Chapter 1

Free Culture in Context:

Property and the Politics of Free Software

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1 Free Culture in Context: Property and the Politics of Free Software

"And, as imagination bodies forth
The forms of things unknown, the poet's pen
Turns them to shapes, and gives to airy nothing
A local habitation and a name.
Such tricks hath strong imagination,
That, if it would but apprehend some joy,
It comprehends some bringer of that joy;
Or in the night, imagining some fear,
How easy is a bush supposed a bear!"
(*Shakespeare, A Midsummer Night's Dream, 5.1.7*).

1.1 <u>Introduction.</u>

We have seen how anti-capitalism and notions of global solidarity and egalitarian forms of resistance are as old as capitalism and refuse to disappear. In this chapter I consider the dynamics of social movements that have emerged in cyberspace and which are related to Free Software. With social movements that have emerged in cyberspace I do not mean for instance a feminist networking website, but specifically social movements that have given birth to *and* been born into cyberspace.

I explore those dynamics in cyberspace through the lens of number of key commentators, whose ideas are best described as a mixture of liberal economics, libertarian views, an enthusiasm for the public domain[7], and technological fetishism. Common

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7   Copyright and patent law are forms of property relations with the specific
     view to balance the rights and benefits between individual (or group)

among them is the refusal to address the crucial aspects of ownership in the tangible realm – land, resources, means of production and distribution. They *do* embrace the values of sharing and cooperating, but confine them to the intangible realm: ideas, knowledge, information. For that reason I call them information exceptionalists.

The purpose of this chapter is to show how and why information exceptionalism is incompatible with anti-capitalism. It is incompatible because it takes for granted that whatever powers are given by the existing private property rights regime in the tangible realm need no questioning, or, at best, that any inequalities that *do* exist in that realm can be addressed through commoning in the intangible realm.

In other words, the distinction between the tangible and intangible realms that is assumed in economistic thinking and information exceptionalism is rejected. It is presented as a misleading starting point for thinking about the world, because it is detached from the moral, political and social concerns that arises in the tangible realm. The most obvious problem of treating cyberspace as part of an intangible realm that is separate from the tangible realm is that no virtual space exists without a

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creators and the general public. The public domain is at bottom a *consequence* of copyright: whenever my exclusive right to copy runs out, the creation to which I had such exclusive right enters into the public domain in order that society at large can benefit from it through their own uses, not just through my controlled (or withheld) circulation of the creation. Copyright *temporarily* delimits individuals as creators from the public who become ultimately the benefiting party to the arrangement: I get to exploit my great idea for some time, and in the end we are all happy in the public domain. The relation between copyright and the public domain, which is one of complementarity, has been widely explored and is an uncontested position (but see, e.g. Dusollier 2007).

material underpinning. The more deep-seated problem is that control over the material foundation - by extension - is also control over the intangible realm that can be based upon it. It follows that a conception of the world in which such a distinction is assumed as basic to social organisation cannot account for the interpenetration of the tangible and the intangible realms, neither can it account for the environmental impact of those material foundations. It can only ever tell half the story and that story is always liable to be subverted unexpectedly by the other half.

Free Software as an example of technology that is socially embedded and socially *controlled*, shows us how technology can be liberating[8]. As a commons, the Free Software movement, as we shall see, has taken control of the development of a resource, which shows how technology can become a common project, where transparency and public scrutinisability are embedded in the relational modalities and community building processes of the commons. It is a commons that grows and that is self-governed, *and* which governs a technological resource that is free for all to use (without leading to a free-for-all). Hence, Free Software has a subversive potential. I will show that the concept of property is central to an understanding of these political and

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8   In the context of globalisation questions concerning technology are central, because "technology drives globalisation and globalisation drives technology" (Novotny, Mordini , Chadwick, Pedersen, Fabbri et al. 2006). Technology is not neutral or autonomous, it does not determine social realities, but it gives shape to our lives *to the exact degree* that we need to invest agency in its development and use in order to stay in charge. Technology is like a playground, at best, or at worst our second nature, an environment in which we are condemned to live. Technology is a very social and material part of human reality and the way we interact with it has a great impact on our social relations, our mind and being, and the natural environment. Technology thus serves as a good general starting point for an inquiry into contemporary politics.

technological processes and that realising the subversive potential turns on accepting a social analysis of property, which does not reject property in the intangible realm, but seeks its reform conceptually *and* in the tangible realm.

This chapter, then, is a critical investigation of information exceptionalism and social relations in cyberspace. My discussion will focus on the concept of property and – recursively – ask critical questions about the ways in which the concept of property is often (mis-)understood.

Seeing how contemporary analyses deliberately conceptualise property in a misleading manner and how this approach largely leaves ownership in the "tangible realm" unquestioned will lead us to Chapter 2. Here I will present a definition of property that draws upon cultural anthropology, legal positivism, liberal jurisprudence and social movements to reanimate philosophical debate about the role of property. I will do so with a view to providing social movements – especially anti-capitalists – with an embryonic framework for understanding property relations. In turn, such an understanding can be integrated into the political programme of radical social movements that are rejecting the nation state and the private ownership of ideas, knowledge, information and, most importantly, land, its resources, and the means of production and distribution.

If in the introduction the revolutionary question was "How?", which we answered was a process of self-articulation and organisation, then one of the first questions that follow is "With what?". The answer to that is property.

1.2 <u>Beyond property: promises of the networked information society.</u>

> "A Declaration of the Independence of Cyberspace: Governments of the Industrial World, you weary giants of flesh and steel, I come from Cyberspace, the new home of Mind. On behalf of the future, I ask you of the past to leave us alone. You are not welcome among us. You have no sovereignty where we gather ... Your legal concepts of property, expression, identity, movement, and context do not apply to us. They are all based on matter, and there is no matter here." (Barlow 1996).

1.2.1 Cyberdreams: like fire, like air.

I begin with a brief, selective overview of what we can call the visions of cyberspace, before turning to the technical aspects of the Internet.

A Declaration of the Independence of Cyberspace is written by the American libertarian celebrity, John Perry Barlow. Barlow was one of the main lyricists for the legendary counter-cultural, psychedelic rock band, called the Grateful Dead. The declaration is rooted in the American Dream and should be understood in the context of the rest of Barlow's body of work. For instance, he is a co-founder of the Electronic Frontier Foundation, which is a not-for-profit NGO that promotes digital rights and public policy analysis that furthers the free flow of information and ideas. The EFF also provides support in litigation that touches upon constitutional liberties and freedoms of speech and communication.

Two years before declaring the independence of cyberspace, Barlow wrote an article in which he set out the metaphysical "otherness" of informational flows in cyberspace, as opposed to the metaphysics of tangible things. The world of material things, for Barlow, is defined by *"substance"*, whereas cyberspace is defined by *"flow"*; or conversely, as Barlow notes, cyberspace is a "world made more of verbs than nouns" (1994). The article was called "The Economy of Ideas: A framework for patents and copyrights in the Digital Age. (Everything you know about intellectual property is wrong)" and was published in Wired Magazine, which gained a good reputation for cyberspace hype (see Turner 2006). Commencing with a since then oft quoted statement by Thomas Jefferson, one of the Founding Fathers of the Land of the Free, Barlow wants to make sure that the reader understands that he has a historical grounding of his position that reflects the values of freedom and liberty. The Jefferson quote ends by stating:

> "[t]hat ideas should freely spread from one to another over the globe, for the moral and mutual instruction of man, and improvement of his condition, seems to have been peculiarly and benevolently designed by nature, when she made them, like fire, expansible over all space, without lessening their density at any point, and like the air in which we breathe, move, and have our physical being, incapable of confinement or exclusive appropriation. Inventions then cannot, in nature, be a subject of property" (ibid.)

Barlow also integrates another tradition in his writing, namely cybernetics, which had become part of the counter-cultural imaginary through the works of multi-multifarious thinkers like Gregory Bateson and the networking skills of Stewart Brand

(Turner 2006). In that way Barlow connects libertarian ideas with the promises of systems that were self-organised and argued - in extension of Bateson's famous statement "information is a difference which makes a difference" - that in cyberspace "information only really exists in the Delta. The making of that difference is an activity within a relationship. *Information is an action* which occupies time rather than a state of being which occupies physical space, as is the case with hard goods. It is the pitch, not the baseball, the dance, not the dancer" (Barlow 1994; emphasis added).

The novel terrain of cyberspace embedded in a "liquid architecture"[9] (Novak n.d.) was indeed a new electronic frontier where technological yeomen were staking their claims and expanding the horizon of what is possible. These frontiers were perhaps first conceptualised and popularised by Marshall McLuhan, who in 1968 coined the term "global village" (McLuhan and Fiore 1997) to suggest what impact new media and communication technologies were having upon the human kind. McLuhan pondered and probed what it meant to be living in an inter-connected global village - in the active relationship that information as a flowing movement entails. He suggested that it would have a profound impact on the very way people think, communicate with and understand each other and the world. He wrote:

> "...might not our current translation of our entire
> lives into the spiritual form of information seem to

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9 "Marcos Novak defines liquid architectures … A liquid architecture is an architecture whose form is contingent on the interests of the beholder; it is an architecture that opens to welcome you and closes to defend you; it is an architecture without doors and hallways, where the next room is always where it needs to be and what it needs to be".

> make of the entire globe, and of the human family, a single consciousness?" (McLuhan 1994: 61)

In a sense, Barlow's declaration is written from the point of view of such a "single consciousness" of cyberspace explorers. McLuhan foresaw what most could not see yet, but when the World Wide Web began to popularise the Internet in the 1990s many returned to read McLuhan, whose hitherto wild, probing and provocative assertions had originally passed many by or had simply been written off as technological determinism or unsubstantiated hype. Barlow in a sense added an explicitly libertarian angle to McLuhan's thought.

Such are the origins of current visions in cyberspace. I turn now to the architecture of the Internet and the way it enables a diversity of agency.

The World Wide Web is a technical layer that runs on top of the Internet. It is basically a protocol for data exchange, called the Hyper Text Transfer Protocol, which is why the addresses, so-called URLs (Uniform Resource Locator) or URIs (Uniform Resource Identifier), that you see in the top of your Internet browser, most often commence with "http://". In his own account, "Weaving the Web: The Past, Present and Future of the World Wide Web by its Inventor", Tim Berners-Lee writes about his addition to the Internet, which continues to network the homes and consciousness of millions of people:

> "The fundamental principle behind the Web was that once someone somewhere made available a document, database, graphic, sound, video or screen at some stage in an interactive dialogue, it should be accessible (subject to authorisation, of course) by anyone, with any type of computer, in any country.

> And it should be possible to make a reference – a
> link – to that thing, so that others could find it. This
> was a philosophical change from the approach of
> previous computer systems (Berners-Lee 1999: 40).

Before the Web, computers were largely separate storage spaces
in the way that we think of a box in the attic. We know which
box contains what, but we do not have a virtual box through
which all our things can be accessed. Today it is almost
impossible – unless you were there – to imagine computers that
cannot be connected to the Web, which potentially connects them
to all other computers in the world. This is a qualitative shift in
information and communication technology that transcends the
perceived passivity associated with television watching.

As Lawrence Lessig the famous constitutionalist and Internet
lawyer notes, the Internet and its additional layers, such as the
Web, which he in sum refers to as Cyberspace, supplemented
"the old one-to-many architectures of publishing (television,
radio, newspapers, books)" and thus created a peer-to-peer (P2P)
architecture "where everyone could be a publisher" (Lessig 1999:
4)[10]. Later he notes that this "end-to-end" (E2E) architecture of

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10 Lawrence Lessig is also the founder of the Creative Commons
(http://Creative Commons.org), which is a licensing platform that permits
you to configure your own license for your culturally creative work and
then release or publish that work in various media. You can pick and choose
different sub-clauses and thus define the conditions under which you are
freely sharing your work with other commoners and legally defending your
work against enclosure. A very large amount of media is now available
freely online and the concept – as derived from Free Software – is
spreading to other domains. See for instance the associated Science
Commons, which "was launched with the goal of bringing the openness and
sharing that have made Creative Commons licenses a success in the arts and
cultural fields to the world of science" available at

the Internet is a "a stand-in for a commons" (2001: 89). It is because the underlying technical protocols of exchange are based on open standards and principles that the Internet is a commons. HTTP is not a closed protocol that you have to buy a license to use.

In practice people began to create websites with all kinds of information – from pictures of their pets through recipes to poetry and prose – and a new kind of information culture emerged. As McLuhan presciently stated, the "process of knowing will be collectively ... extended to the whole of human society" (McLuhan 1994: 3-4) and "it is [now] possible to store and to translate everything; and, as for speed, that is no problem. No further acceleration is possible this side of the light barrier" (McLuhan 1994: 58). The Internet and in particular the Web and Email layers have begun to circumscribe the "human family" and create a global village and consciousness. The world is networked – at least for those who can access it.

The architecture of the Internet, then, is open-ended and based on open standards and principles that facilitate exchange. The network, as it were, is neutral (see Section 1.4.2).

In the remaining part of the section I want to uncritically and briefly consider the "democratic" promise of the diverse agency that the Internet permits.

The practices that perhaps best illustrate the foundation for a "single consciousness" operating at "the speed of light" resonant of McLuhan's vision *and* which promise to be more democratic

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http://sciencecommons.org/about/details/. Creative Commons is inspired by the GNU General Public License, which will be analysed in detail in Section 3.5.

than those offered by television and corporate news papers are found in the "blogosphere". A "blog" is an abbreviation of Web Log, which is to say that it is a website where someone keeps a log of something. A blog can then be accessed, i.e. viewed, by anyone else with access to the web *and* be commented upon. The blogosphere is the space and sum of these actions, that is, the shared space in which people are "blogging" and cooperating on critiques and analysis of each other's blogs and the mainstream media, as well as social, cultural and political events in general. It is a space that has grown phenomenally fast, there "... are already over 30 million blogs, most starting in the past two years" (Carlsson 2008: 208).

