There Is No "I" in Torrent
Collective Effort and the Collected Self in Peer-to-Peer File-Sharing Networks

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Abstract
Master's thesis

In this study, the file-sharing networks known as private trackers are discussed, which are networks centered around BitTorrent technology. The purpose of the study is to explore how individuals share content on private trackers and discuss how the act of uploading is affected by actors within the file-sharing network. By using actor-network theory, both human and non-human actors that affect the network are taken into account.

The main findings are as following. File-sharing on this type of platform is dependent on users experiencing a sense of community. This experienced sense of community is not, however, taken as a basis for an academic definition of the concept. Instead, actor-network theory is used to show how the sense of community on the private trackers is constructed through interactions between several human, as well as non-human, actors. Hence, the community cannot be said to be primarily social in nature.

Since the network does not take the form of a primarily social grouping, the private tracker cannot be said to be a gift-giving economy, as described in previous research on file-sharing. Because of the large number of non-human actors in the network, interactions within the network are also shaped by the various incentivizing features built into the technology. Since gift exchanges between human actors are mediated by and through a large number of technological components, the metaphor of gift-giving is inadequate in the case of private trackers.

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1. Introduction

File-sharing exists in many different forms, of which BitTorrent[1] is one of the most popular. Although BitTorrent-based file-sharing is not the only type of file-sharing, it is responsible for a considerable amount of traffic on the Internet (Cardoso et al. 2012; Fleming 2012, p.672). Groups are often formed around the content that is shared and it is such a grouping that will be explored in this thesis. Such groupings are sometimes characterized as social in research on file-sharing; however, since they are in fact formed around digital artifacts, this is a slightly problematic assumption. By using actor-network theory, this analysis of file-sharing on private sites is centered around the relationships between human actors as well as non-human actors, and how these relations are mediated through layers of digital artifacts.

The practice of file-sharing is related to memory institutions like libraries and archives in that the groups formed through this practice serve to both preserve content and make it accessible. However, these groupings exist on a very different set of conditions than the aforementioned institutions, as they are partially constructed "outside" the law.

The groupings that are the offspring of file-sharing practices are by no means homogenous of nature, and are also dependent on the technological aspects of file-sharing. Especially successful at creating and maintaining large databases of torrents are so called private trackers. The fact that these sites have a distinct set of rules and features that incentivizes sharing is a contributing factor. But to what extent are users affected by these incentives? And what are their thoughts about sharing content in this context?

These are questions that, if not answered, at the very least will be thoroughly explored in this thesis; both through interviews with members of private trackers and by netnographic observation of the private trackers themselves.

1.1 Object of Study

The groupings that serve as the focal points in this thesis are, as previously noted, called private trackers. Private trackers are closed file-sharing networks, built around the BitTorrent protocol. They differ from public trackers in that they require the user to register a profile on the site. Most of the time, these sites do not allow people to freely register at any time. In order to become a member, new users usually must be

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[1] Explanations of terms related to BitTorrent and private trackers are included in the glossary.

sent an invite from an existing user. Some sites do, however, feature an alternative where a person wishing to be a member of the site can partake in an interview with an existing member and answer a number of questions that serve to discern whether or not this person is suited to be a member.

Most private trackers also require users to maintain a specific ratio of upload and download in order not to be banned from the site. This is a main incentive for users to upload new content, since uploaded and downloaded data in many ways acts as the main currency of these communities.

The private tracker has evolved approximately since the death of Napster in 2001 (Taylor & Pellegrini 2001) and the birth of Oink, a private music tracker, in 2004 (Happy Birthday to … Us! 2006). Private trackers have since become more complex and a couple of different types exist. The private trackers examined in this thesis are, as one member of the private trackers coined them, "niche trackers", which are centered on a certain kind of material. Other types of trackers, like general trackers, differ from this type in several aspects. They do, for example, not serve as communicative platforms in the same vein as niche trackers; neither do they allow all users to upload new content. Since the private trackers in this thesis are niche trackers, this analysis cannot be said to describe general trackers as well, or as mentioned before, public trackers; common denominators definitely exist, although the distribution of content often is somewhat dissimilar.

Andrade et al. (2009) make use of a useful distinction between the torrent-level and the community-level of BitTorrent based file-sharing sites. The torrent-level they discuss is in most aspects synonymous with the BitTorrent tracker, the protocol and server that facilitates communication between peers in the swarm; i.e. the BitTorrent tracker is what makes downloading and uploading possible (Cohen 2009). Conversely, the community-level is where users interact with each other and the interface of the site; the community-level includes, but is not simply reduced to, a BitTorrent index, which is a database of available torrents with descriptions. Both the BitTorrent tracker and the BitTorrent index are part of the private trackers as a whole and serve different purposes (cf. Caraway 2012).

1.2 Aim of the Study and Research Questions

The aim of this study is to explore how individuals share content on private trackers and how the act of uploading is affected by actors within the file-sharing network.

This study is carried out under the umbrella of Library and Information Science, but is also connected to other cross-disciplinary research fields such as Internet Research, New Media Research and Communication Studies. In these fields, little to no research has been conducted on how file-sharers relate to the specific file-sharing networks they use, and even less on private trackers in particular. Many studies are focused on "why" individuals are file-sharing, with little or no connection to the arenas where the file-sharing is in fact taking place. Instead, this thesis is centered around both "how" and "why" individuals share files; through this process, a more contextual, and, I believe, complete picture of a file-sharing networks is painted.

How is the content available on the private tracker perceived by actors in the network?

How is the content mediated by and through artifacts and how does this mediation affect the structure that human actors interact with?

How is the network constituted and what connections between the individual and the content are visible?

1.3 Significance to the Field

The study contributes to Library and Information Science in general, since it explores a sharing culture that lies at the very heart of libraries, as well as issues of preservation that are central to archives. While in many ways mimicking these ancient institutions, the private trackers also constitute a new platform for sharing, as they have a completely different relationship with laws of copyright and intellectual property. As any quick glance at journals in Library and Information Science and Archival Science will tell, questions of copyright are enormous problems that require a lot of time and personnel (cf. Dryden 2009; Farb 2006). As private trackers, to a certain extent, are operating outside the law, they have a wholly different relationship to the material, specifically how it is preserved and made accessible.

1.4 Ethical Considerations

Ethics in Internet research are complicated by the fact that the distinction between public and private on the Internet is somewhat blurred. The researcher has the possibility to go almost unnoticed through different contexts, which makes it easy to act as an "objective" observer. For this thesis, two documents have been taken into account to ensure an ethical procedure: *Ethical decision-making and Internet research* (Association of Internet Researchers, 2002) and *Good Research Practice* (Vetenskapsrådet, 2011). These two documents have served as basis for the planning of the research.

Since the private trackers, on which informants were contacted and interviews were conducted are private, accessible only to members, material that was not gathered by interviewing is treated as private communication and hence, was not quoted directly for the sake of the privacy of the informants. Furthermore, sharing copyrighted material on private trackers is illegal in most parts of the world and the informants should therefore not be able to be identified. Therefore, however tenuous the link between and nickname and person is, all informants are treated as anonymous. As the Association of Internet Researchers (2002, emphasis in the original) states, "*the greater the vulnerability of the author / subject - the greater the obligation of the researcher to protect the author / subject.*" Since most informants are, in fact, committing a crime, it seems reasonable to take precautions in order for them not to be able to be identified.

1.5 Definitions

Throughout this thesis, the objects of study will be referred to as *private trackers*. The reasons for this are the following. Private tracker is the word most commonly used by the members that were interviewed. The term private tracker in this sense is used by members to refer to the whole site, that is, both the BitTorrent tracker and the BitTorrent index; in this thesis, it will also be used in this manner. When the specific technical aspect of the BitTorrent protocol is referred to, I will use the term *BitTorrent tracker*. This technical use of the term has nothing to do with designating the whole network. Here, it is useful to consider the distinction between the community-level and the torrent-level that Andrade et al. (2009) make. The term private tracker, then, is used to signify both these levels by most users, but the original technical term, BitTorrent tracker, is meant to refer to specific parts of the torrent-level.

Previous studies refer to this kind of formation as a file-sharing community (Giesler & Pohlmann 2003a; Giesler & Pohlmann 2003b; Giesler 2006). Unfortunately, the term community, as in file-sharing community, too, has its problematic connotations, especially within an academic context, which will be elaborated on later. I believe it is better not to call the formation a file-sharing community, since it identifies the grouping beforehand as a community, which implies that social ties between members exist. When the word community is used it will be in the informants' sense of the word, as a sense of community, when they describe their connection to other peers.

A glossary of the specific terms used on private trackers is included in section 9.

1.6 Limitations and Outline

The scope of this study is limited to private trackers. Public trackers, like isoHunt and the Pirate Bay[2], work in a slightly different way, since they do not restrict their user base to members. This is not a netnography of an online community per se. The study is, rather, bifocal in the sense that the technical aspects of the tracker will be analyzed on par with the experiences of the informants.

The structure of this thesis is as following. In section 2, I will provide brief discussions of previous research on topics related to this study, such as file-sharing communities, collaborative effort online as well as the concepts of network and community. In section 3, actor-network theory will be introduced and the main analytical tools used for this study will be discussed. Thereafter, in section 4, the methods used to gather material for the study will be presented and the subject of text-based interviews will be problematized. In the results and analysis, section 5, the actors that play important roles in the network will be discussed and the informants'

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[2] The Pirate Bay is not BitTorrent tracker anymore, only a BitTorrent index (cf. Caraway 2012). However, as previously discussed, the concepts of private tracker and public tracker are used to refer to both the index and the tracker most of the time. Furthermore, the Pirate Bay is often listed as an example of public trackers in previous research (Cardoso et al. 2012; Lindgren 2009).

views on the file-sharing network will be presented. Lastly, the main findings will be summarized and problematized in section 6.

