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Informational commons

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INFORMATIONAL COMMONS

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On creativity, copyright & licenses

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Abstract

This paper examines the theoretical and practical development of informational commons in the digitised and interconnected environment. This is done by looking at the theory behind intellectual property and licenses in their role of creating and maintaining the commons. This paper will also present the practical work in the form of describing a large-scale development project concerning the localisation of the creative commons licenses to the Swedish jurisdiction. The goal of this work is to provide practical and theoretical foundations in the study of the role of informational commons in the knowledge society.

Keywords: creative commons, open access, free software, informational commons.

1   INTRODUCTION

This paper examines the development of informational commons within the digital environment. Specifically the focus will be on the localisation of Creative Commons (CC) licenses in Sweden. The role and actions of CC will be compared and contrasted to the two similar movements involved in creating informational commons', namely the Free and Open Source Software (FOSS) and Open Access (OA) movements.

The developments of informational commons depend in equal parts on technology (mainly digitalisation and connectivity) and law (mainly copyright and licensing). The focus on this paper shall be on the latter component of the informational commons. The foundations of copyright law come from the social and economic values developed in the pre-digital, pre-Internet age. With the dissemination of computer technology and networking technology the values, which are fundamental to copyright, have begun to be challenged. One such challenge brought to the door of copyright concerns the "all or nothing" approach to copyright protection. Either the material is protected by copyright and all rights are reserved or it is not and nothing is protected.

The purpose of this paper is to contribute to the understanding of the problem of creating informational commons in the knowledge based societies by looking at the ways in which the foundations of this society, intellectual property, are being discussed, legitimated, protected and shared. This will be accomplished by studying the theory of informational commons and the goals of three movements (FSF, OA and CC) and the practical implementation of adapting CC licenses to Swedish law and culture, in other words, a large-scale localisation project.

2   BACKGROUND

The purpose of this section is to provide a brief background and explanation of the meaning and roles of Free Software Foundation (FSF) and Open Access (OA) in the development of CC. This section will also briefly outline how CC licenses work.

2.1   FSF

It was in part to counteract what he believed to be the equivalent of a digital enclosure movement where those most in need of the fundamental technological infrastructure were being excluded from it, mainly through legal means, that Richard Stallman wrote his original announcement for the GNU project. He wrote "Starting this Thanksgiving I am going to write a complete Unix–compatible software system called GNU (for Gnu's Not Unix), and give it away free to everyone who can use it" (Stallman 1983). In 1985 Stallman launched the Free Software Foundation (FSF), an organisation whose goals it is to promote the computer users' right to use, study, copy, modify, and redistribute computer programs.

The term "free software" includes a philosophy, an understanding that software is an important building block in the information society and that the control of this infrastructure needs to remains accessible to all. This egalitarian principle demands that software remain outside the control of those who would limit its usage and only provide this necessary infrastructure at a price. "Free software" refers not to price but to freedom and it is a deliberately confrontational term (Raymond, 1999), an attitude designed to provoke actors with commercial interests in proprietary software.

The goal of the FSF was to create a software infrastructure that was free for everyone to use. The concept of freedom is summarised by the four freedoms: to run the program for any purpose, to study how the program works and adapt it to your needs, to redistribute copies, and to improve the program, and release your improvements to the public. The method with which this was to be achieved, beyond

the creation of software was the concept of copyleft enforced by Section 2b of the General Public License (GPL) which reads "You must cause any work that you distribute or publish, that in whole or in part contains or is derived from the Program or any part thereof, to be licensed as a whole at no charge to all third parties under the terms of this License." This article therefore states if you create software, which is made up of part of a code licensed under the GPL (which in turn guarantees the four freedoms) then you must share your code under the GPL.

The result of the GPL is to create an informational commons of software. The code is there to be used by all. But if you use the code then the result must be added to the commons.

2.2 Open Access

One of the main sources of the Open Access (OA) movement can be seen in the "Bromley Principles" of 1991. The purpose of these principles was to facilitate full and open access to quality data for global change research. These principles include concepts that data must be easily accessible and provided at the lowest possible cost. These principles, and others like them, have grown into what has become the OA movement, which usually refers to literature that is digital, online, free of charge, and free of most copyright and licensing restrictions.

