpose to map the distribution of theme participation over the whole range of topics.

The identification of the active thematic units as expressed in the final classification coding was to a great extend conducted in the stage of the qualitative analysis of the data; however, the quantitative approach used the Overall Thematic fluctuation per month' as the main indicator for outlining the boundaries of thematic representation in the mailing list discussions as it expresses the total amount of all codes appearing per month in the course of the relevant data set. This indicator provided the *overall thematic intensity per month*.

For the identification of patterns of specific thematic representation occurring on the mailing list we used the indicator of Thematic Appearance per month that was calculated on the basis of a code appearance per month. Three variables were used for this purpose: average, maximum and minimum appearance. This indicator was used in order to identify *specific thematic intensity per month*. A second indicator also used to identify thematic appearance was that of the monthly appearance of a theme which expressed the number of months for which a theme appeared. The objective of such indicator was to map *specific thematic persistence* in the course of the project.

The final set of indicators sought to identify distribution of population over the list in relation to the indicators appearing in sets one and two. The first step was to identify the *range of thematic appearance* by finding the maximum and minimum percentage of appearance of a theme on the list. This was calculated on the basis of the sum of all popularities of themes appearing on the list. The range of thematic appearance was calculated to be between 0.27% and 8.44% and hence we decided to examine a range of percentages between 0% and 10% with a unit pace of 2% for clarity reasons.

The thematic representation analysis allows a tracing of the themes that are the most popular on the "cc licenses" mailing list and as such it indicates both the issues of controversy as well as the target of the association construction efforts by the active participants of the mailing list. In the presentation of the thematic analysis results in section 6.4.2 we provide only the two basic sets of results in the forms of two graphs: one showing the popularity of the finally identified 23 themes (figure 6.7) and a second illustrating distribution of popularity of the various targets of construction or the degree of controversy raised by different aspects of the CC project, whereas the second (figure 6.8) allows us to see whether there is a single theme that dominates the discussion or there is an more balanced set of themes appearing over the "cc licenses" mailing list.

These themes as complemented by the content analysis of the relevant postings and the postings used in the auxiliary period of v.3.0 of the CC licences are used in section 6.4.3 in order to examine the degree to which they provide an input in the legal text of the CC licences. The analysis of section 6.4.3 focuses in particular on the issue of transparent copies and Technical Protection Measures which is one of the dominant themes in the CC v.3.0 licences discussions.

If the participation analysis provides the starting point of the construction effort, the thematic representation analysis indicates the objective of the association construction activity. It also informs the analysis of the licence operation. The following part of the analysis that deals with the interaction patterns on the "cc licenses" mailing list complements the analysis conducted up to this point and provides an actual visual representation of the network of associations as created in action.

What the interaction patterns seek to show are the boundaries of the associations assembling process and the way in which various heterogeneous contributions are gathered together in order to produce a final result. Considering that the "cc license" mailing list is the primary tool for the construction of a Commons, at least in accordance to Lessig's ontology [as illustrated in section 6.2 and the relevant Lessig's Newsletter (Lessig, 2005h)] who was the founder and ideological driver of the CC project, then by tracing the interaction patterns over the CC licenses mailing list we trace the formation process of the Commons; and since the kind of Commons that is produced over the

mailing list process is one of regulatory nature (section 4.4.3), i.e. the CC licences, it is accurate to claim that by investigating the interactions we investigate the cultivation of the regulatory commons.

In order to achieve our objective, and in accordance to section 5.1.1 where we explain the linking between ANT and Lessig's work in the context of the CC project, we need to follow the actors in the process of forming the CC licences. In particular, we followed the formation of different threads using the month as the main time units, since this is also the way in which they have been archived over the iBiblio lists.

We attempted a visual representation of the interactions trying to tie each message with the one it was directly linked to. This is an important detail to clarify: a message may be thematically relevant to multiple other messages on a mailing list, as the "cc licenses" mailing list, that extends to some tens of hundreds of messages and for a period of about four years. When tracing the linking following a particular thread we tried to locate the specific messages a posting was explicitly referring to and accordingly illustrate the relevant associations. Again we followed the references found in the postings themselves trying to deviate as less as possible from the information discovered in the data field itself.

In order to visually represent these interactions we used a series of diagrams, each diagram representing a particular thread, for the whole period under study. The diagrams comprised of boxes where we included the name of the participant and the date of the posting while we also kept a complete reference to the posting as indicated in section 5.2.1 regarding data collection. For the auxiliary data set which was of a narrower scope we also included in the box a description of the main thematic pointers of the posting (see e.g. figure 6.13), whereas for the more extensive primary data set we constructed complete narratives which were stored in a special text file and in the diagrams we only included the name of the author of the message and the year of posting (e.g. figure 6.11). The link between the narrative and the diagrams was made easy through the system of referencing that allowed the correspondence of boxes and narratives through the referencing system.

After the identification of the messages and pictorial representation of the way in which they were linked with each other, we have actually drawn lines between the messages indicating the way in which they associate with each other in the context of the single thread. In the process of drawing these connections we noticed a series of instances that have informed an improvement of our analytical methods: First, we noticed that a thread could transform its topic in the sense that while the participants remain the same, the topic may change for at least one time. In those cases we presented the threads the one next to each other so as to make visibly clear the thematic transformations (see e.g. figure 6.10). In the case of the auxiliary data set since for practical reasons such a representation was not possible, we have chosen to use the green color to denote the thematic change since there was only one formal thematic change occurring during the period under study.

Second, because of the time unit of the month that we have opted to follow as a result of the same classification made by the cc-licenses archiving software itself, we have presented threads evolution in monthly units (see e.g. figure 6.1). However, in the cases where the thread would extend for a period exceeding that of one month we would always present the set of interactions at the month of the initiation of the interaction with the interactions occurring in the following months also being represented but in red color (see e.g. figure 6.15).

Third, we identified two types of links made in the posting messages: (a) explicit links that normally quoted directly the messages they were referring to (see e.g. figure 6.14); and (b) implicit links that though they were referring to a specific message, no verbatim parts of the message appear in the body of the subsequent posting. We have represented the former category of links with a straight line and the latter with a dashed line (see e.g. figure 6.10).

The visual representation of the interactions over the "cc licenses" mailing list indicated the way in which the association construction process is manifested and also constitutes a first pictorial expression of the way in which the actual Commons in the level of regulation appear. It constitutes an expression of this thesis strategy of following the construction process and it provides a set of results that assist in the assessment of how the regulation construction process is manifested in the CC project. An indicative list of interaction patterns may be found in appendix III

In summary, all three forms of analysis of the "cc licences" mailing list are used in order to follow the actors of the CC project in different aspects of their effort to construct associations. The first aspect of analysis (participation analysis) indicates who participates, the degree to which she frames the discussion and the impact she has on the discussion; the second aspect of analysis (thematic analysis) illustrates which are the main issues of controversy or interest over the "cc licenses" mailing list, the areas of native regulation represented on the mailing lists and as such the targets of construction; and finally, the third aspect of the analysis (interaction analysis) visualizes the interactions between the active participants over the "cc licences" mailing list and allows the identification of the relevant participation patterns that is presented in section 6.4.4. The combination of all three forms of analysis in section 6.4.5 allows an investigation of the terms under which the association construction takes place in the case of the CC project and the way it contributes to the construction of the creative commons.

As mentioned above the second data group drawing material from the formal rhetoric of the CC project is used primarily in order to develop a background narrative that would allow us to produce a coherent story regarding the basic ideological foundations and means employed by the CC project in order to achieve its objectives. Once the relevant material was collected, we produced seven pointers regarding CC's world-view. These findings are illustrated at the end of section 6.1.

The third group has been primarily used to complement the narrative and results presented in section 6.1. In addition it was used in order to explicate the means employed by the CC project in order to materialize the worldview identified in 6.1 and is presented in section 6.2 of the thesis. The analysis conducted on the groups two and three of the data aims at producing a coherent explanation of what the CC project is about from the perspective of the CC project. By producing such form of narrative we reenact the process of meaning construction aimed by the CC project and hence materialize the approach of following the actors (Latour, 1987) in the association

constitution process as described in sections 5.1.1 and 5.1.2. A summary of all features of the CC project resulting from our analysis may be found in appendix II.

The third (Lessig's twelve Newsletters) and fourth (licence legal text) groups of data were used to conduct a single combined analysis aiming at explicating the operation of the legal layer of the licences. The analysis separated the licence in two parts, one being the basic template of the licence and a second comprising of the four basic licence elements. This distinction was derived from the explication of Lessig's Newsletters [particularly (Lessig, 2005c; 2005j; 2005k; 2005l)] we have collected. After this analytical distinction was made, we have assessed the four licence elements on the basis of their popularity and content as explicated in the analysis of the "cc-licenses" mailing list (see description of the analysis results in section 6.4.2). The assessment indicated that the elements of Attribution and ShareAlike were the ones that presented most interest to the participants and we further explored the content of the discussions in order to identify the specific parts of these elements that were of interest. The content analysis indicated that the participants were primarily interested in the way in which the *regulatory autonomy of the creator* could be achieved.

The element of autonomy that seemed to be the most dominant in the "cc licenses" discussion list related to the ability to of the creator to define the regulatory conditions of the distribution of her work. In order to further map this element in the operation of the CC licences, we have produced two schematics (see figures 6.1 and 6.2) tracing the flow of work and licences in relation to the operation of the basic template and the Share Alike element. In each of the two diagrams we sought to identify the way in which the work and the relevant copyrights were linked to any author making an original contribution in the trajectory of the work.

We used two scenarios: In the first scenario we explored the flow of the Work (W) and the Licence (L) between five individuals (A, B, C, D, E) in the case of the operation of the basic template (figure 6.1.) and the right to make verbatim copies of the work. The objective of this exercise was literally to follow the way in which the relationship between different users of the licence were constructed and as such visualize the Network of associations produced in accordance to the operation of the licence or the kind of network that the licence produced.

In the second scenario we used a more complex case to explore the operation of the Share Alike Licence Element: We explored the flow of the original work (W) and the creation of a derivative work (DW) as a result of a CC ShareAlike licence between a group of four individuals (A, B, C, D). After the derivative work was created we explored the flow of the W, the DW and the licensing relationships. In particular we identified licensing relationships with respect to the original work (W) which we name L1 and licensing relationships with respect to the derivative work (DW) which we named L2. The objective of this analysis was again to follow the actors in the construction of their licensing associations as a result of the operations of the licence that were the most popular in the "cc licenses" mailing list in accordance to our finding in the analysis of the fourth group of data.

Once the diagrams and the relevant themes were identified, they were juxtaposed to Lessig's accounts of the operation of the relevant aspects of the licences as found in his 2005 series of the twelve Newsletters, and then presented in a coherent whole aiming at pointing at the way in which the CC project constructs the regulatory autonomy of the individual creator (section 6.3).

Having completed the construction of a background narrative and a first exploration of the associations the CC licence are constructing through their operation we moved to the analysis of the way in which constructions took place over the "cc licenses" mailing list, which as we have explained in section 5.2.1 is the most popular CC mailing list and the one over which the licence building activity takes place. The main bulk of the analysis has focused on the data regarding participation (see results in section 6.4.1), thematic representation (section 6.4.2) and interaction (section 6.4.4) over the "cc licenses" mailing list.

The three interviews that constitute the fifth group of data were used to complement our understanding of the whole construction processes by combining the elements produced from the analysis of all other data groups and which feature in the discussion sections 7.2.3 and 7.2.4.

5.3 Conclusion

This chapter has presented the overall research design of this thesis and the way it has employed specific data collection and analysis techniques in order to achieve its research objectives.

The research design is influenced by the Critical Legal Studies discipline and ANT theory (section 5.1) and seeks to explicate the ways in which the CC licences are produced as a result of an association constitution process. Lessig's theoretical work, as illustrated in chapter four, is related to some of the key ANT concepts in sections 5.1.1 and 5.1.2 and used in order to explain the reasons behind the choice of specific data collection and analysis techniques. The thesis adopts a methodology aiming at following the CC actors in the construction of the CC licences, which is viewed as a process of association construction.

In order to follow the CC actors we mainly collect data from the discussions over the "cc licenses" mailing list which is the CC mailing list used for the development of the CC licences. These data are complemented with background information regarding the origins and worldview of the CC project collected from the formal CC web-sites, the legal text of the CC licences, a series of twelve Newsletters Lessig has publicly posted in the end of 2005 and interviews the author of this thesis conducted with Lessig and Boyle (section 5.2.1).

The analysis of the data may be divided in three broad categories (section 5.2.2): first there is analysis that aims at the construction of a background narrative of the CC project as constructed by itself, where data from all the above categories are used; second there is an analysis of the operation of the CC licences seeking to trace the construction of associations between the creator and other users of the material or other secondary creators; and third there is an analysis of participation, thematic and interaction patterns over the "cc licenses" mailing list. In this latter part we are able to trace how native regulatory forms find their way into the text of the CC licences. The interviews conducted by the author with Lessig and Boyle facilitate the discussion of the analysis findings in chapter seven.

The analysis of the "cc licenses" mailing list is the most important for the purposes of this project as it allows a mapping and visual representation of the way in which the Commons are constructed in the regulatory level. Since, the key idea supporting our methodological approach is that of following the CC actors in the process of constructing associations, the detailed tracing of who constitutes the relevant constructions (participation patterns), which are the aimed objectives or controversy points as well as the main native regulatory forms (thematic patterns) and how the interactions are being made (interaction patterns) constitute the translation of such a methodological philosophy into the specific analysis of the relevant data.

Accordingly, the second and third type of analysis conducted in this thesis also contribute to the tracing of the relevant associations: the construction of the CC narrative indicates the way in which the CC project aims at producing the constructed image of the formal CC organization and licences, whereas the tracing of creator-user-secondary creator associations explicates the associations produced by the CC licences.

All data analysis techniques presented in this chapter constitute the mechanisms which produce the results of the investigation of the CC project featuring in the following chapter and set the background for the discussion taking place in chapter seven.

6. Introduction

The objective of this chapter is to explore various aspects of the CC project and examine the interrelationship between the autonomy of the creator and the cultivation of the regulatory commons as the CC project evolves into time.

The chapter comprises of five sections. In the first one the CC world-view is presented in terms of the instances of its creation, the assumptions it contains and the CC associations with the concepts of Public Domain and the Commons. The second section investigates the selected means for achieving the CC objectives and the origins of their specific features. Section 6.3 deals with the structural elements of the licences and particularly the way in which the autonomy of the creator is maintained and the way the licence operation contributes to the cultivation of the Commons. The fourth session deals with the interaction, thematic representation and participation patterns over the "cc licenses" mailing list. The chapter concludes with a summing up of the findings of the chapter and poses the issues that are to be further investigated in chapter seven.

6.1. The CC project and its worldview

While the objective of the Creative Commons project is quite clearly stated in the CC home page as an effort to "[s]hare, reuse, and remix — legally" (Creative Commons, 2007a), what CC represents, its ideological foundations and the reasons behind the choice of specific means for the implementation of its strategic goals is a far more complicated affair.

A good starting point is the CC home page where we get a concise and purposefully

uncontested image of its basic activities, the possibilities it creates and a first exposure to its "freedom" connotations:

"Creative Commons provides free tools that let authors, scientists, artists, and educators easily mark their creative work with the freedoms they want it to carry. You can use CC to change your copyright terms from "All Rights Reserved" to "Some Rights Reserved." We're a nonprofit organization. Everything we do — including the software we create — is free." (Creative Commons, 2007a)

Nevertheless, few would deny the multiplicity of images the CC project conveys, whether intentionally or not: It has been represented sometimes as a tool (Brown, Paharia, Junell and Walker, 2002), sometimes as a movement (Brown, Junell, Paharia and Walker, 2003), sometimes as an organization (Creative Commons, 2006b) and sometimes simply as a way of preserving values that would otherwise be eradicated by changes in the existing Copyright laws (Creative Commons, 2006g). In the 2006 iSummit, quite a few of the CC international affiliates, that is, national Creative Commons project leads, have expressed their concern or even confusion regarding what Creative Commons is or tries to be (Ford, Ito, Henckel, Keller, Lemos, Lessig, Medak and Wales, 2006; Ahlert, 2006); academics like Elkin-Koren (2005; 2006a), Dussolier (2006) or Klang (2006) have exercised heavy critique on CC's ideological fuzziness; and practitioners and activists like Moeller (2006), Chance (2006a; 2006d), Hogge (2006) and Berry (2006) have voiced their worries about what seemed to look like a "Commons without Commonality" (Berry and Moss, 2005) (sections 2.2 to 2.9). Exploring the identity of Creative Commons can be a complex and certainly not straightforward expedition not least because of the protean transformations it has been subjected to since its inception. The fact that by mid 2006 we have started seeing the emergence of a "federation" (Lessig, 2005d) of organizations (iCommons), CC divisions (Creative Commons International), projects (Science Commons and Cemixter) and movements (Free Culture) is indicative of a complex phenomenon that though revolving around the CC licences cannot be exhausted in their exploration.

A good starting point for investigating Creative Commons is to start exploring the instances that gave birth to its establishment.

In October 2005, Creative Commons launched its first fund raising campaign. Being a nonprofit charity according to US Inland Revenue Service (IRS) regulations, Creative Commons needed to pass what is called a "public support test". Though initially funded by the John D. and Catherine T. MacArthur Foundation, the Hewlett Foundation and the Omidyar Network (Creative Commons, 2006c), the US IRS required Creative Commons to "demonstrate that [CC's] support comes from more than a few foundations." (Lessig, 2005i). In the face of such development, Lawrence Lessig, one of its founding members, initiator of the project and chairman of the Board of Directors of Creative Commons (Creative Commons, 2006j), has posted a series of emails to those registered with the Creative Commons website "explaining what Creative Commons is, and where we're going with it" (Lessig, 2005i).

In the first of the twelve emails that have been posted for this purpose, Lessig provides the circumstances under which the Creative Commons project has been initiated:

"Creative Commons was conceived in a conversation I had with Eric Eldred. I was representing Eric in his case challenging the United States Congress' Copyright Term Extension Act. Eric was enthusiastic about the case, but not optimistic about the results. Early on, he asked me whether there was a way that we could translate the energy that was building around his case into something positive. Not an attack on copyright, but a way of using copyright to support, in effect, the public domain. I readily agreed, not so much because I had a plan, but because, naive lawyer that I was, I thought we'd win the case, and Eric would forget the dream. But nonetheless, long before the Supreme Court decided to hear Eldred's plea, a bunch of us had put together the plan to build the Creative Commons." (Lessig, 2005i)

Glynn Moody in a series of articles on open content in mid 2006 (Moody, 2006a; 2006b; 2006c; 2006d) provides a similar account:

"It was Lessig who argued the *Eldred vs. Ashcroft* case in court – and lost, much to his chagrin. A more positive outcome from this work was the creation of a second, more ambitious, organization called Creative Commons, and the drawing up of a series of formal open content licenses." (Moody, 2006b)

Before the initiation of the Creative Commons project, Lessig as a member of staff at the Berkman Centre for Internet and Society (Berkman, 2006) had created what at the time was called "Copyright's Commons". Traces of this initiative may be still found in

the Berkman Centre for Law and Society website in the Open Law section where it is referred to as a coalition against copyright extension:

"Support our fight for the public domain by joining Copyright's Commons, a coalition against the copyright extension" (Open Law, 2003).

Following Moody's reference to Copyright's Commons (Moody, 2006b) and examining the old Copyright's Commons site from the Internet Archive we get a clearer picture of what the forerunner of Creative Commons was about.

The Copyright's Commons Home Page is titled "About Counter – Copyrights" and features the CC symbol (Copyright's Commons, 1999). The first paragraph refers to the mission and basic strategy of Counter – Copyrights:

"As an alternative to the exclusivity of copyright, the counter-copyright invites others to use and build upon a creative work. By encouraging the widespread dissemination of such works, the counter-copyright campaign fosters a rich public domain." (Copyright's Commons, 1999).

The next paragraph presents the basic mechanism through which Counter – Copyright would work; this is indeed the crux of the Creative Commons idea:

"The idea surrounding the counter-copyright campaign is fairly easy to understand. If you place the [cc] icon at the end of your work, you signal to others that you are allowing them to use, modify, edit, adapt and redistribute the work that you created." (Copyright's Commons, 1999).

This may be read as a thin description of what would later become the Creative Commons licensing project and would be described in far greater detail by Lessig in his Creative Commons Newsletter series about seven years later (Lessig, 2005i).

The heuristic employed by Copyright's Commons is the same as the one used by Creative Commons: signaling that the author willing fully allows certain uses of the work creates a space "free" of regulations, and thus supports the Public Domain:

"Show your support for the public domain by marking your work with a [cc] and a link to the Copyright's Commons web site." (Copyright's Commons, 1999).

Note the slightly differentiated rhetoric of Copyright's Commons when compared to the one of Creative Commons. Though Creative Commons has created a "public domain dedication" the basic Creative Commons licences vocally are not about putting works in the public domain but rather about allowing the sharing, remixing and reusing of work. The language used in the early Copyright's Commons website refers to the Public Domain in a rather loose fashion similar to the way in which Lessig will be using it in the early years of the CC project.

The Creative Commons project however has been much more careful with the use of the term PD than its direct ancestors. In the Frequently Asked Questions wiki we find a clear differentiation between what Public Domain is and what the Creative Commons licences seek to achieve:

"Will works that use Creative Commons licenses be in the "public domain"? No, because the licensor does not give up all rights to his or her work. The Creative Commons licenses are only copyright licenses that enable you to control how other people use your work. If you want to put your work in the public domain -- the realm of creative material unfettered by copyright law – you can use our Public Domain Dedication. By dedicating your work to the public domain, you are effectively relinquishing all copyright interests you may otherwise have in the work. However, this waiver may not be valid outside of the US." (Creative Commons, 2006g)

In a similar way even the early Counter – Copyrights initiative, on which Copyright's Commons was based, was not aiming at replacing copyright law:

"The counter-copyright is not a replacement for an actual copyright, rather it is a signal that you as the creator are willing to share your work." (Copyright's Commons, 1999).

Copyright's Commons were aiming at the individual creator that would be willing to allow others to use the work so that they may produce other creative works. Copyright's Commons made explicit reference to Open Source and how it aspired to operate in a similar way:

"The counter-copyright strips away the exclusivity that a copyright provides and allows others to use your work as a source or a foundation for their own creative ideas. The counter-copyright initiative is analogous to the idea of open source in the software context. For a more thorough explanation of open source see the following site: http://www.opensource.org/." (Copyright's Commons, 1999).

This brief investigation of the instances of establishment of the CC project and its forerunners is revealing of two trends: first there seems to be a transition from a vision to enhance the Public Domain to one of allowing particular uses of material, namely sharing, reusing and remixing; second, though such transition is particularly apparent in

the clear differentiation between Public Domain and the operation of the CC licences we find in the 2006 CC FAQ wiki, the idea of the means used to achieve the stated objectives, that is, the use of licences to mark creative material, remain broadly speaking the same.

The first thing to investigate is the way in which creativity is framed in the CC project. In "Building on the Past" (Cone, 2003), one of the CC promotional films, the whole concept is that new creative forms have their basis on existing ones. "Reticulum Rex" (Brown, Junell, Paharia and Walker, 2003), another short film of the same kind, made the same point by emphasizing the aspect of "standing on the shoulder of your peers" slogan. Similar is the message in the "CC Brazil" movie (Passman, 2004), where Lessig is the one making the relevant statement:

"For here is the idea which has become so hard to get my fellow Americans to see: that creativity has always been about building on other people's creative work" (Passman, 2004).

Lessig of course has extensively elaborated on the idea of creativity based on other people's work in the last two books of his "The Future of Ideas" (Lessig, 2001b) and "Free Culture" (Lessig, 2004d).

Such a model of creativity assumes that any restriction to the access to the creative endeavor of the past generations obstructs innovative efforts. This is particularly true in environments where collaboration occurs in an unrestricted way, as is the case of the Internet. A more careful look into the conceptualization of the Commons and the Public Domain in the CC project reveals two more interesting aspects of the whole issue: first, that the Commons or the Public Domain are perceived in their regulatory dimension: In "Get Creative" (Brown, Paharia, Junell and Walker, 2002), the Public Domain is described as "the commons of information where nothing is owned and all is permitted." Second, besides the costs from the fact that not all creative material is free for use and re-appropriation, there is a secondary cost from the fact that the rules of use for copyrighted material are neither clear nor known in advance. This second-level type of cost derives from the permission that a creator needs to obtain in order to use certain material, the problems of identifying the rights holder or even defining whether a work is protected or not.

We see a presentation of these two problematic dimensions of the Copyright Law in an almost identical form in the accounts of the US Copyright system reform of the 1980s regarding the abolition of formalities for awarding Copyright protection, in the "Get Creative" and "Reticulum Rex" films (Brown, Paharia, Junell and Walker, 2002; Brown, Junell, Paharia and Walker, 2003) similarly to Lessig's "Free Culture" book (Lessig, 2004d). Lessig's and CC's rhetoric coincide in the conclusion that by allowing protection without formalities from the moment of creation of a work, a space that has been in the past outside the realms of regulation is now burdened with additional regulatory costs for the new creator.

A third dimension of the problem of making regulated uses that before the 1980s amendment were "free" (as unregulated) relates to the incomplete internalization of various Copyright notions by potential creators. If someone is to create material based on other people's work she needs to know whether this material is unregulated or fits under some kind of Fair Use doctrine. Nevertheless, this is not straightforward and hence further costs deriving from the uncertainty of the legal treatment of secondary uses of the work arise. Lessig describes the situation in great detail in his Free Culture (Lessig, 2004d) work and then in his 2005 series of Newsletters (Lessig, 2005k).

An analysis by the author of this thesis of the first one year and half in the life of the CC mailing list referring to the CC licences (section 5.2.2) reveals a similar trend: most of the participants are not able to understand the boundaries of Fair Use. What is even more interesting is that they also face severe problems with understanding what constitutes a Compilation or a Derivative work for the purposes of various national Copyright laws. In the periods of Copyright's history, when Copyright law has been the law that involved only a limited segment of the population either as users or as direct infringers, the issues of internalization of the law have not been tremendous. However, in an environment where the costs of becoming a creator are minimal, the internalization problems increase and the need for intermediaries, and hence more costs, seems inevitable (section 3.2).

This is a particularly important moment in the conceptualization of the Public Domain/ Commons in relation to Copyright law. CC is not against Copyright law as such; CC is not objecting private property or the existence of rules governing the use of Copyrighted material. This does not flow necessarily from its initial position that "creativity builds on the past"; however, it emerges as a "second best" solution: if creativity rules are to exist, at least they need to be clear and known in advance. The critique of the classic Copyright "all rights reserved approach" by the CC project is indicative of this position. The "Creativity Builds on the Past" film is expressive of this moment of transition from the first (no rules) to the second (clear rules) position: The movie starts with four kids appearing in reverse motion whereas a voice reads the title of the movie: "Creativity always builds on the past". (Cone, 2003) Then the picture of a police officer appears: "but sometimes the law can get in the way". A person being arrested is presented while another phrase pops up: "Copyright law restricts your access to the past and restricts other people's access to your work". (Cone, 2003)

The more militant approach of "Creativity builds on the Past", made by an independent producer like Cone (2006), is contrasted to the milder expression of the Copyright problematic in the "Get Creative" film made by the CC Corp.: in the latter, the problem is not framed in terms of a problematic existing regulatory framework (i.e. Copyright law). Instead, the problems is presented as one related to non-creative middlemen obstructing the smooth operation of Copyright law: "Bottom line: Big C [Copyright] is out of the Job; the middlemen are not" (Brown, Paharia, Junell and Walker, 2002).

The problem is thus re-framed not as a problem of refusing regulation but rather as a problem of reducing the externalities that increase the cost for creators to use preexisting works even if the latter's creators would not object to such use. The objective of the CC project is accordingly re-phrased not as a Public Domain cause but rather as a Copyright rationalization project: "to bring some sense to the copyright debate; to partner with the big C to clarify the rules of creativity; to help authors and artists to build a body of free culture they can draw from in return." (Brown, Junell, Paharia and Walker, 2003). From the costs identified above, it is primarily the second (clarity of rules) and third types (easily getting permission for secondary uses of a work) of costs that are addressed by the CC project.