2. Literature Review

In this section, previous research in areas related to file-sharing will be discussed. First off, research on file-sharing communities will be explored. Secondly, factors that motivate individuals to engage in file-sharing will be considered. Thereafter, I will briefly point towards similarities between collaboration on private trackers and on Wikipedia. Additionally, the digital objects that are part of the private trackers as well as anti-piracy law will be discussed. Lastly, the concepts that are central to research on file-sharing, community and network, will be problematized.

2.1 File-Sharing Communities

To date, research on file-sharing communities is sparse and tends to be exploratory of nature. A few researchers, however, have provided succinct insights into the mechanics of file-sharing communities. These will briefly be presented in the following sections.

Two of the researchers who have extensively explored file-sharing communities are Markus Giesler and Mali Pohlmann (see Giesler & Pohlmann 2003a; Giesler & Pohlmann 2003b; Giesler 2006). Giesler's and Pohlmann's object of study is Napster, which is a now defunct[3], peer-to-peer file-sharing program that enabled users to access music located on the hard drives of other users. While the technical aspects of Napster file-sharing are by no means identical to file-sharing centered around the BitTorrent protocol, they still share many of the socio-technical attributes that form the basis of user-to-user interaction within the network. The software of Napster includes an interface for downloading mp3 files as well as an IRC-client through which users can communicate with each other (Giesler & Pohlmann 2003b, p.6). Communication via forum is also available at Napster's website. Private trackers also have these features which makes a comparison between the two systems viable.

Giesler and Pohlmann (2003a) explore the consumption of music with the technology of Napster within the context of file-sharing as a gift. The main facilitator of this gift-giving is, in their opinion, the "community," which in their analysis serves as an intermediary in the relationship between user and content. The community, in this case, can be said to be both the donor and the recipient of any gift transaction that occurs (Giesler & Pohlmann 2003a, p.7). In the case of gift giving, this means that reciprocity "[...] does not necessarily involve total reciprocity between two individuals, but the social obligation to give, accept, and 'repay'—which means to

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[3] Technically, it still exists, but it is now operated as a commercial platform.

reciprocate within the network" (ibid). In addition to this, private trackers also have a number of additional features that incentivizes users to 'repay' the community, which will be discussed in the analysis.

A typology of four different Napster users is presented by Giesler and Pohlmann (2003a, p.11). Although no such typology will be garnered through the material of this thesis, this typology nonetheless serves as a useful starting point for observing file-sharing:

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Adressee of Action

	Agonistic Actions	Altruistic Actions
Autotelic Actions	Gifting as Realization	Gifting as Participation
Instrumental Actions	Gifting as Purification	Gifting as Renovation

Purpose of Action

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Gifting as realization means that an individual is primarily using Napster for his/her own consumption experience. Gifting as purification constitutes a similar action since it, too, is centered on the individual. However, this action constitutes a sort of anti-capitalistic political statement, in that the individual refuses to partake in the market economy. These two metaphors differ from the other two, since they, according to Giesler and Pohlmann (ibid), constitute agonistic actions. An agonistic action, here, is conceived of as an act that does not necessarily serve to benefit the network in its totality. Gifting as participation, instead, implies a focus on the social aspects of Napster. Here, participation is a goal in itself. The last metaphor, gifting as renovation, is similar to gifting as purification, but involves a larger social movement type of mentality; the individual regards the action as a macro-oriented political action. File-sharing is seen as a resistance against capitalist modes of production. In contrast to Giesler and Pohlmann, I argue that in the case of private trackers, all these aspects, while present, are bundled together in a way that makes typology superfluous.

In *Cybernetic Gift Giving and Social Drama*, Giesler (2006, p.47) argues that the interactions that occur within the Napster network are examples of pure gift giving. Giesler characterizes file-sharing on Napster, and similar platforms, as polyadic instead of dyadic gift giving. As earlier theoretical approaches to gift giving (cf. Sherry 1983; Belk & Coon 1993) mainly explore dyadic gift giving, Giesler (2006, p.25) argues that these models are inadequate when researching file-sharing because of the polyadic nature of file-sharing. Giesler (2006, p.29) evokes Deleuze and Guattari's (2004) concept of the rhizome in order to describe the relations that occur within the file-sharing communities, which can be thought of as a "gifting rhizome."

Giesler also describes the human actors within the file-sharing community as "hybrids," whose agency is dependent on several technological aspects of file-sharing: "Napster's cyborg consumers 'operate' as multidirectional gifting agents; they simultaneously perform the roles of donor and recipient, empowered to give and receive multiple cybernetic gifts at the same time." Traditional gift giving implies that something is lost when given away; in the case of file-sharing communities, users still retain the files they are sharing, which affects the threshold for gift giving (Andersson 2012, p.588).

Giesler (2006, pp.31-33) introduces the concept of metareciprocity in order to adequately describe these relations within the file-sharing community that constitutes Napster. Reciprocity is an important part of the communities, and, as Willson (2006, p.28) suggests, constructs a sense of solidarity among members. However, metareciprocity works on another level than that of basic reciprocity. Giesler (2006, pp.31-33) defines metareciprocity as "[...] the informal multidimensional gifting relation of mutual action and reaction among agents within a gifting community or between an agent and the gifting community." On Napster, sharing is intimately linked with downloading, since, as Giesler notes, the files downloaded by one user are automatically made available for other users. These transactions are always facilitated by the software of Napster. Metareciprocity is thus a central feature of Napster.

It is unclear whether or not these transactions of data within the community of Napster can be conceived of as cases of pure gift giving. Giesler (2006, p.47) contends that "[...] the cybernetic gift cut[s] traditional economic strings [and] fundamentally brackets out social gifting relationships." However, on the private trackers, a new economy replaces the "traditional economic strings." And this economy is involuntarily related to the market economy outside it, as is discussed further ahead; although it is not, as Andersson (2012, p.589) states, the case that the relations within a file-sharing network constitute a separate market economy. As Lampel and Bhalla (2007) show, status seeking is always present in online communities, which in effect also counteracts any idea of altruism or pure gift giving. Giesler (2006, p.33) himself even states that "both altruistic and agonistic Napster users strengthen the community as a whole since automatic reciprocity is a built in software function." Even if the outcome of an act is beneficial to the community and has a positive impact, it does not necessarily make it a "pure gift."

It is only very recently that file-sharing groups centered around BitTorrent have been explored. In a recent study, Caraway (2012) discusses, among other things, the sense of community in peer-to-peer file-sharing networks. Caraway (2012, pp.576-580) observes that many of the informants refer to a community that is anchored around a specific file-sharing network. In his study, especially informants who were members of private trackers commented on the beneficial aspects of a sense of community among file-sharers. Since Caraway's study is exploratory in nature, no further analysis of how this sense of community is constructed is conducted. In this thesis, questions concerning this construction are discussed and problematized.

Sano-Franchini's (2010) study of a small private tracker is one of the few studies that explores the structure of private trackers. Sano-Franchini (2010) discusses how the

cultural lag behind technology becomes articulate in the case of file-sharing. As she (Sano-Franchini 2010, p.209) states, "[...] because [file-sharing] culture takes place in a wholly technological space with material traces, memory and propensity for cultural adjustment in conjunction with technical evolution is enhanced." Sano-Franchini also means that technology and culture is bound together inextricably, which is especially evident in the case of private trackers.

2.2 Attitudes and Motivations of File-Sharers

Research on motivations for file-sharing and the attitudes of file-sharers have been conducted more frequently than on the communities that are formed around the file-sharing networks. One reason for this may be that research on attitudes and behavior can be conducted in a larger amount of disciplines, like Sociology (Lindgren 2009), Business Studies (Giesler 2006; Huang 2005), or Information Studies (Williams, Nicholas & Rowlands 2010; Plowman & Goode 2009) and can be "applied" to file-sharing in general, whereas the community-aspect is studied in fewer disciplines and is more context-specific and less generalizable.

Lindgren (2009, p.120) identifies two prevalent patterns in previous research that distinguish attitudes of file-sharers, specifically why individuals often seem to ignore the existence of anti-piracy laws. He labels the first one of these "the postmodern paradigm" and the second one "the political paradigm."

Within the postmodern paradigm, file-sharers constantly invent new ad-hoc justifications for downloading; these ad-hoc solutions take their basis in the file-sharers perceived distance from traditional law in the digital environments of the Internet. This is in many aspects related to Sano-Franchini's (2010, p.209) statement that culture lags behind technological inventions, which is noticeable in the case of anti-piracy law (Larsson 2011, p.28). Lindgren (2009, p.130) suggests that this may be the case but is somewhat hesitant to attribute explanatory potential to it. In contrast to the postmodern paradigm, individuals acting within the political paradigm can be said to be morally aware of the ramifications of their actions. File-sharing, in this case, is seen as political activism, as a way to achieve a cultural identity (Lindgren 2009, pp.210-211). In his research, Lindgren explores both these paradigms through interviews with file-sharers and through his findings makes three, partly overlapping categories that file-sharing can be said to represent: file-sharing as everyday culture, file-sharing as political culture, and file-sharing as innovative culture.

Huang (2005) identifies three different perspectives on file-sharing that exhibit different types of user behavior. One of these perspectives, the social networking perspective, is especially relevant for a study of private trackers, since users constantly interact with each other on the forums and IRC. From this perspective, major factors in much research on motivations for file-sharing, such as references to market economy, become secondary. For individuals who see file-sharing from this perspective, then, moral and economic dilemmas of file-sharing are of little concern. Rather, the communicative aspects of being part of a group are paramount. This is similar to the view of individuals that act according to Lindgren's (2009, p.120) postmodern paradigm, where ethical dilemmas simply are ignored. Williams, Nicholas and Rowlands (2010, p.290) note that the lack of visible victims also affects

the way individuals behave; this is also interesting to take into account when it comes to private trackers, since they constitute a more or less closed network, where the victims can be said to exist outside that sphere.