The methods for achieving the OA goals have been the establishing of OA journals and OA archives or repositories. The OA journals carry out peer review and then make the approved content freely available. The cost of this is usually carried by the hosting university or professional society. Alternatively the journals charge a processing fee on accepted articles. The OA archives or repositories do not conduct peer review. The archives may contain unrefereed preprints, refereed postprints, or both. The costs of such archives are negligible and are usually sponsored by universities or professional societies.

Since the Bromley Principles there have been two major statements of OA principles. The first is the Budapest Open Access Initiative (2001), which includes a definition, background information, and a list of signatories. The second is the Berlin Declaration on Open Access to Knowledge in the Sciences and Humanities (2003), which includes a definition based on the Budapest initiative. The twin foundations, which make OA possible, are Internet connectivity and the consent of the author or copyright-holder.

The driving force of the OA movement has been academia and its reaction to the "serials crisis". The serials crisis refers to the rising cost of journals, which is forcing many university libraries to cancel journal subscriptions (Kaufman 1995, Peters 1995, Björk 2004, Van Orsdel and Born 2005). However the movement has even begun to gain interest outside academia and promote public access to academic material.

The OA movement intends to create a commons by appealing to the needs of researchers and university libraries. As yet this work has not been coordinated into a single licensing solution but is being stated in declarations being made by researchers, libraries, universities and professional bodies.

2.3 Creative Commons

The Creative Commons (CC) project was launched in 2001. Taking inspiration in part from the Free Software Foundation's GNU General Public License. The basic idea was to give away free copyright licenses. "The idea…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 2005).

The first project of the CC's was the release of a set of copyright licenses free for public use. Following this CC has developed a Web application that helps people dedicate their creative works to the public domain or retain their copyright while licensing them as free for certain uses, on certain conditions. The CC licensing project wanted to achieve three main goals: (1) simplifying for creators to share their creations, (2) create licenses that would be enforceable in courts and (3) use internet technology as a infrastructure where creative people could easily find and share their products. To fulfil all three goals each license is created in three different forms: (1) A commons deed which is easy to read and understand, (2) a legal license which is enforceable in court, and (3) as digital code which can be read by search engines to facilitate internet searches of CC licensed material.

These three types of material are generated from the CC website by replying to three easy questions. Question 1: Allow commercial uses of your work? Yes/No. Question 2: Allow modifications of your work? Yes/ Yes, as long as others share alike/No.
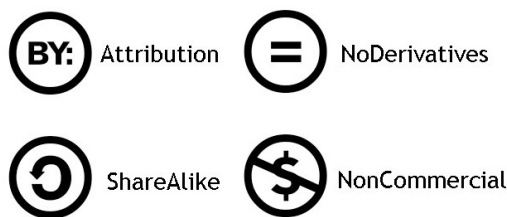

Figure 1.   User Friendly Symbols

By combining the rights represented in these user-friendly symbols the user can create the six basic CC licenses: (1) Attribution (use the work however you like, but give the creator attribution), (2) Attribution-ShareAlike (use the work however you like, but give the creator attribution, and license any derivative under a Share Alike license), (3) Attribution-NoDerivatives (use the work as is, and give the creator attribution), (4) Attribution-NonCommercial (use the work for noncommercial purposes, and give the creator attribution), (5) Attribution-NonCommercial-NoDerivatives (use the work for noncommercial purposes, as is, and with attribution), and (6) Attribution-NonCommercial-ShareAlike (use the work for noncommercial purposes, give the creator attribution, and license any derivative under a ShareAlike license).

The goal of CC is to help users to contribute to the commons by providing simple licenses at no cost. These licenses are easy to use but nonetheless valid legal documents. By licensing under the CC the user contributes to the commons in the sense that the material is not "locked" in copyright. The user states his copyright but gives permission for certain uses of her copyrighted material.