The operation of Creative Commons as a "system" that patches the existing Copyright "system" is found in the CC FAQ wiki:

"Creative Commons is a new system, built within current copyright law, that allows you to share your creations with others and use music, movies, images, and text online that's been marked with a Creative Commons license." (Creative Commons, 2006d)

This transition of emphasis in the Creative Commons project from one enhancing the Public Domain to one eradicating negative externalities is accompanied by an increasing emphasis on the autonomy of the creator. This seems to be the next step in the effort to effect a legal dis-intermediation as the main strategy for reducing creative costs: if much of the creative activity is hindered by the existence of murky regulations that require clarification by legal intermediaries, then the way to solve the problem is by allowing the artist to take law in her hands (Cone, 2003).

This shift of emphasis from the abolition of rules to the actual handing in of the rulemaking and rule-choosing process to the artist is confirmed by the themes appearing on the "cc licenses" mailing list in the first one year and half in the life of the CC project (see section 6.4.2). The participants are only marginally interested in fully abolishing Copyright Law. Even in relation to the Public Domain their focus is on establishing rules of identification, marking and preservation of the material that belongs to the Public Domain so that it may be freely used and is not privatized. It is not the absence of rules that is advocated but rather it is a different type of rules that is sought: these are rules that mainly have to do with allowing the re-use, sharing and remix of material and its protection from the fencing of material rather than the control and prohibition of its use.

Creative Commons has thus a very special relationship with the development of regulation: it is primarily a project about creative rule making or at least a project

seeking to encourage direct rule making by the creators themselves. Perhaps the best way to understand the conceptualization of the role regulations are playing and should be playing in relation to creative activity over the Internet is provided by the treatment of the concept of Fair Use by the Creative Commons. The fundamental presuppositions of CC in relation to Fair Use are found in Lessig's series of Newsletters in late 2005: "No word is more used in debates about copyright with less understanding." (Lessig, 2005k) Lessig puts the concept of Fair Use or "Fair Dealing" next to two more concepts, these of Free and Regulated uses:

"The law recognizes three kinds of "uses" of copyrighted works:

Free uses (uses that don't trigger the law of copyright, such as reading a physical book);

Regulated uses (uses that do trigger the law of copyright, such as republishing a book;

Fair uses (uses that trigger the law of copyright, but which are nonetheless free because the law deems them "fair" — such as copying words from a book in a review of the book)." (Lessig, 2005k)

This trichotomy is of particular importance for appreciating where the Creative Commons licences are positioned and what their role is. Lessig after having referred to these three categories of uses of works, he emphasizes the shrinking of the Free or unregulated uses in favor of the Regulated uses. He explains the reason of the boundary shifting between categories one and two in a rather simple way:

"Digital technologies are changing the balance between these three kinds of uses. As life moves online, "free uses" shrink. Because every act on a digital network produces a copy, and "copies" trigger copyright law, there are vastly fewer "free uses" in digital space than in analog space." (Lessig, 2005k)

With this description Lessig presents his conceptualization of the term Freedom or Free: it is expressed in the form of the absence of rules someone has to abide to.

This change of boundaries has a direct impact on the importance of Fair Use provisions. In order to perform acts that in the analogue world would be classified as non-regulated or free, in the sense of not requiring any permission, you would need to employ some
sort of Fair Use defense.

Unlike many of the critics to this regulatory shift calling for a re-adjustment of the rights in the legislative level, Lessig is more interested in a solution to the problem at a contractual level. Lessig's position is not ideologically against state intervention in the form of legislative change. However, this is a step that is to come in a later stage of the fight for more Copyright freedoms and only after social momentum has been achieved through the use of licences such as the Creative Commons ones.

CC licences are primarily instruments for increasing this "free" or "unregulated" space, as a result not of a top-down regulatory intervention but rather as a result of the willful action of the creator herself. This is an exceptionally important point: it is the author that chooses to actually allow the unregulated use of her work and its scope. This is why prominent creators from different realms of creative activity (such as O'Reilly or Gilberto Gil) have proposed the provision of different licences allowing the establishment of different freedoms. It is also the reason why the rest of the creators may choose between more than one licence and hence freedoms for how their works should be released. It is finally the reason why the licences and the freedoms they are respectively incorporating are in the center of fierce debates over the various mailing lists of the Creative Commons organizations.

The operation of the CC licences, whichever version of them, is then to create a realm of free uses in the sense that the creator decides that for a certain set of freedoms that are incorporated in the chosen licence, no permission will be needed.

The construct of the "Fair Use Plus" (Lessig, 2005k) provisions that Lessig seeks to establish through the CC licences is an extension of the Fair Uses of a creative work and is in one sense broader and on another sense narrower compared to classic Fair Use.

It is wider than the law imposed Fair Use provisions in the sense that they provide to the creative user of the material many more rights compared to the ones that the classic Fair

Use provisions provide. For instance, the creative user is able to create derivative works or to freely make verbatim copies of the work. At the same time it is narrower in the sense that such permission is not part of the law but rather the result of the autonomy of the individual creator to allow such uses. The fact that Fair Use Plus provisions are effected through a licensing scheme and not a state law is an expression of this narrower character of the CC project.

The Creative Commons world-view may be summarized at this stage in the following series of points:

(a) creativity builds on the past, in the sense of requiring other creative works in order to produce new ones

(b) copyright imposes costs for the use of this past creative material. There are direct costs deriving form of imposition of regulations for the use of the works and indirect costs from the lack of clarity regarding these rules

(c) after the abolition of formalities for acquiring Copyright the default state of a creative work is to be falling under a regulatory domain. Consequently the regulatory costs are increased, since it is not always clear under which terms the work may be used or who the author is. As a matter of fact the default is that the work should not be used.

(d) the costs are intensified in on-line environments for two reasons: first because creative activity over the Internet is increasingly based on the use or remaking of existing material; second, because most uses of material in an on-line environment account to copying and are as such regulated with all the cost implications mentioned in the previous points.

(e) the costs from the imposition of rules require specialized legal services provided by intermediaries that increase the cost of production both for the primary and secondary creators. Primary creators do not know how to best manage their Copyrighted works and secondary creators do not know which works they are entitled to use.

(f) Creative Commons seeks to solve the problems related with the operation of rules by reducing the costs arising from their operation. This is done not by seeking to abolish the rules altogether but rather by providing the tools to the creators to allow a set of freedoms (i.e. lack of restrictions) to be attached to their works. Objective of such a

heuristic is to minimize both primary and secondary costs: primary costs because certain uses are now permitted through the licences and no further negotiations are required; secondary costs, because the work is accordingly clearly marked and no specialized intermediaries are required.

(g) The Creative Commons focuses on the creator and primarily seeks to increase her autonomy in choosing the ways in which to make her work available in accordance to creative practices that encourage the secondary use of the creative work.

6.2 Creative Regulation: means for achieving the objectives of the CC project

The Creative Commons world view provides a first basis for understanding the reasons behind the choice of the licences as the preferred means for achieving its objectives.

This understanding may be supplemented with four auxiliary perspectives: an ideological one related to Lessig's view of regulation on Cyberspace; a collective action perspective as described in Lessig's work on the regulation of social meaning (Lessig, 1995c; 1996b); the actual responses by the competent U.S. regulatory authorities; and the existing open licensing practices as a form of a factual precedent of dealing with similar problems.

Lessig has been a vocal advocate of less regulation on the Internet long before he got involved with Copyright issues. Academically in the late 1990s he had identified the importance of Open Source as a model of governance for the Internet (Lessig, 1996d) (Lessig, 1999c). In chapter four referring to Lessig's theoretical work we have characterized his approach as one of cyber-libertarian realism (section 4.4.2). Besides his theoretical work that advocates the autonomy of the individual and sees regulation being only possible as an expression of such autonomy, Lessig has been involved in the political process of Internet Governance. He has been one of the North America Candidates for ICANN in 2000 and though he never succeeded in such a venture, he expressed his concerns about the Intellectual Property related policies of ICANN together with his broader concern for Internet over-regulation and the lack of legitimization of technological regulation (Center for Democracy And Technology, 2000) (Berkman Centre, 2000).

Lessig's political activity in the framework of ICANN in the late 1990s underlines his stance as an advocate of thin regulation, the autonomy of the creator and the respect to private property. The choice of licensing, that is, an instrument emphasizing the contractual autonomy and proprietary rights of the individual creator is expressive of his political and ideological views. In overall, all three values (thin regulation, autonomy of the creator and respect for private property) are present in the CC licences and are particularly clearly expressed in the kind of freedoms contained in their basic template.

This political position may be complemented by another more theoretical concern Lessig has expressed in his mid 1990s work which relates to the costs of effecting institutional change. In his "Regulation of Social Meaning" (Lessig, 1995c) Lessig assumes that changing the associations that make up a specific institution, such as Copyright Law, entails a certain cost. Even non efficient institutions will continue to exist as a result of the inertia produced by the associations they are comprised of (section 4.1). The way to effect change for Lessig is a lengthy process that requires the deconstruction of the existing associations and the establishment of new ones. A direct intervention in the legislative level (e.g. through legislative amendment) was not really possible because of the extremely high costs it would entail. The failure of Lessig's involvement in the Eldred case (Lessig, 2004c) has also been interpreted as an indication of the costs of effecting change through the existing institutional system. The choice of an alternative path is an expression of such an understanding of the way in which institutional change may be instrumented. As indicated above this sentiment of regulatory revision rather than reform is also apparent in the "cc licenses" mailing list where the majority of comments are not for the abolition but rather the re-construction and re-appropriation of creativity rules.

Even the response Creative Commons has received from the U.S. Copyright Office is revealing of the need for innovation in the regulatory means employed for the governance of creativity. When Lessig addressed the U.S. Copyright Office highlighting the creativity costs arising from the way in which Copyright operates the response was that there was no service of supporting a series of unregulated uses. Brown referring to the incident in the "Get Creative" film mentions that when the question was posed to the U.S. Copyright Office the response CC got was that "we don't provide that service. Get creative. So, we got creative." (Brown, Paharia, Junell and Walker, 2002)

However, also undisputed is the great influence the Free Software Foundation and the Free Software movement have exercised on the choice of free public licences as the preferred regulatory instrument by Creative Commons: As Lessig explains in his "CC in Review":

"We stole the basic idea from the Free Software Foundation -- give away free copyright licenses. (...) The idea (again, stolen from the FSF) was to produce copyright licenses that artists, authors, educators, and researchers could use to announce to the world the freedoms that they want their creative work to carry. If the default rule of copyright is "all rights reserved," the express meaning of a Creative Commons license is that only "some rights [are] reserved." For example, copyright law gives the copyright holder the exclusive right to make "copies" of his or her work. A Creative Commons license could, in effect, announce that this exclusive right was given to the public." (Lessig, 2005i)

Though Lessig as the founder of the CC explicitly states the FSF as the primary source of inspiration for the CC project and a similar statement is made in the Copyright's Commons introductory web page, CC was not the first open content project to be inspired by Richard Stallman's work. A brief account of open content movements preceding CC is illustrative of their objectives and the way in which they relate both to CC and the Free Software movement.

Moody notes that Wiley (creator of the Open Publication Licences) and Stallman (creator of the General Public Licence) have worked together in an attempt to modify the GNU GPL for content before the latter has opted for a termination of their collaboration. Interestingly Wiley has identified the principles underlying Raymond's work regarding the mode of production in open environments as the driving principles for his open content licences. Moody quotes the relevant passage (Moody, 2006b):

"OpenContent advocates adoption of the principles Eric S. Raymond outlines in his essay "The Cathedral and the Bazaar" for use in the development of Content. (...) The Bazaar model for Content development will bring these same benefits to online instructional content; namely the creativity, expertise, and problemsolving power of a potentially infinite team of instructional designers and subject matter experts. A development effort of this kind will fill the Internet with high quality, well-maintained, frequently updated Content. (In contrast, when was the last time you updated your lecture notes?)" (Wiley, 1999)

The Open Publication Licences (OPL) were produced after some relevant input has been provided by other prominent figures in of the Open Source movement like publisher Tim O' Reilly and Andy Oram. Tim O' Reilly has been later involved in the development of the Creative Commons licences; Andy Oram is an editor at O'Reilly Media since 1992 with a focus on open source, peer-to-peer and the effects of technology on society (Oram, 2006). O'Reilly as a publisher has been an advocate of Creative Commons and also the one responsible for the Founding Fathers licence as the "Reticulum Rex" film explains:

"All while you build the commons out in whole new directions, in ways we never anticipated, High-tech publisher Tim O'Reilly helped us create the Founder's Copyright". (Brown, Junell, Paharia and Walker, 2003)

The narrator in the same movie explains that in the case of "Founders' Copyright" the work is protected for fourteen years under traditional copyright and then moves to "the public pastures", which are represented with a cow eating grass from these public pastures while the CC sun is shinning. (Brown, Junell, Paharia and Walker, 2003)

While the idea of open content licences is first seen in the case of the OPL project, the idea of establishing a Commons of content has its roots in the ibiblio server and the project Gutenberg. Ibiblo mailing lists are rather familiar to CC, as most Creative Commons discussions are taking place over the ibiblio mailing lists. However, ibiblio as an organization has a longer history and role in the development and hosting of open/ free source and content. As the ibiblio FAQ describes it:

"ibiblio is a diverse and expansive collection of information on the Internet, created and maintained by the public, for the public. It is the ultimate collection of freely available information, the future of Internet librarianship, and a collaboration between the former MetaLab.unc.edu (formerly known as SunSITE.unc.edu) and the Center for Public Domain." (ibiblio, 2006)

Moody provides some further interesting information about the role ibiblio has played in the arena of open content:

"In 1992, SunSITE was launched there [i.e. University of North Carolina], designed as "a central repository for a collection of public-domain software, shareware and other electronic material such as research articles and electronic images" according to the press release of the time. SunSITE became iBiblio.org in 2000 (after briefly turning into MetaLab in 1998), and received a \$4 million grant from the Center for the Public Domain, set up by Red Hat co-founders Bob Young and Marc Ewing. Over time, iBiblio became Project Gutenberg's official host and primary distribution site." (Moody, 2006d)

A number of interesting points come out of this passage. First, that ibiblio has played an active and important role in the establishment of Free/ Open source –like development settings, open content in particular. Moody in the same article (Moody, 2006d) points out that SunSITE and later ibiblio were hosting two of the most important original open content projects, the Linux Documentation Project (LDP) and the Gutenberg project. ibiblio provided the original infrastructure for these early open content projects. Second, the ibiblio project has been supported by the Centre for the Public Domain that also funded the early stages of the Creative Commons project. As a matter of fact the latest versions of the Center for the Public Domain site before it shut down in the 2005 contained a logo with the same look and feel as the ibiblio logo (ibiblio, 2006) (Center for the public domain, 2005). Ibiblio is currently hosting the site of iCommons as well as the majority of the Creative Commons – related discussion lists (iCommons, 2006a)(Creative Commons, 2006i)

In Project Gutenberg we may trace the roots of the open content movement and, as mentioned above, it was hosted at SunSITE and then ibiblio similarly to much of the CC organization (Hart, 2004).

Moody in an excellent account of the history of open content, provides the basics of the Gutenberg Project:

"The roots of this open content movement, as it came to be called, go back to before the Internet existed, and when even computers were relatively rare beasts. In 1971, the year Richard Stallman joined the MIT AI Lab, Michael Hart was given an operator's account on a Xerox Sigma V mainframe at the University of

Illinois. Since he estimated this computer time had a nominal worth of \$100 million, he felt he had an obligation to repay this generosity by using it to create something of comparable and lasting value. His solution was to type in the US Declaration of Independence, roughly 5K of ASCII, and to attempt to send it to everyone on ARPANET (fortunately, this trailblazing attempt at spam failed). His insight was that once turned from analogue to digital form, a book could be reproduced endlessly for almost zero additional cost – what Hart termed "Replicator Technology". By converting printed texts into e-texts, he was able to create something whose potential aggregate value far exceeded even the heady figure he put on the computing time he used to generate it." (Moody, 2006d)

The idea of a digital repository as the primary way to support the Public Domain is also found in the pre-history of the Creative Commons project, when Lessig was envisaging the creation of a centralized repository in the form of an Intellectual Property Conservancy. This information provided by Lessig himself and Boyle in the Beijing (Lessig, 2006e) and Rio (Boyle, 2006) interviews respectively conducted by the author of this thesis is also confirmed by various early CC texts found in the CC website. The potential project of the central repository that was never materialized had the name "Constitutional Commons" that preceded the Counter Copyrights project and seems to be very much influenced by the Project Gutenberg idea. As we have indicated in the first section of this chapter and is also confirmed by Boyle, the idea of the central repository was soon to be abandoned in favor of a system of reducing the regulatory costs through legal means, that is, the CC licences.

Moody explores the commonalities between Richard Stallman and Michael Hart in conjunction with the similarities between the Free Software GNU project and Project Gutenberg. Regarding similarities, first, the Replicator idea seems to be based on the same idea as that of free software, i.e. that there is the possibility of endless copying with almost zero marginal cost. Second, both Richard Stallman and Michael Hart were exceptionally dedicated to their projects believing they could make a difference though in the outset of their efforts they have been pretty much alone in their work. Third, both of them managed to realize the potentials of their projects only once they made it available on the internet and managed to organize a distributed reproduction of their work. Moody gives a good description of the role distributed production has played in the taking off of the movement and the contribution of early titles to the success of the open content movement in the following passage:

"Both, too, were aided enormously as the Internet grew and spread, since it allowed the two projects to adopt a distributed approach for their work. In the case of Project Gutenberg, this was formalized with the foundation of the Distributed Proofreaders team in October 2000; since then - and thanks in part to a Slashdotting in November 2002 - hundreds of books are being turned into ebooks every month. Moreover, just as free software paid back the debt by creating programs that pushed Internet adoption to even higher levels, so Project Gutenberg returned the compliment by making key early titles like "Zen and the Art of the Internet" (June 1992) and "The Hitchhikers Guide to the Internet" (September 1992) available to help new Internet users find their way around." (Moody, 2006d)

Interestingly the model of distributed production in the case of the Creative Commons was applied mainly in the production of the licences. This is where the iBiblio lists have been employed and it is this distributed form of licensing production that has driven the development of the project up to now.

Moody also notes some important differences between the GNU and Gutenberg projects. Hart was driven by the principle of creating a huge permanent store of human knowledge, whereas Stallman was motivated by his commitment to spread his idea of freedom. The issue of Freedom is also prominent for Hart and the language he uses is reminiscent of Stallman's vocabulary. However, Hart's project aims at both types of Freedom. Juxtapose the following passages:

"'Free software" is a matter of liberty, not price. To understand the concept, you should think of ``free" as in ``free speech," not as in ``free beer."" (Free Software Foundation, 2004)

Whereas Stallman talks of Free as in Free Speech vs. Free as in Free Beer, Hart has as an objective to provide both types of freedom. Moody (Moody, 2006d) quoting the Gutenberg Project website provides the following section:

"The word free in the English language does not distinguish between free of charge and freedom. Fortunately almost all Project Gutenberg ebooks are free of charge and free as in freedom." (Project Gutenberg, 2006).

In the Creative Commons project we may identify elements from all the above projects, but with one big difference: the visionary behind Creative Common, Lawrence Lessig, has identified the importance of collaborative production since the early stages of the Creative Commons project. This is apparent in the forerunners of CC like the Copyright's Commons and the Open Law project.

Copyright's Commons, which, as we have seen, has been the direct ancestor of the Creative Commons project, has been part of the Open Law project, which is described as follows:

"Openlaw is an experiment in crafting legal argument in an open forum. With your assistance, we will develop arguments, draft pleadings, and edit briefs in public, online. Non-lawyers and lawyers alike are invited to join the process by adding thoughts to the "brainstorm" outlines, drafting and commenting on drafts in progress, and suggesting reference sources." (Open Law, 2003)

The same principles of distributed production that have been driving the development of open source software have also been the foundation of the Open Law project. As the previous passage indicates the distinction between experts and non-experts is gradually extinct in such an environment.

The following extract from the Open Law project makes explicit the link between the open source model and the production of open legal documents:

"Building on the model of open source software, we are working from the hypothesis that an open development process best harnesses the distributed resources of the Internet community. By using the Internet, we hope to enable the public interest to speak as loudly as the interests of corporations. Openlaw is therefore a large project built through the coordinated effort of many small (and not so small) contributions." (Open Law, 2003)

The same principles were transported in the Creative Commons project in relation to the production of the licences, whereas principles from other previous projects may be identified in other parts of the project. For instance, the principle of more than one licences or the involvement of field experts is drawn from the OPL and the idea of free public licences from the Free Software movement.

More than anything else, the Creative Commons project seems to be providing the infrastructure not merely for creating some more free culture but also for sustaining a

debate on what constitutes freedom in different contexts. As Lessig puts it in his "CC in Review" series:

"what's needed is an informed debate among creators about what freedoms they need. We hope to encourage this debate. But in the meantime, we'll continue to guide ourselves based upon the values that the relevant communities have identified." (Lessig, 2005h)

The existence of more than one licence is expressive of the Creative Commons stance of non-essentialism regarding the various freedoms to be contained in each licence and has its roots in the OPL model of licensing.

As mentioned above, the OPL came in more than one version. As a matter of fact, OPL came in four versions and tried to deal with the issue of derivative works and the formats in which they may have been used. The variations of the OPL gave an indication of how the CC licences would later work but did not make life particularly easy for those willing to use them. These were all licences introducing the principles of open production in content, they were produced as a result of the interaction between the relevant community and the person that first conceptualized them and finally they were provided in more than one versions so that the users (both producers and consumers of content) would be able to choose the ones most appropriate to their needs.

Lessig shows the kind of interdependence between the author and the CC licences in the first of his "CC in Review" emails:

"Which freedoms the licenses offer is determined both by us (deciding which freedoms are important to secure through CC licenses) and by the creator who selects from the options we make available on our website." (Lessig, 2005i)

Precisely because the issue of core values and freedoms contained in the CC licences has been such an important one, Lessig has devoted a special email in the "CC in Review" series explaining the nature of the different needs in different domains and the related Creative Commons position:

"Our view is that the necessary freedoms in different domains of creativity are not necessarily the same. That music could be different from software, software different from film. And as we have done throughout this project, we have asked leaders in different fields who share the values of freedom to help us understand what values are important within those specific fields. Gil and Negativland know something about music. So when they say that the freedom to remix is critical even if the freedom to copy is not, it would take a great deal to persuade us they are wrong." (Lessig, 2005h)

The difference between Creative Commons and Richard Stallman (interestingly Lessig refers to a disagreement with Richard Stallman rather than referring to the Free Software Foundation) for Lessig is not one of between pragmatism and ideology: "It is instead a different conception of value." (Lessig, 2005h) For Lessig in different contexts there are different values and the communities in these contexts should be able to define these values in themselves.

The exploration of the origins of the various features comprising the CC licences complements the CC world-view presented in the previous section. It also operates as a genealogy of the overall characteristics of the project. Two of these aspects need to be highlighted at this stage: first, that the CC project does not opt for the creation of a centralized content repository in the pattern of Project Gutenberg but rather chooses to focus on the creation of the regulatory conditions that will allow particular creative secondary uses in accordance to the needs of specific creative communities; and second, that this process leads to the choice of a strategy focusing on the provision of flexible regulatory tools so that the creator may choose herself and without intermediaries the regulatory means governing the ways of making available her works.

It is in these two aspects of the Creative Commons project that the regulatory autonomy of the creator as a primary principle starts emerging; and it is this autonomy that we seek to further explore, particularly in relation to the establishment of a Commons in the following section investigating the operation of the basic template and Licence Elements of the CC licences.

6.3 Analyzing the operation of the CC licences

All Creative Commons licences comprise primarily of two parts, one that is a kind of a template that –at least in the basic six variations of the licences- remains stable and is

referred to by Lessig as the "basic template" of the licences (Lessig, 2005i); and a second one that contains combinations of three variable sets of provisions that in the Creative Commons licences are referred to with the term "Licence Elements".

The basic template of the CC licences awards to the licensee the following four freedoms:

"(i) to copy the work, (ii) to distribute the work, (iii) to display or publicly perform the work, and (iv) to make a digital public performance of the work (i.e. webcasting)" (Lessig, 2005i)

All the rights contained in the basic template of the CC licences are normally found in section 3 of the CC licences. It is helpful to approach these freedoms from a perspective that allows an understanding of their rationale. Such rationale is provided by Lessig in his Newsletter series and relates to the way in which creative material is used over the Internet:

"(...) in cyberspace, there's no way to "use" a work without simultaneously making a "copy." In principle, and again, subject to fair use, any use of a work in cyberspace could be said to require permission first. And it is that feature (or bug, depending upon your perspective) that was the hook we used to get Creative Commons going." (Lessig, 2005i)

According to Lessig, the CC licences are there to lighten the burden of regulation in an environment where for each use permission is required. The objective is to return to a regulatory situation similar to the one of the analogue era, where permissions for a series of uses were not required:

"(...) for most of our history, the burdens imposed by copyright on other creators, and upon the culture generally, were slight. And there was a great deal of creative work that could happen free of the regulation of the law. Copyright was important to cultural development, but marginal. It regulated certain activities significantly, but left most of us free of copyright's control." (Lessig, 2005j)

As demonstrated with his ICANN involvement (section 6.2), Lessig has always been in

favor of less regulated environments on the Internet.

The freedoms contained in the CC basic template shall thus be viewed as an effort to build a less regulated landscape for the use of culture and creativity. Surprising, the means for reducing the regulation is a legal instrument, the licence. This counterintuitive instrument has been chosen as Lessig points out "[n]ot because we believe people ought to be forced to share" (Lessig, 2005j). Instead, precisely because the copyright owners should have a choice of how to deal with their property, and because there is a number of reasons why someone may want to encourage the flow of her work, this is the reason why the CC licences have emerged.

Another reason behind the choice of these four basic freedoms as the template for CC licences is related to what Lessig presents as the character of the Internet, at least when it was built. We need to stress out that Lessig in other more academic works of his has opposed the image of the Internet as a monolithic and unalterable entity. Since the late 1990s he has warned against the shift from a free to a zoned Internet and in the chapter devoted to Lessig in this thesis we have extensively referred to his relevant works (Lessig, 1999b; 1999d; 1999f; 1999g; 2000a; 2001b). For this section, however, I need to reiterate to one of his arguments concerning the values in the Internet when it was firstly built, which refers to the value of interoperability as one of the key Internet principles:

"Interoperability. Perhaps the most important thing that the Internet has given us is a platform upon which experience is interoperable. At first, the aim of the computer and network geniuses was simply to find a way to make computers talk to each other. Then application geniuses found ways to make the content that runs on these different devices interoperate on a single digital platform. We are close to a world where any format of sound can be mixed with any format of video, and then supplemented with any format of text or images. There are exceptions; there are some who don't play in this interoperability game. But the push of the network has been to produce a world where anyone can clip and combine just about anything to make something new. Just as the senses process many different kinds of experiences (sound, images, smell, emotions) and then offer them for translation on a single platform (the brain), so too have digital networks made it possible to combine many forms of media, and make them usable on single platform. (...)The Internet was not built with permissions in

mind. Free access was the rule." (Lessig, 2005g)

While interoperability and non-regulated access have been the fundamental principles of the Internet Protocols, Lessig and Creative Commons do not seem to believe that these freedoms found on the template should be the obligatory minimum for all licences. The autonomy of the Creator is deemed as more important, and as Lessig notes in his 2005 CC Newsletters, different communities of practice have different needs and as such there are different freedoms that are essential for each one of them (Lessig, 2005g). These freedoms are to be identified by the respective communities and correspond to the concept of native regulatory forms we have developed in chapter three. The role of the Creative Commons project is to allow the freedoms deemed as important by different communities to be expressed in the CC regulatory instruments and rhetoric.

This placing of utter importance on the autonomy of the creator is expressed in the provision of tools that allow people to share but does not require them to share. This is evident in the operation of the basic CC template. An examination of a typical scenario of use of a CC licence using the basic template is revealing of the degree of autonomy the creator is awarded.