Cenite et al. (2009) explore the different motivations for downloading, as well as uploading content in file-sharing networks, which is interesting since most other studies, as discussed previously, are concentrated on downloading behavior. In their interviews with file-sharers in Singapore, they notice that many respondents express an obligation give back to the community by uploading (2009, p.214). Cenite, et al. also refer to the sense of community among file-sharers. However, no analysis of how the sense of community is constructed is conducted, nor are the specific platforms for file-sharing discussed; as Caraway (2012) observes, the nature of file-sharing varies from platform to platform and the sense of community that file-sharers recognize is often the product of such a specific platform. In Caraway's study, no such thing as a global peer-to-peer community is observed.

As we will see, many of these different motivational factors explored in previous research are, in fact, highly context-dependent. To what extent attitudes of file-sharers are linked to the platform where the file-sharing takes place will also be discussed later; reasons for uploading, downloading and other habits of file-sharers varies depending on whether the tracker is public or private, what kind of content a specific tracker focuses on, as well as other variables.

2.3 Collaborative Effort Online

To this date, much of the research in the area of collaborative efforts online focus on Wikipedia (see Sundin 2010; Niederer & van Dijck 2010; Forte & Bruckman 2005; Lessig 2008, pp.155-176). As Lessig (2008, p.156) notes, Wikipedia is a "paradigm case" in research on the collaborative web. Some research has been conducted on file-sharing as collaborative effort (Andersson 2012; Lindgren 2009), although very little that factors in the platform for file-sharing, like BitTorrent or Napster. In this section, references will be made to research on collaborative effort on Wikipedia, which features structures that are similar to those on private trackers.

Lampel and Bhalla (2007, p.444) explore the role of status seeking in online communities and find a strong link between top contributors and status seeking as motivation. In order to sustain a virtual community, they argue that a system wherein individuals are likely to directly see the benefits of contributing must be in place (Lampel & Bhalla 2007, p.440). Furthermore, they note that "sustainability cannot [...] depend on altruism that is sporadic and is confined to a small number of individuals, nor can it depend on complex and rational calculations such as norms and reciprocity." They also state that status seeking can be viewed as sort of individual passion, which some users find enjoyable. This is also what Giesler (2006, p.33) suggests when he argues that both agonistic and altruistic behavior on Napster benefit the community.

Niederer and van Dijck (2010) focus on the network of humans and non-humans which collaborate on Wikipedia. As they themselves put it, "[...] we want to theorize human and machine contributions as complementary parts of a sociotechnical system[4] that lies at the heart of many Web 2.0 platforms" (Niederer & van Dijck 2010, p.1370). In the network that constitutes Wikipedia, collaboration at all levels should be equally considered and equally treated as factors contributing to the success of Wikipedia (Niederer & van Dijck 2010, p.1373). Niederer and van Dijck also mean that it is necessary to include non-human actors in analyses of sociotechnical systems like Wikipedia. Therefore, bots and automated scripts are important actors in their analysis, which, to a large extent, have been ignored in previous research (Niederer and van Dijck 2010, p.1376). Niederer and van Dijck (2010, p.1378) argue against the arbitrary division between non-human and human actors, since what exists it is in fact humans assisting non-humans and non-humans assisting humans, forming various actor-networks.

An important aspect of collaborative effort on Wikipedia is, as Shirky (2008, pp.118-120) mentions, "spontaneous division of labor." Shirky argues that the process of elaborating an article on Wikipedia involves a division of labor in that different users may contribute on diverse parts of an article. The article is incrementally built through these edits, and the process does not follow an explicit structure, since it is not clear exactly what aspects the "finished" article will include. Rather, this is determined by the backgrounds of users who choose to collaborate. This is not saying that articles on Wikipedia are created without rules or guidelines. Indeed, there is a vast amount of guidelines, which users may follow. But, the interesting thing here is the way that the work is delegated; some users edit, some add references, some write what they know (Shirky 2008, p.132). Even more interesting is that this delegation of work includes non-humans, like bots and scripts, as observed by Niederer and van Dijck (2010, p.1376).

Sites like Wikipedia indeed create "[...] a need for participants to invest themselves in the community" (Forte and Bruckman 2005). These power structures that shape the community on Wikipedia are similar to those proposed by Latour and Woolgar (1986), in that they do not need to result in explicit hierarchies in the network. Sundin (2010, p.848, p.858) too, makes this analogy and also emphasizes the editor's crucial role in shaping knowledge on Wikipedia and highlights the janitorial function of the users of Wikipedia.

2.4 Digital Objects

Digital materiality is, in many ways, a difficult thing to define (Leonardi 2010). It is, however, crucial to have a good grasp of the concept when one delves into digital landscapes. Leonardi (2010) explores three different definitions of materiality in order to arrive at a conclusion on what constitutes materiality in academia. In one of the definitions, an emphasis lies on the performative aspects of material objects. As he himself puts it, "perhaps what matters most about an artifact is not what it's made

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[4] A sociotechnical system is a system that includes both social and technological components in its structure.

out of, but what it allows people to do." This definition of materiality and its relations is especially fruitful for the analysis of virtual networks.

In this way of looking at it, "[...] whether these artifacts are physical or digital, their 'materiality' is determined, by when, how, and why they are used" (ibid). If that is the case, then materiality cannot be said to be an inherent property of the artifact itself. Rather, it is constructed through the interplay between humans and technological artifacts. This way of looking at digital materiality is beneficial, since it, in my opinion, emphasizes the tangibility of digital artifacts.

Kallinikos, Aaltonen and Marton (2010) discuss the problem of archiving digital content, where the artifact is subject to continuous change. As they note, "an archive of digital objects is an attempt to freeze the inherent fluidity of digital objects." Digital artifacts have an evasive character and therefore to some degree resist being pinpointed and identified. The torrent file is no exception to this rule, but it can be said to exhibit a constrained fluidity, which will be discussed in section 5.1.1. As Kallinikos, Aaltonen and Marton (2010) note, digital objects are not objects in a traditional sense, instead they can be thought of as proxies of objects, which can be disassembled and reassembled an infinite number of times. Through this process, the object is, as Leonardo (2010) suggests, given its features by both the users and other artifacts.

2.5 Anti-Piracy Law

In their article "Legal Form and Cultural Symbol: Music, Copyright, and Information and Communication Studies" Kretschmer and Pratt (2009) note that "[…] copyright law constitutes the object it governs." The private tracker can partially be said to be response to the state of anti-piracy law, as are the torrents on it. However, private trackers should not be considered a utopian sphere on the net, where notions of copyright and intellectual property are abolished. As Petersen (2008) argues, "although there are zones of autonomy and piracy online, it is important to acknowledge that the Internet, always and already, operates within the confinement of capitalism." Petersen does not necessarily mean that file-sharing sites operate within the capitalist system; however, in this analysis, anti-piracy law is an important force that affects the private trackers in significant ways. Thus the private tracker is not a "zone of autonomy" per se, since it is indirectly regulated by copyright law. Flanagin, Flanagin and Flanagin (2010, p.189) mean that the enforcement of copyright law online clashes against the very character of the Internet. In their analysis, it is conceived as "a countervailing force designed to reign in the inherent openness of the architecture and design of the internet" (ibid).

Nolin (2010) brings up a similar point when discussing different meta-ideologies present on the Internet. According to Nolin (2010), the distributed character of the Internet is threatened by attempts to standardize and regulate access to different locations. Since the Internet is decentralized, it cannot be regulated in an ordinary hierarchical manner; rather, it can be controlled through exclusory practices. This can be accomplished by targeting the ISPs (Internet Service Providers), as Larsson (2011, p.28) notes. Larsson states that taking such actions is currently a trend in anti-piracy legislation in Europe, which can be viewed as an attempt to control the Internet.

Katyal (2009, pp.403-408) observes that this sort of controlling efforts have been noticeable in U.S. law for some time; with the implementation of DMCA (Digital Millenium Copyright Act), the users are indirectly governed through the ISPs. Such laws and legislations have been shown to inhibit file-sharing (Plowman & Goode 2009), but to what extent is still uncertain.

2.6 Virtual Communities or Networks

In this section, I will consider two different terms for the analysis of private trackers, community and network. First off, a brief history of the concept of online community will be presented and problematized. Thereafter, I will discuss the different aspects of networks, more specifically the similarities and dissimilarities between definitions of networks and communities.

In this thesis, the private tracker will be treated as a network. However, a discussion of online communities, or as they also are referred to, virtual communities or cybercommunities, is necessary to engage in before we delve into the multiplicities of networks. The concept of virtual community was first introduced by Rheingold (1993) in his groundbreaking work on communities situated on the internet, such as different types of MUDs.[5] The concept of community in the digital age is, however, a problematic one, since, as Willson (2006, p.35) notes, "[...] many theorists of community fail to consider in any meaningful or comprehensive manner the different types of interaction that take place within and between communities." Different descriptions of community will be discussed in the following sections and will be contrasted and complemented with actor-network theory, henceforth ANT, as developed by Latour, and also to some extent models for network analysis, which are advocated by Castells (2000). As we will see, these theories have some common ground and a discussion of these different theoretical conceptions of communities and networks will elucidate the subject.

Fernback[6] (2007, p.52) argues that the concept of community has been diluted. He means that community is only a buzzword and that "it is too guided by social norms, not only in the geographical sense, but in the affective sense (as in 'a feeling of community')." Furthermore, it is, as Bell (2001 p.101) notes, difficult to establish where the line between online communities and online subcultures actually should be drawn. The active participants in the online groups that Fernback (2007, p.54) interviews, frequently refer to the online groups and forums they are part of as communities. The difference between academic and non-academic use of words may not usually pose a difficulty, but in the case of community, the connotations are neither desirable, nor practical. This "sense of community" that the informants refer to, should not be taken as a basis for an academic definition of the concept. As

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[5] A MUD is an acronym for Multi-User Dungeon, which is a, usually text-based, virtual world where users act through a fictional persona.