Despite its brief history the CC system has created a great deal of interest both among practitioners and academics stressing both the possibilities and limitations of privatised regulatory systems organised through contracts (Berry 2005, Bourcier & Dulong De Rosnay 2004, Elkin-Koren 2005, 2006, Klang 2005, Välimäki & Hietanen 2004). While it is difficult to sum up the articles most tend to point to difficulties within the contract based regulatory systems as a basis of creating a universally accepted commons. The identified weaknesses inherent in the CC system include: definitions of the term non-commercial (Pawlo 2004), moral rights (Välimäki and Heitanen 2004) and the role of private ordering (Elkin-Koren 2006) etc. At the same time most researchers admit that the widespread acceptance of the CC system creates a regulatory force that cannot easily be ignored.

3   THEORY

The concept of property is neither static nor easy to define. On one level there is the simple concept of mine, which every child develops and understands (and every parent attempts to temper with the concept of sharing) on the other hand property is all about exclusive access and not having to share. In addition to this there are discrepancies between what we consider to be ours and what the law protects.

Many of our ideas of what can become, and what is, property are founded in the technological standards of the age. Once it becomes technologically viable to do something the law is required to take it into consideration and attempt to incorporate the technologically possible into the property regime.

The development of digital technologies has led to the transfer of much of our creative material from traditional into digital storage formats. This format offers substantial economic and logistical advantages however it also creates an ease in which the products can be duplicated and transferred without permission. These new advantages are testing the boundaries of property regulation. Bringing into question previously resolved social agreements on the limits of property ownership in cultural material and demanding of the legislator a re-appraisal of the values that need to be protected.

Marx defined property, as "the right of man to property is the right to enjoy his possessions and dispose of the same arbitrarily without regard for other men, independently, from society, the right of selfishness" (Marx 1978). Whether or not we agree with this property theory is deceptively easy. Property today implies exclusive privilege of the thing in question. Despite the difficulties in attributing property rights to intangible objects, the legal institutes of copyright and patents have been created to create exclusive property–like relationships and grant property rights on certain symbols, images, and intangible matter. This has led to the expansion of property to encompass a larger sphere. That which is owned is no longer simply the item itself but the privileges which it provides to the owner (Harris 1996). One of the most heated areas of conflict within this discussion is the conflict between private property and public domain or the commons. These concepts will be discussed in the next section before we apply them to the digital domain.

The copyright system allows the creator to establish and legally defend ownership rights in intangible creations. The author does not own the tangible expression (e.g. the book) but she does have property rights in its contents. While this was a great step forward in the economic and social position of the author (Hemmungs Wirtén 2004) the system also limits the creativity of others. This limitation is in place since the legal system revolves around the concept of individual property where exceptions or permissions to use another's property are derogations from the norm. The limitations have the effect that the intellectual property of one creative artist cannot be taken and used as the foundation of new products. In other words artists cannot re-mould or remix that which is protected and by doing so create new intellectual products. This is a serious side effect in cultural and scientific fields of endeavour (Lessig 2004). The natural way in which to use another's property is to ask permission. This is method is also used in intellectual property. Permission to use is often granted under certain conditions (for example economic remuneration or limitations to extent of use). Obtaining permission can be a complex affair since there are several barriers on the way. These may include, amongst other things, identifying and locating the owner (or co-owners) and then being able to communicate ones requests in the correct form and language.

In law, the concept of property refers to the legal relationships between persons in relation to things. These things may be tangible such as real estate or pencils or they may be intangible such as stocks, patents, or software. As in many other areas, the protection offered by the law and the way in which it is offered varies greatly. The law in relation to property exists in every legal system but the scope and manner in which protection is created and enforced depends very much on the culture, both where and when, in which the legal system was created (Harris 1996).

Common amongst the concept of property law is that it deals with the accumulation, protection, use, and limitation of wealth and therefore has serious repercussions on many other aspects of society. A characteristic of the core European legal systems is the predominance of private ownership. Western legal systems regard individual ownership as the norm, derogations from which must be explained. The legal concept of property in the West is characterized by a tendency to agglomerate in a single legal person, preferably the one who is currently in possession of the thing in question, the exclusive right to possess, privilege to use, and power to convey the thing.

