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[Bart Cammaerts](#)

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Disruptive Sharing in a Digital Age:
Rejecting Neoliberalism?

Bart Cammaerts
London School of Economics and Political Science

Abstract:

Some argue that neoliberalism can be seen as having negated its negation, socialism and communism, and become unquestionable and commonsense. However, many practices from below resist, reject or at least disrupt the stringent property rights regime and the primacy of the market, two core elements of neoliberal ideology. Some of these practices of resistance are in the form of a disruption to or rejection of the commodity exchange model. In this article we address three modes of sharing in a digital context, embedded in a cultural exchange model – sharing code, sharing content and sharing access. These different practices of giving and sharing are analyzed according to the way reciprocity is articulated, the extent to which they disrupt the capitalist model of commodity exchange, and the ways in which they interact or not with it. We conclude that all forms of digital sharing involve degrees of reciprocity, and that all sharing in digital contexts is gradually appropriated by capitalist logics, mainly through the creation of auxiliary revenues. Many sharing practices do not intend to reject or disrupt, so, while some sharing practices might constitute a (partial) disruption to the commodity exchange model, they may not necessarily result in its negation. Recent attempts by states and parts of the entertainment industry to discipline or coerce the revivified participatory culture and its cultural exchange ethic, to fit the commodity exchange model raises serious concerns.

Keywords: dialectics, gift-economies, open source, file sharing, universal access

Word count: 8019 (refs and notes included)

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'every pleasure which emancipates itself from exchange-value takes on subversive features'
(Adorno 2002 [1938], 297)

1. Introduction

Whilst the state and social democracy were once considered to be corrective and safeguards against the crude and individualistic whims of the market, they now very much embody and personify neoliberal values and core principles. Harvey (2005) opposes the social democratic state, promoting the well-being of all citizens, full employment and the redistribution of wealth to the contemporary neoliberal state, whose remit is reduced to maximizing the conditions for capital accumulation and defending property rights, business interests and the primacy of the market.

Žižek (2008, 189) argues that the reformist left – in Europe as well as in the US – by adopting the third-way ideology, has consolidated the neoliberal revolution that was led by Reagan and Thatcher in the 1980s: 'Thatcher was not a Thatcherite, she was just herself – it was Blair (more than John Major) who truly forged Thatcherism as a notion'. Drawing on Hegel, Žižek calls this an example of the negation of the negation, 'a victory in defeat: it occurs when one's specific message is accepted as a universal framework, even by the enemy' (ibid), turning contingency into necessity. Even after the deep systemic crisis in the deregulated financial system and the subsequent massive bailout by tax-payers and states this sublation has allowed the neoliberal paradigm and ideology to position itself as unquestionable, as a synthesis, an absolute – hence the signaling 'the end of history' (Fukuyama, 1992) or claims that left and right no longer exist. In other words, neoliberalism, as an ideology and as a practice, has managed to negate its negation, namely socialism and communism.

This ties in with the Gramscian notion of hegemony, a manufactured consensus, a collective will, involving a struggle for 'moral, cultural, intellectual and, thereby, political leadership over the whole society' (Bennett, Mercer and Woollacott 1986, xiv). Despite this, history teaches that hegemony is 'a mode of control that has to be fought for constantly in order to maintain it' (Giroux 1981, 17); as such, it can never be ultimately fixed or made permanently self-evident (Laclau and Mouffe 1985, 111).

Since the neoliberal state and its democratic institutions have become caught up in the protection of corporate and other elite interests, many alternatives that challenge the capitalist paradigm are being developed bottom-up, through the establishment of temporary autonomous or at times even illicit zones, and through the displacement of commodity exchange by a culture of giving and sharing (Bey 1991/2003). While there seems to be no convincing alternative grand narrative capable of challenging neoliberalism, in the everyday lives of activists, citizens and even consumers we observe an abundance of micro practices that reject and/or deterritorialize the arbolic capitalist structures, some of which constitute serious threats from the micro to the macro (Deleuze and Guatari 1987).

Three such disruptive practices centered on the digital culture of sharing are addressed here: 1) sharing of code, 2) sharing of digital content and 3) sharing of access. All these practices involve forms of giving and receiving, which inevitably implicates theories of traditional gift economies. In his classic anthropological study

The Gift, Mauss (1950 [2005]) stresses the centrality of reciprocity in relation to the act of giving and refutes the idea that the act of giving is ever without strings.