In a scenario of CC licence use we initially have two parties: the licensor and the licensee. According to the basic template, the licensor grants to the licensee, among others, the right to make verbatim copies of the work without the requirement to ask any further permission. It is important to realize how this mechanism operates in practice, where the flow of the copies is not necessary coinciding with the flow of rights. If person A is the licensor, she grants to person B the right to copy her photo that is licensed under a CC_BY licence. Then person C copies the picture that she finds on B's website under a CC_BY licence. She is indeed entitled to do so. Nevertheless, the licence is not between B and C but between A and C. B operates as a carrier for the work that is always licensed by the original licensor. There is no sub-licensing relationship and this is explicitly stipulated by the licences. In other words, whereas the flow of the work may look like a rhizome, the flow of the rights is of a star shape where the original licensor is at the center. B who operates as a carrier, together with the work

is obliged to copy all the relevant copyright notices and licensing terms. This is the same reason why B is not allowed to sub-license or alter any of the terms of the licences.



Figure 6.1 A diagrammatic representation of the operation of the licence's basic template

There are two sets of consequences of the fact that the creator retains the copyright: (a) That she is not restricted in any way she chooses to further exploit or disseminate the work other than in relation to the rights she has already granted to the users of the work under the Creative Commons licence. These are irrevocable and the licence is perpetual, i.e. it has a duration equal to the duration of the copyright that the creator has over the work. (b) That she may impose a series of restrictions upon the licensee both in relation to the licensor's rights and with respect to the rights of any other persons the work may be further disseminated to. Let us explore these two aspects of the "basic template" further.

In case the licensee decides that she may use the work in any way that contravenes the conditions of the licence or is beyond the scope of the freedoms granted with the licence, she needs to refer back to the licensor. This is another important aspect of the licences: they do create a space of freedom in the sense of creating a space of uses for

which permission is not required. However, all the uses that do not fall within the scope of the licences are not *a priori* excluded but need instead to become the object of a separate and possibly individual negotiation with the licensor. For these uses that are outside the realms of Creative Commons the default copyright rules are applicable.

The fact that the licensor retains the copyright is reinforced by the fact that the relevant copyright notices cannot be removed by any licensee irrespective of the freedoms she may obtain through the use of the licence. The control that the licensor legally always retains over her work is also emphasized by the fact that any licensee, as explained above, operates merely as a carrier of the work and all related copyright and licence notices.

This *sui generis* role of the licensee as a carrier of the work entrusted with the obligation to point at the unaltered terms of the licence, to retain any copyright notices and to fulfill the attribution obligations is further reinforced with the Digital Rights Management obligations she undertakes according to the CC licences. Since the licensee never acquires any copyright, but is instead entrusted with certain freedoms upon the condition of keeping with a series of conditions, she is not entitled either to pass any rights she has not or to restrict the rights of any other potential licensee with the use of any technology. This is made clear through a variety of provisions, such as the ones referring to notices, prohibition of sublicensing, TPM etc.

All the aforementioned aspects of the CC licences clearly demonstrate that the licensor and the original author remain at the center of the CC project: through the basic template there is always a link between the licensor and the work and the licensee operates only as a carrier of the copy of the work. Such structure follows the world-view of the CC project and as we will see in the rest of the chapter it is also compatible with the operation of the various Licence Elements of the CC licences.

The variable elements of the licences or Licence Elements were originally set to be four:

"(1) Attribution (meaning the creator requires attribution as a condition of using his or her creative work), (2) NonCommercial (meaning the creator allows only noncommercial uses of his or her work), (3) No Derivatives (meaning the creator

asks that the work be used as is, and not as the basis for something else), and (4) Share Alike (meaning any derivative you make using the licensed work must also be released under a Share Alike license)." (Lessig, 2005i)

However, as Lessig explains (Lessig, 2005i) and as we will see in the discussions section, because the Attribution option has been chosen in the vast majority of the licensed works and for reasons of simplicity, the Attribution element was added to the basic template and the combination of the rest of the three elements produced six CC licences:

"Attribution (use the work however you like, but give me attribution)

Attribution-ShareAlike (use the work however you like, but give me attribution, and license any derivative under a Share Alike license)

Attribution-NoDerivatives (use the work as is, and give me attribution)

Attribution-NonCommercial (use the work for noncommercial purposes, and give me attribution)

Attribution-NonCommercial-NoDerivatives (use the work for noncommercial purposes, as is, and with attribution)

Attribution-NonCommercial-ShareAlike (use the work for noncommercial purposes, give me attribution, and license any derivative under a ShareAlike license)." (Lessig, 2005i)

Being one of the obligations imposed upon the licensee, the Attribution element dictates the crediting of the original author in all subsequent uses of the work. The element of attribution is another expression of the tendency of the Creative Commons licences to focus on the person and the rights of the original creator. Similar to the basic template where all clauses were directed towards the respect of the rights of the author, the attribution Licence Element is an element that is primarily focused on the person of the creator. The transition of the BY element from the variable to the fixed licence elements confirms the creator-centric operation of the licences and the similar way in which they have been internalized by the creators themselves.

The ShareAlike element is one of the most crucial CC licence elements as it allows the creation of derivative works based upon the basic work licensed under the CC licence. It is the element that is closest to the copyleft element seen in the original Free Software licences, and the General Public Licence in particular. To understand its operation we

need again to think of it as an extension of the functionality found in the CC licences' basic template. The licensor awards to the licensee a right to create derivative works based on her copyrighted work upon the condition that these works are further disseminated under the same terms and conditions as the original work. Section 4 in overall and 4b in particular stipulates such conditions in the ShareAlike licences:

"You may distribute, publicly display, publicly perform, or publicly digitally perform a Derivative Work only under the terms of this License, a later version of this License with the same License Elements as this License, or a Creative Commons iCommons license that contains the same License Elements as this License (e.g. Attribution-NonCommercial-ShareAlike 2.5 Japan)." (Creative Commons, 2005b; 2005f)

In addition, if the underlying original work is also disseminated or contained in the derivative work, it is licensed to the recipient through the original CC licence. Section 8b in all the works not prohibiting the creation of derivative works expresses this condition:

"Each time You distribute or publicly digitally perform a Derivative Work, Licensor offers to the recipient a license to the original Work on the same terms and conditions as the license granted to You under this License." (Creative Commons, 2005b; 2005c; 2005c; 2005f)

Two more points in relation to the ShareAlike function of the licences need to be added:

First, the licensee that creates a derivative work under the terms of such licences becomes a licensor with respect to this new work that is now offered under the same type of CC licence as the one under which the original work was offered. If we were to see a diagram of successive derivative works licensed under a ShareAlike type of CC licence, it would look far more complicated than the one of the template CC licence. It would also look far closer to the rights flow of a GPL licensed work, because of a similar pattern of interactions. Again this would not be valid for all types of works. Works like an encyclopedia that are basing their production on numerous iterative and incremental contributions would look close to the right-flows of a piece of software.

However, works that are based on elements would look much different, being possibly more spread out and less deep.

Second, with respect to the original work that is transferred along the derivative work the flow of rights remains the same as in the case of the basic template CC licence. In other words the relationship remains always with the original licensor as indicated in the following diagram.





Summing up what we have seen from the licence features to this point:

(a) all Licence Elements suggest the autonomy of the creator as the boundary of the Commons

(b) the creators practically want even greater autonomy and control over their work than the one provided by the CC licences

(c) the Share Alike element that is the one closer to the Copyleft is the theme of most common concern. Its discussion follows a pattern where discussion moves from the general level of why there are no predefined principles for all Copyleft licences to specific problems related to the CC_SA licences and then again to the discussion of how such principles could be practically derived.

6.4 Analyzing Participation and Interactions

The patterns of movement from the autonomy of the creator to the need for collective decision making in order to compensate problems of accidental incompatibility are complemented with similar patterns regarding participation and interaction patterns over the "cc licenses" mailing list. In the following five subsections we present the participation and interaction patterns from two periods in the life of the "cc licenses" mailing list, one from August 2002 to December 2003 and a second in August 2006 regarding a specific thread, the one referring to version 3.0 of the licences.

6.4.1 Participation patterns

There is an undeniable pattern in the early stages of the mailing list indicating that the vast majority of the messages are posted by a relevantly small group of participants. The range of participation is a first indication of this phenomenon: the most active participants account for a maximum of 6% of the overall number of messages. As the following diagram indicates, the 76.37% of the overall population of active participants post messages, each one of which accounts for maximum 1% of the total amount of messages posted on the 'CC licenses' mailing list; on the other side of the spectrum, only 1.82% of the population of active participants post the maximum number of messages that account of no more than 6% of the overall population of messages.



Distribution of postings per population

Figure 6.3 Distribution of postings in the population of active participants over the "cc licenses" mailing list

Very similar are the results from the analysis of the *persistence* of the active participants during the period of the first data set (see section 5.2.1) examined in this thesis: 76.36% of all participants are only active for a single month, whereas the maximum period of active presence identified from the analysis of the relevant data is only reached by 1.82% of the participants. The following graph presents the relevant distributions:



Persistence Distribution

Figure 6.4 Persistence distribution in the population of active participants over the "cc licenses" mailing list

In relation to the way in which participation is structured in terms of the degree to which certain participants are the ones that frame the discussion by initiating it or by posing issues that have the greatest impact on the discussion (as described in section 5.2.2 of the methodology chapter), we have a significant amount of participants (14.55%) that have never initiated any thread and hence have only followed the discussions and the majority of the participants (58.18%) have initiated a number of postings that amounts only for a range of 0.1-2% of the overall threads initiated. Again, only 1.82% of the overall number of participants is responsible for the greatest number of initiated threads that are 14-16% of the overall amount of initiated threads. This pattern indicates that even the most active participants do not have a share that is more than 16% of the overall number of threads, as seen in the following graph:



Thread initiation distributions

Figure 6.5 Thread initiation distribution in the population of active participants over the "cc licenses" mailing list

The distributions of average thread *depth* (section 5.2.2) that assess the impact of the contributions per participant indicate that the majority of the participants' contributions are of low impact: the threads by 46.81% of the active participants that have initiated at least one thread are of an average depth between 1 and 2 posts, whereas only 2.13% are responsible for threads that have an average depth between 6 and 7 posts.

In the early period each participant initiates and average of 1.78 threads, whereas the maximum number of threads initiated per participant is 14, which indicates a huge gap between the average of a participant's initiation and the initiation of discussions by the most active participants.

If we compare this early period with the more mature period of the discussion of version 3.0 of the licences we get a different image in the sense that the participation is more evenly distributed though again the majority of the postings derive from a minority of participants: the 61% of postings is reached by the top 27.27% of participants in terms of postings.



Figure 6.6 Number of postings per active participant in the discussions on v.3.0 of the CC licences

This is also apparent in the average number of postings per participant. In the early period of CC development we have an average of 1.66 messages per participant, whereas in the case of the v.3.0 discussion fragment, an average of 4.09 messages per participant is reached. Unlike the early period number of postings by CC staff members is more limited though we have more postings by national CC project leads (11% by CC Staff, 11% by national CC projects). In overall the postings by CC-related staff (international affiliates and CC staff) is around the same levels (22% vs. 25%).

An interesting question is whether the same individuals being the ones with the most active participation are the ones that also frame the discussion by initiating most of the threads. Indeed, the three individuals that top the list of postings are the same that top the initiation of threads. The Creative Commons legal counsel Glen Otis Brown is first amongst the posting individuals (16%) whereas he ranks second in terms of initiated threads (8%). Prodromou is also a very interesting case as he ranks second (13%) and third (8%) in the respective categories and is the founder of Wikitravel having as a particular concern the compatibility of different free/ open content licences. We will see Prodromou again in the discussion regarding v.3.0 of the licences, being the only one of the very active participants that has survived four years of CC discussions with an even greater participation level (28%) ranking first among the several participants.

6.4.2 Thematic Representation Patterns

The analysis of the content of the "cc licenses" mailing list in the way it has been specified in the methodology chapter (section 5.2.2) has produced a series of basic thematic categories that seem to be the most popular over the "cc-licenses" mailing list during the early period of its operation (figure 5.1). The most popular thematic categories (being the 8.44% each of the overall number of themes for the studied period) were issues of clarity in general and issues related to the operation of the Share Alike element. The theme of clarity has been identified in relation to a variety of other issues, ranging from features specific to the CC project such as specific licence elements to broader Copyright related issues. The second most popular theme, with 7.14% of the thematic appearances, was related to the operation of the BY element. The issue of

attribution is again a 'vertical' type of theme appearing in conjunction with many other elements, particularly the SA element, raising questions regarding the way in which attribution should be made in derivative work licensed with more than one type of licences.

The interrelation between the issue of Attribution or moral rights and issues of clarity is apparent in the "cc licenses" discussions:

In September 2003 Riba (2003) raised the issue of moral rights and Attribution clarity in relation to the ShareAlike Licence Element. She referred to the issue of notifying the author for changes to her work through a notification option. Riba clearly stated that she was not interested in providing permission but rather to know who is using her work for derivative works. She was also very interested in not getting credit for something she has not done or to be attributed with something that was not hers (2003). In the same period Olson (2003) has raised the same issue from a slightly different perspective. Being the CEO of a database software house, Sleepycat, he was concerned with uses of derivative works of his company's guides that may give the impression that were made by his company. In particular he was interested in the use of the company's logos in a non approved way. His suggestion was to add a notice making clear that the logo remains the property of Sleepycat Software and that derivative works have nothing to do with the company. The response by Creative Commons in the words of Linksvayer, has been that this resembles the way CC deals with its trademark and that this could be a way of dealing with the situation (Linksvayer, 2003a).

The broader concern of non-endorsement was already mentioned in the list since September 2002, by Joseph Reagle (2002). Reagle answering to a previous call by Brown to comment on version 1.0 of the licences (Brown, 2002) questioned the purpose of removing the original author's name from the derivative work upon notice. Instead, he suggested a direct provision that would allow direct non-endorsement of the derivative work by the original author (Reagle, 2002).

Another issue that has been of particular concern to the users of CC licences is how exactly the attribution obligation is to be fulfilled. The issue has been raised with particular focus on the ShareAlike licences and in relation to how the two attributions, one to the original and one to the derivative work, should be made. The questions were raised in relation to the creation of a Japanese collective work based on original CC licensed work on the topic of the use of CC licences. The discussant raising the issue, Tomoaki (2003), listed three options for how the referencing should be made:

- (a) List all the original authors along the people having made the changes without distinguishing between the two.
- (b) Make a list of authors, year and format in a CD like way but with no reference on originals and derivatives
- (c) Specify which section of the booklet used which work, with copyright holder of the work, title of the work, & year. (Tomoaki, 2003)

The person who responded to the questions from Watanabe, was De Tomasi who had already contributed to the discussion of moral rights. The suggested solution by De Tomasi is to follow a system similar to the bibliographic one, in the sense of referencing only the works from which directly elements have been taken and not the whole list of existing works on which a derivative work may be based upon (Tomasi, 2003a).

A similar but not same question was asked by Hendry in late 2003 (2003). Hendry was interested in attributing Creative Commons website, where the list of persons that have contributed to the site would have been awfully long. Brown's response was that the Creative Commons name would suffice, providing also an answer to the question whether the attribution could be a legal person and more than one individuals (Brown, 2003d).

The third group of popular themes appearing on the list is possibly the most interesting one as it constitutes the biggest group of themes (25.96% of the overall themes; 6.49% of individual thematic popularity) and also features four themes that relate to each other. The first of these themes relates to issues of licence compatibility and transition from one version of licence to another. It appears in conjunction with many of the more popular themes such as the SA and BY discussions or the themes of clarity and Attribution we have seen before. The second theme incorporates all FLOSS related issues. It ranges from issues that have to do with the common principles in different Open Source Licences to issues of the interaction between CC and FLOSS licences. The third theme in the group is that of the operation of the basic CC template as described earlier in section 6.3 of this chapter. The main interests of the participants posing such

issues relate either with issues of the scope of the rights they confer or the degree of the control that is left with the original creator. Finally, the fourth theme deals with the introduction of new licence variations as a result of specific needs in particular circumstances. It is important to note that a significant portion of the proposals for new licences is related to the question of interaction between different types of licences.

One of the first questions to be raised in this context was in January 2003 asking whether the Creative Commons ShareAlike licences was considered to be GPL compatible in the same sense as the Design Science and the Free Art Licences (Croome, 2003b). Croome was not only asking about the compatibility but whether there is an official Free Software Foundation position regarding the compatibility.

The first response that Croome got by Turner was that the CC SA licences were not compatible with the GPL as they required the derivative works to be distributed under the CC SA provisions, which among others included an anti-DRM provision that might not be GPL or FSF compatible (Turner, 2003). Brown's reaction to the discussion between Croome and Turner was to indicate that this was at the time an issue Creative Commons had not looked into to depth as yet, but also to suggest a few reasons why the GPL and the CC SA licences were probably not compatible. One was that the CC licences were primarily for non-software material unlike the GPL and thus the two types of content would not necessarily interact. This point led to the second part of Brown's argument that since the CC SA licences were not designed for software, the term copyleft though was the source of inspiration for the CC_SA licences it was not preferred. Instead the ShareAlike provisions seemed to Brown to be performing the same function as the copyleft in a non software context: "The nonsoftware analogue to making the code of a new work openly available is to make the derivative work itself available on the same terms as the original." (Brown, 2003f). Another thread that needs to be mentioned in this stage is one that started with some notes on the CC licences in relation to some probable errors to then focus on the question of whether the CC licences are compatible with the GPL. De Tomasi has initiated the discussion in a way similar to Croome, but this time by asking whether the CC_SA licences were compatible with GPL, whether they are copyleft or Open Source and in the case they are any of the two, whether logos in the Commons Deed could be added accordingly (Tomasi, 2003b). Croome actually referred to De Tomasi's question in August 2003,

about eight months after the question was originally raised (Croome, 2003a). Prodromou provided an answer similar to the one that Brown has provided to Croome but again from a different perspective: CC_SA licences are not really compatible to the GPL licences since in the former there is no reference to source code. In addition as Swartz would later add (Swartz, 2003), only GPL is really compatible to GPL (Prodromou, 2003a). Regarding the Open Source question Prodromou will again direct to the definitions of the Open Source Initiative, making nevertheless the same point as in relation to the GPL regarding the absence of reference to source code in the case of the CC_SA licences (Prodromou, 2003a). Finally, Prodromou presented another version of the question regarding compatibility: that you may include a GPLed work in a CC_SA work or a CC_SA work in a GPLed work claiming that this is possible for the former and very difficult for the latter (Prodromou, 2003a).

Soon after the issue of the compatibility with the GPL has been raised, the discussion has been narrowed down to Open or Free Content licences applied on non-software subject matter or "content". The GNU Free Documentation Licence (GFDL or FDL) has been possibly the most prominent example. Again these questions have been asked in relation to the SA element of the CC licences. In October 2003, Lemay posed the issue in relation to the CC SA 1.0 licences (Lemay, 2003): the latter required the derivative works to be licensed only with licences identical to those governing the original work: "The licensor permits others to distribute derivative works only under a license identical to the one that governs the licensor's work." (Lemay, 2003) Lemay found the term "identical" particularly strong as it has could lead to severe incompatibilities between the various CC licences as well as the CC SA licences and the GFDL. He suggested three potential solutions: (a) to amend v.1.0 of the CC_SA licences in respect to the "identical" element (b) to exhaustively list all CC SA compatible licences or (c) provide people with the opportunity to list the licences they deem that they "meet the spirit of 'sharing alike" (Lemay, 2003). Brown responding on behalf of Creative Commons emphasized that these constitute part of the CC versioning research; however the listing suggestion even from mid 2003 was not the preferred solution. Brown hinted that the Creative Commons was looking for an as open ended solution as possible (Brown, 2003c).

The issues raised by Lemay were further emphasized by Shanks a month later, in November 2003 (Shanks, 2003a). Shanks being involved in wiki communities referred to the great problems that they were facing in relation to multiple licences. He thought that there was great need for allowing people to combine both the GFDL and CC_SA licences. Shanks referred to two examples of wikis: one, emacswiki doing triple licensing (including GFDL and CC_SA 1.0) and a second one (wikitravel) using the CC_SA licences over GFDL licences. The problem with triple licensing was that the derivative content could not be used by anyone else, neither could they use material licensed under GFDL or CC_SA to create derivative works that would be triple licensed (Shanks, 2003a).

The issue of compatibility between different licences has been brought about long before the point of creating a new compatible licence has been raised. In August 2003 Prodromou has raised the issue in relation to what he coined "calculating Derivative Work licence compatibility" (Prodromou, 2003b). Prodromou gave two scenarios. Under the first one, a derivative work coming from an original CC BY was to be licensed under CC SA. The second involved again a derivative work coming from an original CC BY work but this time licensed under the GFDL. Prodromou's concern was related to the compatibility of derivative works potential licensing schemes to the licenses of the original works. Prodromou raised the issue in the context of the GFDL and CC SA licences since, as we have already seen, these were the licences he mostly used in his wiki. He suggested the creation of a tree diagram related to the compatibility of CC licences with each other and the GFDL together with a technical tool over the website that would make such implementation possible (Prodromou, 2003b). Linksvayer responded to Prodromou first in relation to his particular question and then concerning the broader issues the latter raised (Linksvayer, 2003b). The derivative work from a CC BY work could be licensed under a CC SA licence but not the other way around. Similarly the same derivative work could be licensed under the GFDL but attribution to the original author should be maintained and the link to the original licence be preserved. The issue here is more than anything else whether the GFDL is compatible with such arrangements (Linksvayer, 2003b). Regarding the broader issues raised by Prodromou, Linksvayer mentioned that the "tree" is in the TODO list and that the technical tool suggested by Prodromou will be implemented. The latter further responded to Linksvayer's comments by clarifying the purpose of the original examples

he offered: he was interested more in how the compatibility between the various licences may be calculated than getting answers for the specific examples (Prodromou, 2003n). Prodomou (2003n) also offered a first tree of compatibility though he was not confident it was a correct one.

The problem of licence compatibility in the case of derivative works has also been raised in November 2003 under the title of dual licensing. Prodromou, founder of wikitravel, was the one that initiated the discussion explaining the problems wikitravel was facing with respect to dual licensing (Prodromou, 2003c). Wikitravel was at the time using the GDFL as it was the main copyleft licence available for non-software material at the time of the wiki release. Wikitravel has recently opted for CC BY SA licences as a result of the extensive requirements accompanying the GFDL licences. The problem that wikitravel was facing as Shanks (Shanks, 2003a; 2003b) has already mentioned was that GFDL and CC SA content were not miscible (Prodromou, 2003c). Prodromou thus decided to double licence all works with CC BY SA and GFDL. However, this move raised further problems. The derivative works made out of the dual licensed works could be further licensed under only one of the two licences since the two were mutually exclusive. In addition in the case that derivative work was released no one, not even the original author, could double license it (Prodromou, 2003c). Brown's response was that at that time Creative Commons was still struggling to find a solution to the compatibility problems (Brown, 2003a).

The response provided by Gruettmueller directed the conversation more towards the features of the wiki working environment (Gruettmueller, 2003c). The problem with such working environments, Gruettmueller argued, is that permissions need to be asked by far too many people and that is not practical. In addition though there are many contributors, the administrator of the site is not the owner of the content. In addition, most of the wikitravel site is licensed under the GFDL 1.2 that allows derivative works to be licensed with any subsequent future GFDL version ("any later version") whereas this is not the case with CC_SA licences v.1.0 that did not provide such facility. Hence, the wikitravel site in the case of any future changes would need to start its licensing from scratch (Gruettmueller, 2003c). A similar point, but not in the wiki context was raised the same month by Shrieve. The latter made the scenario more complicated by adding the NC element. Shrieve's case was of an artist that licences a song (music and

lyrics) under a CC_BY_SA_NC licence. Then another artist makes a derivative work licensing it under the same type of licence. If a third artist makes a derivative of the second work and wants to use it for commercial purposes, does he need to ask permission from all line of previous artists on which the derivative work is based? (Shrieve, 2003) Shrieve never got a response to his question.

Gruettmueller similarly to Prodromou (2003n) in a previous thread we have already seen suggested that the only way to solve the problem of compatibility is to actually compile a list of licences under which a work could be re-licensed. What is most interesting is the suggestions that Gruettmueller made in relation to how this list could be maintained and the process of updating the CC licences should be done. For Gruettmueller the process of upgrading the CC licences should be as transparent and public as possible with some role-playing also included. Further to that he suggested that the licence listing should be done through a trustworthy organization with democratic structure like Debian. Gruettmueller completed his suggestions by expressing his hopes that the Creative Commons will evolve into an organization like Debian in the future (Gruettmueller, 2003c).

Prodromou answered to Gruettmueller's point on the multiple authors problem by stating that dual licensing has only occurred in cases where a single author was involved (Prodromou, 2003d). Prodromou still insisted that such a procedure was not easy at all and that a change in the CC_SA licences handling the problem would be most welcome (Prodromou, 2003d). Gruettmueller responded to Prodromou's comments to further clarify his position; what he was referring to was the upgradeability of the CC_SA licences rather than dual licensing. The problem for Gruettmueller was that the wording of CC_SA v.1.0 licences did not allow licensing with any future versions of the same licence. Again the comparison was with the GFDL that actually allowed for such future compatibility (Gruettmueller, 2003a). Prodromou agreed with Gruettmueller that the problem of compatibility with future versions of the CC_SA licences was a "grave" one and predicted that there would be works under multiple licences though wikitravel will provide to its users the option of licensing their work under a later CC version (Prodromou, 2003i).

Indeed, Prodromou has raised the issue of "any later version" compatibility between the Creative Commons version 1.0 licences and their subsequent version since August 2003 (Prodromou, 2003e). Initiating the homonymous thread, Prodromou asked why the Creative Commons licences did not include a clause that would ensure compatibility with subsequent versions of the licences. He mentioned that the General Public Licence contained a relevant section titled "Future Revisions of the Licence" that tackled the issue by making sure that the works were licensed under the existing or any later version of the GPL. Prodromou urged Creative Commons to follow the GPL model in that respect: "Why can't you be more like your big brother, Creative Commons?" (Prodromou, 2003e) Linksvayer responded to Prodromou suggesting that the CC SA licences would change in their subsequent versions to tackle compatibility problems with other open licences and CC SA v.1.0 licences. Such a move would most probably require the existing CC users to upgrade (Linksvayer, 2003). Prodromou returned to the issue of compatibility stating how big a problem for wikitravel still was in December 2003 after being prompted by another user admitting the problems that the upgrade would entail for wikitravel since permissions from all contributors may be required (Prodromou, 2003f).

The following graph presents in detail the popularity of different themes as resulting from our analysis:


Thematic Popularity

Figure 6.7 Popularity of themes discussed in the "cc licenses" mailing list

The overall distribution of popularity of the various themes indicates that there is no single dominant theme over the cc licenses mailing list, but rather themes are reasonably evenly distributed. At the same time the qualitative data analysis indicates that the issue of inter-relationship between different licensing schemes or the issue of interoperability in Lessig's terminology (Lessig, 2005g), appears as the dominant native norm among the various themes: the users of the licences and participants to the lists are predominantly interested as originally suggested by CC in how they will be able to share, reuse and remix their material with the minimum legal friction. In addition, the structural elements of the CC licences (basic template and Licence Elements) are the ones that set the thematic boundaries of the list. Figure 6.8 indicates that the 13.04% of the most popular themes have a popularity that ranges between 8-10%, whereas the majority of themes (65.22%) have a range of popularity between 2 and 8%.



Distribution of themes in %

Figure 6.8 Distribution percentages of themes discussed in the "cc licenses" mailing list

6.4.3 Commons as in Common Law: understanding participation and representation in the CC project

This kind of result is on the one hand expected, but precisely because it is expected is surprising: the construction of an artifact through the employment of mailing lists is not a novelty; even the construction of a regulatory artifact is not something original: this is the idea of FLOSS and is based as we have already explained on the way in which the development of the Internet Protocols has taken place. The data regarding the "cc licenses" mailing list and the relevant literature indicate that the participation on such lists follows the same interaction patterns as the ones we have described in the case of the "cc licenses" mailing list: not all participants to the mailing list actually make postings and not all those participants making postings have the same degree of participation; it is the minority of the participants that are responsible for the majority of the messages as well as for the framing and directing of the discussions. In that sense the findings regarding the participatory patterns are not surprising. The question that naturally arises is, if such patterns are not surprising then why is this form of platform chosen by the founders of the Creative Commons project for the development of the licences and hence the cultivation of the regulatory commons. This question is further intensified, if we take into consideration our preceding analysis that indicated that the expression of the native regulatory relationships and hence the construction of the regulatory commons is one of the primary concerns implicit or explicit in the Creative Commons project.