Property is not often seen as a static condition but rather is viewed as a relationship between a person (or persons) who owns, the things that are owned, and actions affected by ownership. The word ownership is not especially clear since it seems to denote a single relationship to that which is owned. In reality ownership is a collection, or bundle, of rights that complement each other and grant to the owner the authority to legitimately enforce conditions. Stated more simply, ownership allows the owner to enjoy that which is owned and prevent others from similarly enjoying that which is owned.

In addition to this, the owner may grant others the right to enjoy that which is owned. This permission may be connected to conditions and fees. Under the law today most tangible things may be owned, but there are exceptions (e.g. hazardous goods, narcotics, wild animals, important waterways), which limit full property rights through specific rules. Intangibles are more complicated under the law. This is not due to any lack of historical or traditional intangible ownership (Sherman and Bently 1999) but is due to the focus on the concept of possession.

The exclusivity of property is one of its salient factors and the interaction between private property and the commons has become one of the more discussed questions within technology law of our day (Boyle 2003). The commons was traditionally a communal shared space, a resource of land, ideas and concepts un-owned yet available to all (Lessig 2002, Rose 2003). The concept of the commons as a form of property has been formed to a large extent by the seminal article *The Tragedy of the Commons* (Hardin 1968) which describes communal property as wasteful and counterproductive to society. Conceptual models of property in general and the commons in particular have been heavily influenced by this view which has affected the way in which property is understood, justified and regulated (Drahos & Braithwaite 2002, Lessig 2002).

Hardin's view was that when property was in the hands of a collective group, each individual would act in a manner to maximise her own utility. The result of this, in Hardin's metaphor, was that the pasture owned by all would eventually become over-grazed. The commons could only lead to ruin of the property, or as Hardin puts it "Ruin is the destination towards which all men rush, each pursuing his own best interest in a society that believes in the freedom of the commons." Hardin's position is not without historical predecessors. Aristotle, amongst others (Ostrom 1990), maintained a similar position "For that which is common to the greatest number has the least care bestowed upon it. Every one thinks chiefly of his own, hardly at all of the common interest."

This line of thought contends that the externality costs are not considered when individuals strive to maximise their own utility. Since theoretically all actors will strive to maximise the optimal short-term strategy is to strive to maximise and therefore the pasture will be lost. Hardin's critics (Shiva 2002) maintain that his theory is flawed since the context within which the commons is located is not considered. The high level of social cohesion and trust among the actors ensure that the see beyond the long-term goals. The concept that each actor has only the maximisation of personal utility in mind is also a point that is seen as being a simplistic view of humankind. Writers proposing this view include Adam Smith who wrote "It is not from the benevolence of the butcher, the brewer, or the baker that we expect our dinner, but from their regard to their own interest" (Smith 1776). Similarly, Hobbes saw life as fundamentally "solitary, poor, nasty, brutish and short" (Hobbes 1651) and requiring a firm government to prevent everyone from destruction. However these views are probably more indicative of the writer's opinion of humankind than accurate predictions on the fate of the commons.

3.1   Commons

The disappearance of the European commons has been called the process of inclosure or enclosure and took place mainly between the 15th and 19th centuries (Gonner 1912). The enclosure movements were partly legitimised by philosophers such as Locke, who believed that idle nature was wasteful and that property could be created by adding labour to wasteland. Property occurred since "...every man has a Property in his own Person. This no Body has any Right to but himself. The Labour of his Body, and the Work of his Hands, we may say, are properly his" (Locke 1688). With this the stage was set for the commoditisation of nature. "Whatsoever then he removes out of the State of Nature hath provided, and

left it in, he has mixed his Labour with, and joined to it something that is his own, and thereby makes it his Property" (Locke 1688). This latter accommodating view on property creation has been used to legitimise the creation of new property rights in both tangibles and intangibles (Hughes 1998).