Analysis of these three forms of sharing in a digital context highlights the ways in which reciprocity is articulated, the extent to which these different practices of giving and sharing disrupt the capitalist logic of commodity exchange, and the ways in which they interact with it or not. First we juxtapose different approaches to giving and sharing in the material world to these actions in an immaterial digital context.

2. Giving and sharing in the mediated age

In theories of traditional gift economies, power and symbolic capital play pivotal roles in the dialectic between giving and receiving. Some individuals are in a position to give more than others and, as Mauss (1950 [2005], 83) points out, '[c]harity is still wounding for him who has accepted it'. As a result, receiving in a material world often leads to the reinforcement of social relations, the cementing of social dependencies and the reproduction of the existing power relations.

This intrinsic linking of the gift to the obligation to reciprocate, and the emphasis on the two-dimensional power relationship between giver and receiver highlighted by Mauss, has been challenged by several authors. Hyde (1979 [1983]), for example, differentiates between true and false gifts: the former is given out of gratitude and the latter out of obligation. Cheal (1988) positions the act of giving in relation to friendship, love, strong ties and dependencies. Thus, these authors disassociate the act of giving from the need for reciprocity by stressing a belief in genuine generosity and altruism as the basis of giving.

Others find this problematic and try to articulate a distinction from the traditional gift economy, rife with the issues of reciprocity, power and the culture of sharing, to a situation less conditioned by the need for reciprocity. Sharing inevitably involves giving and receiving, but, according to Belk (2007, 127), it can be positioned as the absolute antipode of commodity exchange and involves no expectation of reciprocity. Belk proposes a continuum where 'commodity exchange lies at one end and sharing at the other, with gift giving somewhere in the middle'. Belk (2007, 128) goes on to connect commodity exchange with egoism, stinginess and impersonality, while identifying genuine altruism, generosity and personality as core characteristics of ideal-type sharing. Gift economies, then, combine aspects of both ends of the continuum and therefore, as pointed out above, are more ambiguous.

Sharing in the material world is seen as a highly interpersonal process, self evident, unquestioned rather than ritualized and contested as in the case of a gift. This difference is exposed linguistically through the use of the words *receiving/accepting* a gift and *taking* something that is being shared. Considering giving and sharing in a digital environment opens up an array of new opportunities in terms of fostering a culture of giving and sharing. Kollock (1999, 223) argues that many of the problems associated with giving and receiving in offline communities, can be overcome in online communities. He argues that the emergence of digital technologies and the internet has greatly reduced the costs associated with giving and sharing, and the scale of sharing has no consequences for its cost.

However, the nature of what is being shared – immaterial goods - is undoubtedly as important as the technology that enables its sharing. Digital immaterial goods are a potent illustration of what Mandel (1975) calls 'total automation' in pointing to the possibility to reproduce something infinitely without generating additional labour costs. This potential of infinite digital reproduction enables a reconnection with older

forms of cultural exchange; it transforms the digitized content into something like speech, and as we know '[t]he model of consumption does not fit practices of speech or singing' (Poster 2004, 417).

Also, sharing in a mediated and digital space as opposed to in the material world, is fed by the collective strength of (often very) weak ties in densely networked environments; it somehow links individual action and gain to collectivism without which the individual would gain nothing. Despite this, the existence of strong ties remains a quintessential condition for some particular forms of digital sharing requiring trust and/or expertise. Thus, ties in relation to giving and sharing in a digital environment are perhaps not so different from giving and sharing ties in everyday life. As Haythornthwaite (2002, 387) reminds us:

> ... ties of various strengths, with their different ranges and access to resources, fill important niches in our daily work and lives. The dual usefulness of strong and weak ties begins to provide some explanation for the impacts of new media.

This parallel between the offline and online in terms of ties, holds also in relation to the online reproduction of power-relations prevalent in the offline. For example, as argued elsewhere, web 2.0 has been almost fully appropriated and integrated in the capitalist hegemony (Cammaerts 2008).

Both state and market actors may attempt to appropriate or co-opt disruptive practices or use repression to stop them completely. Some forms of sharing are more vulnerable than others to the tactics of co-option and repression. At the same time, these interventions of state and market on disruptive practices of sharing are not necessarily detrimental and potentially might be productive.

Three modes of disruptive sharing in digital environments are developed here – sharing code, sharing digital content, and sharing access[1], Each is disruptive in some way, but also exhibits strategies of co-option by capitalist interests.