In the words of celebrated cyberspace analyst, Yochai Benkler, Co-Director of the Berkman Center for Internet and Society at Harvard Law School, the blogosphere is a space in which "filtering for both relevance and accreditation has become the object of widespread practices of mutual pointing, of peer review, of pointing to original sources of claims, and its complement, the social practice that those who have some ability to evaluate the claims in fact do comment on them" (Benkler 2006: 12). A novel psycho-social realm, in a way, and a digital addition to the public sphere.

Blogging, for Benkler, is more than just the ability for each individual to become a digital pamphleteer: it makes possible a highly complex and non-centrally coordinated "synthesis of public opinion" through a "synthesis of clusters of individual opinion that are sufficiently close and articulated to form something more than private opinions held by some number of individuals" (ibid: 184). Tagging with keywords of blog entries, sophisticated search engines and techniques have given rise to unprecedented retrieval speeds of related information from geographically dispersed, but proximal topics and themes,

leading to new social groupings that were previously too small too thrive in their respective localities as a subculture. The blogosphere is a foundation for a critically engaged global civil society.

In cyberspace, it seems, ideas and knowledge spread like fire, like air, and new frontiers of the human mind are revealed in experimental social practices and co-production that promise a new way of life in a global village.

1.2.2 Social production.

In this section I explore the phenomenon of "social production" (Benkler 2006), which is a term developed as part of a project to understand how the diverse agency that has emerged in cyberspace can be made economically productive. I start with a familiar example.

Wikipedia is a freely accessible, Web based encyclopaedia that has taken many by surprise. It began January 10, 2001. By January 25 it counted 270 entries. By October 2001 more than 17,000 entries had been created by volunteers in cooperation without any leader. It has since then been growing very fast and now exists in more than 250 languages. In the main English language version there are 3.14 million entries (Wikipedia 2010a), cross-referenced by 32.1 million links, and with an average of 435 words per entry. By comparison the Encyclopaedia Britannica has 65,000 entries with an average of 650 words per entry (Wikipedia 2010b).

How did it happen? Yochai Benkler, in his main work "The Wealth of Networks: How Social Production Transforms Markets

and Freedom" (2006), has provided a detailed analytical account of these and related processes, for which he has coined the term "social production". For Benkler these novel processes indicate a new phase of the economy that is made possible by significantly declining prices of computer hardware and networking technologies. The continually falling prices facilitate social production – in part because excess capacity (discussed below) increases as material availability of the new technology increases – and he calls it the "networked information economy":

> "What characterizes the networked information economy is that decentralized individual action— specifically, new and important cooperative and coordinate action carried out through radically distributed, nonmarket mechanisms that do not depend on proprietary strategies—plays a much greater role than it did, or could have, in the industrial information economy" (ibid: 3).

In the networked information economy, which replaces the "industrial information economy that typified information production from about the second half of the nineteenth century and throughout the twentieth century" (ibid.), social production becomes possible.

This new mode of social production, according to Benkler, is characterised by *not* unfolding within the most powerful and important existing modalities of production, defined by the institutions of the state, property, the firm and the market. Social production does not involve an employment contract, which is to say that it is a voluntary effort without monetary remuneration. Neither is social production organised by means of property, where property is understood as a legal arrangement that entitles someone to exclusive access to some thing and thus "constrains

actions" (ibid: 24). Instead, "what is special about our moment is the rising efficacy of individuals and loose, nonmarket affiliations as agents of political economy" and that "the market [and] the state will have to adjust to this new emerging modality of human action" (ibid: 16). Social production, in other words, is initially defined in terms of what it is *not*. Social production, we may say, unfolds as voluntary associations in global civil society, without private property incentives and beyond the state.

That was a brief overview of social production in general. I now go into details about how Benkler conceptualises particular instances of social production.

In the networked information economy Benkler has identified a particular mode of production, which exhibits certain characteristics. These are: "radically decentralized, collaborative, and nonproprietary; based on sharing resources and outputs among widely distributed, loosely connected individuals who cooperate with each other without relying on either market signals or managerial commands"(ibid: 60). This is a particular form of social production which he calls "commons-based peer production" and which is a "socio-economic system of production that is emerging in the digitally networked environment …[f]acilitated by the technical infrastructure of the Internet" (Benkler and Nissenbaum 2006: 394). It is emerging through the "collaboration among large groups of individuals, sometimes in the order of tens or even hundreds of thousands, who cooperate effectively to provide information, knowledge or cultural goods without relying on either market pricing or managerial hierarchies to coordinate their common enterprise" (ibid.).

The term commons-based peer production can be broken down into its constituent parts. ""Commons" refers to a particular

institutional form of structuring the rights to access, use, and control resources", which for Benkler means that it is the opposite of "property", because property "determines one particular person who has the authority to decide how the resource will be used. That person may sell it, or give it away, more or less as he or she pleases" (ibid.). In commons, on the other hand, "no single person has exclusive control over the use and disposition of any particular resource in the commons" (ibid: 61). Anyone within some more or less defined group has access to the resources of a given commons, according to "rules that may range from "anything goes" to quite crisply articulated formal rules that are effectively enforced" (ibid.).

For Lessig, the term commons refers to "a resource for decentralized innovation", which "create the opportunity for individuals to draw upon resources without connections, permission or access granted by others", which is to say that commons "are environments that commit to being open" (2001: 85), according to which "the Internet forms an innovation commons... protected by an architecture that forbade discrimination" (ibid: 23). In this sense, commons do not have a singular, clear definition, but share a family resemblance – we know one when we see one – in that they are to some degree open and free, exhibiting commonalty in a way that life within firms and the market do not.

Commons-based for Benkler's purposes, more precisely, denotes a mode of production that is *not* based on the "asymmetric exclusion typical of property" (Benkler 2006: 62), while "peer production" is a particular kind of commons-based production, in the way that "commons-based" is a category within the wider concept of social production. Peer production obtains "when individual action … is self-selected and decentralized, rather than hierarchically assigned" (ibid.). In other words, Benkler

understands "social production" as an umbrella term for various new modes of production that are "commons-based", some of which, in turn, can be further identified as "peer production".

That was a brief explanation of commons-based peer production in general. The most famous example of commons-based peer production is Free Software, which has:

> "... played a critical role in the recognition of peer production, because software is a functional good with measurable qualities. It can be more or less authoritatively tested against its market-based competitors. And, in many instances, free software has prevailed" (Benkler 2006: 64).

The foundation of much of the Internet, the World Wide Web and the blogosphere is Free Software. More than half of the web servers on the Internet run on Free Software for instance, as do Google's numerous and huge server farms and, of course, Wikipedia (Netcraft 2009a).

We saw above how Benkler makes sense of social production. I now consider the framework from within which he operates, the discipline and language, thus the mindset, with which he approaches the task of making sense of such phenomena as Free Software. I aim to show Benkler's contribution to his own discipline, economics.

The motivation for Benkler's work is to explore the social dynamics inherent in these co-productive processes with a view to consolidating them, because they represent an economically interesting and novel mode of production:

> "Commons-based peer production presents a fascinating phenomenon that could allow us to tap substantially underutilized reserves of human creative effort. It is of central importance that we not squelch peer production, but that we create the institutional conditions needed for it to flourish" (Benkler 2002: 446).

Benkler's conception of social production takes as a point of departure the puzzle that the phenomenon of commons-based peer production poses for elaborations of the theory of the firm that Ronald Coase presented in "The Nature of the Firm" (1937). Coase understood firms "as clusters of resources and agents that interact through managerial command systems rather than markets" (Benkler 2002: 372). Coase argued that *transaction costs* in the organisation of production determine the emergence of firms and their limits. Transaction costs are the costs involved in trading in the market place. For instance, in order for me as an individual to bring a software programme to the market place for the main purpose of profiting economically, it will be useful to analyse the existing market, identify competing products and their pricing, before actually producing the software. If I choose to produce and sell software I should also calculate what costs there might be in, say, hiring a lawyer to instigate litigation in case my customer breaches the contract of sale. Indeed, on Coases's terms, to be economically sound, I should calculate *all* my transaction costs, which can be divided in categories, such as search and information costs, bargaining and decision costs, policing and enforcement costs (Dahlman 1979). Next, I should also calculate what the costs of organising my production within a firm would be. A firm entails a managerial structure that might include price analysts and contract lawyers. On the basis of these calculations of costs and benefits, I should choose the most

profitable solution. That is, I should balance transaction and organisation costs. Coase states that:

> "Outside the firm, price movements direct production, which is co-ordinated through a series of exchange transactions on the market. Within a firm, these market transactions are eliminated and in place of the complicated market structure with exchange transactions is substituted the entrepeneur-co-ordinator, who directs production" (Coase 1937: 388).

As Benkler accordingly summarises, people "use markets when the gains from doing so, net of transaction costs, exceed the gains from doing the same thing in a managed firm, net of organization costs. Firms emerge when the opposite is true. Any individual firm will stop growing when its organization costs exceed the organization costs of a smaller firm" (Benkler 2002: 372).

On the basis of Coases's work a more elaborate economics discourse emerged in the 1970s and 1980s in the work of institutional economics, which is the study of the relationship between markets and managerial hierarchies with reference to the organisation of production. In this economistic framework, which is part of the theoretical foundations of corporate management thinking, it is assumed that the dynamics of (economically significant) production can be explained in terms of the differences between the market and managerial hierarchies with reference to transaction and organisational costs. Commons-based peer production does *not* unfold directly within the "the market", conceived of as a sphere where individual agents trade on the basis of private property rights and contract law. *Nor* does it rely on the hierarchical management systems of a firm where someone has the authority to tell someone else what to produce.

In other words, Free Software hackers "participate in free software projects without following the normal signals generated by market-based, firm-based, or hybrid models (ibid: 373).

In the analysis of the networked information economy, Benkler in essence assumes a liberal understanding of individuals as autonomous and rational beings, but he does not assume that individuals are acting mainly out of self-interest in the way that neoliberal economists do. By way of a review of literature on the intersection of psychology and economics (Deci and Ryan 1985; Frey and Jegen 2001; Benabou and Tirole 2000) complemented by sociological narratives about social capital (Granovetter 1974; Lin 2001) brought into economics by Coleman (1988), Benkler makes his position clear: "...individuals are not monolithic agents":

> "[In] any given culture, there will be some acts that a person would prefer to perform not for money, but for social standing, recognition, and probably, ultimately, instrumental value obtainable only if that person has performed the action through a social, rather than a market, transaction" (Benkler 2006: 96).

> "While it is possible to posit idealized avaricious money-grubbers, altruistic saints, or social climbers, the reality of most people is a composite of these all, and one that is not like any of them. Clearly, some people are more focused on making money, and others are more generous; some more driven by social standing and esteem, others by a psychological sense of well-being" (Benkler 2006: 98).

The theoretical foundation for Benkler's conception of motivational factors of individuals is grounded in literature that draws upon "field and laboratory experiments, econometrics, and surveys" (Benkler 2006: 94) and he concludes that the exact details are not important for his analysis. It is taken for granted that in addition to money as a motivational factor there is "some form of social and psychological motivation that is neither fungible with money nor simply cumulative with it" (ibid: 96) and that the "relative relationships of money and social-psychological rewards are, then, dependent on culture and context. Similar actions may have different meanings in different social or cultural contexts" (ibid: 97).

Combing the narratives of these sets of literature to form a basis for his own economic analysis of social production is another contribution to economic science. It makes it possible to analytically understand motivational factors outside of the simplistic model of self-interest, which is not applicable in the context of social production. In that way economistic thinking is rejuvenated by its contemplation of social production, which in turn fuels the economy and fulfils expansionary needs:

> "We need to assume no fundamental change in the nature of humanity; we need not declare the end of economics as we know it ... behaviors and motivation patterns familiar to us from social relations generally continue to cohere in their own patterns. What has changed is that now these patterns of behavior have become effective beyond the domains of building social relations of mutual interest and fulfilling our emotional and psychological needs of companionship and mutual recognition. They have come to play a substantial

> role as modes of motivating, informing, and
> organizing productive behavior at the very core of
> the information economy" (Benkler 2006: 91–2).

With these enhancements to the economistic framework, the
productive force of social production can better be harnessed by
institutions that operate on such logics. Benkler provides
economics – which is the knowledge tool of privatisation – what
it needs to be able to understand phenomena like Free Software
in order to profit from them. Economics, in other words, needs to
expand its vocabulary. Benkler has chosen – or is obviously
trained within – a discipline that is known as foundational to
private interests. Benkler's analysis is a market and firm based
analysis, expressed in terms that are familiar to corporate
strategists.

We have seen how Benkler conceptualises social production,
particularly commons-based peer production and the disciplinary
framework within which his conceptualisations unfold. Because
commons-based peer production does *not* fit the standard
economistic model, Benkler understands it accordingly as a
mode of production that does not rely upon the elements of that
model, namely firms, the market and private property rights. His
analysis is a major contribution to liberal economics in that he is
pushing the boundaries of what can be understood within that
scientific discipline and hence begins to explore how firms can
adapt their managerial structures to "tap into" commons-based
peer production as a new mode of production.

But what energy drives social production – where does the force
come from that makes the wheels of social production turn? That
is our next question.