[6] It is important to note that Fernback's solution to the problem of "community" differs in some aspects from Latour's notion of a network. Fernback (2007) argues that symbolic interactionism is well suited for such an analysis of networks, while Latour rejects this idea because symbolic interactionism does not take non-human actants into account (Blok & Elgaard Jensen 2011, p.115).

Fernback (2007, p.52, p.62) notes, community has been used in a variety of different academic disciplines as well, which makes its meaning even more difficult to pin down:

> The community metaphor placed on virtual social relations is inadequate and inappropriate. The metaphor is one of fellowship, respect and tolerance, but those qualities describe only a fraction of our culturally understood ideas about community.

Non-academic uses of the word community that refer to individuals' self-described connection to a group are not homogenous. Nonetheless, when informants refer to a sense of community, a sense of solidarity, fellowship and respect are often what they want to convey.

In an attempt to solve this problem, Feenberg and Bakardjieva (2004, p.37) emphasize Benedict Anderson's standpoint that "[...] all communities larger than primordial villages of face-to-face contact [...] are imagined." The fact that they are imagined does not, however, mean that the grouping that is understood as a community should not be studied. Rather, Feenberg and Bakardjieva (ibid) argue that the way the individuals imagine the community should be the primary object of study. This is similar to Baym's (1998) views on community, where a group is considered a community if the members of the group think of it as a community. This means that community is not to be viewed as a whole; instead, Feenberg and Bakardjieva's approach to studying communities is reminiscent of how a network is constituted within network analysis models. Network analysis, as developed by Castells (2000), implies a focus on the links formed between nodes that exist in a network. A node, which is a point or a dot, can only be identified by analyzing the links that it forms with other nodes. A node, then, is only a node when in dialogue with other nodes. This sort of relational analysis also lies at the very heart of ANT.

Gouchenour (2006) introduces the concept of distributed communities in an effort to escape the all too bounded sense of community that implies a tight knit group of peers. The distributed community, according to Gouchenour (2006, p.34) is "[...] something that utilizes the internet as an infrastructure to compose itself." This version of distributed communities has a lot of common denominators with network analysis. Firstly, Gouchenour (ibid) makes use of nodes to explain the constituents of a community. Secondly, these nodal subjects only exist through communication with other nodes (Gouchenour 2006, p.39). Drawing upon Vilem Flusser's model of networks, in which the connections are made through language, as well post-structuralist ideas of identity, Gouchenour (2006, p.45) concludes that "[...] no subjectivity pre-exists communication with others, and the subjectivity that develops is indeed multiple, a product of the various interactions in the different worlds that are brought forth with others." Following this logic, these nodes that he refers to are indeed empty of information and cannot exist in a vacuum.

Mejias (2010, p.612) offers a critique of network analysis, where he discusses nodocentrism in networks. That which is not a node (or is not identified as one) is left out of the analyses. This problem is, however, somewhat circumvented by applying an ANT perspective, where human and non-human actors alike are able to function as actors, or in the case of network analysis, nodes. Mejias uses the term, paranode, to

refer to anything that is not a part of the network itself. This paranodal space, as Meijas refers to it, acts as a catalyst for events transpiring within the network.

Furthermore, Meijas (ibid) claims that an analysis of a network will remain incomplete if the paranodal space is not taken into the account. I find this claim problematic since Meijas description of the paranodal space is lacking. Meijas (2010, p.613) argument for analyzing the paranodal is that it "[...] uncover[s] the politics of inclusion and exclusion encoded in the network." However, it is not clear exactly how the paranodal space should be analyzed; if something affects how the network is constituted, is that something not part of network itself? In Latour's (1991, p.119) opinion, nothing that affects the network can be outside it. However, then the problem of what to include arises. In the case of networks situated on the Internet, the online/offline divide is especially problematic, since it is not clear to what extent offline matters affect online interactions. Some delimitation of the scope of the research must, however, always be made in order not to render the analysis useless. For the sake of clarity, in this study, the interactions taking place online, not the corporeal incarnations of the actors, will serve as focal points.

The concept of network, to some extent, escapes the pitfalls of community in that it does not signify tight-knit groups (Fernback 2007, p.54). Fernback (2007, p.54) means that forms of networked individualism, rather than presuppose collectivism, are based on loose structures: "networked individualism downplays any culturally relevant collectivism or group activism initiated in online interactions." This approach is, in my opinion, beneficial for discussing private trackers as these networks always are instrumental to some extent; members visit the sites explicitly to download material. That is, however, not to say that is the sole reason for visiting the site, but it does constitute an ephemeral core, around which groups are formed.

The concept of networked individualism derives from Castells' work on the network society. In Castells' (2000) work, emphasis lies on the human components of technological progress and the role of economic systems in the information age. Because of these foci, Castells' theoretical corpus is of relevance to research on file-sharing communities. Castells' notion of the network society is useful to consider as it provides a backdrop, before which private trackers operate; everything inevitably relates to the global capitalist mode of production. However, important as it is, it does not, in my opinion, provide as useful a theoretical grid as the network discussed in ANT. Castells' theory of the network society is useful in some aspects and, as Latour also points out (2005, p.129), several similarities between the use of the term "network" in ANT and network analysis exist. However, ANT is better suited for exploring the internal gridwork of the interactions on private trackers.

From the point of view of ANT, the word community is somewhat problematic since it implies that the interactions occurring within a collective is primarily social in nature; it infers that what is described is a grouping of human actors, who shape the form of the network, when in reality non-human actants also are deeply involved in this process. In ANT, terms such as group and network are preferred, since they imply nothing of the size or shape of the object (Latour 2005, p.28). Because of these connotations, I argue that it is not beneficial to use the term community in an academic sense; network is a more suitable term for exploring the interactions on

private trackers, since the researcher is able to primarily look at what forms the interactions within the network take, without being limited by a notion like community that presupposes a certain type of communication.

3. Theory

The primary theory that is used to analyze private trackers is, as mentioned earlier, Actor-Network Theory, or ANT, which has been developed within the field of Studies of Science and Technology (Talja 2009, p.4604). ANT provides a fitting framework for examining these types of constructions because of its focus on human, as well as non-human actors within a network. This makes for a fruitful analysis of private trackers, as it is possible to identify several important non-human actors that interact with each other, and to leave these out of the analysis would be detrimental to the results, as suggested by Niederer and van Dijck (2010, p.1373).

ANT has often been used in analyses of those kinds of sociotechnical systems that private trackers are akin to, like Wikipedia (Niederer & van Dijck 2010; Forte & Bruckmann 2010), and can be very useful when conducting research within Library and Information Science (Wheeler 2010, pp.200-201; Sundin 2010; Talja 2009; Kling, McKim & King 2003; Bowker & Star 1999). Latour is also often invoked in research on file-sharing (Giesler 2006; Andersson 2012).

3.1 Actor-Network Theory

If one were to discern a central figure in the theoretical field known as ANT, it would most likely that of Bruno Latour, who throughout his career has developed the theory. At times, he has been a critic of the term ANT; as he puts it in "On recalling ANT": "[...] there are four things that do not work with actor-network theory: the word actor, the word network, the word theory and the hyphen" (Latour 1999a, p.15). His disillusionment here takes its basis in the way supposed proponents of ANT use the term network in an increasingly vague and overlapping manner. In *Reassembling the Social*, however, Latour (2005, p.9) recants this previous statement, suggesting that ANT serves as a functional metaphor to describe the theoretical field. In this thesis, Latour's version of ANT will primarily be used, but other scholars associated with ANT, such as Michel Callon, will also be discussed.

Blok and Elgaard Jensen (2011, p.5) suggest that Latour's corpus can be divided into four, partly overlapping, phases or projects following along two different axes: the thematic axis, which designates Latour's interest in the theme of science and technology, and the ontological-metaphysical axis, which concerns his anti-dualist, anti-modernist philosophically oriented work. Among the four phases listed by Blok and Elgaard Jensen (ibid), two will chiefly serve as reference points throughout this thesis. This is Latour's sociology of associations, as introduced in *Reassembling the Social* (2005) as well as his anthropology of science, as featured in "Technology is society made durable" (1991) and *Laboratory Life* (1986).

At this point, a brief sketch of the main features of ANT is appropriate. In his seminal article "Technology is society made durable," Latour (1991, pp.104-109) advocates the equality of human and non-human actors and shows how actions are performed by clusters of actants that include both these sets of diverse actors. As an example to illustrate his point, he takes a hotel manager who wants to remind his customers to turn in their keys before leaving the hotel. His argument is that the effect of the act of reminding customers to return their keys is dependent on both human and non-human actions. By attaching a metal ball to the set of keys, the hotel manager makes it uncomfortable for the residents to carry the keys with them. This metal ball is not merely the result of an action taken by a human, the hotel manager, it also, by itself, shapes the way the residents view the set of keys. Latour (1991, p.108) states that this "[...] movement [...] is neither linguistic, nor social, nor technical, nor pragmatic." Interaction does not solely occur between objects or solely between humans. Instead, it is material-semiotic; these movements are comprised out of chains of associations that bind together humans and non-humans alike (Latour 1991, p.110). These are the fundamental building blocks in ANT, the so called actor-networks.

Latour disassociates himself strongly from a number of theories, or metatheories, most vocally social constructivism, or the sociology of the social, as he terms it, and post-structuralism. Latour's main objection to social constructivism is its focus on social relations as an explanatory force (2005, p.8). Layers of social interactions does not simply stack on top of a pre-discursive nature, rather, they are deeply intertwined with non-human actor-networks (Blok & Elgaard Jensen 2011, p.46). Latour (2005, pp.91-92) does, however, consider himself a proponent of *constructivism*. His critique against post-structuralism is in the same vein; the "texts" that are central to post-structuralist analyses are constructed by human actors and therefore does not take into account the role that non-human actants play in a specific scenario (Blok & Elgaard Jensen 2011, p.46).