3. Disruptive Sharing Practices

'Information wants to be free' was one of the most pervasive phrases invoked by the early hacker movement, highlighting its ethics of open access to information and (technical) knowledge. However, the second phrase – 'Information also wants to be expensive' (Brand 1987, 202) – is often forgotten. In essence, we are confronted by a permanent tension and conflict between open access and exclusivity, between cultural exchange and commodity exchange, which is in line with well-known capitalist strategies of constantly attempting to create scarcity. At the same time, there are those who take a more normative stance saying that 'information ought to be free', and viewing information and knowledge as more than a mere product or tradable commodity. Such advocates of the public domain argue that 'different principles should govern the creation of property rights in information' (Mansell and Steinmueller 2002, 298).

The three modes of disruptive sharing addressed here are related, therefore, to a more fundamental debate around the sharing of and access to information and human knowledge, and the longstanding legacy in the sciences of a cultural exchange model. Similarly, culture has a long tradition of sharing geared towards diffusing ideas, songs, stories, which, above all, take place outside of the value-chain (Jenkins 2003).

Rejecting the commodity transaction model in terms of access to information and knowledge, and foregrounding a cultural exchange model, however, is not so straightforward. Mansell and Steinmueller (2002) point to the legal constraints: copyright and patent laws are fairly ubiquitous for newly produced content, and laws tend to dutifully protect the property regime. The authors also identify an opening for market actors to embrace the cultural exchange model by generating indirect or auxiliary revenues.

The first two modes of disruptive sharing – of code and digital content – to some extent defy the logic of commodity exchange, of private property, prevalent in the material world. In so doing they counter a propriety culture with a participatory culture marked by distinct cultural exchange models. However, this is not to imply that the market is absent, since the facilitation of these participatory practices or the distribution of the free good become ways of generating indirect revenues through subscriptions, premiums, service contracts or online advertising.

Perhaps paradoxically, we address sharing access to the internet as an infrastructure last, although in many ways it can be seen as the pre-condition for having access to open source software and networks, and to digital content, propriety or not. However, in this paper, access to the infrastructure is approached not merely in terms of extending the possibilities for sharing of information and knowledge in the form of digital code and digital content, but also as a vulnerability, a locus that can disrupt the disruptions which the sharing of code and of content represent.

Sharing code

The conflict between the hacking culture of early computing and programming and the propriety software industry erupted at a very early stage. It was Bill Gates who first accused the computer hobbyist community of theft and parasitic behavior in an open letter to the *Homebrew Computer Club Newsletter.*

> As the majority of hobbyists must be aware, most of you steal your software. Hardware must be paid for, but software is something to share. Who cares if the people who worked on it get paid? [...] One thing you do do is prevent good software from being written. Who can afford to do professional work for nothing? (Gates 1976, 2)

The Free/Libre and Open Source Software (FLOSS) movement has proven Gates to be wrong. Much free software has turned out to be more stable and less plagued by bugs than comparable commercial products developed by companies such as Gates's Microsoft. The FLOSS movement has been and continues to be a robust competitor to propriety software development at the global level.

About 67% of the 1 million busiest websites worldwide run on Apache open source operating systems, while Microsoft's share of server-market is a mere 17% (Netcraft 2010). Many companies have introduced open source software to reduce costs. For example, since 2001, the online bookseller Amazon has run entirely on the Linux OS, which has reduced its operating costs by about 25% (Shankland, Kane and Lemos 2001). Many universities and university libraries worldwide have adopted open source software solutions for databases, catalogues, intranets and teaching platforms. And in the developing world, many public institutions in Latin America, Asia and Africa have migrated to open source software and are actively supporting open source software development (Câmara and Fonseca 2007).

In 1989 Richard Stallman developed the General Public License (GPL) to suit the particular needs of the then burgeoning Free Software Movement. A Copyleft license,

as these came to be known, uses 'copyright law, but flips it over to serve the opposite purpose' (Stallman 1999, 59). Information is not just placed in the public domain; copyright law ensures that it remains public.

As a reaction to the radical GPL protection of the public domain from commercial exploitation and commodification, other more flexible licenses were introduced, which were more accommodating to market needs and, thus, opened the door to appropriation. These 'open source' - rather than free - public licenses impose fewer restrictions on what the commercial user can do with the material. Open source licenses are seen as being more business friendly precisely because, while they often allow redistribution under GLP, they do not always require it (Söderberg 2002). This is the reason there is some degree of propriety code embedded in most popular open source software programs.