In Benkler's analysis the force of social production arises from "excess capacity", which is central to the notion of the productive potential of the "networked information economy". A simple, mundane example of freely sharing excess capacity in everyday settings is, for instance, if I possess some information about directions that a passer-by in the street enquires about and then give it to her without asking what she is going to give me in return. I simply share that information with her. Similarly, I might pick up a hitch-hiker, because I have extra space – i.e. excess capacity – in my car and I have the time needed to stop and ask where they are going. To engage in social production you need some skill or tool, information or knowledge, time and willingness to share them without a direct promise of immediate, calculable return. Although these everyday practices – "boxes or books moved or lifted, instructions given, news relayed, and meals prepared by family, friends, neighbors, and minimally decent strangers" (Benkler 2006: 119) – constitute a significant aspect of the global economy, we tend to ignore them (ibid.)[11].

However, in the context of information technology it becomes easier to harness the forces of social production, pool them as a resource, or for the production of a resource. As information

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11 It is worthy of note here that "excess capacity" is very similar to an element in the Aristotelian justification for private property rights that is commonly translated as magnanimity. The magnanimous person takes pleasure in sharing excess capacity with others. Aristotle noted that "there is the greatest pleasure in doing a kindness or service to friends or guests or companions, which can only be rendered when a man has private property". On that view, the excess capacity that drives social production, is capacity that arises once basic requirements for survival have been provided for – by means of private property rights – and if the person in question is magnanimous. Indeed, "democracy itself is in many respects a socially produced resource relying on the leisure time of its citizens as an essential input" (Strahilevitz 2007: 1477).

technology becomes more readily and widely available, the potential for social production to be transformed from mundane politeness and courtesy into a productive force to be reckoned with, increases:

> "Because of changes in the technology of the industrial base of the most advanced economies, social sharing and exchange is becoming a common modality of production at their very core—in the information, culture, education, computation, and communications sectors. Free software, distributed computing, ad hoc mesh wireless networks, and other forms of peer production offer clear examples of large-scale, measurably effective sharing practices" (ibid: 121).

The reason why falling prices of information technology facilitate an increase in social production is because such technologies can be used to pool excess capacities - a little bit from here, a little bit from there - and thus establish and maintain resources that rival those of firms and markets.

> "For … excess capacity to be harnessed and become effective, the information production process must effectively integrate widely dispersed contributions, from many individual human beings and machines. These contributions are diverse in their quality, quantity, and focus, in their timing and geographic location. The great success of the Internet generally, and peer-production processes in particular, has been the adoption of technical and organizational architectures that have allowed them to pool such diverse efforts effectively. The core characteristics

> underlying the success of these enterprises are their modularity and their capacity to integrate many finegrained contributions" (Benkler 2006: 100).

Excess capacity, then, is the engine of social production; and it is a capacity that is in great part reliant on and emergent from tangible resources.

I now turn to the promise of wealth redistribution and the obstacles to its realisation. Giving directions to a fellow citizen is not very conducive to bridging the gap between the rich and the poor. However, the example of freely sharing excess capacity (of time and skills) by contributing to the creation, production and maintenance of professional level computer software - understood as an important means of production in an information society- appears much more promising with regard to a redistribution of wealth. The potential for a redistribution of wealth normatively underpins Benkler's advocacy of social production as a new mode of production.

> "If the networked information economy is indeed a significant inflection point for modern societies along … it is so because it upsets the dominance of proprietary, market-based production in the sphere of the production of knowledge, information, and culture. This upset is hardly uncontroversial. It will likely result in significant redistribution of wealth, and no less importantly, power, from previously dominant firms and business models to a mixture of individuals and social groups on the one hand, and on the other hand businesses that reshape their business models to take advantage of, and build tools and platforms for, the newly productive social relations" (Benkler 2006: 468).

Although the achievements and future success of social production, for Benkler, is related to the simultaneous advance and continuously decreasing prices of information technology, the rise and success of social production should not be understood as "deterministically preordained" (ibid.).

However, we should take note of the fact that Benkler's account does rely on the falling prices of hardware. This is to say that he clearly recognises that cheap materials for access to cyberspace are needed on a very large scale in order for everyone in the world to be a radical blogger – and for the world government to be a real-time cyberspace debate between self-organised commoners.

> "We have an opportunity to change the way we create and exchange information, knowledge, and culture. By doing so, we can make the twenty-first century one that offers individuals greater autonomy, political communities greater democracy, and societies greater opportunities for cultural self-reflection and human connection. We can remove some of the transactional barriers to material opportunity, and improve the state of human development everywhere. Perhaps these changes will be the foundation of a true transformation toward more liberal and egalitarian societies. Perhaps they will merely improve, in well-defined but smaller ways, human life along each of these dimensions. That alone is more than enough to justify an embrace of the networked information economy by anyone who values human welfare, development, and freedom" (ibid: 473).

These are great promises. But if we unpack the dynamics of hardware production in terms of natural resource use and the exploitation of labour, as well as the disposal of these always already obsolete, super-annuated electronic commodities that must give way for the latest, cheapest, fastest new gadget, then these promises ring hollow: without environmental conscience or solidarity with labourers. Benkler's account of the potentials of the intangible realm, however, certainly exhibits a clear reliance upon the tangible realm and its materiality.

Those problems apart, a major obstacle to realising the wealth distribution inherent in social production is the power of those whose interests it challenges. Needless to say, the emergence of commons-based peer production provokes reactions:

> "In law, we see a continual tightening of the control that the owners of exclusive rights are given. Copyrights are longer, apply to more uses, and are interpreted as reaching into every corner of valuable use. Trademarks are stronger and more aggressive. Patents have expanded to new domains and are given greater leeway. All these changes are skewing the institutional ecology in favor of business models and production practices that are based on exclusive proprietary claims; they are lobbied for by firms that collect large rents if these laws are expanded, followed, and enforced" (ibid: 469-470).

The political tensions described here have been the subject of much debate over the last few decades (see Section 1.3). In the way that Benkler presents social production, particularly commons-based peer production, it is clear that these novel social relations pose a threat to those who seek rent in ideas, information and knowledge. While, vice versa, the regimes of so-

called intellectual property rights pose a threat to the continued success of commons-based peer production and any other form of social production on a larger scale. These are conflicts over the shape of the "institutional ecology"[12] of the networked information economy. Benkler, it seems, finds a middle-ground on which the commons need not fear destruction on the one hand, while private interest can continue to reap profits, on the other.

There is another, related conflict arising from these circumstances, which has to do with the technical layer of social production, namely the underlying, material network, i.e. the Internet with all its cables and switches and satellites. In the same way as the widespread availability of computers is required for hackers to be able to be productive, a *technostructural underpinning* is also required for individual labour inputs – i.e.

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12 Benkler uses the institutional ecology metaphor to emphasise "the actual organization of human affairs and legal systems is not converging through a process of either Marxist determinism or its neoclassical economics mirror image, "the most efficient institutions win out in the end"" (Benkler 2006: 387); rather the laws and institutions that govern, directly or indirectly, the cultural environment are sites of conflict between parties with often oppositional interests. In each local and single-issue conflict certain paths will be chosen and it might be difficult to determine who is winning locally and who is leading globally: "[t]he term "institutional ecology" refers to this context-dependent, causally complex, feedback-ridden, path-dependent process" (ibid.), which "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" (ibid: 392). "Critically, the institutional ecology … can be understood as a system of institutions that interacts and co-evolves with the other important behavior-affecting (regulating) systems, including technology, social practices, and markets". (Frischmann 2007: 1131)

fragments of excess capacity - to become successfully aggregated into an economically significant resource. Hence,

> "[w]e are seeing significant battles over the organization and legal capabilities of the physical components of the digitally networked environment. Will all broadband infrastructures be privately owned? If so, how wide a margin of control will owners have to prefer some messages over others?" (bid: 469).

Approaches to these conflicts will be critically discussed in the following two sections. It is obvious that those two battle fronts – with intellectual property law and network owners – are crucial for the future of commons-based peer production. That is to say that a realisation of the great potential that Benkler sees in the novel social and co-productive relations that are facilitated in "the networked information economy" will in great part depend on the outcome of those battles, and the framing of these issues is an integral part of the battle tactics, as we shall see.

In the next section I consider the philosophy and politics of what I call "information exceptionalism", which is an approach to defending social production and the Internet commons from privatisation. It turns an a conception of property that is problematic and which I will problematise and seek to subvert.

1.3 <u>Information exceptionalism: protecting the Internet commons?</u>

> "Notions of property, value, ownership, and the nature of wealth itself are changing more fundamentally than at any time since the Sumerians first poked cuneiform into wet clay and called it stored grain. Only a very few people are aware of the enormity of this shift, and fewer of them are lawyers or public officials. Those who do see these changes must prepare responses for the legal and social confusion that will erupt as efforts to protect new forms of property with old methods become more obviously futile, and, as a consequence, more adamant." (Barlow in Groves 1997: 25-26)

1.3.1 Ideas should not be owned.

In this section I look at the politics of intellectual property. First in general terms and then from the perspective of cultural environmentalism or Free Culture.

As already suggested in the previous section the success of commons-based peer production and the growth potential for social production in general is subject to the outcome – or unfolding – of a battle with those corporate forces that have a business model based on intellectual property rights. It is in large part a battle in the public policy arena for which Benkler's analysis – which proceeds from the same economistic framework – is well suited. His arguments for reform of what he calls the "institutional ecology", based on the promises of social production, as we have seen, are very strong. However, the enemy is at least as strong. Barlow explains in colourful language and with reference to "armies":

> "[S]ince it is ... now possible to create useful tools that never take physical form, we have taken to patenting abstractions, sequences of virtual events, and mathematical formulae - the most unreal estate imaginable. In certain areas, this leaves rights of ownership in such an ambiguous condition that property again adheres to those who can muster the largest armies. The only difference is that this time the armies consist of lawyers ... What was previously considered a common human resource, distributed among the minds and libraries of the world, as well as the phenomena of nature herself, is now being fenced and deeded. It is as though a new class of enterprise had arisen that claimed to own the air." (Barlow 1994).

In this field of tension we can speak of an intensification of intellectual property protection on a global scale (May 2010)[13]. The scope and level of protection in intellectual property law has dramatically increased over recent decades. Protectable subject

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13 Intellectual property law must be divided into several distinct areas. Copyright law protects "original forms of expression" - 'Tambourine Man', 'Star Wars', '1984'. Patent law protects inventions - snowboards, microchips, genetically engineered rice. Trademark law protects words and symbols that identify goods and services - 'Coca-Cola', the Mercedes-Benz star. Trade-secret law protects information that a company has tried but failed to conceal from competitors - secret formulas for soft drinks, confidential marketing strategies. Plant breeders' rights protect new plant varieties. Of these, copyrights, patents, and trademarks are arguably the most economically significant. There are other, more obscure rights that fall under the intellectual property category: e.g. the rights to layout designs of integrated circuits, or the "right of publicity" which protects celebrities' presumed interests in their images and identities.

matter is being widened, protection terms are being expanded, new rights are being created, the ease with which protections are granted is growing, and intellectual property standards are being harmonized throughout the world (Fisher III 1999). While intellectual property rights have never been more economically and politically significant than they are in the current so-called 'knowledge economy', they have also never been more controversial (Dutfield 2003). Information and knowledge today are crucial market commodities, and are priced accordingly. In this way, the benefits of the 'knowledge economy' or 'information society' flow "to those who own the information and knowledge resources which have been rendered as intellectual property rather than those whose need for such information and/or knowledge might be greatest" (May 2000: 1).

James Boyle (1996), whose work I return to below, argues that there are structural tendencies in our patterns of thinking and discourse about intellectual property that lead to 'over' rather than 'under-protection' of such property. He thinks that there are two theories, or discourses of information – the "public goods/incentives theory" and the "anti-monopoly/free flow of information theory" – which conflict over the issue of intellectual property:

> "The economic analysis of information is beset by internal contradiction and uncertainty; information is both a component of the perfect market and a good that must be produced within that market. Under the former characterisation, information is supposed to move towards perfection – a state in which it is costless, instantly available and so on. Under the latter characterisation, information must be commodified so as to give its producers an incentive to produce. But each property right handed

> out to ensure the production of information is a
> transaction cost when seen from the perspective of
> market efficiency" (Boyle 1997: 95-96.).

The last decades have seen the expansion of copyright and patent
legislation to cover software, the patenting of life-forms and
human genes, and the extension of copyright term limits. With
the advent of the Internet, and the digital possibilities it affords,
private enterprise has, somewhat unsurprisingly, almost
exclusively pressed for the commodification of information.
These pressures are difficult to avert, expressing as they do some
of the most powerful interests on the global politico-economical
stage. Intellectual property rights are predominantly justified in
terms of their ability to produce present and future public benefit
– whichever way the latter is defined on any particular
justificatory account.[14]

But it is important to remember that intellectual property rights
are "*limited* monopolies" (Boyle 1997: 105; emphasis added),
and it is their limitations that are at least as important for the
generation of public benefit as is the grant of the right itself. In
Boyle's words: "since there is no 'natural' absolute intellectual
property right, the doctrines which favor consumers and other
users, such as fair use, are just as much a part of the basic right as
the entitlement of the author to prevent certain kinds of copying"
(ibid.: 105). The rhetoric and vision of the 'original author' or
'lone inventor' that pervades the current intellectual property
discourses not only downplays the importance of fair use and
thus encourages an absolutist rather than a functional idea of

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14 Fisher (2001) identifies four main perspectives that currently dominate
theoretical writing about intellectual property: Utilitarianism; Lockean
Labour Theory; Hegelian Personality Theory; and the more recent, legal
realist Social Planning Theory.

intellectual property, but also devalues the importance of the 'raw materials' (previous inventions and articulations) out of which new works are forged. In doing so, the prevailing intellectual property regime, with all its emphasis on innovation, undermines the situation in which the materials for innovation are readily available:

> "The structure of our property rights discourse tends to undervalue the public domain, by failing to make actors and society as a whole internalize the losses caused by the extension and exercise of intellectual property rights. The fundamental aporia in economic analysis of information issues, the source-blindness of an 'original author' centered model of property rights, and the political blindness to the importance of the public domain as a whole ... all come together to make the public domain disappear, first in concept and then, increasingly, in reality" (ibid.: 111-112.).