Although ANT is often mentioned in relation to poststructuralist theories, it is not a poststructuralist theory per se. Latour (1999a, p.16) notably criticizes the poststructuralist preoccupations with signifier and signified, arguing that such "contradictions, most of the time and especially when they are related to the modernist predicament, should not be overcome, but simply ignored or bypassed." In this regard, ANT can be viewed as a pragmatist theory. The intertwining of empirical and theoretical perspectives is central to much research carried out in the name of ANT (Blok & Elgaard Jensen 2011, p.46). Instead of viewing the signifier as severed from the signified, Latour proposes that we talk of circulating reference (Blok & Elgaard Jensen 2011, p.82). Circulating reference refers to the way semiotic and material aspects are bound together, and not, as in structuralist and poststructuralist thought, separated. The movement between the domains of the semiotic and the material is labeled translation.

In the following sections, I will present some central concepts in ANT that will later be used in the analysis of the material gathered.

3.1.1 Actors and Actants

Latour (1999b, p.303) uses the term actor or actant to refer to both human and non-human entities. As Blok and Elgaard Jensen (2011, p.48) note, actant is sometimes used instead of actor because of the human connotations of the latter. These actors only exist in the context of their relations; as Latour (1999a, p.18) notes, "actantality is not what an actor does [...] but what *provides* actants with their actions."[7] This passage also highlights the immense restructuring force that is the actor-network. Latour (ibid) also means that the actant itself always consist of a structure; there are several layers of actor-networks in each network. This can be considered a part of Latour's (2005, pp.28-29; 1991, pp.118-119) effort to go beyond the dualist conception of micro and macro levels.

Actant is a concept originally coined by semiotician Greimas (Blok & Elgaard Jensen 2011, p.17). Latour's (2005, pp.54-55) reason for adopting the term is that it enables him to ascribe different types of descriptions, human as well as non-human, the same significance. This also enables the researcher to quit looking for social actors, those types of (re)assemblages that have been featured in sociology for decades. Instead, the actors found through ANT are always hybrid, in that they are bound together by both human and non-human forces. According to Latour (2005, p.8), the social is not to be treated as an explanatory force at all. Actually, Latour makes no metatheoretical statements on what the deployment of ANT leads to. Instead, he points to the necessity of description:

> Explanation does not follow from description; it is description *taken that much further*. We do not look for a stabilized and simplified description before we look for an explanation. On the contrary, we use what they do to an innovation or statement to define the actors, and it is from them and them alone that we extract any 'cause' we might need. (Latour, 1991, p.121)

Since the concept actor, or actant, can signify a wide variety of entities, Latour's definitions of them are also deliberately vague. What is common to all accounts Latour offers of actants is their relation to the larger actor-network, which they are part of (Akrich & Latour, 1992, p.259). These relations are of utmost importance, since they constitute the actant itself, as Latour (1991, p.122) points out,

> An actant is a list of answers to trials - a list which, once stabilized, is hooked to a name of a thing and to a substance. This substance acts as subject to all the predicates - in other words, it is made origin of actions. (Latour 1991, p.122)

In other words, the actant is constructed within the interplay between the disparate relations of networks. Latour (Akrich & Latour 1992, p.259) also emphasizes the performative aspects of this interplay, noting that action is defined by a list of performances. Important to note is that Latour (1991, p.122, emphasis mine) means that the actor is "*made* the origin of actions" and not that it simply is. The relations are what construct the actor itself. It does not exist a priori before the actor-network

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[7] The idea that an entity can only be understood, and only exist, because of its relations is one that is found in other theorists' works as well, such as Bourdieu's "fields" (Callon 1991, p.134) and Castells' (Castells 2000) incarnation of network theory. Latour (2005, p.156), however, is very skeptic against the type of critical sociology conducted by Bourdieu.

and it, in itself, cannot be considered the source of an action (Latour 2005, p.46). This also means that it is unclear what exactly acts, what is the origin of an action. This kind of uncertainty is what is partly elucidated through an analysis.

3.1.2 Networks and Rhizomes

In "On recalling ANT," Latour elaborates on a misconception of networks that flourished with the skyrocketing of internet use in the 90s. According to Latour (1999a, p.15, emphasis in the original), in the pre-internet era, "[...] the word network [...] clearly meant a series of *transformations*—translations, transductions—which could not be captured by any of the traditional terms of social theory," whereas the meaning of the word, in many ways, became diluted when the digital age was ushered in. The transformative aspects of the network metaphor were then lost and it only implied that information was transported. Latour very much criticizes the last meaning of the word since it provides an entirely unproblematic definition of the structure of communication. In reality, both bits and bytes are lost along the way and deformation of relations within networks is inevitable. As Latour (1991, p.105) comments elsewhere, the translation of information is central to ANT.

In ANT, as Kaghan and Bowker (2001, p.258) note, networks are open structures in that they are vulnerable to change and at any moment may be reconfigured. The network should, however, not be conceived of as physical thing, a pattern formed by computer networks, sewage networks or the like. Rather, it is a conceptual framework that enables the researcher to uproot actors from the terra firma of the sociology of the social and trace their associations anew (Latour 2005; pp.129-131). Therefore, an analysis performed with the help of ANT does not eventually produce a network. Latour (ibid, emphasis in the original) makes an analogy to the perspective grid used by artists: the lines forming the grid "[...] are not *what* is to be painted, only what has allowed the painter to give the impression of depth before they are erased." The networks are the patterns along which translations are traced; however, the network itself, as Latour (2005, p.5) points out, is no rigid structure, and the actors are not mindless automatons retracing these patterns.

An important feature of the network is, as Callon (1991, p.153) states, punctualization. Punctualization refers to the ability of any network to be conceived of as a mere node in another, in which it is treated as an intermediary. In ANT these levels are not treated as micro or macro. Instead, they are present at all times in the analysis as they always affect the network they are punctualized in. As Callon (1991, p.142) notes, it is called actor-networks, since actors too are networks.

Latour explicitly relates his concept of a network to Deleuze and Guattari's concept of the rhizome (Latour 1999a, p.15, p.19; Latour 1996). Rhizomes are inherently non-binary network formations which support multiple connection points with other nodes on different planes. As Deleuze and Guattari (2004, pp.8) point out, rhizomes can incorporate disparate entities within semiotic chains, such as organizations of power and the discourse of various arts and sciences: "[...] semiotic chain is like a tuber agglomerating very diverse acts, not only linguistic, but also perceptive, mimetic, gestural, and cognitive." Likewise, objects, according to Deleuze and Guattari (2004, p.7), are heterogeneous entities which continuously resist the molds pressed upon them by language. Like the actor-network, the rhizomatic node exists only in relation

to the structure that connects it to other nodes (Blok & Elgaard Jensen 2011, p.49). The focus lies on, "[...] what it functions *with* [...]," as Deleuze and Guattari (2004, p.4, emphasis mine) note. The "with" in this sentence is especially important in the case of ANT, since actor-networks consist of both human and non-human actors that indeed act *with* each other and form collectives.

3.1.3 Translation

Translation occurs, as Callon (1991, p.134) states, when "[...] A defines B." The simplicity of this statement is only illusory, however, since it opens up for a multitude of possibilities. The material-semiotic aspects are here of utmost importance, as a translation may intertwine entities residing in both these domains. As Latour (1999b, p.311) states,

> In its linguistic and material connotations, [translation] refers to all the displacements through other actors whose mediation is indispensable for any action to occur. [...] Chains of translation refer to the work through which actors modify, displace, and translate their various and contradictory interests.

Translation, as we can see here, transmits *as well as* distorts a signal (Blok & Elgaard Jensen 2011, p.37). In other words, different actants and mediaries affect the representation of the chain of translation in such a way that they, indeed, are inseparable from the chain itself. Let us briefly return to the example of the hotel manager who wants to remind his customers to turn in their keys before leaving. The hotel manager's intention, which is semiotic, is in this case translated through the set of keys with the metal ball attached, which are material. The result of this translation is not solely dependent on either the hotel manager or the set of keys; instead, it is the result of a negotiation between these two aspects. The notion of translation lies at the very heart of ANT because of its indispensability when it comes to analyzing the relational aspects of any actor-network.

3.1.4 Mediators and Intermediaries

Latour (2005, p.128) argues that good ANT analysis is one where all actors do something. This "doing something" is most often associated with mediators. A mediator is an actant that translates, or distorts, a message. Thus their specificity, as well as multiplicity, must always be taken into account (Latour 2005, p.39). In contrast, an intermediary is defined by its input and output and as such is always treated in singular; an intermediary may or may not consist of multiple parts, it makes no difference. It is, in ANT, viewed as a black box, which, as Kaghan and Bowker (2001, p.258) note, means that a subnetwork is only discussed in the variables of input and output.

However, these black boxes can be opened up through a thorough analysis, and may be revealed to be mediators instead of intermediaries. Latour refers to this as the first source of uncertainty. It is never clear whether an entity is an intermediary or a mediator. This must be revealed through their connections in the network. Latour (2005, p.40 emphasis in the original) notes that "[...] there exists *endless* number of mediators, and when those are transformed into faithful intermediaries it is not the rule, but a *rare* exception [...]." Consequently, one should always be wary of entities

treated as mere intermediaries in a network, since they may very well turn out to be mediators, which have a large impact on the entities surrounding them.

4. Method

The primary method used for gathering data for this thesis was semi-structured text-based interviews[8], conducted on IRC, which is an abbreviation for Internet Relay Chat. Simply put, it is a tool for chatting online that is featured on many private trackers. This method is useful for interviewing, as users of the trackers have access to the IRC-servers.

To complement the primary method of data gathering, netnographic observation was also used. These observations were based loosely on Kozinets' (2010) as well as Berg's (2011) guidelines for netnographic research. These observations serve as a backdrop for interpreting the interactions that occur within the file-sharing network.