Perhaps the answer lies in the model of Commons Lessig is mostly familiar with and the kind of representation that is sought in the CC project. A look into the kind of arguments that are most likely to survive in the ecology of interactions taking place over the "cc licenses" mailing list is instructive of the kind of representation we are seeing in the CC project.

To use Lessig's terminology, the arguments that are most likely to survive in the "cc licenses" mailing list are the ones holding the strongest pedigree of associations (Lessig, 1989; 1993): the arguments that seem to represent the most extensive and coherent sets of associations are the ones that have more chances to be represented and remain in the text of the licences or to lead to an organizational change in the CC project. The example of the treatment of TPM over the "cc licenses" mailing list is illustrative of this aspect of the CC project.

In the case of the treatment of the DRM in v.3.0 of the licences, there is a series of contrasting representations taking place: on the one hand we have the Debian group and their definition of what constitutes a free licence and on the other hand the Free Software Foundation on the issue of the Technical Measures of protection; there are also representations of particular types of technologies for content dissemination such as the ones used by iTunes and representations of the operation of the General Public Licence v.3.0 on the issue of Technical Protection Measures and of course representations of the way in which TPMs are represented in the Copyright Directive; there are representations of the various national Creative Commons delegations (the Creative Commons International affiliates) and their views on the way the wording of the relevant CC licence section should be formed; finally, a series of cases actual and hypothetical are represented as arguments by the various participants to support their point. The account on the development of the final text of v.3.0 of the CC licences by its legal counsel as well as the way in which the final stage of the discussion took place after August 2006 indicates that the question regarding the content of the DRM - related section of the CC licences was resolved after having taken into consideration not merely issues of logical validity of the arguments raised by the different parties but also -if not mainly- by assessing the support that each of the contrasting opinions had in terms of technologies, communities, cases and social norms it represented.

In her explanation of the reasons behind the introduction of the TPM clauses, the CC legal counsel, Mia Garlick, provides a full background of the whole discussion by introducing the Debian group, the Debian legal mailing lists and the Debian Free Software Guidelines. She then presents the other actors, the relevant clauses of CC v.2.5 licences, the concept of DRM/TPM and the "cc licenses" mailing list. Once the setting

is there, Garlick explains the main arguments for and against an amendment of the clause and then she proceeds in presenting the arguments from different sides and the impact they had on the Creative Commons decision. The grounds on which a proposal for parallel distribution and the subsequent amendment of the existing wording regarding the anti-TPM clause were rejected is revealing of the pedigree argument, as well as the representation of native regulatory forms into the CC licences:

"The parallel distribution proposal did not, however, survive discussions with the Creative Commons International affiliates. (...) Based on their experience with the diverse communities that use and rely on CC licenses and explaining the licenses to different constituencies, the CCi affiliates were strongly opposed to the introduction of a parallel distribution scenario for various reasons, including: (1) the lack of demonstrated use cases showing a strong need among CC licensees for this kind of an exception to the existing "anti-TPM" language; (2) risks of unduly complicating the licenses which defeats a lot of the purpose of CC licenses, namely to be simple and easy to use and to understand; and, (3) the strong opposition to technological protection measures in general by many in the CC community." (Garlick, 2007)

The legal leads of national CC project or the Creative Commons International affiliates, to adopt the CC language, is the new actor emerging that seems to object some of the arguments posed in the list by the pro-Debian group. If we take a close look into the arguments of the CC International affiliates we get a strong sense that the decision is purely a political one: there is not enough support by technologies (the demonstrated use cases); the inertia of the text of the licence seems to be objecting (will further complicate the licence); and there is not enough human support (strong opposition to TPM within the CC community).

When the discussion starts again in August 2006 which is the time when the period under study of the CC v.3.0 licences in this thesis also begins, the participants in the list have to disprove all three points. The discussions on the "cc licenses" mailing list never managed to overcome all three barriers, something that we have also seen in the discussion segment under analysis:

"However, the overall tenor of the cc-licenses list discussions tended not to favor adoption of the parallel distribution proposal. There was concern that if parallel distribution were permitted in the CC licenses this would reinforce, if not expand, a platform monopoly enjoyed by a TPM-ed platform that only allows the playing of TPM-ed content (*See* Greg London, Re:Subject: Version 3.0 – List Discussion Responses, September 28, 2006, *see also*, Terry Hancock, Debian and Creative Commons, October 18, 2006). Other concerns were voiced that the non-TPMed copy may not be able to played as well as the TPM-ed copy and, generally, that the community was not in favor of supporting a TPM option at this stage (For an overview of the discussions, *see* the discussion archives for August, September and October.)" (Garlick, 2007)

There are two striking features in the above passage: first how clearly is the role of different technologies illustrated in the decision making process; and second, how the overall sentiment is that the pro-TPM amendment would actually reinforce a type of technologies that is not desired by the majority of what is referred to by Garlick as the CC community. The same feeling is evident throughout Garlick's overall explanation of the CC v.3.0 licences. If we notice the names that are mentioned in Garlick's account we will see the same names we have identified in our analysis: Prodromou, Hancock, London. Other participants like Linksvayer are not acknowledged since they are members of the CC staff and they play the soft-moderator or facilitator role, whereas participants like Keller are covered by the CC International affiliates characterization as the project lead for CC Netherlands.

However, what the author of this thesis finds as the most interesting part in Garlick's account is the punch line at the end of the Debian-parallel distribution section: it seems that one of the primary reasons behind the decision is the treatment of GNU Free Documentation Licence with its anti-TPM clause by Debian:

"Certainly, Debian voted (*See* 'General Resolution: Why the GNU Free Documentation License is not suitable for Debian main,). earlier in 2006 to allow works licensed under the Free Documentation License to be used in

Debian projects. The vote specifically says that the anti-TPM clause in the FDL does not render the FDL incompatible with the DSFG. However, it is not clear whether this treatment is an exception or will also enable the CC Attribution and Attribution-ShareAlike license to also be held to be compatible with the DSFG." (Garlick, 2007)

In a way similar to the mechanism of Common Law, the Creative Commons v.3.0 licences hope that they will manage to be faithful to the sentiment of the CC community and at the same time take advantage of Debian legal's precedent in relation to the GFDL. The argument is the same as the one the Hancock made soon after Garlick's point in August 2006.

Returning to the question of the kinds of representation we observe on the "cc licenses" mailing list we may conclude that a focus merely on the human or quantitative element of participation may be misleading: a variety of cases, communities, technologies, ideologies, legal instruments and legal systems are represented on the discussion even if these are made by a limited set of individuals compared to the overall population of those posting messages. The repetition of the same issues and the discussion of similar cases are to the benefit rather than to the detriment of the regulatory commons. Native forms of creativity are not perceived as such by the participants; however, their constituent parts are found first on the "cc licenses" mailing list and gradually into the text of the CC licences. While all these elements appear on the list in a very unstructured and anarchical fashion, it is this very lack of order that operates as the filtering mechanism that actually causes some of these representations to survive and certain others to disappear: only the sets of associations that are strong enough to outlive this mess of a lack of structure, fragmentation and repetition are the ones that may be represented in the formal regulation of the CC licences.

The representation here does not happen in the structured way that it would happen in the case of the House of Commons, where the representatives have been selected through a formalized voting process but rather in the way in which Common Law is cultivated through the random selection of cases that often repeat themselves and incrementally develop over time. Needless to say that the regulatory commons are not operating entirely in the same way as the precedent principle would operate in the case Commons Law, the existence of an expert judge being one of the fundamental differences between the two. Nevertheless, the metaphor of the Common Law as a device for cultivating native forms of creativity and expressing them into formal forms of regulation is rather appropriate and useful for making us escape the parliamentary and human-centric pre-conceptualizations of representation that does not allow us to appreciate the way in which the regulatory commons are developed in the case of the CC project.

6.4.4 Interaction patterns

Looking at the interaction patterns on the cc-licenses mailing list we get a very interesting picture. The first impression is that the various discussions are isolated and fragmented; that there is a good reason why there are only few of the active participants accountable for most of the postings and that there is not much of a Commons in the sense that the structural features of the discourse are such that any new participant is discouraged to post. However, as the list evolves in time we see that there is some form of Commons appearing, though not in the sense of the green pastures an idealist would have imagined or that the CC rhetoric presents in the CC promotional films (Brown, Paharia, Junell and Walker, 2002).

These Commons, as seen through the series of interactions that constitute them, look very much like threads. Lots of threads that as they get collocated one after the other they form a huge patchwork that manages to stick together: the regulatory commons.

An analysis of the "cc licenses" mailing list in terms of interaction patterns identifies three types of threads: First, there are explicit threads as set by their stated topic. These are found in the early period of the CC licenses mailing list. Second, there are implicit sub-threads, particularly within really deep threads, as a result of the breaking up of the stated topic in the process of the discussion (figure 6.9). These are found in cases of deep threads such as the one studied in the second period of the "cc-licenses" mailing list on the v.3.0 of the CC licences. Some of these sub-threads may end up being new

explicit threads of their own. In the diagram that follows we illustrate such a formation in the v.3.0 discussion indicating the themes of the sub-threads.



Figure 6.9 Implicit sub-threads in the CC v.3.0 discussions

Third, there are implicit super-threads that essentially run through more than one explicit threads, while retaining some sense of coherence in their consecutive mutations either in the participants or the thematic area they cover (figure 6.10). These are found in the early period of the CC licenses mailing list as in this period we have more than one narrow threads being linked with each other in implicit super-threads structures.

August 2003



Figure 6.10 Implicit super-threads in the early "cc licenses" mailing list period

There are also four forms of threads (explicit or implicit) that may be identified either in the narrow threads of the early or the really deep threads of the late period of the cclicenses period. First, we have "orphan" threads: threads containing only a single post (figure 6.11). The existence of orphan threads in the early Creative Commons period is quite often. In this early period the phenomenon may be attributed mainly to the lack of great numbers of participants, the lack of awareness regarding the project, and the technical problems that were endemic to the list and are indicated by the increased amounts of spam found in the archives in the first six months of the life of the project. It may also be attributed to the lack of familiarity with the licence draft itself. After June 2003 when the first licence text draft becomes available through the list the number of orphan posts is reduced and the overall amount of postings is radically increased. Even after the introduction of the first draft of the licences, orphan threads continue to exist but are neither the majority nor of the same kind as the early orphan threads. They are rather the result of themes that do not seem to be compatible with the rest of the themes in the discussion of the period in which they appear or are pushed by the same user.

In very advanced stages of the discussion as we will see in the CC v.3.0 discussion fragment which happens within a single thread, we do not have orphan threads but a similar phenomenon of orphan postings. The example of Medek's message (2006) on other issues than the ones raised at the time of him posting the message (that is DRM and TPM issues) had as a result to be totally ignored by the rest of the participants being preoccupied with a very intense (lots of messages in limited time) and deep (lots of messages on the same topic) discussion. As we will see clearer later, the development of the discussion after a point reaches a level of closure that prohibits participation to anyone that either cannot follow its pace or poses an alternative topic even if that topic relates explicitly to the root (initiating message) of the discussions.



Figure 6.11 Orphan threads example

Second, there are Q&A threads (figure 6.12). These normally include a question or statement and the relevant response. Such threads appear mainly in the first months of the project and involve the highlighting of typos or minimal type of errors that may be directly addressed. Another category of q&a thread includes not actual q&a but rather clarifications of the same person that makes the first posting; these are postings of generic nature such as the announcement of the first text draft of the licences in June 2003 by Brown (2003b; 2003e). A third category of q&a threads is found during months where there is a multiplicity of messages and threads and tend to be found in groups. A final category of q&a threads involves ones that spread for a period of more than one month and as such though they comprise of only two posts spread for a longer than the normal period of time.



Thread: Fitting a licence on a small place



November 2002

Thread: Suggestion for new license



December 2003

Thread: License Question (Fair use and ownership)



Figure 6.12 Q&A threads example

Implicit Q&A threads may also be identified within deep threads when referring to procedural issues or themes that are or get marginalized (figure 6.13).



Figure 6.13 Implicit Q&A threads example

The third category comprises of composite threads of deep linear type: these threads subsist of consecutive answers to the previous discussant's comments without any reverting to a previous post or more than one answers to the same post (figure 6.14). We classify as long-line threads any thread with more than two posts, where each post responds to the previous one without direct links to other posts or time jumps (e.g. post no3 replying directly to post no1). A first category of such posts are ones that involve only two persons that exchange multiple messages. This is likely to happen where the discussion after a point becomes too esoteric for anyone to interfere or when the long-line thread actually comprises of only three posts. A further variation of the long-line thread is one of threads that take place only between two individuals but transcends the time unit of the month or thematic unit of the thread. The former sub-category resembles the equivalent category of the q&a threads.

September 2002

Question on license options



Figure 6.14 Long line thread example

Long line threads that take place between more than one people present again a series of variations. The straightforward multi-participant long line thread is possibly the most common in the case of the "cc licenses" mailing list. Similar to the patterns of three posts threads, we have deeper threads that transcend both the time unit of the month and the thematic area unit of the thread. What is the most interesting element in such threads is that the discussion development follows a strictly incremental pattern and the participants do not revert to any of the past messages other the previous one, not even the initiator of the thread.

Finally, the fourth category comprises of deep tree-like threads (figure 6.15). These tend to either revert to previous topics or break into implicit sub-topics and sometimes when complexity increases or a particular aspect of the discussion acquires enough importance to the opinion of one of the discussants to actually create a new explicit thread. We may divide them again into smaller subcategories in accordance to the kind of forking they illustrate. A first sub-type is one comprising of those threads where the series of incremental comments made by different participants is interrupted by a comment that is based on two postings. The discussion then either splits into two discussions or the most powerful line is the one that survives. A second sub-type is one where the trajectory of incremental comments is interrupted as a result of a posting that receives more than one responses. This happens quite often at the beginning of the thread if a single posting received more than one responses that may or may not be followed further. A third subtype is one that includes either multiple branches, or branches that link to other threads or transcending the time unit of the month or a combination of all three characteristics.

The interaction patterns in the early Creative Commons discussion period compare to ones related to the discussions taking place in a more mature environment as seen in the case of the CC v.3.0 discussion. As mentioned above, though we are dealing with a single thread, we may trace the emergence of implicit sub-threads that resemble the thread structure of the early Creative Commons threads we have explored in the previous paragraphs.



Figure 6.15 Tree-like thread example

Orphan as well as Q&A threads set the background and boundaries of the discussion. It is in looking into such threads that we appreciate some of the non-stated rules of the regulatory Commons.

Long-line threads with normally two participants are the most expressive form of the fragmentation of the regulatory Commons and a rather common type of interaction on the "cc licenses" mailing list. In such cases the discussion evolves incrementally between the two or more participants, each making a comment most commonly only to the immediately previous posting. As a result someone that has no good knowledge of the specific discussion or the overall thematic horizon of the list is incapable of following the subject.

This "short" memory of the mailing list is indicative of the way in which innovative elements are introduced in the discussion: innovation in the list is a rather slow and inefficient process; it happens after lots of iteration and repetitions. The same theme may be appearing repeatedly over the years and only when it manages to assume enough support is able to appear as a change in the text of the licences themselves. The case of the incompatible Free/Open licences is a classic example, appearing as an issue as early as in 2003 and being partially resolved only in early 2007.

The "memory" of the list involves certain participants that we may call "cultivators" and which are not necessarily members of the CC staff. These are the really active participants that initiate or participate to most of the threads and thus have a good overall picture of the discussion. These are able to cross-fertilize the long-line threads; to link the otherwise dispersed orphan and Q&A threads; to move two or more posts back and in that sense violate the strictly waterfall-like model of most of the discussions; and finally to be the links in the tree-like threads that if they evolve in to deep threads, will lead to a series of implicit long-line threads.

6.4.5 Cultivating the regulatory commons: Static and dynamic cultivators/ controllers in the CC project

The development of the discussions seems to be driven by two opposing trends: to close and to open at the same time. The tendency to close relates to the incremental nature of the discussion. As the discussion proceeds in order to participate it is necessary to follow the interactions and be aware of the overall framework of the discussion.

The patterns of interaction confirm three sets of features for the "cultivators" of the commons: first, good knowledge of the pedigree of the latest message in the thread; second, understanding of the overall discussion; third effort to re-frame the discussion.

It is important to make explicit at this stage that the representation of different thematic areas in the CC licences is not the result of a natural selection process or at least not entirely 'natural'. This is the reason why we are talking about *cultivation* of the regulatory commons rather than about their *evolution*. The idea of cultivation introduces

a series of mild controllers that are essentially influencing the development of the regulatory commons towards a certain direction. We may classify such controllers into two broad categories, static and dynamic cultivators. We have already presented in sections 6.1 and 6.2 a series of static cultivators, that is controllers that are put in place and then they operate as a framework channeling the development of the regulatory commons: the licences themselves, the vocabulary used, and the medium where the discussion takes place constitute the conditions upon which the regulatory commons are founded in the case of the CC project. The incremental, fragmented and repetitive nature of the interactions (as we have seen in section 6.4.3) is also a framing factor though it is more the result of the operation of all the basic static regulatory and as such it could be characterized as a secondary static controller.

Even more interesting is the case of dynamic cultivators. These are actors that not merely frame the discussion but literary interact with the various participants to the "cc licenses" mailing list to steer the discussion towards a certain direction. The dynamic cultivators are essentially those participants with the greatest contribution to the discussion over the "cc licenses" mailing list both in terms of volume of postings and ability to set the agenda and direction of the discussions (sections 6.4.1 and 6.4.2). We may broadly identify two types of dynamic cultivators: members of the CC staff and other participants. This differentiation is important as it indicates the degree of control that the CC exercises over the development of the licences. The analysis of the participation patterns (section 6.4.1) indicates that the contribution of the CC members of the staff is substantial but is neither quantitatively nor qualitative the most significant.

The analysis of the "cc licenses" mailing list reveals that members of the CC staff are intervening in five ways: First, they present the ground rules for the way in which the discussion is going to take place; second, they sum up the discussion to a particular point; third, they provide answers on specific questions; fourth, they provide their experience from discussions having taken place previously over the mailing "cc licenses" mailing list; five, they resolve an existing dispute usually by issuing a particular document presenting the outcomes of the relevant discussions. The interventions by members of the CC staff are particularly mild and unobtrusive; hence it is rarely the case that they cause any sort of controversy on the list. On the contrary it is in many cases that their interventions are there to pacify very intense discussions.

Dynamic cultivators that are not members of the CC staff tend to have a strong practical interest in the CC development or a conscious ideological position. Other participants with practical problems arising from the use of the CC licences are also likely to participate but not in the extent and for the time the dynamic cultivators do. For instance, Prodromou is interested in the issue of dual or multiple licensing and the miscibility of material of different licensing origins [e.g. (Prodromou, 2003b; 2003c; 2003d; 2003g; 2003i; 2003n] as he is the creator of wikitravel (Prodromou, 2003h) and this is the problem he mainly faces. Prodromou also views things from the perspective of the developer, and is an active member of the Debian legal mailing list and as such is interested in the compatibility with the DFSG (Prodromou, 2006a; 2006b; 2006c). Keller is more interested in having the autonomy of the author being preserved in terms of her making the decision on certain areas that are still ideologically tense (Keller, 2006a; 2006b; 2006c). London (2006)} and Myers (2006) express the opinion that the user should not be underprivileged in comparison to the creator. Hanckock (2006) and Linksvayer (2006) are more interested in being compatible with the FSF anti-DRM policy rather than being merely fully compatible with the DFSG.

This is what differentiates a dynamic cultivator from a mere active participant: the former has a constant presence on the mailing list, a good knowledge of different aspects of the CC project and is not focused solely on a specific topic of interest; the latter is interested in solving specific issues arising from the use of CC licences and is only occasionally a contributor to the "cc licenses" mailing list. Dynamic cultivators who are not CC staff are much more common and feature the same characteristics as the latter with two major differentiations: first, they do not set rules of the discussion as they do not have any institutional legitimization and second they are very likely to provoke controversy, having specific political or practical agendas they seek to achieve. A classic example of practical interventions are those of Prodromou, the founder of

wikitravel, that seeks to achieve compatibility between different versions of the CC licences as well as CC licences and other open content licences since his first presence on the list in 2003. Prodromou has contributed with his interventions to the solution of the problem of incompatibility of subsequent to v.1.0 CC licences and had an enormous contribution in the steps CC is taking in achieving compatibility between the CC and GNU-Free Documentation Licence with v.3.0 of the CC licences. Prodromou has also contributed to the framing of the discussions regarding the DRM clauses in v.3.0 of the CC licences as a de-facto representative of the Debian Community. Similar from an ideological viewpoint are the contributions of Moeller or London on issues of minimum freedoms that should exist in all CC licences and the NC licence element respectively. The first has actively pursued an agenda of establishing minimum common principles for all CC licences and the latter has actively sought an anti-NC agenda for practical (lack of clarity) as well as ideological reasons (not really a free licence according to the FSF definitions).

It is interesting to note that the interventions of non-CC staff dynamic cultivators increase over time and as the project evolves. It is also important to note that the founder and CEO of the CC project, Lawrence Lessig, is visibly absent from the discussions occurring over the mailing list. Lessig's contributions are rare and other than the case of his Newsletter that is always being published in the context of some sort of funding effort [e.g. (Lessig, 2005i)], they are always the result of an issue that he deems as particularly important to cause his intervention. For instance, Lessig has intervened on issues that related to the relationship between CC and the FSF, issues of minimum principles in all CC licences and compatibility issues between the different types of licences, as well as the definition of the NC licence element. Lessig's minimal contribution as well as the CC staff unobtrusive cultivation efforts, to a great extent verify the model of minimal intervention in relation to the development of the regulatory commons. In addition, the emergence of non-CC staff dynamic controllers is to a great extent a sign that the community becomes more and more self-sustained and may continue to develop on its own.

The role of dynamic cultivators is of great significance to the development of the regulatory commons as they operate together with the static cultivators in order to give

to CC its specific character. The dynamic cultivators operate as the *regulatory memory* of the mailing list: with only the static cultivators in place the whole development of the regulatory commons would be directed towards increasing closeness and repetition: as we have seen in section 6.4.4, the interactions follow a waterfall-like pattern that makes the transition to an earlier stage of the discussion very difficult for someone that does not have a very good knowledge of the overall discussion or at least the specific thread.

In a depth of time because of the multiplicity of threads and the multitude of postings it is virtually impossible for someone that is new to the discussion to search all archives to find whether an issue she is interested in has been covered or not. As a result it is very likely that there are going to be many repetitions in the discussions or that the representation of a particular real life case is lost in the pile of subsequent messages and cases. The dynamic cultivators are essentially the actors in the development of the regulatory commons that are able to cross-fertilize the discussions both in terms of time (relevant discussions that took place in different periods) and in terms of topic (relevant discussions that have commonalities though they were posted under a different thematic framework, e.g. different thread or implicit thread). The dynamic cultivator that has participated in many of these treads has the ability to link them with each other and hence to allow a capitalization of the relevant results in terms of them being internalized by the regulatory commons and then expressed in the formal regulatory document of the CC licences or in some form of CC-issued guideline.

The dynamic cultivators are also the ones that in most cases will cause (non CC staff) or temporarily settle (CC staff) a controversy and in that sense the ones that will fuel the further evolution of the relevant discussions. They are the ones that represent technologies, communities and persons on the mailing list and the ones that accelerate the process of development of the regulatory commons. They operate in that sense like enzymes in the regulatory process and are the ones that to a great extent re-introduce the openness by allowing new topics to enter; bringing about topics that have been lost in past postings but are relevant; or by critically approaching concepts and issues that seem to have been settled. If the static cultivators are the ones that give the original strategic direction and in that sense close the discussion, the dynamic cultivators are the ones that make the necessary subsequent tactical maneuvers that allow the avoidance of sclerosis and, in that sense, open the discussion in a range of novel directions. The fact that most of the dynamic cultivators are not CC controlled is an indication of how the model of regulatory commons that CC establishes has as its conscious objective to allow as much from the native regulation and many from its *de facto* representatives to be expressed in the formation of the formal regulatory forms, i.e. the CC licences.

6.5. Conclusion

In this chapter we have presented various aspects of the Creative Commons project ranging from its world-view (section 6.1) and the way it has affected the choice of specific means for the achievement of its objectives (section 6.2) to the operation of the licences (section 6.3) as well as the participation (section 6.4.1), thematic representation (section 6.4.2 and 6.4.3) and interaction (section 6.4.4) patterns on the mailing list used for their development. The investigation of the diverse facets of the CC project has resulted in an exploration of the different cultivation techniques and the way in which the regulatory commons are developed in the model of Common Law (section 6.4.5)

In this trajectory we focused in particular on the way in which the problem of supporting the creation of a vibrant Public Domain or Commons is gradually transformed to a problem of increasing the autonomy of the creator so that she is able to express the regulatory terms under which she wishes her word to be disseminated (sections 6.1 and 6.2). The re-framing of the Commons problem as a regulatory autonomy problem (section 6.3) is reflected on the way in which the patterns of interaction and participation are formed as well as on the organizational transformations of the CC project that increasingly lead to the formation of a more explicitly political branch of the project, the iCommons project (sections 6.4.1 to 6.4.5). This is an expression of the fundamental philosophy of the CC project not to force the creative commons through techniques of coercion but rather to allow their emergence through a process of enrolling the creator in the use of regulatory tools that support the creative reuse of material. The following chapter analyses and discuses in detail these transformations seeking to frame the problem of the cultivation of the regulatory commons and through such a process the support of the creative commons as the primary objective of the CC project.

7. Introduction

The objective of this chapter is by critically assessing the results from the presentation and analysis of the CC project that took place in chapter six to explore the transition from the regulatory to the creative commons.

As we have seen in chapter three (section 3.4), a key aspect of the literature on Public Domain [e.g. (Boyle, 1997a)], the CC critique [e.g. (Elkin-Koren, 2005)] as well as of the critical Copyright literature in general [e.g (Lange, 1981)(Littman, 1991)(Wagner, 2003)(Fisher, 1999; 2001; 2002)] is that Intellectual Property and the Commons are constructed entities. The admission of the constructed nature of a regulatory instrument, in the same way as that of any formative context, entails that it is potentially capable of being changed. In chapter four (section 4.1.2) we have shown how construction in Lessig's work amounts to change (Lessig, 1996b).

While, however, this emancipating message has been the core point of the relevant literature, a closer look in its thematic reveals a lack of interest in the stage of regulatory development and a focus solely on implementation and enforcement issues.

This chapter, by bringing together the conclusions from all previous parts of this thesis, seeks to present CC as a project that primarily aims at allowing the creative practices on the Internet to be expressed in the CC licences. Even more importantly, it shows how and why this effort does not run the risk of being diverted to an effort to produce a proprietary set of licences as the critique of the CC project implies (section 2.5). It illustrates which are the specific instruments used by the CC project in order to establish a Commons in the regulatory level, the regulatory commons (see analysis in section 6.4.5). The core idea of a regulatory commons is that all participants have access to the formation of the regulatory instrument in non-discriminatory terms. Finally, chapter seven explains how this project of cultivating the regulatory commons is framed in such a way so that it may produce a creative commons.

The chapter is divided in two parts: in the first part (sections 7.1 to 7.1.3) we revisit the conceptual framework developed in chapters four as a result of Lessig's work to illustrate how it is revised in the face of the insights we have gained from the analysis of the CC project in chapter six. This first part displays how Lessig's theoretical work explains the Copyright – Technology interaction problem (chapter three) as a regulatory distantiation problem; it further presents various regulatory construction techniques that point at more cost efficient solutions and explains which are the constituent parts of a regulatory strategy geared towards such a direction.

The second part (sections 7.2 to 7.3) of this chapter focuses on the CC project to explain how these mechanisms are actually employed by the CC project in order to reduce regulatory costs and what it reveals regarding its character as a regulatory commons project. The second part achieves such objectives by emphasizing three analytically distinct features of the CC project: first, its framing or seeding functions; second, its regulation cultivation-construction operations; and third, the political dimension of the CC project and the nature of its output.