Boyle calls for an analytically and rhetorically sophisticated political economy of intellectual property, for "the fundamental property regime of the information economy" not to be constructed behind our backs (ibid.: 116).

We return to Boyle's approach to the described problems below. First, let me briefly consider the nature of those problems as presented in economistic terms. This concerns the construction of scarcity.

Information – knowledge, ideas – can usually be shared between people at little cost. In the most basic example, I can pick up a scrap of paper in the bin and write down my favourite recipe or poem and give it to you. In turn, you can equally easily copy

either of these and pass them on. Alternatively, we can circulate them by word of mouth. This, however, creates a problem on the liberal economic account. As the famous economist Kenneth Arrow, whose work on intellectual property has been very influential since the 1950s, writes:

> "If information is not property, the incentives to create it will be lacking. Patents and copyrights are social innovations designed to create artificial scarcities where none exist naturally … These scarcities are intended to create the needed incentives for acquiring information" (1996: 125).

We can thus identify the contradiction that Boyle took note of above in Arrow's economic statement, which causes increased tension in policy debates as the discourse about social production gains traction.

> "The contradiction that lies at the heart of the political economy of intellectual property is between the low to non-existent marginal cost of reproduction of knowledge and its treatment as scarce property" (May 2000: 43)

However, as Benkler and Boyle argue, artificial scarcity is *not* necessary for economically significant production of informational goods to happen. If it were, Free Software, Wikipedia and the blogosphere would not exist.

To paraphrase Barlow, then, novel social relations with regard to things are being forced into old moulds that stifle their unfolding and thus pose an obstacle to freedom of information and speech and by extension to democracy as such. Property concepts

derived from the industrial revolution – that themselves are artificial – and which were created for very different purposes, have detrimental effects in an economy where the possibilities for the free flow of information, knowledge and ideas – due to sophisticated information technology – are enormous. As Barlow writes:

> "Physical objects have a completely different natural economy than intellectual goods. It's a tricky thing to try to own something that remains in your possession even after you give it to many others". (Barlow in Doherty 2004).

Here echoed in general terms by Lessig:

> "While some resources must be controlled, others can be provided much more freely. The difference is in the nature of the resource, and therefore in the nature of how the resource is supplied" (Lessig 2001: 94)

These are the foundations of the analyses of Barlow, Benkler, Boyle, Lessig and others who have followed their lead and joined the movement of "cultural environmentalism", which I will present briefly below.

The idea of cultural environmentalism developed as a call for a social and political movement for the protection of the public domain. Boyle gave birth to the idea in his "Shamans, Software & Spleens: Law and the Construction of the Information Society" (1996), drawing upon lessons learned from the social and political movement(s) generally known as the environmental movement.

> "Metaphors and analogies do not make things happen by themselves. In the vast majority of cases, the environmental analogy merely provided an easy label to something that was happening anyway. Nevertheless, I think there are productive semantic, theoretical, economic, constituency-building, and organizational insights to be had in thinking about a cultural and scientific environmentalism " (Boyle 2007: 19)

It was a bold idea, but well founded. Boyle began in 1997 with a cautious and qualificatory remark with regards to his analogy, yet emphasizing that what issues from conflicts in the cultural environment might indeed have substantial impact on human lives:

> "For some, the difference in seriousness of the two problems robs the analogy of its force. After all, environmental problems could actually destroy the biosphere and this is just, well, intellectual property. My response to this is partly that this is an analogy. I am comparing the form of the problems rather than their seriousness. Still, I have to say I believe that part of this reaction has to do with a failure to adjust to the importance that intellectual property has and is going to have in an information society. Again and again, one meets a belief that this is a technical issue with no serious human, political or distributional consequences." (Boyle 1997: 115)

The environmental movement invented the "environment" as a semiotic category and gave a common cause to hunters, fishers,

birdwatchers and consumers who could then unite as activists to save "the environment"[15] (Boyle 2003). By semiotic is meant merely the textbook definition of that term, namely a sign (which in this case is a word) in which a wider collective invests the same meaning; that meaning is whatever would bring together a bioregionalist in Lancashire with an indigenous community activist in the Amazon in a common discourse about (protecting) "the environment". While the former might speak of unfair wage relations and environmental costs in connection with imported fruit, the latter might speak of disrespectful behaviour toward Mother Earth, but they can come together within the idea of "the environment" and share strategies and tactics to end the respective injustices that they perceive are occurring in what are no longer disparate areas of life and the planet, but which are globally shared (environmental) concerns.

From the Silent Spring via the Kyoto Protocol to the recent Climate Summit in Bali and the UN Climate Summit in Copenhagen 2009 "the (natural) environment" has become a household term and the focus of concerned citizens taking collective action, forming voluntary associations in civil society and beyond.

> "[F]ollowing Rachel Carson's 1962 exposé Silent Spring to the early 1970s' movements that led to federal legislation like the Clean Air Act, the Clean Water Act, and the Endangered Species Act, thousands of non-experts have forced hidden technological decisions into the public eye. An interesting example of ongoing grassroots, citizen-

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15 The "natural environment", it is perhaps pertinent to note, is in itself a socio-cultural (semiotic) construction rather than something to be regarded as an antonym to nurture or "the social".

> based science activism is the Volunteer Monitor and its hundreds of local groups carrying out water-quality monitoring with homemade devices, simple observations, and open record keeping (Carlsson 2008: 31).

Boyle wanted to see the same thing happen for the cultural environment, so that, say, poets, hackers, bloggers, musicians, scholars and journalists can unite under the collective banner "cultural environmentalism" to save the public domain and ensure that future generations have access to a free flowing culture of information, knowledge and ideas. Cultural environmentalism, we could say, is a movement for the facilitation of creative unfolding unfettered by exclusive ownership arrangements.

> "Cultural environmentalism is an idea, an intellectual and practical movement, that is intended to be a solution to a set of political and theoretical problems—an imbalance in the way we make intellectual property policy, a legal regime that has adapted poorly to the transformation that technology has produced in the scope of law, and, perhaps most importantly, a set of mental models, economic nostrums, and property theories that each have a public domain-shaped hole at their center" (Boyle 2006).

The aim of cultural environmentalism can be summed in the title of Lessig's "Free Culture: How Big Media Uses Technology and the Law to Lock Down Culture and Control Creativity" (2004),

while the subtitle sums up the analyses of cultural environmentalism[16].

Relatedly, it has been clearly acknowledged that cultural environmentalism and the Free Culture movement stand on the shoulders of the giant Free Software movement, which is a key reason for the pertinence of their debates to this essay. The most successful and the original example of Free Culture in cyberspace is Free Software:

> "The inspiration for the title and for much of the argument of this book comes from the work of Richard Stallman and the Free Software Foundation. Indeed, as I reread Stallman's own work, especially the essays in Free Software, Free Society, I realize that all of the theoretical insights I develop here are insights Stallman described decades ago. One could thus well argue that this work is "merely" derivative" (ibid: xv).

More than a decade has passed since Boyle's seminal work and a lot has happened in both theory and practice. The environmental analogy has been further developed and the idea of cultural environmentalism is by now widely used in scholarly circles. A special issue of 'Law and Contemporary Problems' was published in spring 2007 with Lawrence Lessig and James Boyle as editors to celebrate more than ten years of developing the ideas that Boyle originally framed within his notion of a cultural

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16 I use "cultural environmentalism" and Free Culture interchangeably, but will tend to the latter hereinafter, due to its close connection to Free Software. While there are subtle differences between either of these terms and what they refer to, all three movements or factions do have shared views on property, as we shall see.

environment through which he inspired a new "environmental" movement for a free cultural realm[17].

The work of Benkler has seen a move "beyond a fascination with the second enclosure movement and the assault on the public domain" (Boyle 2007: 21) to begin establishing an analytical framework for understanding social production. In other words the building of alternatives. Benkler has charted the territory of the (cultural) environment that circumscribes the possibilities for human creativity and he has revealed basic points of conflict within that institutional ecology. As Frischmann writes, "[h]e views the "new enclosure movement" in terms of attempts to shape and control systems of laws and institutions that structure our relationships with the cultural environment and affect behavior within the environment. Thus, while intellectual property laws remain an integral front in the battle, telecommunication law and regulation, domain name governance, trespass to chattels, and other laws and institutions are also subject to conflict" (ibid.). The cultural environmentalist movement is thus no longer merely providing analyses of how the cultural environment is being destroyed through enclosure, but has begun to provide both descriptive and analytical accounts of the alternative modes of co-production that are emerging in cyberspace, as we saw in the preceding section.

This was a brief overview of Free Culture politics with regard to intellectual property. We saw how they frame the debate in basic terms, which sets the intangible realm – ideas, knowledge, information – apart from the tangible realm. Due to the difference in what we might call metaphysical terms, Free Culture advocates argue for a treatment of informational goods

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17 The special issue is the best introduction to cultural environmentalism (See Boyle and Lessig 2007).

that does not involve "property", which is seen as an outdated, industrial mode of organisation that is unfit for information and ideas. In this account, the material foundations of cyberspace are obscured, but they come to the fore, only framed differently, in the relation between Free Culture and the state.

Social production, as Benkler constructs it, requires the state for regulatory intervention due to the threat that the owners of the material underpinning of cyberspace represent and for the purposes of education, infrastructure and so on (I go into detail in Section 1.4).

In Benkler's discussion of social production, which is "rooted in a theoretical skepticism about the state" (Benkler 2006: 21), "the state plays no role, or is perceived as playing a primarily negative role" (Benkler 2006: 16). However, Benkler does not dismiss the state entirely. On the contrary, as part of a "practical diagnosis of opportunities, barriers, and strategies for achieving improvements in human freedom and development given the actual conditions of technology, economy, and politics" (Benkler 2006: 21), the state is embraced as an appropriate institution for securing "funding of neutral broadband networks, ... funding of basic research, and possible strategic regulatory interventions to negate monopoly control over essential resources in the digital environment" (ibid.).

In order to safeguard these new and productive social forces of cyberspace from enclosure, cultural environmentalists appeal to the state. The freedom of Free Culture is hence dependent on the state despite Benkler's "state skepticism". On the one hand, social production is well defined and unfolds with minimal reference to the state – of which many social producers are themselves sceptical – while on the other hand, it is crucially dependent on the state to intervene and regulate the institutional

ecology in such a way as to facilitate the growth of social production, as we shall see in Section 1.4.

Benkler does not object object "in principle to an effective, liberal state pursuing one of a range of liberal projects and commitments", but rather suggests that "the state *could* play constructive roles, if it stopped listening to incumbents for long enough to realize this" (2006: 21; emphasis added).

If the state would listen to Free Culture advocates, rather than corporate agents, it could play constructive roles. Yet Benkler recognises that the state is not necessarily the best provider of freedom and autonomy: "there is more freedom to be found through opening up institutional spaces for voluntary individual and cooperative action than there is in intentional public action through the state" (ibid.). The most important role that the state *could* play with regard to social production is to ensure that its technostructural underpinning remains freely accessible, which is a crucial role with regard to the concept of "network neutrality" (see Section 1.4.2 below). Moreover, in the "networked information economy" envisioned by Benkler, the state appears to play a more active, engaged role – in a positive understanding of engagement – than it has done in the neoliberal era of globalisation from above. In other words, a relatively strengthened state. The relationship with the state is therefore rather ambiguous:

> "I offer no particular reasons to resist many of the roles traditionally played by the liberal state. I offer no reason to think that, for example, education should stop being primarily a state-funded, public activity and a core responsibility of the liberal state, or that public health should not be so. I have every reason to think that the rise of nonmarket production

> enhances, rather than decreases, the justifiability of state funding for basic science and research, as the spillover effects of publicly funded information production can now be much greater and more effectively disseminated and used to enhance the general welfare" (ibid: 22).

In the next section I will briefly outline the shared tactics of the Free Software and Free Culture movements that define their strategy to foster an institutional ecology of freedom and autonomy.

Our discussion will soon show that regulatory intervention by the state – *in the absence of a revolutionary reform of the property relations that govern the technostructural underpinning of social production* – is absolutely crucial for Free Culture in the struggle against privatising forces.

1.3.2 Property and the tangible/intangible divide: a policy of what?

In this section I examine the reasoning behind the particular framing of the intangible realm that characterise information exceptionalism.

Siva Vaidhyanathan, prominent cultural environmentalist and professor of Media Studies and Law at the University of Virginia, writes that "[i]t is essential to understand that copyright in the American tradition was not meant to be a "property right" as the public generally understands property" (2001: 11) and "[c]opyright should be about policy, not property" (ibid: 15) and "[c]opyright is not property as commonly understood. It is a specific state-granted monopoly issued for particular policy

reasons" (ibid: 253). Moreover "[c]opyright was a matter of policy, of a bargain among the state, its authors, and its citizens" (ibid: 23) and "Jefferson even explicitly dismissed a property model for copyright" (ibid.).

That copyright is a matter of policy, not property might sound strange to a lawyer or a philosopher trained to understand copyright as a particular instance of property relations with a temporal limit and who understands property as a matter of policy. Some things do not quite add up. Nevertheless, that copyright is a matter of policy, not property, is a point that the founder of the Free Software Foundation, Richard Stallman, together with other advocates of "Free Culture", wants us to accept[18].

Essentially, the Free Software and Free Culture movements reject the concept of property and instead choose to frame issues pertaining to ideas, information and knowledge - or the intangible realm - in terms of freedom, liberty, human rights, policy, intervention, and regulation. Anything but property, but preferably "policy".