4.1 Setting

The two private trackers, on which the interviews have been conducted, will be known as WCD and AB, as staff members did not want the URLs publicized. WCD is a large music tracker, with approximately 150 000 members. The forums on WCD are only partially related to music; there is one subforum for music discussion, but the majority of discussions on the forums revolve around other subjects. AB is considerably smaller than WCD and has about 5 000 members. It is mainly focused on manga and anime, but also features a lot of other content related to Japanese culture, such as j-pop, visual novels and similar. A lot of AB's subforums are related in some way to Japanese culture, although just as on WCD, discussions revolving around other topics are prevalent.

The interviews were conducted on IRC on the private trackers' respective servers. The decision to use IRC for interviews was influenced by several different factors. Firstly, interviews on IRC enable the researcher to gather informants through the forums on site, something that would have been difficult if face-to-face interviews were conducted. Secondly, it is an appropriate medium for interviewing members of private trackers, since the sites already have their own IRC-servers and many members frequent the IRC and are comfortable with that type of interaction. While interviewing young drug users via instant messaging[9], Barrett (2011, p.6) noticed a similar sense of comfortableness with the medium with her informants. In Barrett's (2011, p.5) case, the success of the interviews was attributed to the fact that the participants were used to communication via that specific medium. Thirdly, the

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[8] The interview guide is attached as Appendix C.
[9] Instant messaging, or IM, is another example of synchronous text-based communication online.

procedure is simple for most participants, which is emphasized both by Barrett (ibid) and O'Connor and Madge (2001). Even if an IRC-client is not installed on the computer, the servers can be accessed through a web client, which is located on the private trackers. Fourthly, by contacting informants on site I acted as a partial insider, which, as Barrett (2011, p.6) notes, has beneficial effects. The fact that I, as a researcher, was already partially immersed in the culture means that I share certain affinities with the informants. However, as Barrett points out, this does not mean that "[...] identities of researcher/researched are static: rather, they are multiple, dynamic and fluid, and they connect and disconnect through cultural validation processes within the interview." Lastly, by doing interviews over IRC a large number of participants are ensured, since the researcher is not limited to interviewing informants in the vicinity of his/her geographical location (Bampton & Cowton 2002).

The interviews were recorded as text files, which keep the text-formatting of the chat sessions. When direct quotes are used, they will be in the form of these raw text files in order to adequately convey the environment of IRC.

4.2 Participants

Participants were contacted by making a post in the forums, in which brief information of the research topic was included as well as contact details. The potential informants were asked to send a private message if they would like to participate in the study. The informants then provided approximate times and dates when they would be available on IRC for interviewing. By posting on the forums the amount of potential interviewees were reduced to those visiting the forums. However, because of the focus on contributing members for this study, this was not considered an issue.

All in all, 16 interviews were conducted, of which two were preliminary.[10] Mainly members who had contributed to the trackers in some form were chosen. These members had either uploaded a lot of new content to the sites, or were invested in the community by being part of the staff on the tracker. Since the focus of the thesis partly lies on the way new content is uploaded to the private trackers and how it is viewed by members, those who do not upload content, nor is part of the staff were not interesting. On WCD, the user class that uploads the majority of content is the Elite user class (Appendix B); therefore, only users belonging to that user class or higher were contacted. No such statistics exist for AB, so no specific user class was contacted. However, no users from classes below Power User were interviewed.

The largest demographic on the private trackers is young men from Europe and North America. European and North American countries are well represented in internal statistics from WCD. Although no official survey has been conducted on WCD and AB concerning gender and age, several informal forum threads with polls, as well as previous research on file-sharers (Williams, Nicholas & Rowlands 2010, pp.287-288) suggest that this is the case.

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[10] These preliminary interviews are not quoted directly. However, since they are relevant for the study, they were taken into account in the analysis.

4.3 Synchronous Text-based Interviews

The subject of synchronous text-based interviews is not yet fully explored in academia. Many researchers still seem to prefer face-to-face interviews when possible, and are wary of the lack of visual cues in textual environments (Opdenakker 2006; Elmholdt n.d., p.76). However, some literature on the subject does exist and has served as a source of reference throughout the interviews.

IRC and online chat rooms in general are examples of synchronous many-to-many communication (Bruhn Jensen & Helles 2011, p.519), but in this case, private chat sessions were started with each of the informants. The synchronicity of IRC enables the researcher to pose more probing questions and guide the informant along with textual cues. However, the synchronicity of IRC is not the same as in offline, face-to-face situations (Elmholdt n.d., p.75). The informant is able to ponder an answer for a while, much in the same vein as Bampton and Cowton (2002) note that email interviews work. The replies, as Bampton and Cowton argue, are considered replies; the informant has the time to write and rewrite the response for some time as the medium itself does not require immediate response from either party. In this aspect, interviews on IRC can be said to be semi-synchronous as letters do not appear directly when they are written. In fact, the receiver cannot see that the sender is writing something. It is not until the message is sent that it can be viewed. As Bampton and Cowton (ibid) note, this enables the informant to take some time to "[...] re-draft a reply in order to convey the desired impression."

As Elmholdt (n.d., p.75) notes, the fact that the informant does not feel that s/he has to respond immediately increases the metareflexitivity behind his/her answers. The fact that the informant does not have to answer immediately may also have some negative effects; the informant might not pay close attention to the interview or only answer questions sporadically. Such problems were, however, not encountered during the interviews for this study.

This may also result in a reduction of the spontaneous aspects of interviewing (Bampton & Cowton 2002), although not as severely as in e-mail interviews, since IRC-messaging still is semi-synchronous. However, the fact the interviews are fully anonymous, according to Opdenakker (2006), may counteract this lack of spontaneity as the informants feel more comfortable revealing personal information. Opdenakker (2006) further states that this form of communication makes informants more likely to give answers that are "socially undesirable". Bampton and Cowton (2002) also note that interviews conducted over the internet are less obtrusive than face-to-face interviews, although they are not wholly unobtrusive. The anonymity associated with these types of interviews is beneficial when interviewing members of private trackers, since, in most cases, file-sharing that occurs on these trackers is illegal. The fact that they cannot be identified potentially enables the informants to give more information than they otherwise would have.

It is important to note that the text that is a product of text-based interviews is not the same as the product of face-to-face interviews, although similarities do exist (Salmons 2010, p.129). Davis et al. (2004, p.950) state that "[...] data derived from online interviews are not properly represented as speech." Therefore, the fact that the interviews are textual performances mediated through the culture of IRC should

always be taken into account. The culture is comprised of the intricate characteristics of this type of textual communication.

4.4 Netnographic Observation

As previously mentioned, the process of the netnographic observation was partially influenced by Kozinets' (2010) and Berg's (2011) guidelines. By using the forums on the private trackers as an archive (Berg 2011, p.126), I was able to grasp the form of the communication on the trackers as well as the intricate hierarchies. The technical features of the trackers were also investigated and put in the context of the social spheres, like the forums and IRC. As Berg (2011, p.127) states, it is important to introduce oneself as a researcher in manner appropriate to the specific object of study. In this case, administrators and moderators of the site were notified of my intentions and I proceeded to make a post in the forums, as previously noted. Through the contact with the moderators, I was also able to get a considerable amount of staff members interested in being interviewed. In contrast to Berg (2011, p.128), I do not view the object of study as primarily constructed through social interactions, and therefore a lot of effort was made to study the technological aspects as well.

To explore the organizational, technical features of the private trackers, Weinberger's (2007) ideas of Web 2.0 taxonomy and organization of user-submitted content were used, since the organization of content on private trackers is very similar to the types systems discussed by Weinberger. Although there are guidelines for, for instance, tags on the trackers, these do not constitute controlled vocabulary; rather, the systems of tags, organization of torrents and artists are examples of uncontrolled vocabularies (Weinberger 2007, p.100).

4.5 ANT as Method

As Latour (1991, pp.111-117) notes, although non-human actants cannot speak, they certainly can communicate, and this communication is an integral part of the formation of clusters of actants, which spur the creation of moving translations, in which "[...] all the actors co-evolve." Latour (2005, p.16, p.142) regards ANT as a method in many ways.

4.5.1 Infra-language, Not Meta-language

Central to Latour's (2005, pp.48-49) method is the concept of infra-language, which means that the actor's own explanations for their actions should always be taken into account, not the researchers metatheoretical explanations of them. The actors themselves already possess a rich meta-language of their own that the researcher must learn and respect. Latour (ibid) considers this one of the greatest pitfalls of critical sociology, where the sociologist looks to translate "[...] variegated words of the actors [...] into the few words of the social vocabulary." Latour's approach is anthropological, in the very essence of the word, as it emphasizes the actor's point of view.

Although Latour puts forward an argument against the use of meta-language here, he has no objection to using metatheoretical terms when they are used to relate to the broader research field. However, when those same concepts are used to explain the actors' actions, positing their language for the researcher's, he considers it a fallacy (2005, p.147). The problem here, according to Latour (2005, p.58), is that the actors are treated as intermediaries. They are black-boxed, assigned a specific output and input that makes the overall analysis smoother, but limits the actors' idiosyncrasies (Kaghan & Bowker 2005, p.258). And as Latour (2005, p.217) states, a good account of ANT is where the majority of the actants are treated as mediators, not intermediaries.

4.5.2 Follow the Actors

One of the main dogmas of ANT is to follow the actors. More specifically the traces that actors leave behind, because as Latour (2005, p.153) points out, "[...] an actor that does nothing is not an actor at all." When actors are treated as mediators the paths the researcher retraces are more complex, meandering down winding boulevards and taunting cul-de-sacs. But, eventually the account of the actors' paths will be more detailed and more relevant than if the researcher posits the concepts of critical sociology, where actors are forced into already existing paths.

5. Results and Analysis

In this section, the primary technical components that affects file-sharing on the private trackers will first be discussed. Thereafter, I will problematize the sense of community that members of these trackers refer to and discuss how it is related to the technical components. Lastly, the extent to which anti-piracy law affects the private trackers will be considered.