7.1 Commons and their regulatory conditions

In this first section we link the critique of the CC project (chapter two) to the literature on the Commons and Copyright (chapter three) in order to explore the implications of the assumption of approaching both Commons and Copyright as constructed entities. Lessig's ontology of regulation-as-associations and his work on the ways of their construction (chapter four) (Lai, 1999; Lessig, 1989; 1993; 1995b; 1995c; 1995d; 1996b; 1997c) constitutes the linking between the two sets of literature.

The critique of the CC project [e.g. (Elkin-Koren, 2006a; Berry and Moss, 2005; Chance, 2006a; Klang, 2006)] is always a good starting point for an investigation of the CC project's features for the obvious reason that it allows the identification of points of tension within the project. However, the same critique is useful for yet another reason, perhaps of even greater importance: it highlights the non-contested aspects of the CC ontology; what is taken for granted particularly with respect to the Commons, the Public

Domain or regulation. It is these moments of silence in the CC critique that speak most loudly about the nature of the CC project.

A careful look into the CC project critique reveals that there is a lot of talk about the Commons and the potentially detrimental effects of the CC project on their development (section 2.8), but the Commons *as such* never really appear. To state it simply, the Commons in the CC critique literature are equaled to their regulatory conditions.

The conceptualization of Copyright and the Commons as artificially constructed terms of a regulatory nature is the first step for a critical assessment of their content. In that sense Elkin-Koren's (section 2.3) Boyle's (section 3.4) and Lessig's (section 4.4) conceptualizations coincide. The constructed nature of the Commons is to a great extent based on assumptions regarding the economics that explain the innovation and creativity process. Being critical to such economic assumptions entails a critical stance to the regulatory assumptions upon which the Commons are based. To state it differently, by choosing an alternative to the mainstream economic model for creativity and innovation, a different regulatory model is also possible and hence the balance between the Commons and Copyright may -at least in principle- be accordingly shifted (section 3.4.2).

This change of the conditions that support a particular economic model is closely linked in the CC related literature of the last two decades to changes to the technological assumptions of the creative activity (sections 3.1 and 3.2). The work by Moglen [e.g. (Moglen, 1999; 2003)] and Benkler [mainly (Benkler, 2000; 2001; 2002; 2006)] is emblematic of such an approach that is most clearly expressed with 'Moglen's Law' regarding a system supporting innovation and creativity that comes to oppose the assumptions of the incentives model found in the classic Copyright system and which we have seen in chapter three (Moglen, 1997).

Two aspects of this alternative economic model are of relevance to this thesis: first, that in an Internet environment, creativity may be materialized not because of the existence of the necessary incentives but as a result of the absence of obstacles (Moglen, 1999); second, that this model is based on having the intelligence or control of a network at its ends, not its center (Saltzer, Reed and Clark, 1984). Lessig's earlier and less popular work, as we have shown in chapter four (sections 4.1 and 4.4), is not focused on Copyright issues, but rather on issues of regulatory constructivism and as such deals with an issue that the Commons and CC literature leaves unanswered: the problem of participation in the construction of a regulatory instrument (sections 4.4.1 to 4.4.3). For, while the Copyright, Commons and the CC critique literature emphasizes the constructiveness of the regulatory conditions of the Public Domain they are not interested in answering the question regarding the ways in which access to its formation should be enhanced.

On the contrary, Lessig in his social meaning (Lessig, 1989; 1993; 1995b; 1995c; 1995d; 1996b; 1996c; 1997c) and Cyberspace regulation series of writings (Lessig, 1995e; 1996a; 1996d; 1996e; 1996f; 1996-1997; 1997a; 1998a; 1998d; 1999f) identified the problem of the functions of Public Regulation being increasingly performed by private regulatory instruments (section 4.4.1) and sought to explain, first, why this is a problem (section 4.4.2) and second, how this problem could be resolved (section 4.4.3). We have also referred to these aspects of Lessig's work in greater detail in chapter four (section 4.4) and we will return to them in this chapter as well. In the following section we will explain why it is that the issue of having access to the formation of the regulatory content of Copyright and the regulatory conditions of the commons is important, as the analysis conducted in chapter three indicates.

7.1.1. Regulatory distantiation in the language of association construction

The critical literature review in chapter three has left us with the basic conclusion (section 3.6) that Copyright in its relation with digital technology is exhibiting a pattern, which we have described as the *distantiation* phenomenon: while Copyright in its application involves greater segments of the population, the participation in its formation is gradually distantiated from publicly accountable bodies. Lessig (1996d; 1996e; 1996f; 1996-1997; 1999e; 2000a; 2000c; 2001b), as we have seen in chapter four, presents the same problem as one not confined in the realms of Intellectual Property Rights but one being related with Cyberspace regulation overall (section 4.4.1). Finally, in section 4.5.1 we have seen how Black's work emphasizes the

importance of studying the process of the regulation building and increasing the participation to the formation of regulatory instruments [e.g. in (Black, 2000; 2001a; 2002a)].

Combining Copyright literature, Lessig's work and the relevant regulatory theory we identify three types of features characterizing the distantiation *phenomenon*: First, there are features related to the alienation of the public from the means of regulatory production (section 4.4.1); second, there are features that relate to the increasingly more pervasive and obtrusive application of regulation (sections 3.1 and 3.2.); and third, there are features relating to the adverse effects of distantiation expressed either in the form of infringement and the costs of regulatory enforcement (section 3.1) or in the form of costs for creators that are also potential infringers (section 3.3).

All the aforementioned aspects of the distantiation phenomenon highlight a subtle aspect of the regulatory nature of Copyright that as we have seen in the previous section is not given great attention: Copyright issues are not exhausted in their regulatory content; their main target is to create links or associations with those actors upon which the relevant regulations are to be applied. This is the point where Lessig's early work on regulation as association building (section 4.1) becomes relevant by providing a vocabulary for describing the *distantiation* problem as an association construction problem.

Failures of Copyright enforcement may be read as association construction failures. Lessig in his social meaning series of papers (Lessig, 2005k) provides a number of mechanisms for association constitution and assesses their costs in order to suggest which mixture of mechanisms could support the most efficient form of a regulatory strategy (sections 4.1.2 to 4.1.4).

By approaching *distantiation* as an association constitution issue we manage to transcend the distinction between regulatory enforcement and production: objective of the regulatory effort is to produce a set of associations; these associations may be constituted either at the stage of regulatory construction (as in Lessig's model presented in sections 4.1.2 to 4.1.4) or at the stage of its enforcement (as in the case of Lessig's direct inhibition technique presented in section 4.1.4 and seen as enforcement in section

3.1) or in both instances. Clearly, a regulatory instrument that suffers from *distantiation* has a greater cost from one where access to its construction phase allows the associations to be organically created before they are actually implemented.

The following section describes in detail the reasons why such a situation is problematic by extending Lessig's various variables regarding association constitution costs.

7.1.2. Modalities of Regulation and Regulatory features; Native and Exotic Regulatory Forms

We have seen in chapter four how Lessig (1998d; 1999f) employs the model of the four modalities of regulation (Law, Technology, Markets and Social Norms) in order to explain the forms in which regulation may appear in an Internet environment (sections 4.3 and 4.4). Each of the regulatory modalities has a different degree of *immediacy*, that is, the number of actors or institutions that mediate between the regulatory content and its actual enforcement (section 4.2). For instance, technology is a much more immediate form of regulation compared to the law: the restriction or regulation of a Technical Protection Measures is much more immediate in effect than a court decision and its enforcement through the judicial and police system.

We need to extent this model by differentiating between *regulatory modalities* and *regulatory features*. There are regulatory modalities such as the law that are build from their inception in order to serve regulatory purposes and have an explicitly political character that is accepted and internalized by the population. Nevertheless, there are other modalities, which have undeniable regulatory features but are built in order to serve more utilitarian purposes. In such modalities the regulatory character and political nature are still there but stay invisible in the background. There are artifacts that by design appear to be regulatory modalities, such as a contract or a Digital Rights Management System, and other artifacts that by design *appear* to serve another purpose, though they may have regulatory features, such as a torrent tracker regulating the conditions of uploading/ downloading.

Clearly, an artifact that has regulatory features tends to create associations in a far easier (i.e. less costly) way than an artifact that explicitly constitutes a regulatory modality. We may derive this conclusion by employing some of Lessig's (1998d; 1999f) variables

presented in chapter four (sections 4.1.4, 4.2 and 4.3) using the example of the DRM system and the torrent tracker. While both of them may appear to fall under the same modality of regulation (i.e. technology) and hence have in accordance to Lessig's analysis the same level of immediacy, the torrent tracker allows a greater degree of internalization as it will most probably not produce any direct resistance to its normative content. In Lessig's terms the more a regulatory instrument has the features of the ritual (Lessig, 1995c) and the less it has the features of direct inhibition, the more likely it is to be adopted (section 4.1.4): a ritual is an association building technique based on influencing directly behavior, that operates coercively, has the elements of repetition and, most importantly, does not appear as coercion. The regulatory features of the torrent tracker are diluted within its other more functional features, where this is not necessarily true for a DRM system.

However, even a DRM system may appear to have regulatory features and not to appear as regulation itself if it manages to present the features of the ritual presented above. In summary, the more an artifact seems to be integrated in daily routines, the more *native* it is.

It is these native regulatory structures that the Copyright regulatory mix of technology, licences, meaning and market has to compete with. Unfortunately, the latter is far too *exotic* in the sense of external and distantiated to compete with the native regulations and hence the construction of the relevant associations is extremely costly; it increasingly requires direct coercion methods such litigation against end users or the introduction of draconian legislation such as the proposed EU second Enforcement directive. This exotic regulation also tends to be "formal", in other words it is expressed in an institutionalized form of regulation such as national or international laws.

The attempt to enforce regulatory forms that are essentially competing with native regulatory forms results in producing the costs (active and passive) that we have described in the previous section. Such costs may be attributed to the failure to produce associations or the friction that existing association cause to native forms of regulation.

The following section returns to the issue of regulatory construction to illustrate how the concept of native regulatory forms may be employed in order to create a coherent framework for assessing a regulatory strategy.

7.1.3. An end-to-end model for regulation development: the regulatory commons

The native regulation concept presented in the previous section indicates that a regulatory strategy seeking to reduce both active and passive regulatory costs and hence to satisfy both the needs of the classic Copyright enforcement and Commons objectives should focus on the construction of regulatory instruments as close to native forms of regulation as possible.

At this stage, we need to describe the limitations that such a model should have in relation both to the classic proprietary Copyright project and the proponents of the Public Domain.

A first limit to the introduction of a regulatory instrument that would seek to express native regulatory forms relates to the existing rights holders and the protection afforded to them through the existing Copyright System. Moglen's Law (1997; 1999) is against all forms of friction that could obstruct creativity as enabled by the end-to-end architecture of the Internet and hence it could be seen to object legal restrictions all together. This obstacle could be removed through (a) by respecting and acknowledging the existing Copyright system and (b) by introducing a voluntary element in the removal of restrictions. We have described in section 6.2 how Lessig includes both these two elements in his Fair Use Plus concept that he introduces with his 2005 series of Newsletters (Lessig, 2005k). According to the Fair Use Plus concept that is implemented with the CC licences, these freedoms being compatible to the nature of the Internet as an end-to-end architecture are expressed in the form of Copyright licences that may be awarded only by the rights holder. In summary, while there is an effort to present a regulatory instrument that resembles native regulation, provision is made so that there is interfacing with the existing legal system.

In addition, as illustrated in section 6.4.2 referring to the thematic representation or the "cc licenses" mailing list, the various participants are particularly interested in reducing

legal friction in order to share, reuse and remix material. As the findings in the same section indicate, the reduction of friction is required both for obliterating permissions but also for clarifying existing rules or even the content of the CC licences.

A comparison of the literature concerning the Commons (sections 3.3 to 3.5) and Lessig's early work (sections 4.1 to 4.4) allows us to understand the difference between the conceptualization of the Copyright-Technology interaction as a Commons problem from its conceptualization as a regulatory distantiation problem (section 3.6). In the former case, the problem is located in the level of the regulatory content that in the case of Copyright is seen as not corresponding to the existing creative patterns and hence requiring amendment. However, while in accordance to the native regulation model there is a certain degree of agnosticism concerning *how* this regulatory content should be formed, the CC critique literature presents the whole problem as one between two opposing models (sections 2.6 to 2.9): one of no-regulatory restrictions, the Commons, and a second of regulatory restrictions, the Copyright system.

In sections 2.5 and 2.6, we have seen that the Commons are viewed by the CC critique as a space without any regulatory conditions or with a minimum of regulatory conditions that should exist across all contexts. This model suffers from assuming that the economic model expressing the creative conditions on the Internet is or should remain static or that there is an essential set of conditions for the Commons that should be applied across all contexts. There are three classes of problems with such an assumption: The first is an internal consistency problem: if Copyright and the Commons are constructed, as this stream of literature assumes, they cannot have essential features at the same time. The second relates to the problem of regulatory distantiation: if we try to impose externally a specific version of the Commons in a context where it is not accepted or where the dominant mode of native regulation is different, then it is very likely that the same passive and active regulatory costs as in the case of the Copyright project will occur. The third class of issues relates to the Commons as an absence of any regulatory conditions and the native regulation issue: it is very unlikely that any human activity would be void of any regulatory form and hence a model of the Commons seeking to impose a non-conditions regulatory content is likely to be colonized by native regulation and possibly be prohibited from operating as a Commons.

If, contrary to the CC critique model, the Commons problem is seen as a symptom of the more fundamental regulatory distantiation problem (sections 3.6 and 4.4.1-4.4.2), then the means employed for its solution could be seen to be of a different level all together: instead of looking for regulatory tools to support the creative commons we should focus our interest in the identification of tools that would allow the expression of native regulatory forms and, if the creative commons is indeed the underlying regulatory content of native regulatory artifacts, this to be expressed as well (section 4.4.3).

The critical review of Lessig's work in chapter four has identified four techniques of association construction (section 4.1.4) and one technique for association constitution that we call *cultivation* (section 4.4.3). These are useful for understanding the features that the tools for achieving proximity to native regulation should have.

Lessig (1995c) is in favor of *defensive* constructions in the sense that they are closer to existing sets of associations and hence have a lower construction cost (section 4.1.3). Similarly the tying concept allows the strengthening of a set of associations by relating to a specific positive meaning. The concept of ambiguation confuses the costs by associating a text with more than one meanings and thus blurring its non-desired meaning (sections 4.1.3 and 4.1.4). Advancing all these models with the native regulation concept, this thesis argues that there should be always an *anchor* point in the efforts of tying or defensive construction seeking to associate with native regulatory forms and native forms of association, else even defensive or tying efforts could still incur high costs of construction.

Concluding this section in relation to native regulation we should highlight the use of the FLOSS model in Lessig's (1996-1997) early work as a paradigm for the way in which private regulation should be built with public values embedded or, in the terminology of this chapter, how to employ a model for the cultivation of native regulatory forms (section 4.4.2). Lessig uses FLOSS in his early work (Lessig, 1997a)(Lessig, 1996a) to illustrate how a non-legal regulatory modality, technology, could be constructed in a way so that the public could in principle have access to its construction. Lessig is primarily interested in this issue as it seems to solve the problem of what we call in this thesis the *distantiation* phenomenon and allows the establishment

of the regulatory commons: an essential facility of regulatory nature to which everyone has access in non discriminatory terms (sections 3.5, 4.4.2 and 4.5).

By combining the concept of the native regulation we have developed in this chapter with the one of the regulatory commons expressed in Lessig's use of the FLOSS model for assuring non-discriminatory access (Lessig, 2001b) to the means of regulatory production, we have a first sketch of the way in which a first solution to the distantiation problem could be provided: not by directly producing a set of rules for the support of the creative commons but by allowing native forms of regulation to be expressed in an environment of regulatory commons. In such a model, the associations are not constructed by an external meaning manager as described by Lessig in his four types of association construction techniques we have seen in chapter three, but are rather cultivated allowing the native associations to be expressed.

In this first part of the discussion chapter we have presented how the earlier theoretical chapters two and three could be combined in a creative way so that they produce an extended version of Lessig's theoretical work presented in chapter four and allow a better understanding of the distantiation phenomenon presented in chapter three as well as provide some first answers to the CC critique presented in chapter two.

The following section deals with the specifics of how such model has been applied by Lessig in the CC project, the particular means used and the how the basic elements of Lessig's original conceptual model may be further expanded.

7.2 The CC project as a construction-cultivation project

In this section we explore the ways in which the Creative Commons project constitutes an effort to allow native forms of regulation to be expressed and hence to resolve the problem of regulatory distantiation that seems to be the cause of the eradication of the Commons as illustrated in section 7.1.1. The use of the language of associations in order to describe the distantiation problem (see sections 3.6, 4.4.1, 4.4.2 and 7.1.1) indicates that the CC project is to be seen primarily as an association building project. We may describe this process of constituting the regulatory commons that leads to the development of the CC project as an *association construction-cultivation process*: The construction part of the association constitution process may also be seen as a seeding or framing process since it provides the initial directions and impetus for the subsequent development of the project. This aspect of the CC project in the analysis chapter (section 6.4.5) is presented through the heuristic of static cultivators: the static cultivators allow setting the boundaries of the project and they are static in the sense that they do not dynamically interact with the participants to the process of regulatory production. The cultivation aspect of the CC project is more geared towards the establishing of the conditions that allow the active expression of the ends of the regulatory network in non-discriminatory terms and has been described in section 6.4.5 of the analysis chapter. The main tool used for the advancing of cultivation are the dynamic cultivators which are participants that are able to transcend some of the issues related to the features of the forum on which the licence development takes place (the "cc licenses" mailing list) and push the interactions forward.

7.2.1 Seeding

We characterize the first phase of development as seeding or framing precisely because it constitutes a conscious effort by the CC project to create the conditions for the cultivation of the regulatory commons. The process could be described as seeding rather than construction in the narrow sense of the word precisely because CC as an organization uses so many of existing elements (sections 6.1 and 6.2) that it is hard to say that it actually creates anything novel.

Lessig's four types of association construction techniques we have seen in section 4.1.4 are instructive of how the seeding stage operates. The first thing to note is that the vast majority of the constructions that the Creative Commons project attempts are of a defensive nature (Lessig, 1995c): the innovative elements, if any, of the Creative Commons project have to do with the re-arrangement of existing elements. It is this re-combination of elements or sets of associations from the past that makes the Creative Commons a new project. In a sense, following Lessig's own description and CC's rhetoric on the way in which a creative artifact is always built from existing ones

(Lessig, 2004d; 2005i; 2005j; Brown, Paharia, Junell and Walker, 2002; Brown, Junell, Paharia and Walker, 2003), the regulatory hybrid Creative Commons constitutes also rests on the shoulders of its pre-existing peers. A purely expansive (section 4.1.4) construction would anyhow be impossible due to the fact that according to our preceding analysis and Lessig's work the costs for a totally novel construction would be prohibitive for its establishment. It is the mixture of offensive/ expansive and defensive elements that gives to each construction its unique character and it is the creativity in the selection of such elements that renders the CC project a creative regulation (section 6.2) project: the need to use elements from existing sets of association in a novel way in order to provide a solution to a new problem.

Three instruments are used for the seeding purposes: first, the CC licences themselves (section 6.3); second a set vocabulary used for the interactions between the participants (section 6.4.5); and third the specifications of the iBiblio mailing lists (section 6.2).

The obvious or external regulatory operation of the CC licences is experienced once they are approved by the CC and are used for the sharing, reuse and remix of creative content. This is a regulatory operation external to the CC project: CC is explicitly not involved in any of the regulatory relationships between the licensor and the licensee (section 6.3).

The more subtle and relevant to our research regulatory aspect of the CC licences is the internal to the CC project operation: the licence is essentially a thematic map of the issues discussed over the "cc licenses" mailing list. A look into the themes discussed by the various participants on the list indicates that they follow the structure of the licence itself. Different Licence Elements or various sections of the licences such as the provisions related to the treatment of Digital Rights Management systems are the framework on which the discussions operate [e.g. (Linksvayer, 2006;Prodromou, 2006b; Keller, 2006d; Keller, 2006c; Keller, 2006a; 2006b). In the early period of discussion it is also the case than when an issue that is unrelated to the CC licences appears, the members of the community themselves are the ones to filter the participation by requesting the comments to follow the same framework [e.g. in (Prodromou, 2003d; 2003i; 2003j; 2003k; 2003g; 2003f; 2003l; 2003h; 2003n].
The interactions in relation to the licences may be classified in three broad categories: first, discussions related to the formation of a particular version of the licence; second, discussions that relate to the operation of the licences and have to do with their applications without questioning their content or requesting a revision; third, interactions that relate to the CC and the licences in the level of principles or ideology (sections 6.3, 6.4.3 and 6.4.4).

The fact that the licences are subjected to continuous improvement and their application is the constant discussion theme on the mailing list is an indication of openness; at the same time the thematic boundaries that their structure sets is limiting of the issues that may be posed. For instance the effort to discuss proprietary licensing solutions in the early as well as later period of the CC discussion period have been met with the reaction of the participants to the relevant "cc licenses" mailing list and were never really discussed (sections 6.4.3 and 6.4.4).

The framing of the interactions on the mailing list is also defined by the vocabulary used for the various discussions (section 6.4.2). We have identified three types of vocabulary that are relevant to the framing of the participation process for the development of the regulatory commons: first, Copyright related vocabulary; second, CC specific vocabulary; and third, Free Software related vocabulary (sections 6.4.2 and 6.4.4).

The last element of framing the Creative Commons we will discuss in this section is the "cc licenses" mailing list used by Creative Commons for the development of the licences. We have already seen in section 6.2 that the idea of using mailing lists for the creation of a collaborative artifact is actually taken from the FLOSS practices, and the idea of creating a regulatory artifact in such a collaborative and incremental way is taken from the original IETF discussion on the IP standards and in the CC prehistory the idea of using the iBiblio mailing lists for supporting the Eldred case with the OpenLaw project (Open Law, 2003). Participation to the "cc licenses" mailing list is open to anyone that would be willing to be subjected to the minimum cost of registration. This has been done after an early period where no active moderation and monitoring of registration was taking place and where the levels of spam on the CC list were rather

high. In the case of the "cc licenses" mailing list there are no formal classes of users other than the administrator that has access to the details of the users and some other list management features that are of no direct impact on the way participation is being structured (section 6.4.1).

However, the choice of a mailing list for the development of the licences has its impact upon the way in which the interactions take place: messages are posted in a serial way and the arguments made by different participants develop in an incremental way that makes an overview of the themes that have been covered in previous discussion not particularly easy. As a result, it produces a particular form of interaction that tends to be repetitive and encourages the more active participation by those that are already active participants. We have already referred in section 6.4.5 to the short memory of the "cc licenses" mailing list but we will return to this issue in the following section where the issue of participation filtering is discussed in greater detail. Here the intervention of CC members of staff also needs to be highlighted: form its outset such intervention seems to be rather limited and unobtrusive; there is no formal setting of rule on their behalf and they support particular functions that have to do with the original framing of the discussions when they start, posing the latest approved CC licence form and setting the basic rules for the discussion that is to follow.

Schematically speaking, Creative Commons may be seen to attempt defensive constructions in two broad areas: First preserving existing behavioral practices of sharing, reuse and remix that will be presented in section 7.2.3; and second, preserve existing legal concepts and licence practices that are compatible to practices of sharing, reuse and remix that will be presented in section 7.2.4.

7.2.2 Reverse internalization and cultivation

Besides the construction techniques identified in Lessig's work (section 4.1.4), as we have illustrated in section 7.1.3 and also seen in Lessig's use of the FLOSS model as a regulatory model in his early work (sections 4.4.2 and 4.4.3), there is also a cultivation model for the production of associations (section 6.4.4). In this model the associations

are not produced by a centralized fictional entity as the one of the meaning manager we have seen in section 4.1.4 but rather by the ends of the regulatory network, the creators themselves. This process may be characterized as a *reverse internalization* process. Reverse internalization is a concept we introduce in contrast to the concept of internalization we have seen being used by Lessig in section 4.2. Reverse internalization aims not at imposing the regulatory content upon a set of associations but the encapsulation of existing associations and their expression in formal regulatory instruments.

The reverse internalization efforts in the CC project that aim at the production of the regulatory commons are best described as a process of cultivation rather than as one of construction. The word cultivation reflects in a more accurate way than construction the situation where the inputs for the development of the regulatory commons are provided by the ends of the network rather than its center. Creative Commons as an organization provides certain directions to the way the project develops specified in detail in sections 6.1 and 6.2; however, as we have seen in the preceding paragraphs, even the starting features of the project, its seeds, are primarily selected from a range of already existing associations having as its primary goal to express native regulatory forms into a formal modality of regulation. In addition even once these elements are there, the CC project places great effort in allowing the actors subjected to the regulatory power to express themselves in the regulatory commons.

The idea of cultivation for the development of a regulatory artifact is not new, neither is the terminology foreign to the researchers of the Creative Commons project. The concept of cultivation has been used in the CC context before but not in a strictly defined manner only to denote the process of developing both the CC licences and creative material that may be shared, reused and remixed (Creative Commons, 2003; Houweling, 2002; Fitzgerald, 2007). The term cultivation has been used by Hanseth (2002a) in the context of the development of open technical standards and by Ciborra (2000b) quoting Itami and Numagami (1992) in the context of Information Infrastructures. We have seen in section 4.5.1 how Black and Teubner use the term gardening in a similar fashion [Black (2000 p.5) quoting Teubner (1992)].

Hanseth's (2002a; 2002b; Hanseth and Aanestad, 2002; Hanseth, Ciborra and Braa, 2001) and Monteiro's (2000) work on infrastructures and standards is based on Actor Network Theory that shares some common ontological assumptions with Lessig's work as we have already seen in sections 5.1.1 and 5.1.2 (Latour, 2005; Latour and Weibel, 2005). Most importantly the concept of cultivation is employed in order to examine how such imbroglios, to use the ANT terminology, that operate in environments of great complexity and uncertainty require a mildly controlled process of development to be created.

The element of minimum agreement or consensus building that achieves at least a temporary stability of a standard is also one of the key feature of the Creative Commons project and we have seen this aspect of the CC project in relation to the agreement of the *transparent copy* provisions in CC v.3.0 licences (section 6.4.3).

We have seen in section 4.4.2 that Lessig also views the creation of the Internet Protocols (Lessig, 1996-1997), a technical standard also being the focus of Hanseth's work on open standards, Actor Network Theory and the concept of cultivation (Hanseth, 2002a), as the archetype of a Commons on the Internet environment. The general CC counsel approaches the workings of the Internet Engineering Task Force (Bradner, 1999) as an example of the way in which the iCommons nodes could operate:

"Tomi is the one who said it ought to be about specific working groups, and the IETF (Internet Engineering Task Force) analogy is one we were all familiar with. Working groups (nodes) can come and go as they please: form, dissolve, reform as necessary to accomplish a specific purpose. A node could be an individual or it could be a corporation; that's not our business to decide. But we haven't yet investigated how this would play out in all possible scenarios, so that's why this information gathering process is important to do before we make a final commitment. Would this concept work for the people and activities that we want to support?" (Cabell, 2006)

We have referred to the links between the theoretical underpinnings of the CC project as found in Lessig's work and the IETF model in section 4.5.3. In this section we need for

reasons of clarity to relate some of the specific workings of the CC phenomenon to the IETF. Four aspects of the latter are of relevance: (a) its historical trajectory since its inception (b) the IETF Structure and Features (c) the IETF Working Groups and (d) the IETF Documents.

Having started its operation in January 1986, IETF was set up as a quarterly meeting between U.S. government funded researchers. This idea of a meeting of a community that was playing increasingly greater role in the definition of a regulatory instrument such as the Internet standards has been behind the idea of the annual iSummit that was initiated by CC in summer 2005 in Boston. In the same way as the IETF makes use of a Secretariat and a Request for Comments (RFC) editor, the iSummit is backed up by the iCommons organization that is essentially supporting the various CC related activities and is responsible for the organization of the annual iSummit. While IETF has never been incorporated as a legal entity, the iCommons has been incorporated as UK company in 2006. If the IETF seems to be corresponding to the iSummit, the iCommons is closer to the Internet Society that was formed in 1992 in order to provide (a) a legal umbrella over the IETF standards process and (b) funding for IETF related activities. In the same way that Internet Society has as its objective to evangelize the use of the Internet all over the globe, the iCommons as an organization has as it objective to evangelize the spread of its own infrastructure, the CC licences, all over the world. Interestingly the transition from Creative Commons to iCommons has not been without reaction mainly directed to the lack of understanding of the distinct roles the two organizations were set to play (Bradner, 1999; Faris, 2006a).