Two mediate questions arise from this position: (i) What is policy? (ii) Why should we choose to adopt one term instead of another? I will answer them in turn.

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18 The presentation of the Free Software Foundation's position on copyright as policy, not property that follows is in great part an outcome of an extended email exchange with Richard Stallman. In order to understand FSF's view on these matters I commenced the exchange and sent, so far, 44 emails between May 12, 2007 and January 30, 2008. Stallman responded with 58 emails between May 13, 2007 and January 18, 2008. In the original thesis manuscript I sincerely thanked Richard Stallman in the acknowledgements for taking his time to engage in this exchange. I do so here again.

What is policy? Is there something in the word that clearly delimits it from property? What does policy actually mean and where does the term come from? It is term that is etymologically compounded by two roots. The Greek "polis" - πόλις – which means "city" or "state" and also "citizenship" or a "body of citizens". In other words, a rather general term suggestive of "political society" and those "who make up that society", either individually or collectively, or their status within that political society. The second root of policy is the Latin "politus", which means "polished" in the sense of "refined". In late Middle English the compounded "policy" ambiguously referred to "political sagacity" *and* "political cunning", the former presumably the meaning it had for those in power, while the latter likely reflects the views of common people. Despite the ambiguity, or perhaps exactly because of this ambiguity, policy referred to "what those in power are doing, how they rule society". The modern term policy, then, enters the English language conveying the meaning of "a constitution", which is now rare or obscure, but in 18th century political science referred to "government, administration"; or was equated with "polity", which in turn meant "civil order", "administration of a state", "civil government" or "a particular form of political organization" (OED 1955: 1536-1537)[19]. In other words, policy is a broad term that we may say refers to a variety of activities that a state performs as part of the governance of its people.

In the context of capitalist democracy, therefore, the conventions that institute its particular form of private property is a central

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19 The term also means "a document containing an undertaking … to pay a specified amount … in the event of a specified contingency", or a "promissory note", both of which are suggestive of the contemporary usage in "insurance policy".

part of the state's *policy*. It is a policy that gives rise to certain laws, such as "theft" codified into a statutory offence in the Theft Act 1968 in the UK, where Section 1 reads "A person is guilty of theft if he dishonestly appropriates property belonging to another with the intention of permanently depriving the other of it; and "thief" and "steal" shall be construed accordingly" (Theft Act 1968). Private property is part of the state's policy and the Theft Act is an enactment of that policy, which is necessary to secure the stability of possessions as declared in the policy.

If we return to the claim that "copyright is policy, not property" it becomes obvious that there is a conflation at play, which is deployed for tactical purposes. The choice of policy over property is presented as a matter of tactic, rather than analysis: tactically it is decided to focus on "policy", despite an analytical awareness that property can take on many different forms. This tactic is chosen on the assumption that the public cannot understand the term "property" in the way that lawyers and philosophers are able to.

However, property *is* a form of policy – or it is a manifestation of policy. We may say, for instance, that "private property is a central ingredient in foreign aid policy in order to further entrepreneurship" or that "private property was central to Thatcher's reasoning for the policy to turn council housing tenants into house owners". Or, expressed differently:

> "If it is true—as it must be—that copyright is policy, then it is equally true that all property rights are policy" (Mossoff: 2005: 33).

The claim that copyright is a matter of policy, not property can also be unpacked differently. Instead of arguing whether property means this or property means that – in the context of what are

essentially *artifices of justice* at any rate – we can ask what
debates around each of these respective issues entail. What kind
of questions are asked in discussions about property relations and
what kind of concepts are at play in discussions about copyright.
Here it "is easy to see that every tangible property entitlement
has arisen from a crucible of moral, political, and economic
analyses, and thus implicates the same questions about utility,
personal dignity, and freedom that now dominate the debates
over digital copyright. The preeminent property cases that every
law student studies in the first year of law school are exemplars
of this basic truth" (ibid.). Nevertheless, investigating the claims
of the "information exceptionalists" further will be instructive[20].

As part of the tactic to substitute policy for property in the
context of understanding copyright, Free Culture advocates claim
that copyright understood as property is a modern invention
carried out by scheming corporations using the rhetoric of
(natural) property to distort the public perception of the
underlying and original policy of copyright (Stallman 2004)[21].

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20 I am slightly altering Mossoff's (2005) terminology, who calls the Free
   Culture advocates "Internet exceptionalists".
21 This "fact" has a curious history in itself. Hughes (2006) calls it a result of
   the "scholarly house of mirrors" (ibid: 1001) and notes that it seems to first
   appear in Vaidhyanathan (2001: 11-12) in reference to Lemley (1997).
   There is no other origin of this "fact", which has become common currency
   in the Free Software and Free Culture movements. As Hughes writes, it was
   cited twice by Lessig in footnotes stating "the term intellectual property is
   of relatively recent origin" (2004) and "a touch less guarded … "the term is
   of recent origin"" (2001). Stallman uses the authority of "Professor Mark
   Lemley, now of the Stanford Law School" to state that "the widespread use
   of the term "intellectual property" is a fashion that followed the 1967
   founding of … (WIPO)" (Stallman 2004). It turns out that Lemley casually,
   in a footnote, mentions that the "modern use of the term "intellectual
   property" as a *common descriptor* of the field *probably* traces to the
   foundation of the World Intellectual Property Organization" (Lemley: 1997:

However, the

> "...story supposes that a multilateral treaty would be written and an international agency established with a wholly new name that no one was familiar with. In fact, WIPO's predecessor international agency was called the "United International Bureaus for the Protection of Intellectual Property." It was commonly known by its French acronym, BIRPI. BIRPI was formed in 1893, as a combination of two small agencies that had been established to administer, respectively, the Berne and Paris Conventions. Thus, "intellectual property" was a conscious, nineteenth-century category created to subsume both "literary property" (Berne) and "industrial property" (Paris)." (Hughes 2006: 1005-1006)

Further good evidence for the tradition of understanding copyright and patents as property has been provided recently as a response to these seemingly misleading claims:

895; emphases added). This clearly shows that he is *not* speaking of copyright, but of the subsumption of *all* of the particular legal arrangements known as intellectual property rights under one common banner. On the other hand it shows the "viral power of a statement by a respected academic" (Hughes 2006: 1003). Moreover, the publication in which Lemley gave birth to this fast circulating "fact" was in fact a book review of James Boyle's seminal work (1997), the work with which Boyle founded the cultural environmentalism movement (which has become synonymous with the Free Culture movement). Lemley's review was relevantly called "Romantic Authorship and the Rhetoric of Property".

> "There can be little question today that intellectual property assets are forms of "property." The Patent Act expressly declares that "patents shall have the attributes of personal property" and the Supreme Court acknowledges them as such. The Copyright Act states that "ownership of a copyright may be transferred in whole or in part by any means of conveyance or by operation of law, and may be bequeathed by will or pass as personal property by the applicable laws of intestate succession." (Menell 2007: 37)

Consider also a publication that pre-dates cultural environmentalism and Free Culture:

> "English law has considered copyright a form of property. An 1842 decree asserts that "Copyright ... shall endure for the Natural Life of Such Author and shall be the Property of Such Author". In other decrees the terms "the owner of the copyright," "ownership of copyright" and "proprietary rights" are mentioned" (Matuck 1993: 406; see also Mossof 2005, 2007).

There is no evidence to suggest that intellectual property is a new term, on the contrary. To understand why Free Culture and Free Software advocates are rejecting the term, we need to understand their perception of the public imagination and the public's capacity to understand issues concerning property and social organisation. Lessig explains:

"If you're a lawyer, it's OK to think of intellectual property as property, because we're trained to use the word property in a careful way. We don't think of it as an absolute, perpetual right that can't be trumped by anybody. We understand property rights are constantly limited by public-use exceptions and needs, and in that context we understand intellectual property to be a very particular, peculiar kind of property -- the only property constitutionally required to be for limited terms. It's clearly established for a public purpose and is not a natural right … The real problem is when people use it in the ordinary sense of the term property, which is "a thing that I have that nobody can take, forever, unless I give it to you." By thinking of it as property, we have no resistance to the idea of certain great companies controlling "their" intellectual property forever. But if we instead use terms like monopoly to describe the control that companies like Disney have over art objects like Mickey Mouse, it's harder to run naturally to the idea that you ought to have your monopoly right forever" (interview in Walker 2002).

Copyright, then, *is* property, for a lawyer and a philosopher, and property for a lawyer and a philosopher *is not* simply private property based on a natural right that requires no justification. For the "public" and in "ordinary" usages, on the other hand, property is a natural right according to Lessig; Stallman agrees:

> "I, along with most people, consider property rights as natural rights, something people are simply entitled to. They don't need any specific justification; rather, exceptions need justification" (Stallman 2007: email)[22].

Do most people really think that, I wonder? However, it is not a question that is really relevant here. Two principles prevent us from entering into such questioning. Firstly, this is an academic and scholarly exercise, to the best of my abilities, and secondly, we are certainly not in the business of misleading "the public" on the basis of the assumption that "the public" is unable to understand property properly. If anything, a very careful explanation to "the public" of what property means for lawyers and philosophers would be called for, rather than a misleading, non-factual deviation. Such a careful explanation will be provided in Chapter 2. Let us here disentangle the confusion, which will reveal a different effect of the "framing effect".

Stallman uses the term "framing" to strengthen the Free Culture claim and justify the tactic to treat the public as too unwitting:

> "Bringing the word "property" into contact with this issue in _any_ fashion frames the issue in favor of whoever is the "owner" of the "property". Everyone can sympathize with "Keep off my property! I can use my property any way I like." And that is the basis that non-philosophers will use to respond to your statement … In the "network neutrality" debate, that framing favors AT&T. In copyright issues, that framing favors the author or publisher.

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22 Email written December 29, 2007. On file.

The issue here isn't the history of Western modern ideas of property rights. (Property rights existed before 1700.) It's about what people (other than philosophers) think today. I agree with you that, at the fundamental level, property rights are conventions set up by society, and that these conventions could be set up in various ways, and that we can present arguments in favor or against various proposals. None of these conventions is beyond the domain of questioning, and although I accept the idea of property rights as the default for physical objects, I can consider the question. I think you will find that a large part of the public won't go that far. Merely to call patents a "property right" will make it difficult for many people even to entertain opposition to them.

You're probably aware of the effect that the way of framing an issue has on people's thoughts. Perhaps philosophers have trained their minds to the point where they can overcome this effect -- but not most people. If we frame copyright issues in terms of "property", that is in practice a terrible handicap" (Stallman 2008: email)[23].

There is good reasoning and cogent argumentation behind the tactical choice to *not* frame the politics of Free Culture and Free Software in terms of property. However, I am wary of discussing legal and philosophical concepts in a way defined and determined in scope by popular opinion, especially in the context

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23 Emails written January 17, 2008, and January 18, 2008. On file. The concept of "network neutrality" will be explained in Section 1.4.2

of the free flow of information, ideas and knowledge - and a Free Culture in general. I lean toward sharing knowledge and skills with "the public", rather than simply assuming their ignorance.

Indeed, I argue that framing Free Software in terms of property has great potential. Imagine what would happen if Free Software was understood as property and the public came to learn that copyright, as a form of property, could take very different and shared and collective forms and be temporally limited. The concept of property would be relativised, so to speak, and no longer take the particular form that appears to be tattooed onto everyone's mind, namely the kind of private property that characterises capitalist democracy. For Ayn Rand, subverting the understanding of one intellectual property right means nothing other than the dissolution of "all other rights":

> "Patents are the heart and core of property rights, and once they are destroyed, the destruction of all other rights will follow automatically, as a brief postscript" (Rand 1966: 128).

Currently, property is understood in what Stallman and Lessig so cogently noted was an incorrect manner: a natural, absolute, perpetual right to do whatever you please. Free Software, however, is very differently configured and if understood as property would force upon that concept substantial reorientation. If indeed framed in terms of property, Free Software might constitute a threat to capitalist property, because it reveals that capitalist property is only one of many possible ways of configuring property. Viewed upside down, then, the tactical framing (i.e. *not* in terms of property) that is central to Free Software politics, serves to protect Free Software from public *mis*understanding, just as much as it serves to protect private property from public *un*derstanding.

Understanding Free Software as property potentially provides a fresh view on property that is not alien to lawyers and philosophers and which would be enlightening to "the public" (whoever that may be). It opens a door to the politics of property, which, according to the Free Software and Free Culture movements, is suffused with misunderstandings. A lack of information, I claim, is a signal to open up the black box of property and let insights circulate freely; and *not* a signal to keep the black box of property closed. Yet, Stallman disagrees:

> "Our goal is to establish relations about software which are not property relations. There are rules, yes; but these rules are not like property rights (unless you stretch that term so far it will snap)" (Stallman 2007: email)[24].

Snapping property is precisely what I am aiming at. The institution of property is a core element in political thought. Revisiting it, revising it, and understanding property in new contexts in the same way that you re-read a novel to grasp dimensions that you had previously failed to notice, is a recurrent political task. In times of change, when the technological, cultural and social circumstances change around us, we need to address the core rules and laws that typify society to ensure that they fit and are sensible in the new context. One such core rule or law is property and it is necessary to continuously redefine its boundaries. That is my claim, but that is also where my view diverges from Stallman's:

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24 Email written May 15, 2007. On file.

> "I think the "institution of property" is an overbroad idea, not useful for thinking about political issues … If [redefining the boundaries of property] is your goal, it seems that we are fundamentally opposed" (Stallman 2008: email)[25].

Because of this divergence, the "policy approach" that defines Free Software and Free Culture is irreconcilable with an anti-capitalist position. That incommensurability is clearly reflected as Lessig states his position with regard to private property:

> "I [do not] condemn "proprietary culture." Proprietary culture has been with us from the start and for most of our history has served creativity and culture well. What I do condemn is extremism—the shift from the standard view to an extreme version of "proprietary culture" that could easily become embedded in the digital economy" (Lessig 2005: 63).