5.1 Components

In this section, the main actants of the network will be introduced. These components are in constant interplay with other actants and have an effect on the environment of the private trackers. The network has, as Latour (1991, p.103) suggests, both material and semiotic components that are interweaved; the actants are configured by their context, and thus are both the products and the producers of material-semiotic components. As the material aspects cannot be separated from the semiotic, these aspects will not be discussed separately for the different components.

The interplay between these social and technical components is what constructs the sense of community that affects users' file-sharing habits. In the following sections, the most important actants will be introduced and discussed. These actants are as following: the torrent, the ratio, the system of user classes, the forums and IRC and the design and organization of the content on the private trackers.

5.1.1 The Torrent

The torrent is the main component of the private tracker. It can be said to be material in the sense that Leonardi (2010) discusses, since it is part of a network in which its presence has very "real" effects. Much like the material-semiotic behavior of networks, the relation between torrent and content is established through circulating reference; that is, that the meaning of the torrent is negotiated by both material and semiotic components (Elgaard & Jensen 2011, p.82). There is a somewhat fleeting distinction between, on one hand, "torrent", and on the other, "torrent file". The torrent file itself contains only meta-information that signifies what files can be accessed when loading the torrent into a BitTorrent client (Cohen 2009). However, these two aspects, the meta-information and the content signified, are not simply related to each other as signifier and signified.[11] There are several mediators that shape the translation between these two actants. This can be shown through a quick

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[11] In a purely technical explanation, they might be said to have this kind of relationship, but for an analysis of their place in the network, other aspects must be factored in as well.

example of how users talk about torrents. Most of the time, the word "torrent" is not simply used by members to refer to either the meta-information of the torrent file, or the content it signifies. Instead, it is a hybrid of these both words, which is related to the act of torrent*ing*, using torrent sites, using the BitTorrent Client, as well as other activities. Likewise, when a user downloads a torrent file, s/he does not necessarily have to be aware of the technical relationship between the torrent file and the content signified; these aspects exist in constant interplay with the user.

Another example that points toward the hybrid nature of the relationship between torrent and content is the act of downloading using a BitTorrent Client. When the torrent is downloaded, the user can download the signified content from any/all available peers in the swarm. The swarm consists of all the users currently seeding the torrent on a specific tracker. To seed means to keep the content downloaded accessible to other members. In order to do this, the user must keep the torrent as well as the downloaded files on the hard drive and have the BitTorrent client running. Singular peer-to-peer file-sharing is seldom taking place; everything is shared with the swarm. This is the basic behavior of the torrent, partly regulated by the technical aspects of the tracker, the BitTorrent protocol, and partly by the human actors that interact with it.

As discussed earlier, Giesler (2006, p.31) makes a similar point in his analysis of the file-sharing community of Napster, where an mp3 is shared with the whole community. This he labels metareciprocity, which means that the reciprocity always is filtered through the community.[12] Although there are technical differences between Napster and BitTorrent, the concept of metareciprocity remains true (Tyson n/d; BitTorrent.org - For Users). In fact, one might argue that with BitTorrent the metareciprocity is even greater since communication on a torrent level (Andrade, et al. 2009) takes place within the swarm, where users simultaneously upload and download data from a large number of other users (Andersson 2012, p.591). Since BitTorrent clients by default both download and upload data from a single torrent, the act of downloading is inextricably linked to that of uploading (Andersson 2012, p.598). The BitTorrent protocol premieres sharing on another level than that of Napster. However, the sharing always takes place between members of the private tracker, since the torrents that exist on the tracker are private (Harrison 2008).[13]

Because of the metareciprocity associated with the BitTorrent protocol, we are able to see how communication between users on the torrent level is always translated through the BitTorrent tracker. While viewed as an intermediary by many users, since the BitTorrent tracker is just what enables them to download content, it does not simply transport data. Rather, the data is manipulated by these intricate mechanisms

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[12] By community, Giesler does not only mean the social aspect of Napster as a forum, but also the technological platform on which file-sharing takes place.

[13] However if a member uploads a torrent on a public tracker with his/her specific passkey in it, then non-members are able to download the content. This will more than likely result in that the member is banned from the private tracker, since this practice is against the rules on the vast majority of private trackers. Note, however, that this is only true for the torrent file; the content specified in a torrent file may be freely uploaded to other trackers if a new torrent file is created.

dormant in the BitTorrent protocol that connects users to other users based on a number of variables, a few of which were mentioned previously.

The torrent file itself can also be viewed as a punctualized (cf. Callon 1991, p.153) actor-network within the larger network. Within the larger network, it mainly acts as an intermediary; its input and output are taken for granted by the actors connected to it. The torrent can be said to be "black-boxed" within the network. Important to note, however, is that black-boxing is never final. The boundaries of the subnetwork are always negotiated and reconfigured by actants in the network (Kaghan & Bowker 2001, p.258).

5.1.2 The Ratio

Another one of the more important actants of private trackers is the ratio. Simply put, the ratio consists of a user's amount of uploaded data divided by his/her downloaded data. As previously noted, all members must maintain a specific ratio of upload/download in order not to be banned or have their downloading privileges revoked. The vast majority of private trackers feature some type of ratio requirement, although the specifics may vary from site to site. On WCD, the ratio requirement is mainly dependent on the amount of data (bytes) downloaded; i.e. the user has to maintain a higher ratio of upload/download the more s/he has downloaded. However, the percentage of torrents a user is seeding also affects the required ratio. For example, if a user seeds 100% of his/her downloaded torrents and has downloaded 20 GB of data, the ratio requirement is 0.05. On the other hand, if a user seeds 0% of his/her torrents and has the same amount of downloaded data, the requirement is 0.30. This incentivizes users to continue seeding torrents and thereby increasing the accessibility of torrents on the tracker. On AB, the ratio requirement is not a clear cut limit. Instead, a user gradually loses more privileges, the lower his/her ratio becomes. At 0.2, s/he can no longer download any torrents.

Data uploaded can be thought of as a central currency of private trackers in that users, in most cases, need to have a buffer of upload in order to download content from the site. Data downloaded counts towards a user's ratio and at some point, s/he has to upload data in order to be able to continue downloading. Two main exceptions from this rule exist. Firstly, the ratio requirements for new users are fairly lenient, which makes it easier for new users to download torrents to seed. Secondly, torrents may be freeleech at certain times, which means that they do not generate data that counts towards the user's ratio when downloaded.

However, there are some limits of the currency metaphor. Once a member has accumulated a very large amount of upload, additional upload is rendered superfluous. As one member of AB (#3) and one of WCD (#8) note,

> [17:39] <#3> It's part of the novelty when you first join a private tracker
> [17:39] <#3> ratio seems important
>
> [20:51] <#8> [...] I don't seed for ratio anymore, I have enough buffer that I'm more than set to download whatever I want until the site gets shut down but I continue to seed to make the site better

On WCD, upload cannot be "spent" on other things, as ordinary currency could have. This is not the case for AB, as well as some other private trackers, where upload can be traded in for a secondary type of currency, often labeled bonus points, which can be spent on special titles, features and similar objects. However, the option to trade in upload is often used as a novelty feature, since it does not allow any major changes to be made through these trades. Bonus points are typically awarded mainly for seeding torrents to balance the system for users who do not have a good internet connection and therefore are not available to upload as large amounts of data as other users. With a bonus point system in place, these users are more likely to maintain a healthy ratio.

Seeding is an activity that is intrinsically connected with ratio. Basically, the more often a user fulfills the criteria for seeding, the larger possibility the user has of gaining upload and thereby improving his/her ratio. This is, however, complicated by a number of factors, such as, for instance, the popularity of the torrent and the user's internet connection. As noted above, AB and WCD also directly incentivize seeding; WCD by lowering ratio requirements, AB by awarding bonus points.

Since maintaining a set ratio is the most basic rule on these private trackers, ratio is one of the more important actants in the network. Actions taken by members of the trackers are, as we will see, often related to ratio in one way or another.

5.1.3 User Classes

A common feature of most private trackers, and indeed of many websites that allow user-submitted content, is the system of user classes. On private trackers, the most important variables for determining user class are uploaded data and uploaded torrents. WCD and AB have similar user class systems, where the different user classes are as following, in hierarchical order: User, Member, Power User, Elite, and Torrent Master. This system can be viewed as an important actant that provides incentives for uploading. This distinguishes the user class system from the rules on the private trackers, which are discussed further ahead. This is an important distinction, since it is not stated in the rules that users of the private trackers *must* upload new torrents. But, for the continual well-being of the private tracker, it is important that new torrents are uploaded. This set of incentives that is the user class system instead encourages members to submit new content to the site.

Each of the user classes has specific privileges. For example, when a member reaches the class of Power User on WCD, s/he gains access to the Power User subforum, gains some moderator-related privileges, and can use the notification feature on the site, as well as getting the rank "Power User" beside the nickname on the forums and profile page. The latter aspect of climbing in rank can be separated from the other features, since it is more related to the interaction among human actors than non-human. The user class title itself is a non-human actant that affects how different human actors perceive each other. Many members separate this feature from the privileges that are connected to the user class:

> [21:00] <CF> Did the titles of Power User and Elite entice you to upload more content?
> [21:02] <#6> At some point, yes. When I had the required upload, I would try and upload enough torrents to reach the next class. I did it mainly for two reasons I think: bigger e-penis and access to some exclusive stuff

Here, we can see that the member explicitly makes a distinction between the title, what the informant refers to as "e-penis", and the features that come with it. Another member (#11) states that the title was the most important motivation to upload new torrents:

> [20:36] <CF> why did you feel that you wanted to get to a higher user class?
> [20:36] <#11> Looking back, I really wanted that custom title :P
> [20:37] <#11> I cannot believe that I spent all the time I did uploading 500 torrents for that >.>[14]

The user class title is an important actant because of these connotations. It is generally seen as an indicator of the fact that a member has contributed to the community and has a good grasp of how the tracker works, which is not always that easy to attain. This can also be said to be related to reputation; as Lampel and Bhalla (2007, pp.438-439) observe, users often regard the improvement of their reputation as a motivation to contribute to the community. Another member (#10) expresses his respect for people who have contributed in this way, to which the user class title is intimately related:

> [21:37] <#10> I guess the invites [feature of becoming a power user] are nice I ended up giving my brother one but I wasn't getting there to specifically give them out
> [21:38] <#10> I really have a huge respect for those who upload content to the site. Even transcode[15] elites like myself. I just wanted to be one of the ones who got that respect

These social aspects of user classes are as important as the technological ones. Each of the sets affects the other and cannot be put into neat categories.