Open source licenses have enabled parts of the corporate sector to support and invest in open source software development. Examples are endorsement of the FLOSS movement by IBM and Intel, among others, and successful open source companies such as Red Hat and Cygnus, along with the increased use of open source software in the private sector. Many companies have become highly profitable by providing auxiliary services geared towards open source software, such as customizing certain platforms or databases, packaging, installation or fixing problems. Co-option of the FOSS movement and parts of its ethics by corporate actors and interests, is not in itself necessarily bad. According to Söderberg (2007, 36), 'activists should not forget that the pragmatic attitude of hackers towards commercial involvement partly explains their stunning success'.

The growing involvement in the FLOSS movement of the corporate sector raises areas of contention related to labor, remuneration and coders' personal motivations for sharing their labor in collective and collaborative projects (Terranova 2000; Lancashire 2001 [2005]; Benkler 2006; Söderberg 2007). Achievement of social and symbolic capital –reputation and recognition within the movement – is often a powerful motive for coders to engage in open source projects. Collaboration and active contribution to an open source project can strengthen the software programmer's CV or improve access to venture capital (Weber 2000, 25). Some software companies allocate time for their programmers to work in collaborative open source projects to speed up their problem solving. Altruism, therefore, is not the only motivation of FLOSS developers. As Berguist and Ljungberg (2001, 313) point out:

> giving digital gifts does not remove the interdependencies between givers and receivers. But social relationships and obligations between the parties involved in the exchange are restructured based on the character of digital information and the Internet as a social world.

The FLOSS movement clearly has benefited societies by developing free software and making it accessible to a global public, and by devising a legal mechanism to keep free content firmly in the public domain. The disruptive impact of the FLOSS movement remains significant, but has been mostly neutralized by corporate actors. Also, the FLOSS movement operates within the copyright regime, even though it perverts it to protect the public domain. In the discussion on sharing digital content we show how the copyright regime is firmly rejected. One of the founders of *The Pirate Bay* describes it not as copyleft but as copyriot (Fleischer 2008).

Sharing digital content

As mentioned earlier, the sharing of cultural content and scientific knowledge is not a new phenomenon; it was quintessential to human development and advancement in pre-industrial societies. In industrial and post-industrial society several technologies and their potential to reproduce poetry, literature, paintings, music and later films, have contributed to the commodification of culture and increased the possibilities for sharing culture. With the emergence of digitalization, however, the scale of sharing changed radically. While pre-digitalization, the sharing of cultural content often occurred between strong peers, digitalization means it takes place in a context of (very) weak ties and on a global scale.

It is not only the scope of sharing that has increased exponentially as a result of digitalization, but also the breadth of what is available online. Advanced compression techniques, the emergence of decentralized peer-to-peer interfaces, encryption and specialist blogs linked to massive filesharing sites, have led to a situation where almost any digital 'product' – whether propriety software, music, e-books, magazines, films, TV shows and even live sport broadcasts - can be found, watched, read, listened to, shared and copied globally.

Two types of sharing of digital content can be differentiated. Decentralized peer-to-peer filesharing refers to anonymous 'peers', who share digital content, computer to computer, mediated by a bit-torrent protocol rather than a central server. This phenomenon has facilitated 'the easy spread of content in a way unimagined a generation ago' (Lessig 2004, 17). With this type of filesharing, whenever you are downloading you are simultaneously uploading, which makes taking, in a peer-to-peer context, inescapably altruistic whilst also being individualistic. This type of sharing has proven difficult to co-opt or repress due to its global and fragmented nature and, therefore, represents one of the greatest challenges for the neoliberal property rights regime.

The second form of filesharing occurs through commercial filesharing sites, which enable bloggers, aggregators and crackers to upload large (encrypted) files and/or make links to the content accessible to those who follow a particular blog, or enable the streaming of live TV broadcasts. Bloggers receive kudos for their labours to make accessible what is often obscure content, that is difficult to get hold of in the material world. They are seen by some as performing the activity of archiving and enriching the public domain (Bruns 2010). Filesharing sites popular with bloggers and aggregators, such as RapidShare, FileServe or Hotfile, operate premium services and both music and software blogs as well as the filesharing sites often host quite aggressive online advertising. Websites, such as V-Share, Livestream, Justin TV or Ustream, facilitate the streaming of live TV and, again, host excessive online advertising and offer premium services.

Nevertheless, the practice of sharing digital content online, in combination with total automation, in many ways rejects the current copyright regime, which is enmeshed in (intellectual) property rights – one of the cornerstone of the neoliberal paradigm. Steinmueller (2008, 17) in this context refers to the 'copyright-crisis era'. This explains the current heavy handedness of the entertainment industries in trying to discipline the sharing of digital content online through repression and scare tactics, and also through lobbying governments to adopt ever more stringent and intrusive legislation (Alliance Against IP Theft 2008; RIAA 2009).