Given that Lessig primarily sees property as referring to the tangible realm only, the statement that proprietary culture serves us well must include reference to exclusive ownership of land, the means of production and distribution. In short, Lessig refers to the very heart of the capitalist economy, which social movements all over world have resisted for hundreds of years. Lessig thus defends the industrial machinery that has landed humanity in an unprecedented ecological crisis and a relatively profound and prolonged economical crisis. Private property rights are embraced uncritically – except for in cyberspace – in submission to the invisible hand with the violent fist. The

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25 Emails written January 17, 2008, and January 18, 2008. On file.

uncritical view on existing property regimes is here confirmed by Benkler:

> "This is not to say that property is in some sense inherently bad. Property, together with contract, is the core institutional component of markets, and a core institutional element of liberal societies. It is what enables sellers to extract prices from buyers, and buyers to know that when they pay, they will be secure in their ability to use what they bought. It underlies our capacity to plan actions that require use of resources that, without exclusivity, would be unavailable for us to use" (Benkler 2006: 23-24).

The market is a useful and integral element of a liberal society of the kind that Benkler is advocating, because it facilitates contractual relations between rational agents that enable them to plan actions and produce things. The market is good for humanity, *as long* as it behaves nicely in cyberspace. The point of Free Culture "is not to rethink real property but to explain the ways in which the economic theory of real property falls short when applied to the rather different world of intellectual property" (Lemley 2005: 1097). When it comes to the economic theory of "real property" as they call it, there is nothing to question, because we can "say with some confidence that a right of physical exclusion works as a legal matter because its benefits exceed its costs" (Lemley 2005: 1099):

> "Real property rights do in fact serve two valuable goals. First, they prevent rivalrous uses by multiple claimants to a particular piece of property and therefore avoid the tragedy of the commons. Second, they allow their owners to invest in improving or developing the property" (ibid: 1098).

For the Free Software and Free Culture movements, we have seen, (mis)understanding property is a matter of tactic, not analysis. The overall strategy, it has been revealed, does not include a critical perspective on ownership in the tangible realm. The analysis of this chapter, on the other hand, will show that this tactical approach at the expense of a thoroughgoing, critical engagement leaves Free Software and Free Culture eternally vulnerable to enclosure. That is because exclusive ownership of the technostructural underpinning of cyberspace – the materiality of cyberspace, as it were – permits those owners to seek rent in and prioritise traffic on their network: exclusive, private ownership in the tangible realm permits an extraction of wealth from activities that unfold in the intangible realm. There is no such thing as a purely immaterial mode of production or circulation, not even dreaming or telepathy come close. Nothing in cyberspace exists without a material foundation, as we shall see in the next section. For that reason, Free Culture must appeal to the state to ensure that capitalists play ball in cyberspace and do not extract wealth in the manner to which they are accustomed.

By implication, then, Free Culture requires a strengthening of the state – and an *always strong* state – while the problems of private property rights in the tangible realm remain unquestioned. Consequently, the novelty of the social relations for which protection is sought are instead conceptualised in terms that rather permit for market forces to profit from them, than provide protection in a substantial sense. From an anti-capitalist perspective the celebrated co-productive relations are hence lost in the sense that they are not applied to that province of our knowledge and legal systems called property. It is, however, a desolate province in urgent need of cultivation. Understanding Free Software as property and commons-based peer production as a new mode of production that instantiates a non-capitalist

space in society on the basis of novel property configurations, I argue, will cultivate an understanding of property that is very instructive.

In the next section I consider the interpenetration of the tangible and intangible realm to further expose the problems of the "policy approach" of the "information exceptionalists".

1.4 <u>Material foundations: on cables and machinery, food and shelter.</u>

"A child of five would understand this. Send someone to fetch a child of five" (Groucho Marx).

1.4.1 The interpenetration of tangible and intangible.

In this section I first present some facts and figures about the materiality and energy usage of cyberspatial activities and then briefly consider the validity of the capitalist claim that informational goods require investments to be made, insofar as the material realm is organised by means of exclusive, private property rights.

The very obvious problem of separating the intangible realm from the tangible realm is that the intangible realm necessarily relies upon the tangible realm. It is not possible to send emails or surf the web without hardware and networks. The environmental impact of the IT industry was perhaps first noticed by the Silicon Valley Toxics Coalition (SVTC n.d.), which was formed in 1982 after concerned citizens discovered leaks at manufacturing plants of IBM and Fairchild Electronics which were the suspected cause

of widespread birth defects and health issues in the Silicon Valley. That was of course only the beginning.

Gartner Research, in 2007, estimated that the "global information and communications technology (ICT) industry accounts for approximately 2 percent of global carbon dioxide (CO2) emissions, a figure equivalent to aviation". As the global ICT industry is the fastest growing carbon emitting industry, cyberspace is now a bigger cause of carbon emissions than the aviation industry. Arriving at this conclusion, Gartner's research "included all commercial and governmental IT and telecommunications infrastructure worldwide, but *not* consumer electronics other than cell phones and PCs." (Gartner 2007; emphasis added). Considering the scale of energy use required to power Internet services, such as search engines, will further put matters in perspective. The energy consumption of Internet searches estimated by Harvard physicist Wissner-Gross, whose *cyberwarming research* has been corroborated by John Buckley, managing director of carbonfootprint.com, a British environmental consultancy (Leake & Woods 2009), and ETC Group's Jim Thomas (2009), is staggering when considered in context. Matilda, a wind turbine decommissioned in 2008, generated more renewable energy than any other source in history during its 15 years of activity, namely 61,4GWh (Leufstedt 2008). This energy output would power approximately 5.5 billion Internet searches or less than a month's worth of current Internet search activity. Daily Internet searches constitute the equivalence of 2500 passengers taking a transatlantic flight (The Times 2006). All of these numbers are estimates, but they certainly indicate that cyberspace is not a clean environment. Moreover, they are based on Internet searches alone, and do not include the much more significant energy use associated with for instance watching multimedia content, once the search engine has taken you there.

Google has responded and strongly noted that these numbers are much too high and that:

> "In terms of greenhouse gases, one Google search is equivalent to about 0.2 grams of CO2. The current EU standard for tailpipe emissions calls for 140 grams of CO2 per kilometer driven, but most cars don't reach that level yet. Thus, the average car driven for one kilometer (0.6 miles for those in the U.S.) produces as many greenhouse gases as a thousand Google searches" (Google 2009).

The way Google figures it, however, leaves out *external energy consumption* (i.e. accounts only for *added* Google in-house energy consumption) and does not even account for the running of the institution of Google as such, let alone the rest of the cyberspatial networks that make Google's business possible, thus speaking at cross purposes with Wissner-Gross and besides the point: the very point of *cyberwarming research* is to make visible the total energy consumption generated by cyberspatial activities from peer-to-peer and from consumer's home computer *through* provider networks *to* the central servers *and back* again. That is, all aspects of the energy required to inconvenience the electrons necessary for a given cyberspatial activity. Nevertheless, considering only the *minimal amount of energy* in the *optimal time* that a search query strains the Google machine, it is still equivalent, according to their own numbers and estimating a current, but fast growing 250.000 Google searches per day (Tanaka 2008), to almost 7.5 times around the world at the Equator - *per day* – in the kind of car that Google uses in their calculation. In a sense, it appears to me that Google is corroborating, rather than refuting the estimates presented above

by admitting these numbers; certainly it is clear that cyberspace is a very energy intensive reality.

Moreover, to take note of the full cycle of a commodity's life span, the SVTC speaks of a "Global E-Waste Crisis: Threatening Communities Around the Globe" in connection with disposal of electronics discarded by consumers in the EU and the U.S.. The disposal is causing severe environmental and health problems in especially Mexico, Nigeria, China, Pakistan, India and Singapore (SVTC 2009).

Founder of the electronetwork.org, Brian Thomas Carroll, reminds us what these numbers actually mean:

> "The grand project that is Cyberspace is grounded in the mundane realities of what is required to sustain it. Today's multitudinous technological breakthroughs such as the Internet are still reliant upon ancient and recurring themes tying the diagnostic health of Electrical Civilization to its sources of energy, war, and economic stability .. Through architectural language, one can see the otherwise intangible Cyberspace materialized in the power, media, and technological systems of the Electrical Infrastructure. In so doing, pressing issues such as war, energy inefficiency, global warming, pollution, and economic instability can be structurally related to the seemingly separate experience online the Internet. Identifying this relationship can help to educate and organize citizens who want to address common yet otherwise ignored needs of the representative human public" (Carroll 2001).

There is an enormous industrial apparatus underpinning cyberspace. From mining of minerals used in conductors through satellites in space to those who labour in the very material processes of their production, maintenance, and disposal, cyberspace is anything but virtual. Understanding life in cyberspace as immaterial – a space of movement and no body – hides the very reality of environmental costs and exploitation of labour from view.

I now consider the fact that the intangible realm is indeed very material from the perspective of producers of informational goods.

No activity can unfold without material underpinning. Even knowledge creation is always bound to, and dependent upon the material realm: it requires at the very least a human body, including all the material inputs necessary for its reproduction (food, a shelter for repose, garments to protect from weather, medicines to heal when broken); moreover, most economically interesting knowledge creation nowadays requires also chairs and desks, offices, books, computers, electricity and other vital means of communication and information exchange – indeed intellectual quests presuppose a form of flesh-and-bone community.

Knowledge and information cannot be said to be entirely non-exclusive and non-rivalrous, since it has clear material foundations, and that is why the arguments *for* privatisation in the intangible realm are often so convincing. After all, knowledge creation requires certain material conditions to be in place and the provision of these is an expense, or requires an investment. Privatisation (of intangible products) bears promises of a return on (tangible) investments. Indeed, the capitalist claims, not only is enclosure *fair*, as a means of ensuring capital

returns to the investor, but enclosure might even be *necessary* in order to encourage knowledge creation, for it is thought that few would want to invest time, labour and other capital without a promise of a financial returns. As Kenneth Arrow, also quoted above, notes: "If information is not property, the incentives to create it will be lacking" (1996: 125).

Although the idea that no one would spend time, labour and capital without taking advantage of the (incentivising) promise of enclosure and privatisation of their product has been shown to *not* be true at all times and in all settings (otherwise you would not be reading this essay about Free Software, since it would not exist), some strong arguments in that favour have been made. D. A. Burge, for example, recounts the story of Alexander Fleming who upon discovering penicillin in 1929 refused to pursue patent protection in order for commercialisation and production to take place without anyone asserting monopolistic rights. Unfortunately, the result of this "fatal folly" was that for 14 years no commercial manufacturer was willing to invest the needed resources to purify the drug and develop the techniques necessary for commercial manufacture (Burge 1984: 27).

The interesting question here, however, is whether this really tells us something about human innovative processes, creativity, and motivations in general, or whether this is not rather simply a story about the mechanisms through which investment decisions are made in capitalist economies, after all, all societies constrain and enable human action in particular ways[26]. What it precisely

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26 Consider as counter-point the story of Jonas Salk and patents. Salk invented the first safe and sound polio vaccine in 1955 and when asked who held the patent he questioningly replied: "There is no patent. Could you patent the sun?" The rest is history. Salk moved to Torrey Pines Mesa by San Diego to set up a research shop. His reputation became great for two reasons, firstly,

tells us is that as long as the means of production and distribution (in the tangible realm) are owned exclusively, there are good arguments for why such exclusivity should be extended into the intangible realm. As the two realms are so clearly mutually interpenetrating there is a good case to be made for organising them along the same lines.

When Benkler states that asymmetrical or exclusive, private property "constrains action" (2006: 24) he is right. This is obvious. However, the constraints that I face in the tangible realm are primary to those that I face in the intangible realm. Buying a computer is a first step and, even then, downloading Free Software will only be possible once I have also bought access to the Internet from a corporate provider. Pace the information exceptionalists, the major obstacle to social production is private property in the *tangible* realm, because the threat of private property in the intangible realm is merely a consequence of the existing regime in the tangible realm. If the private property regime that governs the tangible realm was radically reformed, there would be little left to fight against in the intangible realm.

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of course, he established a breakthrough in polio vaccine research - his is still considered the safest-and saved many lives, but secondly he did it in what is now called "the Salk way" by insiders of that industry. Salk's research facilities are surrounded by what is generally considered to be the densest concentration of biological science companies and research institutes in the world. Many followed because the social mission of Salk resonated with them and because in an environment where information flows freely ideas and knowledge come cheap. "Salk attracted world-class scientists such as the late Francis Crick, co-discoverer of DNA's function as carrier of the genetic code, and Leslie Orgel, a chemist who has made major discoveries about the evolution of early life" (Fikes 2005).

In the next section we shall see how the reality of ownership in the tangible realm continually pose a threat to the intangible realm. This will become evident by reviewing the debate about "network neutrality".

1.4.2 Network neutrality and the advertising company called Google.

> "Washing one's hands of the conflict between the powerful and the powerless means to side with the powerful, not to be neutral" (Paulo Freire).

In this section I consider a current debate concerning "network neutrality" in the context of the discussions above and with particular reference to property. It will illustrate the interplay between the tangible and intangible realms and – by extension - how exclusive control over tangible resources facilitates an extraction of wealth from social relations that unfold in any intangible realm that is underpinned by those tangible resources. The illustration will further reveal the philosophical problems and political implications of information exceptionalism.

I take as point of departure the "network neutrality" debate, which is a very heated policy debate in the U.S. However, it is not the particularities of that context nor the debate as such that is important for our present purposes. It is the principles at play with respect to the physicality of the Internet and the activities of those who use it that I want to show and present in a more general manner, but with particular reference to property relations.