The structure and features of IETF are particularly fuzzy and a similar characterization may be attributed to the iCommons organization. In the same way that any individual or organization that participates to an IETF meeting or mailing list may be regarded as an IETF member, any individual or organization participating to an iSummit or the iCommons mailing lists may be regarded as an iCommons member. However, such fuzziness has not been particularly welcome among the original CC community members that do not see a clear demarcation between CC and iCommons. Whereas for the iCommons and Creative Commons headquarters the differentiation should be clear, the former dealing with community development whereas the latter focusing merely on the development of the licences, the relevant communities do not seem to have internalized the differentiation.

This was one of the reasons why there has been a specific workshop in iSummit 2007 specifically dealing with issues of iCommons governance (iCommons, 2007). One of the major differences between the iCommons/ iSummit and the Internet Society/ IETF is that the latter is explicitly dealing with the development of standards, whereas in the case of the former the development of the relevant regulatory instrument, i.e. the CC licences is entrusted to a different entity, the CC International project. The latter, as described in sections 2.2, 6.1 and 6.2, has a much clearer structure and objectives, though since the advent of iCommons, as the minutes from the iSummits indicate, there is a certain confusion in the relevant communities (Faris, 2006a; Ford, Ito, Henckel, Keller, Lemos, Lessig, Medak and Wales, 2006). The prevailing idea at this stage is that iCommons is a more political and community driven initiative, whereas Creative Commons seems to be entrusted with a more technical task. The fact that the discussions occurring over the "cc community" (iCommons) and "cc licenses" (Creative Commons) mailing lists have not the appropriate naming conventions and are often overlapping further contributes to the overall confusion (iCommons, 2006c; 2006d).

Both iCommons and Creative Commons have their own Boards of Directors, though there are commonalities in the two organizations. Interestingly, the iCommons are sharing all their staff with the Creative Commons. Two members of the board of directors are common, Lessig and Ito. Christiane Henckel von Donnersmarck is the Director of Creative Commons International and responsible for the coordination of the licensing porting procedure. Medak, Keller and Lemos are project leads in national CC projects and only Wales and Zittrain are not affiliated with any CC organization (Creative Commons, 2006j; iCommons, 2006b).

Returning to the comparison between IETF and iCommons another aspect they share is that of working groups (in the case of IETF) or nodes (in the case of iCommons). As we have indicated above the idea of iCommons nodes has been explicitly to replicate IETF's working groups (Bradner, 1999). The underlying idea was to have a bottom up design of the organization for iCommons in the same way it has worked in the case of IETF. Again the model is the same as the one we have seen in the case of the "cc licenses" mailing list, i.e. to allow the maximum of native regulatory forms to be expressed and possibly even be formalized in the form of projects. However, more than one year after the introduction of "nodes", the reception of this concept seems to be mixed. While there are 45 nodes available, most of them have little or no participants, at least on the iCommons website. It is the national CC projects and other related activities that seem to be the most active and particularly the mailing lists where most of the bottom up activity actually takes place.

The IETF documents are the ones that seem to be closest with the CC licences as in both cases we have to deal with regulatory documents which are discussed over the mailing lists. The IETF documents are public documents and are freely available over the Internet. In the case of the CC licences, Creative Commons does not restrict the distribution of the licences through copyright but rather achieves the standardization of the documents through trademark laws and the Memorandum of Understanding: the CC logo cannot be used without permission from the Creative Commons Corp. and the National CC projects may use the CC logos and names only in accordance with CC policies (Creative Commons, 2007c) and the terms contained in the MoU (Creative Commons, 2005d). In all cases the CC ensures that the licences have the content agreed after the consultation taking place over the mailing lists and the policies found on the CC website.

In conclusion, elements from IETF seem to have influenced all iSummit, iCommons and Creative Commons. The differences between the IETF and its CC-related implementation may be attributed to two primary reasons: (a) before the emergence of iCommons and CC International, the functions performed by the two organizations were resting with CC and the National Project leads of CC resembled the IETF's Area Directors. After the 2006 differentiation, the two organizations have started following their own trajectories (iCommons, 2006c; 2006d). (b) As a consequence, whereas the IETF has as its clearly set objective the production of standards and the CC the production of licences, the iCommons that is closer to the structure and functions of IETF has a far fuzzier set of objectives.

Irrespective, however, of the differences between the IETF and iCommons/ CC, the production of regulatory instruments over mailing lists remains an element clearly common between them. It is the production of such licences through the process of

online consultation over the mailing lists, i.e. a process of construction-cultivation that the regulatory commons are achieved.

The idea of a construction-cultivation model for the regulatory commons is one that is fully compatible with Lessig's regulatory philosophy we have explored in detail in sections 4.4.2 and 4.4.3. It is also a good opportunity to identify the level in which libertarianism may be identified in the Creative Commons project and answer the CC critique related to the regulatory fuzziness of the CC project (section 2.6). Lessig's approach as we have seen it in sections 4.4.2 and 4.4.3 and contrary to the literature that views him as a cyber-paternalist is one of *cyber-libertarian realism* and is expressed in the way in which Creative Commons project implicitly accepting that native regulatory forms have a priority over the ones sought to be enforced by the state.

This is apparent in the Creative Commons rhetoric emphasizing a certain limited version of vigilantism in the sense of "taking the law into our own hands" campaign (Cone, 2003) regarding the choice of the licences (section 6.2) that mostly suits the needs of a particular author or the participation opportunities that someone has -at least in principle- in the formation of a particular licensing form (in section 6.2). In Lessig's theoretical work [e.g. in (Lessig, 1999f; 2001b)] the libertarian element is expressed in the definition of the Commons as autonomy of the network ends project and the emphasis on the stupid network concept (section 4.4.3). At the same time the realism or the hidden paternalistic agenda in the Creative Commons project is expressed in the choice of strategic tools that are predominantly of a legal nature, i.e. the licences (section 6.3). Other regulatory modalities also exist, though they are not as clearly highlighted, such as the meta-data technologies and the very conscious effort to produce a particular type of social meaning regarding Copyright and the CC licences.

The idea of the cyber-libertarian realism model as expressed in the CC project allows autonomy at the ends of the network regarding the formation and choice of the regulatory means, but once this is made the rule of the law comes again into play. A final, and perhaps the most interesting side of the paternalistic agenda, is hidden in the way in which the formation and choice of licence elements is being framed by a very conscious and orchestrated campaign of meaning construction (section 6.2). In summary, the cultivation of the regulatory commons comes if not temporally at least analytically in a subsequent stage from framing through a set of static cultivators that

sets the agenda and diminishes any possibility of the whole development process to deviate into a proprietary licensing project.

7.2.3 Preservation of creative practices/ native regulatory forms

Having presented in the two previous sections the basic features of the association construction and cultivation model in the CC project, we return in this section to the issue of static cultivators and the first aspect of preservation of native associations in the CC project that relates to the preservation of creative practices.

Creative Commons ties with a series of practices, social norms and technologies used by the creators, particularly those that seem to be contradicting the program of action of the classic Copyright project (sections 6.1 and 6.2). This is a particularly important aspect for appreciating yet another difference between the CC project and the classic Copyright project.

The Copyright regulatory solution focuses on the enforcement of the licences and the construction of a pattern of social behavior for the consumption of works that is in accordance to the existing models of creation and dissemination of material. The tying efforts that we see in a series of educational movies since the 1990s all have the same semiotic content (Cambell, 2005): explaining why infringing copyright is unethical and illegal and tying it with other illegal and socially unacceptable activities such as theft of tangible goods; in the 1990s the rhetoric was gradually enriched with an equation of private copying and sharing of material with professional piracy (The Software Publishers Association, 1992). Post 2000, a link was made with the funding of organized crime and terrorist activities.

Such form of rhetoric, that a series of popular culture movies found in YouTube such Weird All Yankovic's *Don't Download* this song (2006) and MC Lars (2006) *Download This Song* along with a series of other audiovisual material and web-pages have scorned, is addressed to the *user* of the material. Even if the user may be involved in creative uses of the material in the form of secondary uses in the sense of producing collective or derivative works, for the meaning construction process advocating the existing Copyright model such dimension is not existent: the users are seen as end-users or consumers; always passive and always as targets; never as sources of material. The EULAs are there by the creators and the effort is to make their regulatory content respected. This has been the rationale behind the introduction of DMCA and EUCD like regulation: to convince the authors to put their material over the Internet by providing legal backing to their licensing agreements (see also sections 3.1 and 3.2). However, the focus of the Creative Commons licensing project is entirely different.

Creative Commons is interested in an audience of *artists* or *creators* that seem to be sidelined by the existing Copyright system: creators that wish their works to be shared; creators that base their works on other creators' works; creators that are not necessarily professionals (section 6.1). Subsequently, the time or stage at which the licences are applied precedes the stage the classic Copyright system is interested in: the meaning construction process is at the stage of making each user of material to realize that she is potentially a creator and that she may decide how to divulge her work, in Creative Commons' suggestion to allow others to share and reuse the work.

Elkin-Koren (2005), Berry and Moss (2005) are correct in the sense that Creative Commons aims at empowering the author, that it reinforces rather than opposes concepts of property and that it accepts the legal framework of existing Copyrights (section 2.2); however, to stop the exploration of the Creative Commons project at this stage is a mistake. The focus of the whole project is entirely different from that of classic Copyright: While the way in which Copyright is applied seems to be focusing primarily on the *enforcement* of its provisions (section 3.1), Creative Commons is primarily interested in the *construction* of the regulatory structures (section 6.1). It is the *participation* of the author in the construction and choice of the regulatory means rather than their enforcement that is of interest for the CC project. This is clearly illustrated in sections 6.2 to 6.4 where the process of allowing native forms of creativity to be expressed in the CC licences is expressed.

Elkin-Koren (2005) argues that the use of the licences reinforces a permission culture (section 2.8). The use of a licence has two aspects: the choice of licence by the creator

and the use of a licence by the user (section 6.3). The same person may have both roles simultaneously, for instance, a creator may be using a CC licensed work in order to create a derivative work she wishes to license under a CC licence as well. It is, nevertheless instructive to analytically separate the two roles for the time being in order to assess the implications for each of the two cases. While the critique of the Creative Commons project views the use of licences as a condition establishing a social behavior pattern of seeking permission, the Creative Commons' view is rather different: the user of the work licensed under creative commons, when operating as a user will not pay attention to the licensing part.

This is due to a number of factors: first, the existing pattern of behavior on the Internet is such, that the user *anyhow* does not pay attention to the licensing schemes. Creative Commons seeks to perpetuate such habit. The opening statement of the Creative Common project is indicative of such a tendency: to share, reuse and remix *legally*. The same is valid for all CC promotional movies (section 6.1): they show existing practices on the Internet that before lied in a framework of legal uncertainty or were consciously illegal whereas they now become legal. For the founder of Creative Commons, as he explained in a 2006 interview the author of this thesis obtained from him (Lessig, 2006e), the act of licensing remains for the user of the work encapsulated or hidden; through the use of simplified wording and icons and through automated procedures the basic features of what is allowed to be done with the work are expressed in such a way that they do not interfere with the behavioral practices of the user of the work. In Lessig's own words:

"Of course, formally that's true [that the licences may create a permission society]. It's enacting a permission based system by licensing content to facilitate commission of works. But, I don't think, practically that it's a fact; because if it works, what it does is bury the permission structure so that people experience freedom. They don't experience permission. And they know that nobody can attack them for what they're doing because the permissions are already cleared of that. So, rather that forcing people into the mentality of « here's the freedoms you got, and here's the freedoms you don't » every time they're using content, what they are doing is creating space of content where broadly people feel authorized to use... and so the full analysis of the effect of that has got to consider what the baseline is." (Lessig, 2006e)

Lessig's point is backed by the kind of behavioral patterns illustrated in the Creative Commons website, audiovisual material and even on the relevant mailing list examined in this thesis in sections 6.1 and 6.2: though the focus is primarily on the creative rather than the consuming role of the individual, we are presented examples of bloggers (Brown, Junell, Paharia and Walker, 2003), sci-fi authors disseminated fiction on the Internet (Doctorow, 2006), scientific, academic and educational material (Minksy, 2006). The creators of such material wish it to be freely disseminated over platforms such as wikis, remix music sites, file-sharing services etc.

Elkin-Koren, Berry and Moss criticize Creative Commons as an overtly conservative project (section 2.3) but it we need to contemplate on the kind of conservation it aims at: it is the conservation of practices of creativity that already exist, that draw from common resources and are threatened by the way in which Copyright is applied in practice by existing rights holders. Elkin-Koren views the focus of Creative Commons as one of changing the meaning of Copyright by convincing the authors to exercise their rights in a way different from the way they used to (section 2.6). However, this is not entirely correct. Creative Commons asks *a new class of creators* to keep exercising their rights *in the same way they used to* and an audience that is viewed as passive to keep engaging into activities they were already doing. Creative Commons has as its focus preservation but the interesting question to ask is what kind of preservation it aims at. The CC project even at its seeding and framing stage is very much interested in preserving forms of 'native' regulation and those aspects of formal regulation that are most closely linked to them. The defensive constructions the CC project attempts to create reinforces this point.

7.2.4 Preservation of legislative aspects

The second area where seeding is focused on is that of Law as a formal form of regulation. Here, Creative Commons attempts to interface with the legal system and to operate as a bridge between the way in which native regulatory practices are materialized and the legal regime used to control them. What is perceived as the subversive operation of the CC project, to use the master's tools to destroy the master's house (Dusollier, 2006) in the realms of Copyright Law is nothing more than CC's effort to interface the two realms of activity. CC is not the first project to attempt a linking between creative practices based on sharing and licensing instruments. The Free Software Foundation (Bradner, 1999; Raymond, 1999; Stallman, 1999) and Project Gutenberg (Hart, 2004; Moody, 2006d; Project Gutenberg, 2006) have been there much before the CC project came about. The Free Public Licences, e.g. in the case of GPL or the OPL, were legal expressions of creative practices of a specific group of creators, such as software developers or archivists (sections 6.1 and 6.2).

The strategy of defensive association building of the Creative Commons project in relation to aspects of the existing regulatory system are explicated in Lessig's series of Newsletters [e.g. in (Lessig, 2005c; 20051)]. This series of Lessig's Newsletters was also used as a source of justification by the formal CC organization itself: as explained in section 6.4.3, in the latest changes in the Creative Commons licences version 3.0, the legal counsel of Creative Commons, Mia Garlick, has explained that the effort to draft compatibility provisions was to a great extent the result of Lessig's plead in the end of 2005 for such a development that in its turn was influenced by the relevant discussions over the mailing list (Garlick, 2007). So, returning to the point of the kind of preservation that Creative Commons aims at establishing, we need to look at the direction of the expansion of Fair Use in Cyberspace (Lessig, 2005k).

Lessig's argument is that though the letter of the law regarding fair use provisions has not changed, the changes in context have substantially disturbed the balance of rights between existing and future creators as well as between the rights holders and users, always in the detriment of the latter category (section 6.1). As a result, we need to find a way to preserve in the digital environment values or principles found in the original Copyright law of the analogue environment. Lessig implicitly acknowledges that a strategy of directly seeking for legislative change does not have the social backing to succeed (Lessig, 2004c); or at least it did not have such backing in the end of 2005 when he wrote the relevant Newsletter (Lessig, 2006e). As we have seen in our critical literature review, Lessig's work and analysis in sections 3.6, 4.5 and 6.5, the internationalization of the way in which the Copyright law is enforced increases the distantiation between the regulated subject and the way in which regulation is constructed and hence it is virtually impossible, or the costs are extremely high, for any change in the legislative level to occur. In Brownsword's work (Brownsword, 2005; 2006) in section 4.5.1 we have indicated that the problem with situational regulation is that it is embedded in the environment and the regulatee does not have the choice to comply neither the ability to influence it.

As a result there is need to devise creative regulatory means (section 6.2) in order to express in formal regulatory terms two existing formations, one behavioral and another one of regulatory nature: the behavioral refers to the practices of sharing, reusing and adapting of material; the regulatory refers to the extent of unregulated and regulated but free uses of material in accordance to Fair Use provisions (Lessig, 2005k). Following Lessig's (1993) *innovative conservation* concept we have seen in his theoretical work in chapter three (section 4.4.3) we may see the Creative Commons project as a preservation of values project that uses creative regulatory means, as a *creative regulation* project.

The need for a creative regulation project derives from an implied assumption that the existing regulation construction mechanisms are captured in the sense of *regulatory capture* (Mitnick, 1980), that is, that there is no access to such regulatory production means by the regulated subject and hence there is no input in the way the content of the regulation is formed. Again, this is a pivotal moment in our realization of what constitutes the ontology of the Creative Commons project. If viewed as a project aiming at the recapturing of the regulatory means or a project for the eradication of regulatory distantiation (section 7.1.1), then a series of its aspects that seem incoherent or opposing to its objectives may be explained. At the same time it also raises another fundamental question: which are the objectives of such a creative regulation project? Creative

Commons seems to be asking for a reclaiming of the regulatory means; however, we still need to explore how it argues this should happen.

Going back to Lessig's 2005 newsletters (Lessig, 2005k) and the Fair Use Plus analysis of section 6.1 is of great assistance to our investigation. It is also particularly helpful to differentiate between being an advocate of preservation of certain values and certain legal forms and of being reactive. As argued above, the Creative Commons project is one that advocates preservation but also one that is proactive; or more accurately one that is preservative in the choice of means but requires a proactive attitude in order to survive.

Lessig (2005k) refers to the Creative Commons project as being one that supports a Fair Use Plus system. We have described in detail the CC project in sections 6.1 and 6.2. The elements that we need to highlight in this section are those that make it more extensive and more limited from the existing Fair Use system in order to achieve a similar result. Through the system of Creative Commons, the creator agrees to allow certain uses of his work that under the default Copyright rules would not be awarded to the user of the work. In that sense the exceptions to the rights of the creator are greater than those that law awards in accordance to the Fair Use provisions. At the same time in contrast to the Fair Use provisions, it is the creator, the rights holder that voluntarily agrees to cede such rights to the user of the work rather than the organized state being the one imposing such rule upon the creator. In that sense the Creative Commons framework of regulation is more limited than the law.

However, this volunteer element of the CC project, what appears to be a weaker moment in the application of the Creative Commons solution, what seems to be its softer side, is in fact the essence of its strength and the element that makes it a much stronger form of regulation than the classic Copyright law. When the creator makes a choice to use a Creative Commons licence, she willing fully and purposefully accepts to reduce some of her rights. It is a conscious act that assumes a certain level of involvement and potentially internalization of the regulatory content of the Creative Commons licences before they are actually enforced. This marks a departure from the classic operation of Copyright law: the internalization (section 4.2) of the regulatory content occurs in the process of making the choice of a licence, whereas in the case of classic copyright the internalization of the regulatory content of Copyright law by the Creators is not presented as a major concern or is focused on the user of the Copyrighted material and only after the licence has been produced.

This aspect of Creative Commons is a strong indication of its proactive nature, the need to engage the creator in order to achieve the desired regulatory result. This desired regulatory result remains to a great extent a semi-open question, but what is important at this stage is to show that the focus of the Creative Commons effort is not to provide the regulatory solution, *but rather to provide the tools* to the relevant individuals to construct the solution. Lessig provided a rather good example of his conceptualization of what Creative Commons is about in the 2006 interview:

"It comes to creating an alternative regulatory environment, ruled by voluntary action on top of existing legal norms. So when people go out and they say : « we want Bill Gates to go and give away 20 billion dollars to the poor » and he does, they create a different resource structure on top of existing laws of property. Nobody could have gone and take it from Bill Gates, but because he gives it away, that's an important way of modifying the effects of inequality of the previous system. Now, we do the same thing...it's just in a more grass root systematic way." (Lessig, 2006e)

The use of tools that at least appear as ideologically neutral and as encouraging the expression of existing formal regulatory associations is to a great extent the result of a project that seeks in yet another way to push the choice of the regulatory content at the ends of the network. This choice of tools as seen in section 6.2 and analyzed in section 6.3, may be attributed in three classes of factors:

First, the choice of certain means by Creative Commons is the child of need; it is not possible due to the structure of copyright law to move directly to the production of regulatory frameworks that are consistent to the social practices of their own context. Lessig has expressed this point with great frustration during the launch of the Creative Commons China project when asked about the framework in which Creative Commons operates:

"(I)nternational conventions are imposing this framework on the whole world and there are two ways to respond to this framework: one way is to resist the framework only; the other is to get advantage of whatever quarter of freedom is left within the framework to craft something that has more of a balance. I respect the people who want to resist the framework completely and sometimes I think they should resist it and nothing in my CC defines what the scope of IP pirates ought to be or what things ought to be set of for my pirate so maybe traditionalists deal with it differently. All of that is exogenous to the mission of CC: all CC says is that to the extent that a Nation grants IP rights to the authors to control of how these governments back entitlements are delegated, we think authors should have a simple way to delegate these differently. So the bigger question of should there be IP everywhere, should I be covered...those are questions that nothing we are doing has an answer to." (Lessig, 2006e)

Second, Creative Commons seeks through these creative regulation tools to preserve creative behavioral patterns of the off-line world in the online world such as the Fair Use (Lessig, 2005k) provisions while using a traditional legal form, that of licensing that classic Copyright law uses (section 6.1). The use of traditional legal forms such as licensing for the achievement of innovative solutions is the reason why early critics to the Creative Commons project, such as Toth (2005) or Dvorak (2005), view it as a project that does not have anything new to add.

Third, Creative Commons seeks to be faithful to agreed principles not merely through a process where privileged representatives of an experts' class, such as judges, are to make a decision but a process where the individual creator is mobilized towards a

certain direction, that of creating the commons. Interestingly, such efforts will replicate the Common Law idea (section 4.4.3): multiple representations of different cases in different space and time (posts from different users describing different situations) will operate as the input for the creation of the normative/ regulatory tools (Lessig, 1996a; 1996d; 1996e; 1999e; 1999f). In accordance to Lessig's theory as described in chapter four, the court decisions may change not only directly but also indirectly by changing the context and the presuppositions upon which they are founded. Lessig made this point explicit in relation to Creative Commons during the Beijing Interview when asked whether Creative Commons is such a conscious effort to change the principles upon which Copyright is founded:

[Lessig]: Yes, it's a conscious effort. The most important failure of the Americans left is that it's believed that they can raise to courts and get courts to articulate founding ideas, reflecting judgments about truth. The reality is that there are no such stable quarantining actors. What's you got to do is enliven the ideas in the minds of ordinary people and then what the democratic process reflects. So the idea of getting a bunch of judges to tell you what the Founding Fathers thought is a way of creating resistance to the most powerful lobbyists in the world. It's a silly mistake that I made ...

[Tsiavos]: in the Eldred case...

[Lessig]: ...in that era. The fact is you can read these values into the Constitution, and I certainly believe, as a historical matter, that they were the values of the Constitution, but will be read into the Constitution only when they reflect a sort of social understanding. So, you can't just sit and blog your way to freedom, you got to get people to practice it, not just by arguing, but by giving them tools that they use day by day, in order to distantiate from the freedom they believe in. And, absolutely, that's what CC is about." (Lessig, 2006e)

In overall the Creative Commons project seeks to establish the Commons, leaving its definition open through a gradual process that allows creative practices that already exist to express themselves. It is this insistence of the CC project to allow practices to emerge rather than to channel them towards a specific model that has attracted such criticism from various sides.

Lessig's counter-argument to the critique that Creative Commons through the licences reinforces a permission culture (section 2.8) is that it cannot be held responsible for a model of regulation that constitutes the normative framework within which it needs to operate. It is a matter of realism accepting its existence and, as we have shown in previous sections, CC is also a means that is used in a very different way from the classic EULAs:

"I agree with [Elkin-Koren] that those norms have changed, but I wouldn't attribute the change to the CC. I would attribute the change to massive litigation against people doing stuff on the Internet without expressive permission. So when we saw massive litigation, we thought that CC is a way to balance that by creating an alternative, but it's an alternative to increase our position, which we didn't create, but which I don't think any of us could avoid precepts issues on copyright. So you come here to China and you listen to these judges articulating this precept position as if as it is a God given truth, and it's a astonishing both because of its totally contingent character historically and also culturally because of its alien relationship to what is the Chinese cultural respective ideas about IP. And it's just taken for granted fact." (Lessig, 2006e)

A great part of Creative Commons strategy is acknowledging the existence of a legal reality within which the project is placed while not accepting it as a given. A great part of the Creative Commons project is to deconstruct this reality by making its presuppositions visible and thus contestable (see section 6.4.3).

The argument that if the tools are provided, then the creative practices of sharing will emerge (sections 3.4.2, 4.4.3 and 7.1) is a result of two assumptions: first that friction will be removed from already established practices in the off- and on-line world and as such creativity will flourish; and second that there is no pre-established model of creativity that is sought to be supported but rather a very loose set of practices that is to be encouraged. These principles are (a) the elimination of friction so that the ends could best collaborate with each other provided (b) –and that's the second principle- that there is will for such collaboration and sharing of resources to take place.

Another aspect of the legal system that Creative Commons tries to preserve or rather to resurrect is the one relating to the setting of formalities in relation to the protection of the work. In the first of the Creative Commons films (Brown, Paharia, Junell and Walker, 2002), we learn about the abolition of formalities for the protection of works under Copyright law and the subsequent problems it raises in relation to the clarity of rights or permissions that an author would like her work to have (sections 6.1 and 6.2). The whole idea of using licences is to a great extent an expression of this broader need to clarify the rights conferred to the user of the work. Interestingly this form of construction is both defensive and offensive/ expansive, both constructive and deconstructive and refers both to legal rights and behavioral practices.

In overall the static cultivation of the CC project in the form of framing or seeding is a conscious effort to produce associations with existing native regulatory formations both at the creative practices and the legal level. The basic operation of these efforts is to make the CC project move towards a certain direction. Such effort is complemented by the work of the dynamic cultivators, which we have described in detail in sections 6.4.4 and 6.4.5 and the political implications of whose action is described in the following section.

7.2.5. From Regulatory to Creative Commons: the political dimension of the CC project

Most of the arguments we have presented up to this point seek to explain how Creative Commons is a project that seeks to establish a regulatory commons where native forms of regulation would have the ability to express themselves in the form of a formal regulation such as the CC licences. What is presented in the rest of this section is how such an endeavor leads to the establishment of a creative commons as well and how it is ensured that a regulatory commons will not lead to the development of a proprietary set of licences.

We have already shown how this expression of native regulation is framed by a series of static cultivators and in that sense it cannot by definition drift towards all directions.

Much of the critique of the Creative Commons project that we have seen in section 2.2 refers to the way in which the efforts of defensive association construction by the CC project may lead to the construction of a proprietary meaning. To phrase the critique in the language of associations, it argues that the static cultivators could potentially create associations contributing to a proprietary model of creativity rather than one supporting the creative commons.

Though there is some truism in such critique of the CC project, it would not be precise to say that it is correct. The defensive constructions the CC project attempts aim at a construction of increasing empowerment of the individual creator but not necessarily towards a proprietary direction. There is no minimum set of *given* principles to which all CC licences have to adhere but rather that if such principles are to exist they have to be *developed* through a political process where the various creative communities and individuals will have the opportunity to debate on their adoption. It is the regulatory autonomy of the creator (also see sections 6.3 and 6.4.4) that is protected through the regulatory commons dimension of the CC project.

Lessig's differentiation of incompatibilities between designed and accidental ones (Lessig, 2005g) that we have seen in section 6.1 is indicative of such regulatory autonomy principle: if there is the will by the respective creative communities as expressed in the licences to collaborate with each other, then there should be an effort towards the establishment of certain principles; if such intention does not exist, then the incompatibilities should persists as a result of the regulatory autonomy of the creator.