In the context of the music industry, lobby organizations claim that labels and their artists lost more than US$ 40 bn in revenue in 2008 due to piracy and what they

consider illicit downloads (IFPI 2009: 22). They argue also that the total disregard of the consumer for the rights of copyright holders and creators not only causes serious damage to the music and entertainment industry, but ultimately will be detrimental to the diversity of cultural and creative production. Econometrics scholars, such as Zentner (2006) and Liebowitz (2006), support these arguments with empirical data; others reject these claims pointing to evidence that contradicts these gloomy projections, differentiating between activities within and sub-sections of the music industry and between different types of downloaders (Molteni and Ordanini 2003; Rob and Waldfogel 2006; Oberholzer and Strumpf 2007; Bhattacharjee, et al. 2007).

While it is generally accepted that projections of the losses due to peer-to-peer sharing of music are greatly exaggerated by lobby organizations, mainly because it is not realistic to assume that all the cultural products downloaded would otherwise have been purchased (Liebowitz 2006, 13), it is undeniable that the music industry generally, is struggling. While revenues for legal downloads may have soared[2], this does not compensate for lost sales of more highly priced CDs. It is debatable, however, whether this crisis is attributable to filesharing as such, or whether some broader societal causes need also to be taken into account. As Leyshon, et al. (2006, 181) argue:

> [T]he problems facing the music industry have not suddenly been manifested overnight, or even in response to on-line digital file exchange, but rather have accumulated over time in response to a set of broader cultural forces that have changed the role of music within society, and relegated its immediacy and importance among many of its consumers.

Music in the form of a digital file turns into something 'ephemeral, its duration becomes compressed, and it becomes more of a process than a finished product' (Terranova 2000, 48), which can be seen as reconnecting with a more traditional form of enjoying and sharing culture. The ubiquity of music in everyday life, the massive increase in releases catering to a multiplicity of genres and sub-genres, and limits on families' entertainment budgets, are all contributing to changing attitudes to music and its consumption. Furthermore, most filesharers although aware that their behavior constitutes an infringement, do not perceive it as morally wrong (Hietanen, Huttunen and Kokkinen 2008).

From the perspective of audiences or rather copyright users, it should be acknowledged also that digital filesharing has enabled many people to discover and to explore music, and have much more extensive and eclectic music collections than they could have afforded to buy. Thus, Oberholzer and Strumpf (2007, 40) conclude that '[t]he sheer magnitude of P2P activity, the billions of songs downloaded each year, suggests that the added social welfare from filesharing is likely to be high'. Similarly, Currah (2006, 443) points out that filesharing has 'facilitated much greater user participation in what had previously been an arcane "gift economy" dominated by enthusiasts and hobbyists'.

More and more artists and music labels are embracing and making full use of the file-sharing logic (Williamson and Cloonan 2007). It has enable (some) artists to develop direct relationships with their fans exploiting a revivified and vibrant participatory culture. Positive exposure, in the form of brand recognition, notoriety and fame, which draw audiences to concerts, is important, but so also is the so-called sampling effect of people buying music discovered through downloading (Oberholzer and Strumpf 2007: 38). The revenues from live performances increasingly are shared between artist and record label; many labels act as booking agents for their artists, and the proceeds flow back into new releases (Webb 2007). Some labels have developed innovative models of publishing music exclusively online under creative

commons licenses and accepting donations; a good example here is the Sheffield netlabel Planet Terror Records[3], but there are many others.

As with the case of the FLOSS movement, sharing digital content presents a mixed and confused picture. Because of its success and ease, but also because of its partial rejection of the property and commodity exchange regime, the sharing of immaterial digital content is one of the most disruptive forms of sharing. The gift economy of online file sharing is rife with implicit and explicit reciprocities. Peer-to-peer networks employ a form of enforced reciprocity, while commercial filesharing sites feed off the altruistic practices of aggregators, bloggers and hackers who invest much time and energy into recording, transferring, uploading, archiving and converting digital content for others to enjoy for free. Specialist bloggers can obtain kudos and accumulate social capital from their micro-audiences.

At the same time, tension is rising between what Jenkins (2003) called the participatory culture, which reconnects with older forms of cultural diffusion and the persistent efforts of states and lobby organizations to close loopholes and criminalize or repress certain practices that are an inherent part of this participatory culture. Recent regulatory initiatives in the UK and other countries to counter filesharing by monitoring online behaviour and penalizing offenders have serious implications for privacy online and for the information and communication rights of citizens (Banerjee, et al. 2008). They are also likely to be detrimental to the revitalization of the participatory culture and the innovation it represents. Also these initiatives are likely to fuel the ongoing turf war between the industry and hackers by bypassing technical means of protection and detection (Collins and Mansell 2005).