Recently there has been an awakening of interest in the commons among lawyers working in technology related law. The most active proponent of the concept is Lawrence Lessig equates the commons with access to infrastructures "Central park…an extraordinary resource of peacefulness in the center of a city that is anything but; an escape, and refuge, that anyone can take (take, or use) without the permission of anyone else. The public streets…on no one's schedule but your own, you can enter the public streets, and go in any direction you wish" (Lessig 1999a). The public domain, according to Lessig, must not only be protected but it must also be created. It is created when people share that what they own. "…we are not interested only in talking about a public domain or in getting legislators to help build a public domain. Our aim is to build a movement of consumers and producers of content…who help build the public domain and, by their work, demonstrate the importance of the public domain to other creativity" (Lessig 2004). How this sharing is carried out will be discussed in more detail below.

While the commons may be a notoriously vague term (Boyle 2003) consisting of ideas such as property owned by a group, common access to another's property and un-owned property (wasteland). The term is positively crystal clear in relation to the concept of the public domain. In frustration at not being able to define it clearly the public domain is often referred to as that which is not covered/protected by intellectual property. In other words the term lacks an adequate definition of its own but is only defined by what intellectual property is not. Under Swedish law there is no term for defining that which is no longer, or never has been, protected by intellectual property law.

The public domain is our collective culture. It is what makes us who we are and it is the font from which all creative work is collected. The definition of the public domain as that which is not property diminishes its fundamental importance and maintains the myth, or "charming notion" (Litman 1990), that intellectual property is created without context. When the creator removes something from the public domain and presents it as her own the claim is based upon the idea that that which has been created is an original work. However it is important that we do not forget that the actual legal interpretation of the criteria of originality is that it is not plagiarism (Litman 1990). While the courts need a baseline from which to award property it is difficult to understand why everything short of verbatim copying can be seen as property.

The tragedy of the anti-commons is a situation that occurs when rational individuals (acting separately) collectively waste a given resource by under-utilizing it. The main difference between the commons and the anti-commons lies in the "right to exclude". While in the commons no actor has the right to exclude another the anti-commons is the reverse too many have the right to exclude (Aoki 1998). Tragedy of the anti-commons (Heller 1998, Kelly and Michelman 1980) occurs when too many owners hold rights of exclusion. Either prospective users are actually excluded or stay away for fear of exclusion. The commons becomes neglected and underused.

A third concept of the commons, which we must take into consideration, is the Comedy of the Commons (Rose 1996) this is, as the title suggests, the opposite of the tragedies. The idea is that there are certain activities where more individual participation increases the utility of the group. Examples of group activities where this is true can be demonstrations, festivals or marketplaces. "Activities of this sort may have value precisely because they reinforce the solidarity and fellow feeling of the community as a whole; thus, the more members of the community who participate, even only as observers, the better for all." Use of the commons only increases its value; therefore participation by the individual produces beneficial externalities for others.

3.2 The Making of Commons

The commons can be understood as a metaphor for a source of wealth, which may be used by all but belongs to none. The common denominator for any commons is that it is a social construct that is created or destroyed by our views upon it. Hardin's (1968) commons created a view of a wasted resource. However in an environment, which is digitised and interconnected the commons become that of Rose (1996). Therefore the commons does not suffer from overuse, it thrives. The commons is created by those who use it however to survive it needs a higher degree of protection. As we have seen in this paper this protection is increasingly being provided by licensing law.

4 METHOD

The international implementation of a system such as CC requires an extensive process of localisation. Within the IS field the process of localisation refers to the adaptation of software to local conditions. This process includes adaptations to: Language, Local customs, Morality, Symbols, Aesthetics, Cultural values and Social context (Souphavanh and Karoonboonyanan 2005). The research conducted within the scope of this paper was the process of localisation of the CC licenses to Sweden. Since the project of localisation was awarded to the researcher the project took both the form of a development project in the field of localisation and an active research project. A research methodology suitable for achieving these goals, which also supports methodological and theoretical diversity, was chosen in the form of action research.

Action theory builds upon a close collaboration between the researcher and the reality that is being studied. There are several different forms of action research recognised within IS research (Baskerville and Wood-Harper 1996). However, as Holwell (2004) points out, these forms all share certain characteristics to enable them to fall into the action research field. These common characteristics are (1) that the researcher is immersed within the research object, (2) the work is not driven by the needs of the researcher, (3) problems arise from the local context, (4) descriptions and theories are built and tested empirically and iteratively within the local context (Argyris et al 1985, Baskerville and Wood-Harper 1996, Lincoln and Guba 1985, Whyte 1991).