The framing and cultivation of the CC project makes a deviation towards an entirely proprietary licensing form highly unlikely: it is not merely the CC licences that lead toward the Commons or the vocabulary that makes very difficult such a deviation; it is primarily the incremental nature of the interactions (section 7.2.1) and the dynamic cultivators (section 6.4.5) that operate as a thematic boundary that does not tolerate discussions for the development of proprietary solutions: the example of Prodromou in the early stages of the discussion of the licences that has explicitly refused to provide any comments that would allow an appropriation of CC licensed material or the subsequent heated discussions on compatibility with the principles of other pre-existing

communities such as the Free Software Foundation or Debian is indicative of the extremely high costs an attempt to convert the CC discussion to a proprietary licences discussion would have had (sections 6.3 and 6.4.4-6.4.5).

However, even if we accept that the regulatory autonomy is the reason behind the appearing incompatibilities amongst the different types of licences it is interesting to explore how and why the interactions are very likely to lead to the establishment of a creative commons. We have seen this trend in the early parts of this chapter: the kind of native regulation seeking a form of expression into a formal regulatory instrument is the one that supports share, re-use and re-mixing of material (section 7.1.3). This is something that the Creative Commons project promotes and may be found on its home page as the primary description of the CC project (section 6.1); at the same time we may argue that this is a reasonable outcome to expect: other forms of native regulatory instruments in the form of proprietary EULAs. Thus, if the expression of proprietary relationships is pretty much satisfied, what is needed is a regulatory instrument that is capable of expressing the native regulatory forms that are not adequately represented in formal regulatory means and these are the ones fostering norms of share, re-use and remix.

One of the basic aspects of the critiques of the CC project has received is that it supports the use of EULAs and in that sense, if the CC licences are legally valid, it supports the classic EULA project and hence advocates conformity and reaction, rather than change and being proactive (section 2.3). However, as we have already seen (section 7.2.4) the kind of conformity to EULAs CC promotes is vastly different from the classic proprietary Copyright's project: it lowers the costs for the creators that want to encourage access and sharing. We have already seen in Lessig's account of the Fair Use plus provisions (sections 6.1 and 6.2), how the proactive creator is the corner-stone of the meaning the CC project seeks to establish. Such proactive creator that decides to use a CC licence or to participate in its formation is essentially a representative of the native regulatory forms already existing in the field and seeking a way of expression.

According to Lessig's model, as complemented by the discussion of the analysis in this chapter, since such native regulation promoting sharing and reducing regulatory friction exists, the process of cultivating a regulatory commons with the regulatory autonomy remaining at the ends of the network should with the appropriate framing lead to a creative commons: if the native regulation is to support sharing, re-use and remix then first it will adopt the CC licences containing such elements; then if there are incompatibilities between the CC and other licences promoting the same principles, the ends of the regulatory network will themselves request to obliterate such differences and achieve compatibility between different licensing schemes; in the same way that the native regulation will ask a more evolved form of formal regulation that would support abolition of friction by objecting to the classic Copyright project and adopting the CC licenses, it will seek to create bridges between the CC licences and other licensing forms that have the same functions but have incompatibilities that are of an accidental nature and are the result of legal drafting rather than conscious choice.

The empirical data analysis presented in section 6.4.3 confirms this assumption: from the very early period of the CC project the majority of the postings on the list referred to the operation of the Share Alike element and have had as their objective to find a licence that would allow all material created and licensed under the same type of licence to be practically and legally miscible.

In the early phases of the CC project (section 6.4.4) there is a clear fragmentation of the creative commons: because of the existence of multiple mutually incompatible licences promoting sharing and re-use of creative material, problems of legal friction exist. At this stage of the creative commons life cycle we may talk about *first order commons*. As the CC project matures (section 6.4.3), the need to overcome this fragmentation becomes more and more apparent and through the process of cultivating the regulatory commons there is an effort to move to a *second order commons* where all accidental incompatibilities have been eradicated. In this process of moving from first to second order creative commons we are experiencing a similar shift from a discussion involving licences' features to one involving licensing principles. This is clearly depicted in the

overall pattern of thematic distributions in section 6.4.2. As we have seen in the case of the CC project, this transition of creative commons level has been accompanied by a series of changes in the organizational level: the emergence of the iCommons along the Creative Commons licensing project (sections 6.1 and 6.2) seems to be serving the purpose of accommodating this level change from a more technical to a more political process.

However, while the founders of the CC, Boyle and Lessig, as well as the rest of the CC staff have insisted in the non-political dimension of the CC licensing project (Lessig, 2006a; 2006e; Boyle, 2006) and the potentially more political nature of the iCommons project, it is in fact very difficult to differentiate between the two. This is apparent from the stance that the various iCommons international affiliates have adopted in relation to the iCommons project not recognizing any fundamental difference between the latter and the CC project as well as from the fact that most of the discussions and decisions made regarding v.3.0 of the CC licences were explicitly political: the decision to leave intact the text of the licences referring to Digital Right Management or Technical Protection Measures despite the opposite argument made on the list was primarily the result of the objections raised by Creative Commons international affiliates and the belief that the political impact from the Free Software Foundation that was in favor of leaving it as it was, superseded the potential backlash from the Debian community that advocated an amendment to include a transparent copy of the work (that is a copy in binary form) and allow TPM with any possible distribution. Similarly the provisions regarding the Collecting Societies (CSs) had to be decided not merely on legal merits but also in relation to the kind of responses the CC group of international affiliates interacting with CSs had received (sections 6.3 and 6.4.3).

In overall most of the themes discussed in relation to the licences are increasingly acquiring an explicitly political character (sections 6.4.2 and 6.4.3). We could argue that this was partially the case even since the inception of the project as, for instance, the issue of Free licence and FSF/ Debian compatibility or the treatment of moral rights or the inclusion of the NonCommercial element in the set of CC licences that were raised

as early as in 2003 have all very strong political aspects. However, as the project matures the fact that some decisions have explicitly to be made on a political basis is something that has been internalized by the participants to the discussion and is something that is explicitly stated it in their respective postings (Garlick, 2007).

Lessig's or Boyle's statements (Lessig, 2006a; 2006e; Boyle, 2006) that the CC project merely involves the licensing building and that the iCommons is the one that has more of a political flavor is not in tune with the CC reality at the moment. However, Lessig's understanding of the way in which a judge made law or a Common Law operates gives us an indication of the reasons behind the choice to consciously deny the political nature of the licensing project and try to introduce a new organization entrusted with such a function (Lessig, 1996-1997; 2001b) (section 3.4). In Lessig's early period papers (1989; 1993; 1995b; 1995d; 1997b; 1997c), particularly the ones dealing with the regulation of the social meaning, we have an indication that in the cases with an explicitly political character, it should be a body with an explicitly political character that should deal with them (section 4.4). Lessig in the U.S. constitutional context argued that any issue of an explicitly political nature should not be decided by the non elected court but rather it should be differed and decided by the Congress as the most competent body. In the case of Creative Commons and iCommons interaction we see that Lessig attempts to simulate a similar kind of separation of powers: the most political body, the iCommons is to decide on more political issues, whereas the "cc licenses" mailing list should exclusively deal with a technical issue, as is the building of the licences.

Despite the intentions of the CC founder, the separation of political and legal functions is not a reality at the moment, though the possibility of such a future development under certain practical conditions could not be excluded. We have argued throughout this thesis that the CC project is primarily the result of a reaction to the problem of regulatory distantiation (sections 3.6 and 7.1.3) and as such it aims, even implicitly, primarily at producing a regulatory commons (section 6.4.5) that through a process of cultivation will lead to the establishment of the creative commons.

This process of cultivating the regulatory commons is inherently a political process precisely because it involves the creation of associations that always require the enrollment of actors, humans or non-humans. It is also political because it involves representation in the discussions regarding the construction of the licences as well as in the way in which the interactions take place. As a matter of fact, in the process of constructing or cultivating the artifact of regulatory commons, the licences, any differentiation between the political and technical aspects is very difficult to be made.

If in the future we see such a separation in the framework of the broader CC project, with the CC organization taking care of the technical part and the iCommons dealing with the more political one (section 6.1), then we should expect the following amendments: first the aspects of representation in the iCommons framework have to be much more clearly explicated in order to provide the necessary legitimization and second the discussion regarding the common licensing principles we envisage is going to soon commence after the introduction of v.3.0 of the CC licences will be transferred from CC to the realms of iCommons. It will also require an internalization of the relevant differentiation so that any discussions happening on the CC licenses mailing list is directed by the dynamic cultivators to the iCommons discussions, something we have no sign of happening at the moment. In any case, even if such differentiation is to actually take place, the character of the broader CC project as a regulatory commons project is only going to be more intensified with a very conscious political agenda now being at the center of the discussions. In such a scenario the licence principles will become yet another regulatory artifact that will be developed on the "cc licenses" mailing list.

Though the idea of leapfrogging directly to a strict creative commons effort without passing from a regulatory commons stage may be very appealing, the aforementioned analysis indicates it is particularly difficult to occur. This is due to the same reason why Elkin-Koren's (2005; 2006a) critique irrespective of the correct conclusions it makes on a legal level it would have been impossible to be applied to rectify the CC strategy at the time of its creation.

To the author of this thesis, Elkin-Koren's argument concerning the clear ideological position regarding the Commons together with the problem of fragmentation of the Commons as its direct result (section 2.7) is her most important contribution. It highlights the nature of the CC project as a primarily regulatory project and secondarily only creative commons project: precisely because CC is so clear regarding the regulatory autonomy of the creator being its primary objective (section 6.1 and 6.3) and the conscious absence of a single definition for the creative commons, it is the case that the fragmentation of the regulatory network and allowing native regulation to be expressed in a very political process, the process of formation of the regulatory commons to second order intentionally non-fragmented commons (sections 6.1, 6.2, 6.4.4 and 65.4.5).

It is the process of allowing representation of a hybrid of different actors and cases that ensures that when the creative commons are established the cost of their regulatory enforcement will remain extremely low. This process that seems extremely slow, inefficient and ineffective, that seems to be promoting vigilantism and echoes libertarian sentiments against the creative commons is the one that operates as a guarantor of the integrity and coherency of the commons. As the associations are made in the direction from the various forms of native regulation to the forms of formal regulation it is ensured that the cost of enforcement in the opposite direction is going to be very low. In addition by making sure that this remains an ongoing process always orientated to the cultivation of the regulatory artifact and less to its enforcement ensures that the regulatory distantiation with all its adverse effects remains a non-issue.

Comparing the operation of the CC as a primarily regulatory commons project to the FSF or the Debian as primarily Free Software projects is instructive for appreciating the differences in their operation. The critique of the CC project often contrasts the existence of a clear set of principles for what constitutes Free and what not in the cases of the FSF and Debian to the lack of a single definition in the case of CC. Both the FSF and Debian are fairly coherent groups referring to a single type of copyrighted works, software and only recently to others, such as content with the Free Documentation

Licences. They are governed by software developers and were historically addressed to software developers. They started with a single licence the General Public Licence that constituted a formalization of working practices and principles existing in the context of software development to then move to a set of principles according to which other licences were judged to be Free or not. This is a process that started with version 1.0 of the GPL in 1989 to continue with the Free Documentation Licence only after 2000. (Raymond, 1999; Stallman, 1999)

This trajectory should not appear surprising to the reader of our analysis in this chapter: in the earlier stages of the FSF project the formal regulatory means employed by a fairly coherent community are reflecting the existing native regulatory forms. Even the prehistory of the GPL indicates their proximity to native regulatory forms:

"The GPL was written by Richard Stallman for use with programs released as part of the GNU project. It was based on a unification of similar licenses used for early versions of GNU Emacs, the GNU Debugger and the GNU Compiler Collection. These licenses contained similar provisions to the modern GPL, but were specific to each program, rendering them incompatible, despite being the same license. Stallman's goal was to produce one license that could be used for any project, thus making it possible for many projects to share code." (Wikipedia, 2007b)

Juxtaposing the trajectory of the two projects we find more similarities than differences. The originally incompatible licences are gradually becoming compatible, as the incompatibility is of an accidental nature. In both cases the starting point for having such licences is the distantiation of creative practices from formal regulatory forms; and in both cases there is an evolution of the licences in terms of subsequent versions that seek on the one hand to achieve better expression of native regulatory forms (e.g. by introducing a content specific licence like the FDL in 2000) while maintaining compatibility through a series of principles. We know from the CC discussions on CC v.3.0 licences that even the FDL was only exceptionally considered as compliant with the Debian Free Software Guidelines Definition and this has led the CC to believe that the v.3.0 will also pass the test.

The greatest difference between the two projects, as we have already indicated in section 5.2, is that the CC project was initiated by a U.S. Constitutional Law professor and not by a creative artist that would be closer to the context of creativity and would have the relevant legitimization to proceed with the writing of Free/ Open Content licences. Lessig is an exception to other founders of Free/ Open Content projects such as project Gutenberg by Hart (2004) or the Open Publication Licences by Wiley (Moody, 2006b; Wiley, 1999) that were initiated by individuals actually involved in an e2e mode of production of content. Lessig was interested in an e2e mode of production of a regulatory instrument and, as we have shown in this chapter, this is what the CC project is about: the construction of associations that allow the expression of the native regulatory content into a formal modality of regulation. Lessig and CC were lacking the legitimization (section 4.4.3) -or to use the terminology employed in this chapter- were lacking the appropriate associations to make any definitive proposal regarding the regulatory content of the CC licences. The closest CC could do was to provide a framing but nevertheless provisional proposal of the regulatory content by presenting a specific set of licences that to Lessig's analysis of the Fair Use Plus provisions and by making the a mix of existing regulatory solutions seemed to be closest to native regulatory forms. From that point onwards the formation and further development of the content of the licences first, and the principles upon which the licences should be based in a subsequent stage, should be conducted by the ends of the regulatory network.

The provision of a fixed set of principles for the CC licences in the name of the creative community without having a political body to support such regulatory content would most probably raise significant regulatory costs of application. By choosing instead to move from the regulatory to the creative commons, CC has managed to effect an amortization of any reactions at the stage of regulation cultivation rather than at the stage of their enforcement. Having followed a different model where a set of exotic regulation (and Lessig/ CC were exotic to the creative community at the time of introducing the first set of licences) would have been imposed in the form of principles on the problem domain, would have gradually faced the same distantiation problems as the original Copyright project. The genius of the CC project does not lie in the

suggestion of a set of licences seeking to support the creative commons but on the fact that it constitutes a self-generating machine of creative regulation in which regulatory autonomy remains at the ends of the network canceling out any regulatory distantiation phenomena.

This dual political/ cultivation nature of the CC project that as we see is only likely to be intensified as the project matures also corresponds to Lessig's research project in the late 1990s regarding the character a Cyberspace meta-regulator should have (sections 4.4.1 to 4.4.3). What the CC project comes to indicate is that if there is any post-constitutionalism in Cyberspace (Lessig, 1996e), then this is not one of 'big' international treaties and intergovernmental committees but rather one that is organically produced by encouraging the representation not merely of humans but also of non-humans, of practices and legal systems, one that takes into consideration national legislations and one that re-introduces direct participation. This is done not merely by choosing a pre-constructed solution but also by actively taking part to the formation of the regulatory instruments. The duality of the regulatory commons aspect of the project also illustrates that the development of technical regulatory forms such as standards (Hanseth, 2002a; 2002b) where there is greater focus on participation rather than on enforcement is a more effective way of producing regulation in multi-modalities cross-jurisdictional contexts.

7.3 Conclusion

The kind of construction tools employed in overall by the Creative Commons project is instructive of its overall stance to provide more regulatory autonomy to the ends of the regulatory network and the extended Lessig conceptual framework we presented in section 7.1 is indicative of this trend. It is interesting to note that direct inhibition or coercion as a behavioral association construction technique does not feature at all as an option in the Creative Commons project. Such strategy of regulatory means for the construction of associations comes in stark contrast to the ways in which the classic Copyright project operates. The latter seeks to achieve its objective (a) with coercive

means such as technologies not only allowing particular forms of behavioral patterns to emerge but also prohibiting others from being expressed and (b) with the extensive use of litigation deployed as a direct threat to the formation of specific behavioral patterns. Even in the case where defensive construction and tying techniques are used, these are directed from the exotic regulation to the native regulation and hence tend to have great regulatory costs.

The Creative Commons project, instead, seeks even during its most aggressive stage [i.e. during the construction of the framework in which the cultivation of the regulatory commons is to take place (section 7.2)] to use as unobtrusive construction techniques as possible not merely for the native (section 7.2.3) but also for the formal regulatory environment (section 7.2.4). In the cases where the two seem to clash, the Creative Commons project consistent to its regulatory commons approach (section 7.3), seeks to break down the problematic areas into smaller parts where defensive constructions are possible or seeks to allow the expression of different opinions so that an agreement is achieved. The focus on reaching agreement in the form of an *ad hoc* social contract indicates the regulatory dimension of the CC project, that is, that it views the issue of creative commons as an issue of diminishing regulatory distantiation and achieving at least temporary stability through a negotiation process. At the same time as the project seeks to eradicate points of tension, other ones constantly arise. We indicative mention the case with the controversial definitions of what constitutes "Free"; the operation of licence elements such as the NonCommercial; or the inclusion of Digital Rights Management prohibition in version 3.0 of the CC licences. The CC project, while seeking to achieve consensus seems at the same time to be interested in allowing dissidence to be expressed and this is particularly relevant in the case of the mailing lists or the iSummits where different opinions have the opportunity to be aired and debated (section 7.3).

In this section we had the opportunity to see how the different Chapters of the thesis come together in a coherent whole combining the critical theoretical analysis and the comprehensive analysis and presentation of the CC project empirical data. In the first part of this chapter (section 7.1 to 7.1.2) we have presented how the various theoretical chapters of the thesis relate to each other and expanded Lessig's conceptual framework presented in chapter four. The second part of this thesis (sections 7.2 to 7.3) examines

the analysis results presented in chapter six in the light of this expanded conceptual framework to illustrate how the CC project is mainly geared towards the creation of a regulatory commons and how such an effort contributes to the establishment of the creative commons.

The discussion presented in this chapter concludes that the CC project is a primarily political project seeking to provide regulatory autonomy to the creator. An association construction-cultivation model allows an understanding of its primary function as an effort to establish a regulatory commons, where access to the formal regulatory instruments of the CC licences is achieved in non-discriminatory terms. While this access seems to be unconditional, a detailed investigation of the framing factors and the participation patterns reveals that the discussion is directed in an unobtrusive fashion towards the establishment of the creative commons. The chapter concludes by emphasizing the political dimension of the CC project and the reasons why its technical-licence construction and political-representation functions cannot be really separated. This sets the background for the following chapter where the findings and contributions of the whole thesis will be presented in greater detail.

8. Introduction

This chapter concludes the research conducted in this thesis, presents its achievements and contribution, and proposes areas of further work. It begins by providing a brief overview of the research. It then presents the findings and contributions derived from the empirical research reported in this dissertation. The novelty claimed is summarised together with the findings. The limitations of the research undertaken are then identified and presented, and the author proposes that these limitations should be considered when interpreting results. Finally, this last chapter concludes with the identification and discussion of further research directions.

8.1. Research Overview

This thesis constitutes an effort to re-conceptualize the CC project as a project primarily seeking to produce regulatory commons and as a result to allow the flourishing of creative commons (section 6.45). The core of the idea of regulatory commons is that every regulated subject should have access in non-discriminatory terms to the regulation development process. Our analysis of the interaction between Copyright and Technology (chapter three) reveals that what the literature has identified as a problem of the eradication of the Commons (sections 3.2 and 3.3) is in fact a problem of distantiation of the regulated subject from the means of regulatory production (sections 3.6, 4.4.1 and 4.4.2). The CC project analysis indicates that its primary aim is to diminish this distantiation by allowing a more participative model in the regulation production process (chapters six and seven). This model, which in this research is presented as an association cultivation-construction model (section 7.2), may with a careful but mild and unobtrusive intervention lead to the establishment of the creative commons.

The first chapter of this thesis presented an overview of the basic elements of the critique of the CC project trying to identify the points of tension (section 1.3). It also

gave a first indication why seeing the CC project as directly aiming at the development of creative commons presents a series of problems. At the end of the chapter a set of basic questions related to the CC critique are illustrated and indicate the directions the thesis will follow (section1.4).

Chapter two illustrated the basic features of the critique of the CC project. It identified the basic features of the CC project (section 2.1); the types of critics assessing the CC project (academics, practitioners, activists) (section 2.2), the underlying ontology of the CC critique (section 2.3), the reasons why we choose to focus on Elkin-Koren's work (section 2.4), the image of the CC project in Elkin-Koren's work (section 2.5), the basic features of Elkin-Koren's critique of the CC project (section 2.6), the problems of CC meaning construction efforts (section 2.7) and finally the link between ideological fuzziness and the CC licensing problem (section 2.8). This critique allowed the identification of the main points of controversy and consensus within the CC project that could be then used in order to explore the nature of the CC project.

The third chapter investigated the interaction between Copyright and digital technologies through a critical review of the relevant literature (section 3.1). The introduction of technologies that allowed mass-micro non commercial infringement has caused increasingly more aggressive regulatory measures with adverse effects on creativity (section 3.2). The whole problem of the unintended consequences of the regulatory response to technological change was expressed in the literature in terms of the IPR environmentalism movement. The latter sought to protect the Public Domain from its eradication caused by expansive proprietary rights (section 3.3). Copyright and the Commons were presented as constructed entities based on certain assumptions susceptible to change (section 3.4). Different conceptualizations of the Commons on the basis of different models were presented in section 3.5, whereas the chapter concluded with a concrete presentation of the distantiation phenomenon (section 3.6).

Chapter four constituted a detailed presentation of Lessig's work trying to link the scattered elements of regulatory ontology in his extensive work over the last two decades. The first part of chapter four (section 4.1) dealt with the issue of change as construction and the ways in which regulatory tools could be employed in order to achieve different types of construction. The next section (4.2) focused on specific

variables for assessing the results of regulatory efforts such as internalization, immediacy and plasticity. In section 4.3 we explored Lessig's four modalities of regulation and section 4.4 investigated the overall problems of regulation in Cyberspace. All sections contribute to the creation of an association vocabulary to describe the regulation constitution process. In particular, we saw how Lessig identifies as the main problem of Internet regulation the privatization of regulatory means and the exclusion from the regulation production stage (sections 4.4.1 and 4.4.2). In section 4.4.3 we presented Lessig's proposal to follow a FLOSS-like model to increase participation to privatized regulatory forms. The chapter concluded (section 4.5) with an illustration of the trajectory of Lessig's work and the way we may understand his research objectives.

Sections 4.5.1 to 4.5.3 positioned Lessig's work in the relevant streams of literature. Section 4.5.1 examined the links between Lessig's work and regulatory theory, particularly the work of Black, Teubner, Scott, Baldwin and Brownsword. The ideas of post-regulatory state, decentered regulation, situational regulation and regulatory conversations were juxtaposed to Lessig's regulatory vocabulary. In section 4.5.2, we related Lessig's work and the basic workings of the CC project to FLOSS literature. Finally, section 4.5.3 dealt with common features in Lessig's work and Information Infrastructures and standards design to identify common approaches also with regulatory theory and hence associate all streams of research presented in sections 4.5.1 and 4.5.2

Chapter five illustrated the overall research design and specific methodological approaches of the thesis. Its first part (section 5.1) linked Lessig's ontology with Latour's version of ANT in order to produce an epistemological framework that could inform our research. A detailed presentation of the ways of collecting and analyzing data was explained in the second part of the chapter (section 5.2). Since regulation was presented as a constructed entity and the basic problem with Copyright and Cyberspace regulation in general is participation to the constitution of regulatory associations (chapters two and three), we have chosen to follow a methodological approach that allowed the investigation of the association construction process in the case of the CC project

The sixth chapter presented the details of the CC case and the results of the analysis process. CC was initially presented in terms of its ideological origins and basic principles (section 6.1), and the means that it employed in order to achieve its objectives (section 6.2). We then illustrated the basic operation of the licences and analyzed patterns of participation (section 6.1), thematic representation (sections 6.2 and 6.3) and interaction over the "cc licenses" mailing list (sections 6.4 and 6.5). The chapter concluded by illustrating the main findings from the analysis of the CC project.

Chapter seven constituted a detailed discussion of the CC project that connected all the previous chapters together: It illustrated how the critique presented in chapter one could be answered as a result of the viewing of the CC as a regulatory commons project; it expanded Lessig's conceptual vocabulary on regulation (section 7.1); and it used Lessig's extended model of analysis in order to examine the central functions of the CC project (section 7.2), that is, (a) the construction- cultivation of the CC licences on the "cc licenses" mailing list and (section 7.2.1) (b) the process of allowing native forms of regulation to be expressed in a formal regulatory instrument (sections 7.2.2 to 7.2.4) (c) the ways in which the CC project may be seen as a political project allowing the transition from the regulatory to the creative commons (section 7.2.5).

The final chapter of the thesis summarizes the results of the previous chapters, illustrates the main findings and presents the limitations of the thesis and the main avenues for further research.

8.2. Core Findings and Contributions

The presentation of the main research findings of this thesis plays a dual role: On the one hand, it allows a linking of the various components of this thesis that have been presented in the individual chapters; on the other hand, it facilitates the explication of the main contribution related to each set of the findings.

The first set of findings relates to the development of a new variation of the regulation concept and the related costs it entails. Such variation constitutes an extension of the
notion of regulatory *immediacy* we have found in Lessig's work (section 4.2) and explained in chapter four. The discussion of the results from the CC project analysis indicated that regulation could be further categorized in two types: exotic and native regulation (section 7.1.2). The former is regulation that has been built with the explicit purpose of being used for regulatory purposes and is normally expressed in or is related to some sort of formal instruments, such as a law or a licence. Exotic regulatory forms are external to the realm of social behavior they seek to regulate and as such they are cost effective only if they are close to the native forms of regulation. The latter are regulatory forms that do not appear as regulation and in that sense they may be found mainly in the form of all four modalities of regulation but law. Native forms of regulation have a greater level of immediacy and are thus according to Lessig's analysis less costly compared to exotic forms of regulation. File-sharing networks may be considered as native forms of regulation. Our analysis of the CC project mailing lists has demonstrated that the primary native regulatory form that was expressed in the CC licences has been the need to share, reuse and remix material with minimal legal friction. More specifically, the need to abolish accidental incompatibilities between different forms of open/ free licences and to further clarify their terms and conditions was expressed in the licences and found its place in the v.3.0 of the CC licences in the licence compatibility section.

Native regulation is closer to the behavioral model of association construction and particularly that of the *ritual* as defined in Lessig's work (section 4.1.4) in the sense that: (a) it is behavior centric (b) it does not appear as coercion (c) it is, nevertheless, addressed from an authority to an entity that agrees to be subjected to the power of the authority (section 7.1.2).

The closer a regulatory effort is to native forms of regulation the more cost effective it is. The CC project is much closer to native forms of regulation than Copyright. CC expresses in formal (licences) and informal (meta-data/ commons deed) regulatory instruments native forms of behavior (share, reuse, remix). The *tying* efforts we have identified in chapter six are the result of a conscious effort to associate with native regulatory forms (sections 6.1 and 6.2). The multiplicity of licences (section 6.3) and the non-intrusive participation of the CC staff to the discussions over the "cc licenses"

mailing list (sections 6.4.4 and 6.4.5) are also expressions of an effort to encourage the expression of native regulatory forms.

The concept of *native regulation* is further elucidated with the differentiation between *regulatory modalities* and *regulatory features* (section 7.1.2). Lessig in his work identifies four *modalities of regulation* (section 4.3): law, markets, technology, and social norms. Our analysis indicates that this taxonomy should be complemented with a further differentiation between (a) regulation that is explicitly built as such and may be classified in Lessig's four categories and (b) artifacts that have been built with utilitarian objectives in the mind of the designers or appear as such; nevertheless they have regulatory features. *Native regulatory* forms do not appear as regulation but mostly as utilitarian artifacts, irrespective of possible regulatory features they may have. The disappearing of the regulatory costs as they become native. This is a primary difference between file-sharing systems and Digital Rights Management systems that both channel behavior towards a certain direction, while the latter clearly appear to be doing so and the former not. One of the objectives of the CC licences is to appear as much integrated to the utilitarian aspects of artifacts an in that sense to lower their regulatory costs.