Sharing Access

Access to internet infrastructures has always been high on the policy agenda. However, internet access policy has been framed mostly from a technologically deterministic perspective of a linear trajectory from access to the internet, to ICT-skills training geared first to employment and, ultimately, to socio-economic inclusion. Integral to the early digital divide policies was the establishment of so-called public access points (Xavier 1997; Lentz, et al. 2000). In line with the determinist positions of policymakers, public access points were positioned in public spaces, such as employment or welfare benefit offices, and public libraries, allowing those on the wrong side of the divide to be reached easily (European Commission 2001, 18). However, studies have shown that social exclusion is a complex phenomenon and that access to an information and communication infrastructure is by no means the miracle solution to social inclusion and social cohesion (Norris 2001; Mansell 2002; Cammaerts, et al. 2003).

Today, public access to the internet increasingly is being provided by both municipal and private actors through public Wi-Fi services. Municipalities often legitimate state sponsored public provision as essential to attract tourists, stimulate the local business sector and/or cater to a young and media savvy urban population (Bar and Park 2006; Forlano 2008; Josgrilberg 2008). In the private sector, there is a multiplicity of commercial spaces providing free public wireless access, from brands such as Starbucks and McDonalds, to small local cafés, bars and bookshops (Forlano 2008; Hartmann 2009). This invites strategies of resistance by so-called 'wireless squatters', and encourages those providing the wireless access to make its users buy something (Hampton and Gupta 2008).

As Barranca's (2004) Gramscian triad of commercial wireless broadband (market), municipal wireless broadband (state) and community broadband networks (civil

society) implies, a third, community-based approach to providing access through Wi-Fi networks, has emerged, and is the focus of this part of the discussion. Community wireless networks, unlike municipal and commercial wireless networks, are bottom-up, grassroots initiatives providing Wi-Fi access. As Table 1 shows, there are some major differences within the community wireless sector, and various degrees of appropriation are apparent.

Table 1: Different models of community wireless networks

Type:	Characteristics:	Example:
Individual Wireless Providers	Consciously or unconsciously leaving your network unsecured, decentralized	-
Radical Wireless Networks	non commercial, copyleft, peer2peer culture, no intermediaries, decentralized	http://www.reseaucitoyen.be/ - Brussels (Belgium)
Community Owned Wireless Networks	not for profit, organizationally structured, also hold a lobby function for open internet, often centralized	http://www.nycwireless.net/ - New York (US)
Privately Sponsored Community Wireless Networks	not for profit, but yes to private sponsorship, often centralized	http://wirelessantwerpen.be/ - Antwerp (Belgium)
Privately Owned Community Wireless Networks	commercial models with social gain aims and outcomes	http://www.southwitham.net/6.html South Witham Broadband Ltd. (UK)

First, some people deliberately leave their wireless connection unsecured, enabling the very local community – immediate neighbors – to access the internet for free. Others might leave their connection unsecured due to a of lack of technical skills or knowledge that it can be secured. The net result is that a considerable number of people can access the internet through the unsecured Wi-Fi broadband connections of others.

While more organized, radical Wi-Fi networks are also highly decentralized, and aim to weave together a tapestry of individuals that can share part of these private broadband connections through an open source protocol, thus providing more protection to those who share their access. An interesting example of such a radical Wi-Fi project is *Réseau Citoyen* in Brussels (see Carpentier 2008). It was launched in 2000 and its website says:

> We consider that equality between citizens is important and therefore some technical choices are excluded as they would imply that some systems would have to play a preeminent role. Each citizen is represented by a router, and no router should be able to control others. [...] We exclusively evolve in the non-commercial world. The commercial world may be our neighbour, sometimes our partner but never our master.[4]

Hartmann (2009, 432) considers a similar case in Germany, the Freifunk network, which aims to foster 'a democratization of communication media and better local social networks through the sharing of Wi-Fi resources that further the development of more open networks'. This latter aspect – an allegiance to open source and open internet – is crucial to radical Wi-Fi networks.