To understand the concept of network neutrality it is necessary to understand the basic architecture of Internet traffic. The Internet is a physical network that consists of *cables* – through which data traffic flows in packets – and *switches* that relay data packets. Data transmitted through the Internet, such as an email, is disassembled by the sender's computer into data packets consisting of 1500 characters each, which are then reassembled in the receiver's computer to form a whole email.

Think of a packet as an envelope with your own name – as a sender - and the receiver's name on it *and* some form of identification that ensures that each group of packets are reassembled correctly. When you have sent an email (consisting of more than 1500 characters, including headers and other meta data) it will leave your computer in several packets. These packets will arrive at switches that will pass them on without any concerns for where they are going, unless a given packet is meant for a destination that the switch in question recognises as being located on a different network, i.e. a local or sub-network. Otherwise the packet is simply passed on to the next switch via the route that offers the least resistance.

Because it all happens at the speed of light it does not matter much in human terms of time whether a packet passes by Tokyo on its way from London to New York. If the route via Tokyo is less congested, such as when people in Asia are asleep and thus not using the Internet, that route might just constitute the systemically optimal solution.

It is in this way that the Internet is non-central: it has no central command structure without which it cannot survive. If a part of the Internet is broken, packets just travel by another route. Each switch merely relays. The Internet, by analogy, is like an ant colony. There is little intelligence, in human terms, exhibited in each ant, but as a whole, on a collective level, they are very

intelligent[27]. The Internet is the whole of the colony, while a single switch is an individual ant. This non-central E2E (end-to-end) architecture is the amazing thing about the Internet and in terms of development it means that anyone (with the financial means, subject to political will) can add some kilometres of cable to the existing structure and thus become part of the group of Internet owners. In terms of traffic it means that no one is discriminated against. All packets are equal before the Internet law of traffic. The openness of the Internet standards of transmission is at the core of the Internet's philosophy and is "one of the great technological breakthroughs of the twentieth century" (Naughton 1999: 20). The network is neutral, as it were.

It is this neutrality with respect to data transfer that together with the materiality of cyberspace underpin Free Culture, which is why strong arguments are made in favour of maintaining the Internet's informational neutrality. In the following I provide a very brief overview of the network neutrality question.

Network neutrality is another way of saying "common carriage", which is an ancient concept. It basically "guarantee[s] that no customer seeking service upon reasonable demand, willing and able to pay the established price, however set, would be denied lawful use of the service or would otherwise be discriminated against" (Noam in Crawford 2007: 51). In the context of the Internet, network neutrality as a policy of intervention is supposed to practically ensure "common carriage". In practice that would mean that no packet of data is prioritised by any switches or routers of the Internet and consequently the anti-

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27 It is curious that the exact opposite can be said about humans, who, according to their own terms!, exhibit a lot of individual intelligence, but on a collective level, according to those same terms, appear infinitely inferior to ants.

capitalist mobilisation email can circulate as fast as the latest commodity flow by Walt Disney & Co.

The "opposite" (or absence) of network neutrality would be if network owners exercised their rights – as given by the private property rights regime - to exclude any activity from their network as well as demand varying fees for any activity that they *do* allow on their network. Some configurations of private property define the right to do just that. If I have an apple I am allowed to offer it to X for a tenner and to Y for a fiver. However, there is a tradition for competition policies to regulate such matters in the realm of commerce. For instance, the local shop is not allowed to charge me a fiver and you a tenner for the same commodity. The mail company does not demand to read the content of your letters and charge you more if it is a desperate letter to your estranged lover. The playing field is supposed to stay level. That is a competition aspect. On the other hand it is also assumed that for innovation to occur, the incentive of exclusion and rent seeking in your creations are needed. The promise of return (as opposed to creativity in general, curiosity or even boredom) is what drives innovation on economistic terms. There is in other words a tension.

Private property is needed for innovation to occur, but the exercise of the rights of private property threatens competition. The network neutrality debate concerns finding a balance between innovation and competition. The standard function of private property structures innovation, while regulatory intervention ensures competition. Forth and back.

> "The questions raised in discussions of open access and network neutrality are basic to both telecommunications and innovation policy. The promotion of network neutrality is no different than

> the challenge of promoting fair evolutionary
> competition in any privately owned environment,
> whether a telephone network, operating system, or
> even a retail store. Government regulation in such
> contexts invariably tries to help ensure that the
> short-term interests of the owner do not prevent the
> best products or applications becoming available to
> end-users. The same interest animates the promotion
> of network neutrality: preserving a Darwinian
> competition among every conceivable use of the
> Internet so that … only the best survive" (Wu 2003:
> 142).

A major concern in this debate is *vertical integration*. An example of a vertically integrated company is Virgin Media. They produce content, such as music, they own cables through which their media content can be transmitted and they provide internet connections. It is thus possible for an Internet user to stay entirely within a zone owned by Virgin. The same goes for AOL Time/Warner, which also controls a supply chain all the way from media production to delivery to consumers. The point of vertical integration is obvious: no one can pose obstacles to your business at any point in the processes from production through wholesale and transport to retail. It is a matter of control and it is a form of monopoly.

The obvious problem occurs when I have a connection to the Internet with a vertically integrated provider, but want to consume content produced by their competition, such as video from Youtube, which is part of Google. Such content could be slowed down or even blocked. A similar example is the case of a telephone company that owns Internet cables and blocks Internet telephony services, such as those offered by Skype, because they undermine their own business. Although threats have been posed

and technologies developed, the Internet has so far remained more or less neutral.

Those are the issues that have given rise to the network neutrality debate. I now look at a related problem, which illustrates the significance of network neutrality and tangible ownership.

The network neutrality debate has been unfolding since the late 1990s. In the same period the Google corporation emerged as a key player in cyberspace. Google has become one of the strongest supporters of neutrality on the Internet and - in part - to that end they have hired as Vice-President and Chief Internet Evangelist one of the fathers of the Internet, Vinton Cerf. Addressing the U.S. Senate Committee on Commerce, Science, and Transportation Hearing on "Network Neutrality", Cerf stated on behalf of Google that:

> "Even as we welcome the deregulation of our telecommunications system, we should preserve some limited elements of openness and non-discrimination that have long been part of our telecommunications law. Absent real physical layer competition, Google supports a tailored, minimally-intrusive, and enforceable network neutrality rule (Cerf 2006: 7).

In October 2009 the Federal Communications Commission (FCC) published a draft for comments which articulates what Cerf calls a "minimally-intrusive" and "enforceable network neutrality rule" and one of the most outspoken advocates of network neutrality, Lawrence Lessig, called the proposal "perfect" (Gustin 2009). Although many details remain to be decided upon, the network neutrality debate, we can say, has been won by its supporters. The FCC will intervene and regulate.

However, tension remains, in great part because of the particular business model of Google.

> "The network builders are spending a fortune constructing and maintaining the networks that Google intends to ride on with nothing but cheap servers ...It is enjoying a free lunch that should, by any rational account, be the lunch of the facilities providers" (Mohammed 2006).

Let us investigate what Google's free lunch consists of. Google is an advertising company that uses a search engine – and by now many other information services - to attract customers. That is arguably their basic business model, because that is how they profit (BBC 2005). As a user of Google you receive information "for free", but your activities within the Google domain generate revenue from advertisers for Google. That is, in short, because Google can facilitate the placement of targeted advertising on your screen based on your search history and habits. Google can do this because they have huge server farms all over the world of which little is known. It is estimated that Google has up to 450,000 servers in these farms (Chandler 2008: 299). In other words, Google can extract wealth from social production, because *they own tangible* resources through which the data transfers of millions of people can be indexed, organised and otherwise manipulated. These hardware resources interestingly run on Free Software. Google has thus become one of the world's most powerful corporations on the basis of a software platform that is an outcome of commons-based peer production. Volunteers have created the software that Google uses, and volunteers put this software to work, thus generating an income for Google.

The wealth extraction aspect of Google's model obviously lies in the fact that they own a lot of tangible material, i.e. the computers on which this Free Software runs. With possibly half a million computers Google is able to provide a lot of services to people and in turn sell advertising space and other services to companies that are interested in online behaviour. The sophistication of Google's search engine algorithms – of which little is known – obviously increases as people are using the search engine and as more and more behavioural data is collected – i.e. the more we use Google's "free services" - the more money Google makes. It is the users of the Internet that make Google function and it is essentially social production that fill their coffers.

The underlying reason for the functionality and success of this business model is that the network owners so far have been selling their network services like any other business. Very simplified it means that if you want to purchase 100 terabytes of data traffic you pay 100 times the price of one terabyte. This business logic suited everyone until Google began to extract wealth from social production, which is to say that they began to extract wealth from social and creative activities on the Internet in ways that no one had done before.

Google operates on the basis of a clever advertising structure and – allegedly – very sophisticated search engine algorithms. The secret of Google's success in economic terms is that they found a way to *internalise* the *positive externalities* inherent in activities in cyberspace. In a way, we are all commons-based peer producers for Google. Most people enjoy Google's business model, whether they know about it or not, because it includes the provision of many "free" services. These services can be considered remuneration for your "free labour" (see the next section). However, the network owners did not foresee that their

customers would be able to extract wealth from social production in this way. When the Internet business began, it was simply like selling carrots. Now things look different, because some traffic might be worth a lot more than other traffic. According to the CEO of AT&T:

> "There seems to be a mentality [on the part of online companies such as Google] that they can put more and more through our pipes for free [sic] ... We're the ones who built the network. You cannot make that sort of investment if you can't make a return on the capital. They're more than welcome to use our networks, but if they do, they're going to have to pay. It's not free" (AT&T CEO in Crawford 2007: 51).

The network owners have noticed that Google is internalising positive externalities and naturally want in on the action. That is business as usual and because they are in fact the owners – they have private property rights in those networks – they are entitled to seek rent under normal circumstances. It is those normal circumstances of private property rights and market competition that the policy of network neutrality is intended to regulate. It is therefore no wonder that Google is an outspoken network neutrality supporter.

The important aspect of the network neutrality debate for the purposes of this essay is that it illustrates how wealth extraction functions and how ownership of the tangible resources that make cyberspace possible facilitates that process of extraction.

In the last part of the section I will briefly look at how this kind of wealth extraction is becoming more and more widespread in cyberspace.

The Google business model is no longer unique. It has become a common way of doing business on the Internet. It is often celebrated under the label "Web 2.0", which by many commentators is associated with "social networking". The most famous so-called social networking framework is Facebook. However, Web 2.0 would more correctly be labelled "a business model to extract wealth from social production". Social networking has been one of the main features of the Internet from before the World Wide Web made the Internet popular and, thus, long before wealth extraction businesses like Facebook came along and provided a commercial framework for social relations.

A Web 2.0 company, to explain briefly, will offer a service for "free", which it will use as a honey pot to attract unwitting worker bees from whose social relations and behaviour some wealth can be extracted. The hype around Web 2.0 concerns just that. The use of the Internet as a medium of social relations and networking, however, is nothing new. The creator of the Hyper Text Transfer Protocol Tim Berners-Lee, who "isn't swayed by the hype machine" (Anderson 2006) says about Web 2.0:

> "Web 1.0 was all about connecting people. It was an interactive space, and I think Web 2.0 is of course a piece of jargon, nobody even knows what it means. If Web 2.0 for you is blogs and wikis, then that is people to people. But that was what the Web was supposed to be all along … the idea of the Web as interaction between people is really what the Web is. That was what it was designed to be as a collaborative space where people can interact" (Berners-Lee 2006)

What Berners-Lee is missing is that the novelty of Web 2.0 is not merely sophisticated tools for social networking , but rather that these social networking tools often consist of vast amounts of hardware (tangible means of production) that facilitates social networking, *while also* gathering or handling or manipulating data of various forms extracted from those social networking activities.

The architecture of the Internet is defined by its end-to-end (E2E) or peer-to-peer (P2P) principles, as we saw above, and the Worls Wide Web is deliberately an extension of this architecture. Social networking is the very purpose of the web, but that purpose was meant to be between peers, from end to end, passing through a neutral network and underpin an autonomous culture; indeed maintain the "independence of cyberspace".

In the Web 2.0 economy, on the other hand, P2P autonomy has been replaced by large-scale tangible infrastructures through which data traffic moves and by means of which wealth can be extracted. "Social" networking is a highly commercial venture, indeed Web 2.0 is a new frontier of enclosure:

> "If Web 2.0 means anything at all, its meaning lies in the rationale of venture capital. Web 2.0 represents the return of investment in internet startups. After the dotcom bust (the real end of Web 1.0) those wooing investment dollars needed a new rationale for investing in online ventures. 'Build it and they will come', the dominant attitude of the '90s dotcom boom, along with the delusional 'new economy', was no longer attractive after so many online ventures failed. Building infrastructure and financing real capitalisation was no longer what

investors were looking for. Capturing value created
by others, however, proved to be a more attractive
proposition" (Kleiner and Wyrick 2007).

We have seen that the concept of private property is hidden from
view in current debate about Free Culture and that its continued
function as a means of wealth extraction most certainly obtains in
cyberspace, even if the intangible part of that space is "kept free"
from such *direct* constraints.

The material necessity for the intangible realm results in the
possibility for those who own that material foundation to extract
wealth that essentially arises from the activities of every day
users, most of whom do not realise that in a way they are
working for Google or Facebook when they use it.

Next I draw some conclusions on the basis of the above
discussions from a critical perspective – with the role of property
foregrounded. That leads us to Chapter 2, which will provide a
detailed analysis of property.

1.5 <u>"Capitalist commonism": capturing social production.</u>

"Weißt du, wie das wird?"

"Verwirrt ist das Geweb' - Es riß!"