A second set of findings relates to the *counterproductive* nature of the effort to materialize a regulatory program of action through predominantly coercive construction techniques (section 4.1.4), especially in environments where formal regulation is very distant from native regulatory forms. Coercive enforcement efforts are likely to lead to the cockroach phenomenon which is an extension of Grabosky's (1995) counterproductive regulation phenomenon and Lessig's (1996b) and Kagan's and Skolnick's (1993) snowball violation scenario (section 7.1.2): it is not merely that regulation leads to infringements of the desired regulatory program of action in a systematic scale, but also that it creates norms of deviance. Each generation of native regulation produced as a reaction to the increasingly stricter enforcement of exotic regulatory forms has characteristics that allow Copyright's systematic violation in a much greater extent; in addition, such responses invite retaliation from the exotic regulation in even more intrusive ways. The *cockroach* phenomenon is a direct result of the distantiation phenomenon between *native* and *exotic* regulatory forms and it apparently leads to an increase to the regulatory costs.

The cockroach phenomenon incurs two types of regulatory costs: *active* and *passive* regulatory costs (section 7.1.2). The former type of costs comes as a result of the effort to actively enforce exotic forms of regulation such as the copyright laws; it is expressed in e.g. litigation costs, public awareness costs, enforcement authorities' man-months etc. *Passive* regulatory costs are the result of the costs imposed upon creators reusing existing works that are potentially copyrighted. The analysis in Chapter Five indicates that the Creative Commons project is not merely a project addressing *passive* regulatory costs that seems to be the predominant model for understanding it in the relevant literature; it is also a project that also seeks to produce a regulatory structure with minimal *active* regulatory costs. CC's main regulatory strategy that seeks to reduce the distance between *native* and *formal* regulation could contribute to the reduction of both types of costs.

Lessig's conceptual framework indicates *defensive* techniques of association construction and the strategy of *tying* as the most cost effective (section 4.1.4). The analysis of the CC case and the contrast of CC's and Copyright's awareness campaigns indicates that it is more useful to assess the defensive or tying techniques not in abstract but in relation to its distance from native regulation: the closer the defensive or tying efforts are to native regulatory forms the more effective they are. The contrasting of Copyright's and CC's awareness campaigns is illustrative: both cases are defensive efforts of focusing meaning; however, the *anchor point* (section 7.1.3) in the case of CC is native to the application domain regulation (share, reuse, remix), whereas in the case of copyright we have to do with *exotic* regulatory patterns such as stealing of physical not intangible property or *formal* regulatory forms such as copyright rules.

The third set of findings illustrates advances in some of Lessig's concepts particularly by presenting how the categorizations he proposes are not found as clearly demarcated in practice as in his theoretical work (sections 7.2.1 to 7.2.5). The relevant concepts are these of the ritual, indirection and substitution (section 4.1.4). The ritual is described in Lessig's work as a behavioral technique. The CC project analysis, particularly the exploration of the iSummit 06 and the national CC project launches (sections 6.1 and 6.2), reveals that there is no clear demarcation between semiotic and behavioral aspects of a ritual. In all such cases, the use of tying and defensive techniques for meaning construction often operate as the formative context in which the ritual will operate and

are part of its actual implementation. The theoretical contribution of such finding is that it constitutes an expression of the need to eradicate the differentiation of associations of material (behavioral, technical) and immaterial (meaning) nature as counterproductive for the understanding of the regulatory costs issue. We believe that the three elements of the ritual (authority, repetition, not appearing as coercion) identified in Lessig's work are much more important than its behavioral dimension and these should be the focus of their use. It is also an indication of how Lessig's conceptual ontology may be brought closer to Latour's ANT approach.

Similar are the advances this thesis makes to concepts such as *substitution* and *indirection* (section 4.1.1). Substitution as many other concepts does not exist in its clear form, in the sense that one modality of regulation is never entirely substituted by another in the case of Copyright or the CC project. On the contrary we have cases of certain functions of a certain modality (such as coercive association construction instead of happening through the judicial and police system to occur by virtue of technical measures of protection) in combination with indirection structures (e.g. law interoperating with technology as in the case of DRM and EULAs to achieve a certain regulatory program of action). Lessig explicitly defins substitution and indirection as phenomena occurring between different modalities of regulation, whereas what we have seen from the Copyright critical literature review and the detailed analysis of the CC project is that they occur mostly in terms of the regulatory *level* (e.g. substitution of law from contracts) as well at the modality level.

This is a particularly important realization for understanding the regulatory issues Copyright faces: the problem of substitution is in fact an issue of *collective plasticity* and participation as well as *immediacy* problem (section 4.2). The Copyright classic proprietary project indicates that there is a movement to those combinations of substitution and indirection that are less collectively plastic and more coercively immediate. The Creative Commons project on the other hand attempts to achieve associations in a way so that it is more collectively plastic while retaining its noncoercive immediacy. Interestingly in the latest stages of the CC project there is a trend to move towards higher level regulatory forms in the form of second order commons while the terms of participation and representation in such a new level still remain under formation (sections 7.2.1 to 7.2.5). The next set of findings relates to the transition from indirection to reverse internalization and from the concept of the meaning manager (section 4.1) to the one of associations cultivator (section 7.2). Both the original concepts are directly derived from Lessig's work and express the effort to produce a particular meaning through a controlled effort where there is a clear vision for what the end result will be. The two concepts we have derived out of the analysis conducted in chapter six (sections 6.4.1 to 6.4.5) indicate that there is a need to expand Lessig's notions towards a more pro-native mode of regulatory strategy as a result of the need to reduce regulatory costs. Whereas in indirection we witness the active effort to impose a particular meaning or set of associations from one modality or level of regulation on another in order to achieve internalization of the regulatory program of action by the regulated subject, in the case of reverse internalization the objective is the opposite: not to impose a regulatory program of action but rather to encapsulate an existing one and express it in a formal regulatory form, in the case of the CC project the relevant licences.

This marks a crucial departure from the classic regulatory model that appears to be aiming at an externalization of its program of action on the native regulation. CC instead, seems to have as its point of departure the internalization of native regulatory forms. Such development is essentially an evolution of a series of defensive construction and tying techniques having the native regulation as their anchor point. It is however an even less intrusive aspect of these efforts as it does not aim at producing a certain set of associations by using these techniques but rather first to internalize native regulation and then try to embed it in the relevant environment. Accordingly, the concept of the meaning manager found in Lessig's work is to be substituted by the concept of the association cultivator.

We have referred to the reasons behind the choice of associations rather than meaning in this thesis in chapters four (section 4.1.2) and seven (section 7.2). The concept of cultivator is different from that of the manager since we are not aiming here at a construction but rather a cultivation process: construction echoes the controlled and predictable production of a set of associations whereas cultivation implies that the cultivator is not responsible for the existence of certain associations that of the native regulation, but is the one responsible for allowing some of them to further develop and evolve. The cultivator does not have full control over the produced regulation neither

can predict the end regulatory result but is able to influence it towards a certain direction. Such regulatory model seems to be ideal for environments of great complexity and uncertainty that are likely to have great distance between the native and formal regulatory forms and seek to reduce regulatory costs.

In the analysis (sections 6.1 and 6.2) and discussion (section 7.2.5) of the CC project we have found that it is different from the FSF project which was initiated by the very same community that has actually developed the native regulatory forms (software developers) and were hence legitimized to define such rules in the text of the GPL. The CC project initiated by lawyers and academics and addressed to a non-specific application domain was of a much more exotic nature and needed hence to operate as more as a cultivator and less as a manager. The non-interference aspects of the CC project that are perceived by its critics as manifestations of liberalism are in fact expressions of the associations-cultivator model. Similarly, the lack of a minimum set of principles running all licences and the existence of more than one licences are expressions of the same aspect of the project. Finally, the emergence of the second order commons (section 7.2.5) is an indication that CC is not inherently opposing any minimum principles but need to achieve legitimization through a cultivation process in order to accept them.

The fifth set of findings relates to the combination of construction and cultivation elements in the CC project (section 7.2). Though the cultivation model that is consistent to an e2e association development in Lessig's ontology is an extension of the construction models (section 4.1.4), the two are not mutually exclusive. As a matter of fact the CC project presentation and analysis in chapter six reveals that they are consistently used (other than direct coercion) in order to capture native regulation and enforce formal regulatory content. Our analysis reveals that construction elements are extensively used in the framing stage (sections 6.1, 6.2 and 7.2.1) of the association building where the boundaries and overall direction of the project are set. The construction elements of the CC project operate also during the project as *static cultivators* (such as basic vocabulary, the licence itself and the functional specifications of the mailing list) (sections 6.4.5 and 7.2.1); they are the signposts indicating how the project will then evolve.

Particularly interesting were the findings regarding the licences that operate as regulators both *externally* (for those creators that will choose them to govern the dissemination of their works) but also (and this is a counterintuitive aspect of their operation) *internally* (section 7.2.1): the licences constitute the seeds that frame the basic thematic areas in which the discussion will move and as such they regulate them in a rather unobtrusive fashion.

We have identified two types of *dynamic* cultivators: CC and non-CC staff related. The former seek to resolve controversies, whereas the latter are normally the cause of controversy. *Static* and *dynamic* (section 6.4.5) cultivators interoperate in order to achieve a mildly controlled result: static cultivators are factors of stability, whereas dynamic cultivators are there to ensure that the discussions being fragmented, incremental and repetitive do not present sclerosis features.

In overall, the technique of cultivation is used in conjunction with the technique of construction (section 7.2) in the cases where construction has as its primary *anchor point* (section 7.1.3) a regulation that is outside the *native* regulation of the domain on which it is to be applied: in such cases it is necessary to internalize the native regulation and hence a heuristic like cultivation and reverse internalization is required. It is indicative (a) that the CC licences used mailing lists in order to get input from native forms of regulation in contrast to the development of the GPL licences that were much closer to the application domain (section 7.2.5) (b) that the issue of licence incompatibilities in the case of the ShareAlike element as well as in the case of minimum licence principles are the most popular issues of discussion over the list (sections 6.4.2 and 6.4.3); they indicate an effort of trying to achieve reverse internalization and absorb the trends of native regulation with respect to the contested features of the CC regulation.

The sixth set of findings relates to the level in which the end-to-end model appears in the CC project. Whereas projects like the GPL or project Gutenberg or the Open Publication Licences are focused on enabling an end-to-end model for the production of Copyrighted content (section 6.2), the CC project aims primarily at using the e2e model for the production of a regulatory instrument, the CC licences (section 7.2.5). We have seen in chapter four that Lessig was interested in FLOSS as a model for technology-asregulation production that ensured a minimum of participation unlikely the traditional proprietary model that had only individual plasticity (sections 4.4.2 and 4.4.3). In the case of FLOSS the regulatory object is the software with its regulatory properties, whereas in the case of the CC project the regulatory objects are the licences. The same type of technical instrument is used in both cases, mailing lists (sections 6.4.4-6.4.5, 7.2.5), that were also used for the production of other technologies of a more explicitly regulatory nature, i.e. Internet standards by the IETF.

The fact that the end product, i.e. CC licences containing the SA element, support a similar development model for the content that is disseminated under their terms together with the CC rhetoric that associates its objectives directly with those of Free software is the cause of much of the misconception about what is the level in which the e2e model is primarily used in the CC project (section 4.5): it is the regulatory commons that are produced in the CC project and only through them are the creative commons produced (section 7.2.5).

Having identified the level of Commons in the CC project, we were able to explore the way in which the regulatory commons contribute to the establishment of the creative commons. By allowing *native* regulation to be expressed in the *formal* regulatory instruments of the licences (section 7.1.2) in a way that has been framed by the *static* cultivators to direct towards the creative commons (section 7.2.1-7.2.4) it is highly unlikely that the ends of the regulatory network will seek to create yet another proprietary project. Our empirical data indicate that even in the cases where participants to the discussions have tried to give a more proprietary direction to the licence building discussion, even at the earlier stages where the direction of the project was still less stabilized, they have been prohibited by the *dynamic* cultivators (section 7.2.5).

At the later stages of the development of the project there is a clearer direction towards forms of regulation that are closer to the native forms regulation and the relevant creative practices; this is apparent from the most dominant theme, the need to establish interoperability, that has also been expressed in the interoperability clauses of v.3.0 of the licences (section 6.4.3). Following the ability that technical-native regulation over the Internet encourages sharing, reuse and remix of material, the discussion about principles upon which compatible Free licences could by based and Lessig's

determination to support such creative practices with the CC project has led to the relevant v.3.0 provisions.

The next stage relates to a regulatory cost-related explanation of why it is not advisable to leapfrog directly to the creative commons stage without passing through a regulatory commons stage: by seeking to impose an *exotic* form of regulation, the same regulatory costs as the ones incurred in the case of the classic proprietary project would re-appear. Even in the case that such regulation expressed current native regulation, if there is no mechanism in place to keep receiving input from the application domain, it would sooner or later become *exotic* regulation with all the subsequent problematic effects (section 7.2.5).

The CC project does not object to the existence of a minimum set of principles governing all licences (section 2.8.4) provided such principles are the outcome of collective decision and this is the trend indicated both by the compatibility clauses of v.3.0 of the licences and the tendency towards politicization of the iCommons organization and the iSummit event. This is the idea of *creative regulation* (section 6.2): regulation needs to constantly innovate in order to be in tune with the developments in its application domain and to be able to incorporate the regulatory program of action of native regulatory forms. This creative dimension of regulation may be achieved through the establishment of an e2e or *regulatory commons* model for its production in the same way as creative production and innovation is possible in the case of the FLOSS model.

The last set of findings relates to the political and technical nature of Copyright's regulatory problems and the CC project as a response to them (section 7.2.5). The Copyright regulatory problems as described in the above findings are all collective representation problems: the *distantiation* problem (sections 3.6. 4.4.3 and 4.5) is a political problem of having actors not being represented in a regulatory instrument that defines their association building capacity; the problem of the IPR ecosystem and the term environmentalism used by Benkler (Benkler, 2001) and Boyle (Boyle, 1997a) in their respective work describes the issue of eradication of the Commons in political terms (section 3.3); Lessig's Fair Use Plus (Lessig, 2005j) conceptualization of a response to Copyright's problems is a political one asking for greater participation by the creator by allowing some uses of her work that would be otherwise prohibited (section 6.1); part of the critique of the CC project is also political in the sense that if the

latter reinforces private regulatory forms and proprietary solutions [e.g. (Elkin-Koren, 2006a) or (Berry and Moss, 2005)], then it may exclude others from the participation to the formation of rules that have a broader societal impact (e.g. sections 2.8.2 and 2.8.3).

Accordingly, CC as a regulatory commons solution is also political in its nature (section 7.2.5): it seeks to overcome the distantiation phenomenon and minimize the costs it entails by allowing greater participation in the formation of the regulatory instruments and by enabling *native* regulatory forms to be expressed. The CC project needs to appear as political in certain of its aspects and non-political (or technical) in some others. The concept of the '*pedigree of associations*' (section 4.1.2) contributes to the understanding of the dual nature of the CC regulatory cultivation process: it needs to appear political in order to maximize participation to the formation of the regulatory instruments, achieve legitimization and minimize distantiation; at the same time once an agreement has been reached in relation to a particular aspect of the project (e.g. a licence element) it needs to appear as non-political or non-contested in order to formulate a solid building block to further advance the project.

This is the reason why the arguments that have the strongest agreement to back them up appear after a point as non-contested in the CC licence discussions: their representation cycle has been -at least temporarily- completed. This is also the reason why the CC leadership would like to have the CC licensing project appearing as non-political so that it may be used by the end-user in a non problematic way and the iCommons project political so that new ideas emerge and native regulation are expressed (sections 6.4.4 and 6.4.5).

The problem with such separation is that it is not really possible, since the building of the licences is both a political and a technical process where the reasons for introducing a particular provision are of both kinds. The Technical Protection Measures in the discussions for v.3.0 of the licences is an archetypical example of the inability to achieve such separation: Anti-TPM/ transparent copies language is initially introduced in the CC v.3.0 licences in order to achieve interoperability between CC and other Free content licences; however, in order to achieve such compatibility they require the political backing of the Debian and FSF groups that do not have a consistent policy regarding transparent copies with each other. The final decision, as indicated by the CC

legal counsel (Garlick, 2007), was made on political as well as technical grounds (section 6.4.3).

Summing up, the contributions emerging from this thesis may be positioned in the theoretical, methodological and practical level. In terms of the theoretical contributions, most of the findings explicate in coherent way and advance the basic components of Lessig's regulatory conceptual models; the research also draws extensive links between Lessig's work and Latour's version of ANT and develops common vocabulary to be used by the Information Systems and Commons literature (sections 5.1, 5.1.1 and 5.1.2). The methodological contributions of this thesis primarily relate to the presentation of a detailed method for visualizing and assessing participation and interaction over mailing lists through the use of a combination of qualitative and quantitative techniques though always from a critical perspective. Finally, in terms of practice, this research contributes to the understanding of the political and regulatory dimensions of the CC project and allows its potential improvement by a clarification of its identity and objectives. It also contributes both to the literature and practice of assessing regulatory costs and allows the development of regulation building strategies following a model of appreciating the individualities of native regulation before attempting any regulatory intervention.

8.3 Limitations

The limitations in this research are of two primary categories: limitations arising by the research design as well as methodological approach followed and limitations appearing in relation to the scope of the research.

In terms of the theoretical approach of the thesis, by focusing on Lessig's conceptualization of regulation we deviate from the classic literature on regulation that is interested more in state-driven regulatory phenomena and is more geared towards an analysis of the relevant regulatory instruments on the basis of legal doctrine. The main area of theoretical contribution is that of the literature on the Commons and the regulatory models presented in Lessig's work as well as the relevant association-driven theoretical constructions, though there are works like the one by Brousseau (2005) that seem to share common ground with the findings of this thesis particularly with respect

to the findings of regulatory cultivation, native regulatory forms and reverse internalization. The work of Teubner (2005) may operate as a link between the reverse internalization model and the use of ANT in regulatory contexts and is related to the second type of limitations.

A second aspect of the theoretical limitations has to do with the contributions of this work to Actor Network Theory which is of a very specific kind. This thesis is only informed by ANT concepts deriving particularly by two streams of the relevant literature, that is ANT and technical standards literature [e.g. (Hanseth and Aanestad, 2002)], and the political side of artifact construction [e.g (Latour and Weibel, 2005)]. In overall, it needs to be made clear that despite its apparent linking with and influence from ANT related works this thesis does not claim to be an ANT focused research.

The evaluation of the analysis aimed at illustrating the way in which regulatory commons allow the establishment of creative commons and was accordingly limited by its set objective. An additional limiting factor are the various aspects of the CC critique identified in chapter two that operated as sign posts for the mode of inquiry to be followed in the case of the data analysis results. It is important to clarify that objective of the empirical part of the research has been to examine how the CC project has reversely internalized the native regulation of the environment and more specifically the mechanisms it has employed in order to make this possible. This is the reason why it has been so much focused on material deriving from the CC project or discussions happening in the context of its virtual premises such as the "cc licenses" mailing list. It also needs to be highlighted that though the results from the CC project analysis are generalizable, the generalization process needs to be conducted with great care taking into consideration the individualities of the CC project and examining whether further variables could be introduced in the case of a state-driven regulatory project.

8.4 Avenues for Further Research

The nature of this research as exploratory work has as a direct result the possibility of multiple further research possibilities, mainly aiming at overcoming some of its limitations identified in the previous section.

A first possible theoretical extension of this thesis is to the direction of linking Lessig's revised conceptual framework with existing regulatory theory particularly the one dealing with technology regulation and modern forms of self-regulation or reflexive regulation in different contexts. Such investigation could allow a validation of the regulatory costs model and its possible extension or refinement through the use of theoretical and empirical constructs from more classic regulatory forms. The work of Andrew Murray [e.g. in (Murray, 2007; Murray and Scott, 2002)] or Eric Brousseau (2005) could operate as bridge for the technological stream of regulation, the work of Julia Black [e.g. In (Black, Lodge and Thatcher, 2005)] could facilitate a linking with the more classic regulatory theory on de-centralized forms of regulation, the work of Braithwaite in terms of reflexive regulation (Braithwaite and Drahos, 2000) and finally the work of Teubner on the use of ANT for the representation of non-humans in regulatory instruments (Teubner, 2005). The idea would be to see which of the elements in Lessig's work as revised through the empirical study of the CC case could be further advanced by comparing the streams of literature represented by the aforementioned authors. It would also be interesting to explore the degree to which these authors could contribute to the further elucidation of the CC as a regulatory commons phenomenon. A first linking between the different literature streams has been conducted in sections 4.5.1 to 4.5.3 but a more comprehensive analysis would be desirable.

This research could be further advanced towards the direction of the work of Boyle (2003c; 2004) or Benkler (2006) in relation to a further exploration of the way in which complex regulatory environments and institutional ecosystems operate that could support or be to the detriment of creativity and innovation. Alternatively, this research could be used to further advance Littman's [e.g. in (Littman, 1991)] or Drahos' and Braithwaite's (2004) work on the locus of policy decision making in relation to Intellectual Property Rights.

Another direction to which this work could be further explored is towards the direction of the use of standards and ANT. Here the interest would be in conducting a more thorough comparison between regulatory instruments that have their origins in state regulation such as the CC licences and regulatory instruments with of a more utilitarian or technical nature such as technical standards or even artefacts that are viewed as utilitarian objects though they may have strong regulatory properties. The streams of literature that would be most relevant in this case would be the ANT literature that has been partially also used in this thesis such as the ANT and standards literature (Hanseth, Jacucci, Grisot and Aanestad, 2006) as well as the 'thing-politics' type of literature (Latour, 2004; Latour and Weibel, 2005) that emphasizes the political aspects of the construction process and explores the operation of representation in such contexts.

Another interesting investigation would be to examine the way in which the cultivation model in conjunction with the regulatory costs idea could operate in the context of risk, control and information infrastructure literature. An idea that would be interesting in exploring is the way in which Claudio Ciborra's (2000a) concept of drift and the subsequent work on it could be further advanced by the model of the cultivation-construction. It is interesting to note that Ciborra's (2000c) empirical data in his original texts on the concept of Drift were based on a corporate intranet infrastructure having to a great extent the same fundamental regulatory features as the Internet Protocols, the CC mailing lists or the General Public Licence, that is an e2e structure This is a good indication together with Ciborra's later work on FLOSS that there is space for mutual contributions and a research area that needs to be further explored.

Methodology-wise an obvious area of further research is within the CC project itself. The case study could be enriched by studying greater parts of the 'CC licenses' mailing list, particularly in the last two years in order to acquire deep thread data for longer time periods and see how cultivators of all types operate in such environments as well as whether the same thematic areas keep repeating in large data sets.

The identification of native regulatory forms as an important starting point for any regulatory intervention is of particular relevance to the way in which study of regulatory forms could be conducted in the future by giving equal attention to the formal regulatory forms that are sought to be enforced as the existing native regulatory formations. What this thesis suggests is that a new area of research should be gradually

developed, that of *regulatory ethnography*, where the basic native regulatory forms in a context are identified, explicated and thus being used as the mould which will shape formal forms of regulation. The devising of heuristics to conduct this regulatory ethnography and then express it in regulatory terms is possibly the most crucial call this thesis is making for future research in this domain. The Information Systems discipline has a greet experience in using social methods of inquiry for identifying the individualities of the problem domain and perhaps some of these methodologies should be also transferred in regulation building theory and practice.

The regulatory costs model as developed in this research is to a great extent a first expression of a device for assessing the scope and impact of regulatory distantiation but is still in the level of a prototype. Further work is required in order to refine its variables and possibly move towards their quantification so that we have a regulatory policy tool that could be used in order to assess the adverse environmental effects of distantiated regulation. It also remains a question to be discovered whether such a model could move to the next stage and be transformed into an economic model for the features we should be looking in a regulatory instrument and the way in which they evolve during a regulatory artefact's life-cycle.

8.5 Conclusion

The very final part of this section and the thesis itself relates to the political dimension and contribution of this research. One of the major objectives of this thesis was to emphasize that the CC project makes sense only if it is seen as a political project. CC is a project dedicated to the construction of a regulatory artefact in a participatory fashion, as a regulatory commons. This thesis argues that such an approach will eradicate the distantiation between the regulated subject and the regulatory development process and will finally foster the creative commons since a creative commons structure seems to be currently favoured by the native regulatory forms. The ideological fuzziness or libertarian sentiments the CC project echoes are understood and accepted only as expressions of a project that seeks to re-politicise the issue of regulation construction and to position the regulator in a place where she will *facilitate* and not *form* the regulatory result. The absence of a minimum set of basic principles governing all CC licences may currently seem counter-productive, but if such principles are derived through a deliberation process they are going to be of a much stronger pedigree than any externally imposed set of principles. This is the tendency seen in v.3.0 of the CC licences and this is what this thesis claims is the most cost efficient regulation-building strategy: to move from a discussion of licences to a discussion of principles as an expression of the way in which regulatory commons contribute to the creation of the creative commons.

All these results assume that CC will present itself as an increasingly explicitly political project. Such politicization needs to be accompanied by a process of establishing clearer rules of participation and representation at different levels. The existing mailing lists system has proven in practice that it is operational but is increasingly reaching its limits. FLOSS projects are assisted by Version Control and Bug Identification Systems, whereas the CC project is currently only assisted by the FAQ wiki. Whether such thin infrastructure is enough to sustain a process that inevitably becomes more political, with the intensification of the discussion on licensing principles, remains an open question. In the same way it remains a question how multiple communities (CC, FSF, Debian, artists) and mailing lists (CC licenses, iCommons, Debian Legal) are going to interact in the near future as the project matures and the need for more sophisticated tools appears. This is a key area of future research on the CC project that is both of immense practical and political nature.

The strategy by the CC leadership to 'cleanse' the CC project from any political associations while moving such functions to the iCommons project may be founded in some really good intentions related to how solid the legitimization of the licences should appear; however, at the same time, it is impossible to put the licences into a sanitized from politics environment, since such an act it would severely undermine their function. The licences are the outcome of a constant representation process. The reactions at the iSummit 06 and the subsequent discussions over the mailing lists

indicate that the licences will continue to be instruments of political debate concerning the assumptions behind Copyright or the CC licences and the purposes such instruments serve.

It is hence a necessary extension of this research to further explicate the political nature of the CC project by communicating it to the CC community and by seeking for feedback in the same way that the workings of the CC phenomenon feed into this thesis. It is necessary for any research that relates to the CC project to be shared by the CC community as the next stage of its development and to seek to become part of the effort to cultivate a particular type of regulatory and creative commons. In a political project, such as CC, any related research constitutes a political position; and this thesis cannot be an exception.

Appendix I CC critique Table

Not clear what happens when we move from national to global commons Core Freedoms in the licences/ Open Access minimum	Berry Elkin- Koren	Berry	Mako- Hill	Stallman			
Core Values of the organization/ Ethical position/ political stance/ governance/ finances/ broader view values Who's values are the iCommons values Who will benefit from the global commons/ who should be the partner to CC	Berry Tarkowski Berry	Mako- Hill	Stallman	Klang	Elkin- Koren	Chance	Hogge
	Derry	Onunoc					
Not clear exactly how licences work/ lawyers are needed More than one licences: fragmentation of the Commons If licences enforceable then asserts Copyright The use of licence supports a permission culture: the creator learns to license her works – the user seeks for licensing terms and conditions	Berry Elkin- Koren Elkin- Koren	Toth Mako- Hill Berry					
Re-actionist not proactive/ accepts Copyright	Elkin- Koren	Berry					
Organization/ movement/ licensing scheme/ phenomenon	Ahlert	Klang	Hogge				
What does free mean: Not the same position as the FSF (CC as free to choose not free to share)/ individualism/ pro-capitalism Far too clear cut no political debate	Mako-Hill Berry	Elkin- Koren Chance	Berry				

Appendix II List of CC project features

List of Creative Commons

Features

It is something new It adds new elements to the existing Copyright System ad needs it to exist Seeks to grow as big as the Copyright system Seeks to reform copyright system Share Find Build Upon Collaborate Actively ask to build upon your work Build Upon; create commons On the Internet Licence as the main tool Many licences Choose licence according to your needs **Organizational Dimension** Open, democratic, transparent **Open as Inclusive** Global Ideology No intermediaries; ease of use Clarification of rules Reduce boundaries/ friction

Autonomy/ empowerment of the

creator

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Appendix III Interaction pattern example

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