Community owned wireless networks are even more structured organizationally, and at times also function as (local) lobby organizations; they are often inextricably

embedded in and/or connected to the local civil society ecology. They are 'examples of the way in which the community form of organizing can be applied in the area of telecommunications infrastructure albeit on a relatively small scale' (Forlano 2008, 3). *New York Wireless* is a typical case of a localized community-based wireless network that aims to 'work with public and other nonprofit organizations to bring broadband wireless Internet to under-served communities' and also sees itself as an 'advocacy group for wireless community networking'[5]. There exist a variety of ways in which access is provided, depending on local circumstances. Community-based Wi-Fi projects are often connected to similar initiatives across the globe through transnational networks, enabling the sharing of knowledge, open source software and different models for providing local access[6].

Privately sponsored community wireless networks are proud of their not-for-profit ethic in providing access to the internet, but associate themselves with the private sector in the form of direct partnerships, or through sponsorship and advertising. Privately sponsored community wireless networks favour linear connections between powerful nodes above the more anarchist tapestry of connections enabling radical and parts of the community owned models. The case of *WirelessAntwerpen*, described by Carpentier (2008) which recently became *WirelessBelgië*, is a good example of such a not-for-profit organization that is (partially) sponsored by the private sector. WirelessBelgië is an expert-led collective, consisting of a core group of enthusiastic radio amateurs and engineers providing free wireless access in cities through its own centralized network of powerful high-tech antennae and transmitters. It also negotiates access to high-rise buildings, with property owners, which are described as sponsors and which receive sponsorship in the form of hardware.

Finally, there are cases of private companies active within the community wireless access movement. In the UK in particular, this type of privately owned community wireless project is quite common in rural communities. *South Witham Broadband Ltd* describes itself as a local social enterprise serving the local community. The company was founded in 2004 and provides wireless and broadband internet access to the South Witham area, which is between Leicester and Peterborough.

The gift economy in relation to sharing access implicates reciprocity in various ways. The most apparent expectation of reciprocity is observed in commercial spaces, but also the motivations of local authorities for investment in free Wi-Fi access spots are often economic rather than altruistic. Some forms of community WI-FI are altruistic in nature, and aimed at sharing access with no expectation of reciprocity. In the case of individual sharers this is often unintentional. The service offers of radical and community projects are altruistic, but this generosity is often difficult to sustain. The lack of reciprocity means users often do not identify themselves with a community project, which is obliged to compete for frequencies and users, with more powerful commercial and municipal networks (Sandvin 2004; Carpentier 2008). Note that although many community Wi-Fi initiatives were born out of frustration at the lack of commercial or public alternatives (Forlano 2008), this frustration has also been used by some social entrepreneurs to appropriate the discourse of community WI-FI and provide subscription services to underserved local communities.

It must be remembered that frequencies – crucial to Wi-Fi technology – are assets, potentially subject to leasing through a licensing regime controlled by the state. It remains to be seen to what extent unlicensed community Wi-Fi networks will be allowed to operate in the future. Likewise, leaving one's broadband connection unsecured enabling neighbors to access the internet, also a form of sharing access, might have serious consequences in the near future. In the UK, one of the main

objectives of the Digital Economy Act (BIS/DCMS 2010) is to safeguard the rights of copyright holders, which facilitates repression of the participatory sharing culture and might have the negative effect of closing down community Wi-Fi initiatives, and scare individuals who share their broadband access with others around them, into securing their connection to avoid being held liable for copyright protected content downloaded by others using their connection or network.

4. Conclusion

In the three modes of sharing considered above, various ways of giving, receiving, sharing and taking can be observed. Also, sharing in digital environments does not rule out reciprocity, and altruism is by no means the only motive for sharing. Finally, all forms of sharing attract the imposition of various co-option and appropriation strategies, by capitalist agendas (cf. Table 2).

Table 2: Overview of the three case studies

What is Shared?	Disruption?	Reciprocity?	Co-option strategies?
(1) Code	Propriety software industry	- Intellectual property - Legal framework - Social capital and reputation - Career opportunities	- Open Source vs. Public Licenses - Embedding of propriety code - Indirect auxiliary models - Remuneration
(2) Digital Content:	Publishing and entertainment industry	- Enforced reciprocity - Online advertising - Kudos for bloggers	- Legal downloading - Premium services of filesharing sites - Artists/labels appropriating web 2.0
(3) Access	ISPs and the Telecom industry	- Buying something - Promoting a city - Advertising and sponsorship	- Commercial and Municipal Public Access WI-FI - Bandwidth - Appropriation of Community WI-FI

In terms of sharing code, the gift is always conditional, depending on the type of license. The GPL retains intellectual property, but subverts copyright law to keep the gift in the public domain, while some open source licenses enable the gift to be passed on to someone who ultimately will use it to generate added value. Sharing code invokes some reciprocity in terms of reputation, social and symbolic capital or the careers of coders.