The process of action research consists of re-iterating a research cycle consisting of (1) identifying the problem (diagnosis), (2) creating goals/planning, (3) implementation, and (4) evaluation (Susman and Evered 1978). The method is not uncontroversial. Baskerville and Wood-Harper (1996) identify three important pitfalls (issues of impartiality, discipline, and context-dependency), which the researcher using this method must be aware of, and address. Action research was chosen as the method for this research since the method supports both positivistic and interpretative approaches (Kock 1997) irrespective of this the results arising from this method can be used "across varying epistemologies, ontologies, and methodologies" (Germonprez and Mathiassen 2004). In addition to this the method is openly an approach that attempts to develop important contributions to practice while carrying out research within that practice while at the same time providing valuable insights to the research community (Rapoport 1970).

The process of localisation for CC licenses consists of translating and amending the licenses to local law and culture, this was followed by a similar process for the material which surrounds the licenses such as frequently asked question documents and instructional material. The process of localisation was also to be part of a wider process of cultural acceptance among a wider group of practitioners.

The first stage consisted of the direct translation of the licenses by the local CC license team. This was followed by a legal analysis and evaluation. The results of this evaluation were then applied to the licenses to make applicable under Swedish law. This process requires the participation of legally competent practitioners knowledgeable in both legal cultures and languages. The result of this work was then submitted to an open public discussion for a one-month period. They were also disseminated among a large group of interested parties with requests for comments. These interested parties

included both national lawyers and intended end-users of the licenses. Between 40-60 received this original documentation and request for comments. This was followed up with a 4-hour seminar with 12 participants discussing the primary translation and adaptation of the licenses. Written comments from 10 recipients who were unable to attend the seminar were received after the seminar.

In an attempt to capture end-users opinions the material was also sent to organisations representing creators of intellectual property. This stage of requesting comments consisted of an open email discussion conducted via the CC-Sweden mailing list supplemented by individual requests for comments from interest groups. Once the material from the first round of discussions was collected and incorporated into the material the licenses were once again submitted for public commentary via the discussion mailing lists for a briefer period of two weeks.

Once this final discussion period was completed the material was amended with the received comments. The licenses were then re-translated from Swedish into English and each article in the license was commented upon and explained. This material was then sent to the international coordinator of CC licenses for approval. The international coordinator conducted a telephone conference with the Swedish team were the licenses were discussed and explained in detail and the licenses were approved. Following the approval of the licenses the work surrounding the licenses i.e. the translation of additional instructional material was carried out and a date for the official launch was set at 30 November. The process from translation to launch covered a period of ten months.

In the final two weeks the translation of 50 pages of additional texts were carried out. The translation of the material, which constitutes the commons deed, was conducted by the Swedish team while the bulk of the FAQ translation was conducted by volunteers after the job had been advertised on the mailing list. After the volunteer translation the material was review for consistency by the Swedish team.

5 RESULTS

5.1 Licenses & Documentation

The goal of CC is to create a licensing system that can be used by creative people to protect their intellectual property. In addition this, the goal is to create a licensing system which is applicable in every jurisdiction while being comparable to each other jurisdiction. Therefore the CC system creates three artefacts: (1) the human readable Commons Deed, (2) the Legal License, and (3) the license Metadata in digital code.

Each license, Commons Deed and the material surrounding them must be translated and adapted into the local environment. By adopting the action research approach the material could be produced and tested in iterative cycles. This allowed for several versions of the text to be examined and discussed both online via mailing lists and through physical seminars discussing the validity and purpose of the licenses and their application in Swedish law.

The process also allowed a number of interest groups to contribute with comments and suggestions which, for the most part, where discussed openly on the public mailing lists. The general level of discussion and openness also contributed to the task of community building.

5.2 Community Building

The licenses do not exist in a vacuum and therefore it is necessary for their successful implementation that the community of users and affected parties become part of the localisation process. At an early stage this is done by the creation of the public email lists and by inviting groups of people to join such lists. Activity on the lists is voluntary and all stages of the development of localisation were announced both on the lists and via the national CC web page.