"Es riß!"

"Zu End' ewiges Wissen! Der Welt melden Weise nichts mehr."[28]

In this final section of the chapter I draw conclusions on the implications of the position of Benkler - and Free Software and Free Culture advocacy in general - from a broad political economy perspective.

While there are subtle differences between their respective positions, they do exhibit more or less the same view on private property. They see *private* property – which they simply call property – as a stable mechanism for social organisation of the tangible realm, but advocate that this form of ownership be not

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28 "*Do you know what will come to pass? The Web is confused. It's torn, It's torn. Eternal knowledge is ended. The wise ones report nothing more to the world*". From the Prologue of Richard Wagner's Ring der Nibelungen. At the end of the prologue the three Norns are deliberating: Do you know what will come to pass? - as betrayals and lies, uncomprehending acts by would-be innovators have led to confusion, the world-wide web woven by the knowing makers of fate rips apart. It is the beginning of the end: Götterdämmerung, Ragnarök, the end of the Gods is nigh. The realm of ancient knowledge is confounded, the web of fate no longer holds. The breaking of the web of fate, from the perspective of our analysis, can be understood as a prophecy of what could happen to the World Wide Web if the material conditions of its existence are ignored and thus riven by disunity.

extended to the intangible realm. That is what I call *information exceptionalism*.

In the property-free intangible realm, instead, they promote commoning – or social production – as a means with which to reinvigorate democracy through the involvement of rational, but voluntary acts of citizens. These citizens act *not* because they are forced, *not* because they want to profit directly in terms of monetary rewards, but for reasons of collectivity. Sharing and cooperating, then, constitute a modality of agency that is to be reckoned with as much as the self-interest that supposedly drives the market. From a Free Culture perspective, it is good for the economy to nurture social production because it is a very productive force that can overcome the too high informational transaction costs that an economy with too many patents and copyrights entails. For Free Culture advocates, social production is a growth sector, a novel force of production arising from excess capacity that ought to be harnessed to economic, productive ends. I, on the other hand, believe social relations in cyberspace ought to be seen as cultural and creative relations, not merely *economically productive* relations, and rather be harnessed for the greater good of humanity.

Before drawing further conclusions, however, I want to briefly present a counter narrative, which will put information exceptionalism, Free Software and Free Culture politics into relief.

1.5.1 Hacklabs and social centres: embodied commons.

On the outskirts of the Free Software and Free Culture movements, certain networks, gatherings, online channels and independent media act as hubs for an evolving radical civil

society (Strangelove 2005; Lovink 2005), radiating out from squats and social centres. Seeking a path away from liberal values, the nation state and capitalist practices, and towards notions of anti-authoritarian autonomy, mutual aid and collective freedom, this underbelly of the movements presents views radically different from those of the leading Free Software and Free Culture voices. These differences become particularly obvious in the practices of hacklabs in social centres.

The social centre movement emerged in Italy and Spain in the 1970s. A social centre is a coming together of communists, socialists, anarchists, goths, ravers, punks, hackers, artists, performers and various category-defying individuals, who reclaim spaces and excess capacity in the tangible realm. In Italy they have established a tradition for seizing "vast, abandoned factories, forts, boarded-up schools and churches and transformed them into cinemas, concert halls, bars, squats and art galleries. Far from being scabies-infested scum pits with gutter punks spray-painting the names of their favorite bands on the walls, Italy's social centers are among the country's most vital cultural institutions" (Bregman n.d.).

In the 1990s, inspired in part by the Free Software movement and working with the new wave of social movements that became known as "the global movement of movements (for globalisation from below)" many social centres began to create *hacklabs*: spaces where knowledge and skills are shared, technological literacy is instructed and played with.

New systems and relations are literally created and rebooted. Ideas circulate freely and communities and networks are built as social centres - with the added value of thousands of Free Software programmes - emerge all across Euro-America and

beyond[29]. The London Hacklabs Collective presents themselves as:

> "...a group of people interested in using technology to bring about social change. We establish, develop and run Hacklabs - political spaces used for independent media, the promotion of free software and other emancipatory technologies. Hacklabs are places to share skills, to learn and to teach (London Hacklabs Collective n.d.)

The physicality of a hacklab in a social centre is partially a realisation of the fact that Free Software is not enough for a knowledge revolution, but that space with a roof and walls, electricity, machines, cables and connections are crucial for agency in cyberspace. A coming together of bodies in tangible space, a pooling of powers in a real commons, is the nature of a hacklab that sets it apart from a virtual commons, which brings together ideas, not bodies.

These hacklabs are perfect *embodiments* of what I am centrally arguing for in this essay, namely that it is unhelpful to place emphasis on the tangible/intangible divide in the way that some economists do. The actions of those "concerned citizens", building hacklabs, mixing squatted architecture and vision, hardware and software to create free spaces manifest a strong critique of virtual commons. The hacklab defies the distinction

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29 The emergence of hacklabs also inspired a series of gatherings which I co-organised and which was funded by the Institute for Advanced Studies at Lancaster University. See http://knowledgelab.org.uk Generally we should here take note that contemporary anti-capitalist movements are practically engaged in prefigurative politics: realising the envisaged world without letting the ends justify any means.

between the tangible and intangible realm; indeed, the hacklab is deliberately organised across these two realms. It is an urban technological commons, but it is a commons. Additionally there are many rural commons, eco-villages, being recreated across the world, where people come together to grow vegetables and chop wood, in attempts to find the exit of capitalism. The re-creation of the commons of the land, as their destruction were the entrance into capitalism, might be the way out.

A commons is given meaning by its instantiation and realisation. At once the specific commons as well as *the idea* of a commons are given meaning through creation. As an idea a commons has symbolic value and this value is realised in the moment of creation and occupation of time and space. It is from the occupation of time and space that a commons derives its power as an alternative to abstract market based relations between legal persons understood as rational agents. The hacklab is a real commons of people, while a virtual commons connects ideas. They are two sides of the same coin, which should not be separated. Commons consisting only in ideas, bits and bytes need commons with bodies and collective spaces - and vice versa.

I now return to conclude upon my critique of the economistic framing of social relations in cyberspace.

1.5.2 Framed for the market.

We have seen how Benkler's work contributes to an expansion of the economistic framework that enables it to better capture the dynamics of social production. These social relations he defines as outside the market and property, which he otherwise considers very important institutions:

"The rules of property are circumscribed and intended to elicit a particular datum— willingness and ability to pay for exclusive control over a resource. They constrain what one person or another can do with regard to a resource; that is, use it in some ways but not others, reveal or hide information with regard to it, and so forth. These constraints are necessary so that people must transact with each other through markets, rather than through force or social networks, but they do so at the expense of constraining action outside of the market to the extent that it depends on access to these resources" (Benkler 2006: 24).

Social production for Benkler, then, is the kind of social relations that are currently not captured within "the market", as that institution is traditionally understood. Moreover, social production should not be subjected to the private property and contract mechanisms that define the market, because these mechanisms are considered unfit for the intangible realm of information. Instead the economistic framework – the language of marketeers, essentially – must be enlarged to be able to systematically capture the dynamics of social production, while, and this is the crux of the matter, *private property and all the wealth concentrated on that basis remains unquestioned*. In other words, the power amassed through the private property regime in the tangible realm is left untouched, but *as an organisational mode* is rejected from the realm of ideas; because the operation of existing powers in the tangible realm needs a free flowing virtual commons in order to continually have access to ideas, knowledge and information. The organisational mode of the tangible realm, however, remains. That is to say that Benkler is developing a framework with which to capture social production

without destroying it. It is the construction of "capitalist commonism", to use an oxymoron, that we see in the work of Benkler.

Capitalist commonism recognises that existing economic powers cannot sustain themselves without a minimal degree of commonalty in the intangible realm. In order for the operation of the industrial apparatus to sustain itself it must refrain from enclosing in a traditional sense the intangible realm, because it needs this realm of ideas to feed its increasingly information dependent, but heavy, physical machinery of electronic commodity production.

The dynamics of social production, however, are captured through incorporation in the economistic framework. That permits those institutions that organise themselves with such means – corporations, states and many NGOs and PGOs (Pseudo-Governmental Organisations) – to scientifically grasp those dynamics and thus extract the surplus value that arises from the excess capacity embodied in relations between citizens.

The excess capacity, as we saw, is capacity in excess of basic requirements, such as housing, food, time and skills. Housing and food are tangible matters, while skills are transmitted most often through tangible means in physical spaces, most of which is organised by means of private property and thus – largely – remain in the hands of the few. Excess capacity, then, by a small stretch of the imagination, can be understood as positive externalities that cannot be internalised on the basis of the usual mechanisms of enclosure, because these mechanisms would destroy the commons once and for all. By analogy, such enclosure is like overfishing: if you land all the fish they cannot reproduce themselves and you have nothing to fish for any more. The virtual commons *must be defended*, but ways to reap its

positive externalities – the economic potential inherent in the pooling and extraction of its productive forces – are required for capital interest, confined to the tangible realm, to be able to carry on its expansionary movement. The information commons, therefore, becomes a capitalist commons and it is Benkler's great achievement that he has begun to establish a framework from within which tangible powers can extract wealth from the intangible realm without destroying that realm. From a capitalist perspective this is genius, because it resembles a sustainable fishing policy: we can keep fishing, but the fish will remain available. From an anti-capitalist perspective it is a domestication of the virtual commons and consequently a separation of the virtual commons from the real commons, conceptualised in terms that relies upon state power and in turn justifies state power.

It is similar concerns that have led to Tiziana Terranova (2000) to argue that in the phenomena that Benkler calls "social production" we rather see an emergence of "free labor" that offer new ways for capital to consolidate itself through extracting wealth from social relations hitherto external to direct market relations. Not only is it free labour, we may venture, but *resistance-free* labour. In her later work she sees Benkler's conceptualisation of social production as offering "liberal and neoliberal economics a refinement of its logic that does not significantly break with its overall political rationality" (Terranova 2009: 251-252). That reflects the argument I am making here. In Benkler's presentation she finds that "[n]on-market production, in fact, is based in social cooperation, but it becomes economically effective, that is it achieves the status of an economic phenomenon" (2009: 252), because, as Benkler says "it increases the overall productivity in the sectors where it is effective ... and presents new sources of competition to incumbents that produce information goods for which there are now socially produced substitutes' (Benkler 2006: 122). In the

networked information economy "[s]ocial life and economic life would thus find a point of convergence where the former would no longer find its expression exclusively within the reproductive sphere of civil society but would become directly productive in the economic domain" (Terranova 2009: 251). It is this economistic perspective that domesticates social production - ties it to capital - and funnels the wealth created through these non-market relations back into capital. I am arguing in this essay for a social analysis of property relations for exactly the reason that Terranova criticises Benkler's account:

> "Although nothing in principle prevents social production from outperforming competitive markets as a more efficient economic form, it still seems destined to remain subaltern to the logic of the neoliberal market as a whole … In a way it seems as if, once passed through the 'reflective prism' of political economy, social production loses all potential to actually produce and sustain radically different forms of life – which would neither coexist nor compete with neoliberal governmentality, but which could question its very logic" (ibid: 252).

Being able to question the "very logic" of neoliberal economics, I argue, involves an analysis of property from a social movement perspective. Paradoxically, then, I develop a view on property that is inspired by the phenomenon of Free Software. It is paradoxical because the Free Software Foundation, the self-organised civil society institution and social movement that defines Free Software, does not see the concept of property as relevant for Free Software. They vehemently reject the idea. In that sense I am standing outside the movement, insofar as we understand the movement as the voice of its leaders. But why should we?

Although I argue against their rejection of property, the *main* purpose is not to advise the Free Software Foundation on matters of policy strategy and tactics, but to provide the wider global network of social movements working to (re-)create commons with a map and matrix of property that can be used to advance their causes and to grasp just how multi-faceted a concept property is. Understanding Free Software as property is a very useful starting point for transcending existing conceptions of property, because when understood as property, Free Software opens the door for radically different configurations of property. Importantly, Free Software is an example of a community articulating their own relational modalities and thus defining how they self-organise to make space for a realisation of their "needs, desires, aspirations, affects and relations" (De Angelis 2005a). While it is certainly an important victory for community based, self-legislation, it is perhaps even more importantly a crack in property where the light gets in: if we inscribe the relational modalities of Free Software upon the concept of property, then the concept is forever changed. In other words, its "framing effect" would be entirely different and informed debate become possible.

Above I used the term paradox to avoid any association with self-contradiction. It might be read as if I am contradicting myself, declaring allegiance with social movements, then turning around to conceptualise the dynamics of a social movement in terms that they reject. However, the contradiction is on their part.

The libertarian values that the Free Software and Free Culture movements exhibit are not liberties that were won in the struggle for virtual commons and the right to share digital information and cooperate on software projects. The freedoms upon which

the Free Software commons rests – the liberties that make it possible for such a movement to act and organise – are liberties won by struggling women and men, who with their bodies fought for land and freedom. The *habeas corpus* in which virtual commoners find themselves is an outcome of a struggle that has been unfolding for almost a millennia. Arguably, the leadership of the Free Software and Free Culture movements are separating themselves from the real commons. The commons of the land and the commons of the means of production and distribution are the fundamental commons without which virtual commons are merely lambs for the profit slaughter.

The view on property that is shared by the Free Software and Free Culture movements obviously invite a critique that clearly goes beyond virtual culture itself, serving as a perfect point of departure for a critique and reassessment, long needed, of property in general. Critiques and reforms are certainly needed, lest the promissory notes of Free Culture are to whither in the twilight of enclosure.

In the introduction we defined our revolutionary question to "How?". We then asked "With what?". By identifying the "hidden" powers of property as our answer, we must now ask "How does property work?"; or "What are the properties of property?".