Sharing digital content can be examined at two levels both involving distinct dynamics. First, peer-to-peer sharing between anonymous users operating through the strength of weak ties, can be seen as a form of embedded or enforced reciprocity; if you take, you automatically give as well. Second, another level of sharing digital content takes place through blogs and commercial filesharing sites. Here reciprocity emerges in the form of premium services to download more, and more quickly, or in the form of intrusive advertising. At the same time, bloggers often crave and receive kudos or positive feedback from other bloggers and/or anonymous downloaders.

Sharing access to the internet through Wi-Fi networks in cafés or bookstores is a gift with a clear expectation of reciprocity. Likewise, the motives of municipalities in providing Wi-Fi access are seldom expressed in terms of public goods. Many community Wi-Fi projects and individuals share their access altruistically, but here too a gradual co-option by commercial interests can be observed. To some extent this is inevitable since ultimately the costs of bandwidth and of infrastructure updates to provide the citizen or consumer with 'free' Wi-Fi access, has to be paid for by someone. This and the lack of identification of users with community projects seriously affects the sustainability of community Wi-Fi initiatives.

It is paradoxical that a fragmented individualism produced through the ideology of neoliberalism in combination with an anarchistic collectivism, drives the most disruptive forms of sharing – decentralized software development, anonymous filesharing and individual as well as radical Wi-Fi networks. Through these disruptive practices, altruism as well as reciprocity often become embroiled with individualism or even egoistic motives. What this points to is the complex relationship between the capitalist commodity exchange regime and its disruptions, between sharing, giving and exchanging. The rejection of the commodity exchange model by sharing practices in the digital context, however, is not necessarily ideological or negating neoliberalism since it often does not have a finite purpose, i.e. the destruction of capitalism. Code might be shared to further one's career as a programmer, a track might be downloaded because it is easy and cheap to do so, and access might be shared because of the lack of knowledge about how to secure a Wi-Fi network.

The above analysis shows that, over time, these disruptive sharing practices become (partially) enmeshed with capitalist logics aimed at creating added value through the disruption. As a result, some forms of sharing cease to be disruptive; in other cases the practices of rejection themselves become sources of commercial exploitations by indirectly providing revenue. So, a traditional form of capitalism clings on to the hegemony of the copyright/property regime, but more radical capitalist strategies appropriate the sharing culture in different ways. In some cases, this is not necessarily bad. The massive support of the FLOSS movement by (some) corporate interests has contributed greatly to its success. Commercial filesharing sites enable bloggers and aggregators to share large files with multiple others and to stream live television. South Witham Broadband Ltd in the UK, through a form of social entrepreneurship, provides better quality access and a dedicated service to remote local communities where the larger operators have not invested enough and service is poor.

While the sharing practices discussed here might not all aim to disrupt capitalism, pervert the property regime or reject the primacy of the market, to varying degrees these are often the end results. Certainly, in terms of the sharing of digital content the disruption is considerable, based on the scale at which it takes place and the wide diversity of the content that is made freely available. This leaves some important choices. The cultural exchange model and the participatory culture in which it is situated induces important societal benefits – externalities – which are difficult to measure in economic or quantitative terms, but are very real at the everyday level, for many citizens, in terms of the software they use, the culture they can enjoy and/or their access to the internet. Despite these gains, governments and parts of the entertainment industry are gearing up to confront this participatory culture head on by attempting to legally coerce it firmly back into the commodity exchange model.

However, in line with Adorno's words, quoted at the start of this piece, the history of digital resistance is such that new ways undoubtedly will be developed to counter efforts to close down participatory cultures based on cultural exchange models and to

escape the material exchange value. But as the above analysis shows, other forms of reciprocity apply in most digital participatory practices based on sharing and, furthermore, digital sharing practices do not inherently constitute an intentional act of resistance against neoliberalism's core-premises, they are to some extent a product of it.

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Notes:

[1] Other forms of potentially disruptive sharing not addressed in this paper include wikis and citizen journalism.

[2] Digital revenues grew to 3.7 Billion US$ in 2008, accounting for almost 20% of total recorded music sales (IFPI 2009. 6).

[3] See: http://www.planetterrorrecords.com/

[4] Source see: http://www.reseaucitoyen.be/wiki/index.php/Welcome

[5] Source see: http://www.nycwireless.net/about/mission

[6] The World Summit for Free Information Infrastructures held in London in 2005 and the International Community Wireless Network Summit held in the US (Columbia) in 2007 are illustrative of this (see Forlano 2008).