However, web based activity is only part of the community building process. Much of the work carried out during the 10 month localisation and implementation also included conducting and taking part in physical meetings either specifically discussing the licenses or participating in larger discussions where CC was presented.

6   DISCUSSION

This paper has shown the development of CC, taking as its starting point the ideologies of the FSF and OA movements the goals have been to help the creative person share her works with others. The main theme the three movements share is their desire to create an accessible pool of copyrighted material which is more easily available to all. The FSF goes the furthest in achieving its goal by establishing what has become commonly called copyleft (Klang 2005). The FSF and CC have also agreed to recommend each others licenses, since the GPL is more suitable for licensing software and CC is not primarily intended for software licensing. However the mainly academically focused OA movement is also beginning to realise its role in supporting the needs of a wider group, outside academia. The OA movement also attempts to establish a common pool of knowledge available to a larger group of users at little or no cost. The CC attempts to help the individual producer to more clearly state her intentions with her property.

Common among all these three attempts is that they are all built upon a well functioning copyright system. None of these systems would function without copyright. However it is also interesting to note that all three systems are, in a sense, a critique of the excesses of copyright. Their goal is to help copyright be what it should be, part of the system intended to enlighten society by making knowledge available.

6.1   Localisation

The choice of action research as a method for a localisation project has been fruitful in the sense that it achieved the main goal of the project i.e. the adaptation of the CC licenses to suit Swedish law and customs. However the question, which must be posed, is whether the system can be considered to be *more* productive than an alternative approach.

The project concerned the implementation of licenses developed by a non-profit NGO and the work within the localisation projects in each country is carried out by volunteers. This means that the development methods used must reflect this reality. In addition to this the licenses are to be implemented not within the constraints of an organisation but are to be used by the public at large. The last point means that there must be a high level of public acceptance amongst the end users for the licenses to be deemed successful.

While it is doubtful whether an argument could be made for which would be the best development method in large scale projects such as this it is interesting to note that the iterative cycles recommended by action research methodology also have an important effect of building trust and acceptance in the end-user community. While action research has been questioned for having problems with impartiality, discipline, and context-dependency these arguments seem less relevant in the type of development work discussed in this paper.

6.2   On creativity, copyright & licenses

For a brief period academics discussed cyberspace as a place of interaction, a place that was, or was not, beyond regulation (Johnson and Post 1996, Reidenberg 1998, Lessig 1999b, Murray 2003). Whether or not we wish to see the technology as a place or as a technology that creates community the fact remains that a commons made up of digital technology is the opposite of what Hardin imagined (Bollier 2004). The three movements discussed in this paper have been successfully building resources

in the form of informational commons which have been growing rapidly and proving that Hardin's thesis does not hold in the digital connected world.

7 CONCLUSIONS

If one has a flair for the dramatic one can argue that there is a battle going on for the commons in the knowledge society. On the one side the proponents of individualistic use of intellectual property and on the other the movements who are attempting to build commons by allowing access to more users to the wealth therein.

This paper has shown the work of a large-scale localisation project intended to extend the commons by adapting the protection of the commons to the law and culture of Sweden. The work has been conducted as part of the international CC, which is one of the three main movements attempting to create and promote informational commons.

This paper has argued that the commons is not a pasture that will become barren through overuse. The main risk is one of under use. Lack of participation either through fear of reprisal or limitations of access are an area of great concern. While the comedy of commons, the participation of a large social group in the communal activity is its own reward. The more each individual contributes to the commons the more valuable the commons will become to the individual.

The contribution of this paper has been to provide a theoretical and practical exploration in creating informational commons in the knowledge based societies. This has been done by studying the role of intellectual property and licenses in the light of the three major movements in the informational commons arena. This paper has shown that the informational commons can be developed in harmony with existing copyright legislation and that it fulfils an important social and creative function.

The empirical work has shown that the development of a commons is possible those needed to create such an environment through licensing are not easily activated. It is important to stress that the overall success of the project depends very much on the adoption by end-users rather than participation by a large number of legal professionals to this end further research must be undertaken to measure the popular adoption of the Swedish Creative Commons licenses.

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