5.1.4 Forums and IRC

The forums and IRC are important arenas for discussion on the private trackers. The forums are part of the private trackers and thus require membership in order to be accessed. Many of the members interviewed state that one of the main reasons they visit the site regularly, and not just when they want to download something, is the discussion on the forums. As previously noted, topics of discussion on the forums are not limited to anime, on AB, or music, in the case of WCD. Although these particular topics are certainly discussed, since they are common interests for many members, the forums contain discussions on a vast number of other topics as well.

An interesting aspect of the forums is that they act as a gateway to using other features on the trackers. A good example of this is the recommendation threads in the music subforum on WCD and the "anime of the fortnight"-feature on AB. The anime of the fortnight is a cherry-picked anime series that has a regular spot on the front page of the site. The series is freeleech and therefore downloading it will not affect a

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[14] >.> or >_> is a smilie that means that the writer is feeling foolish or guilty. It is often used in a slightly sarcastic manner, as in this case.

[15] Transcoding is the act of encoding one digital format into another. In this case, the FLAC file is encoded to a lossy format, like mp3. By doing so, a user is not actually introducing new content to the site. Rather, s/he is making certain content more accessible, since everyone might not want to download the larger FLAC file. A transcode elite, then, is a member who has gained the rank of elite by transcoding content already on the site.

user's ratio negatively. Also featured is a link to a discussion thread in the forums where users can vent their thoughts about the current anime of the fortnight.

These threads affect the way users behave on the sites, since users who browse these threads may download content they otherwise would not have downloaded. The link between visiting the forums and downloading content from the tracker is very clear in this situation. One member of WCD (#6) notes that s/he mostly uses the forums for finding new music: "There is almost a thread for every music genre. That way it is also easier to see what other people think of the music." One member of AB (#9) expresses similar thoughts when it comes to anime of the fortnight and browsing the forums for new series:

> [21:59] <CF> How do you go about it when you look for new stuff on AB?
> [22:00] <#9> i check to see what people are discussing this season on the forums + irc and what new torrents are most active
> [22:01] <#9> the forums also tend to lead me to reviews and such. then theres the anime of the fortnight which is another way to find new stuff

The fact that new content can be found and downloaded without venturing outside the private tracker is convenient for users. Especially since these trackers are focused on featuring a large quantity of old or obscure content, which would sometimes be hard to find on public trackers.

The forums also include hierarchal elements; special forums for the different user classes exist and become available as members reach the required user class. For a couple of members, this is an important benefit of being a higher user class. This hierarchical function is important since it provides higher ranked members with a separate arena for discussion. This hierarchical function plays a part in the construction of a sense of community on the trackers.

5.1.5 Design and Organization

Many members remark upon how the design and structure of the content on site affect their file-sharing habits. As previously stated, both WCD and AB run on the same general code, which makes the different sites' organizational features similar. This design is reminiscent of websites labeled Web 2.0 in general, like YouTube, Flickr and Delicious, in that it makes use of the members' ability to structure the content on the site (Niederer & van Dijck 2010, p.1370). An important aspect of this approach is, as Weinberger (2007, p.114) notes, the strategy of including and postponing (cf. Shirky 2008, p.35, p.135). Through this process, content that is uploaded to the site does not necessarily have to be tagged or described perfectly at the moment of uploading. Most members are able to tag and add similar artists to albums on WCD, so there is always an influx of new tags. The organizational process instead comes about, as Weinberger (ibid) suggests, when two parties disagree.

On private trackers, users of a higher class in certain aspects have more power than those of a lower user class. Even though most members have the ability to tag content and use similar basic features, not all members can edit the more complex aspects of the site, like merging artist's pages. For example, if there is one artist's page named Bonnie Prince Billy, with one stray upload, and another named Bonnie "Prince"

Billy, with all the other albums released, only the user class Elite may group these two together, or remove the faulty artist's page. This has an effect on members' incentives to upload, since if an ordinary user wants to edit artist's pages, then s/he first has to upload 50 new torrents to become Elite. One member (#8) mentions that features such as these serve as a carrot for uploading torrents to become Elite:

> [20:25] <CF> Why did you decide to strive towards reaching Elite in the beginning?
> [20:26] <#8> Improved torrent invite thread, more invites, ability to edit torrent information, and the forums as well

The ability to edit the information on specific torrents is also associated with power. If a user uploads a torrent, s/he may fill in the torrent information in whatever way s/he pleases. But, when the torrent is submitted, s/he no longer has the ability to alter this information. However, members who are of the user class Elite, can edit it, which means that even if members below that user class disagree with the altered information, they cannot change it. In this way, Elite members and above have control over the torrent information once submitted to the site, which is important for some, as one member (#14) note:

> [19:32] <CF> Do you often edit or fix content on the site?
> [19:35] <#14> Constantly, ever since I had the ability. Either I want content I'm interested in to be more accurate, or I want to make content I'm not as personally invested in easier to find for people who are. A good example of this was finding a couple hundred albums without an artist at all (not just VA [various artists] but literally no artists) in the course of doing the occasional site stats, or finding torrents

This kind of "cleaning", as users of Wikipedia refer to it (Sundin 2010, p.851), is important for the organization of the torrents listed in the BitTorrent index. It does not, however, play as crucial a part as on Wikipedia, where almost all information is in the form of text that can be edited; on AB and WCD the artifacts are not alterable in the same way, since they constitute existing pieces of work, not work in progress.

A couple of members of both AB and WCD refer to the BitTorrent index on the private trackers as a sort of archive, or the effort towards maintaining the content as an archival effort. Part of AB's goal, as stated by one member, is to archive every anime and manga, as well as things related to these, such as soundtracks. Another member explicitly refers to AB as an "archival tracker", as opposed to other types of trackers that are more focused on newly released content and do not necessarily incentivize long-term seeding of torrents.

The conceived archive on AB, or WCD, is not, however, an ordinary archive where the artifact is pinpointed and frozen within the system (Kallinikos, Aaltonen & Marton 2010). Neither is the artifact, as mentioned previously, an integral part of the system, as on Wikipedia, where the text in the article is directly available via the interface. The description of the content included in the torrent file only points toward one possible configuration of the files in question. For example, if a physical CD is ripped[16], encoded into mp3 and then uploaded as a torrent to a tracker, only that

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[16] Ripping is the act of copying the content of a physical data container, like a CD or a DVD. Similarly, a rip is the result of this process, like a DVDrip. However, the meaning of this word has become more vague with the introduction of digital releases, for example WEBrips, where the material is not actually ripped, rather just

specific configuration of files can be fetched. If another user rips and encodes the same physical album, it cannot be used with the same torrent. This makes the torrent file a frozen artifact, since the files specified in its meta-information cannot be altered in any way and still provide the same functionality. From a user's perspective, however, these two different rips, if executed properly, are most likely interchangeable, since both of them are equally flawed iterations of a physical CD. Therefore, this process of archiving to some extent produces an arbitrary dominant version, in that no singular, authentic artifact actually exists.

This is further exemplified through the ability to "trump" uploads on WCD. When a torrent is trumped, a more complete rip (according to the site rules), replaces the old version. For instance, FLAC[17] rips can be more or less accurate, which is determined by the log created in the process of ripping; an album in FLAC with no errors in the log can replace the existing torrent if that one does not have a flawless log attached to it. Eventually, a stable version exists on the site, which cannot be subject to trumping. However, this version still is not *the* physical artifact; and the process through which it becomes uncontestable is still arbitrary, since another user could have created a similar uncontestable rip with slightly different settings. As Kallinikos, Aaltonen and Marton (2010) state, this is common in the case of digital objects, where editability is a characterizing trait..

Even though some members explicitly relate the sum of torrents to an archive, this supposed archive differs in many aspects from traditional archives. On the private trackers accessibility is often premiered over archiving, since the actual content is distributed on a large number of users' hard drives. However, some efforts towards archiving the content on WCD has been made, which is discussed in section 5.3.1.

5.1.6 Rules and Incentives for Uploading

There are several minor components that directly or indirectly serve to increase the amount of content shared and uploaded. Firstly, the cluster of rules on the private tracker will be briefly discussed. Secondly, minor components enabled by the site design will be presented.

5.1.6.1 Rules

The rules of the private tracker are an important part of it. Some rules are enforced through what Latour (1992, p.231) labels delegation to non-humans. That is, a piece of code that serves to discipline human, as well as non-human, actors to do, or not do, certain things. An excellent example of this is the ratio requirement, as explained earlier. Other rules have are more of a social character in that they are enforced by human moderators. One subforum on WCD, for example, has a rule that says that the topics of politics and religion should not be brushed upon. One might imagine that a non-human could regulate this, searching for keywords and executing warnings where due, but such a process would probably miss the more intricate patterns of

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downloaded. Therefore, it can be said to imply that the data of the original file has been transported, and usually transformed, in some way.

[17] FLAC, an abbreviation for Free Lossless Audio Codec, is a lossless format for audio files. Since it is lossless it carries all the information contained on original CD, only more compressed.

political and religious discussion, where such keywords are not used. As Latour (1992, p.231) mentions, some sort of trade-off is necessary when delegating to non-humans, which is big in some cases, rather inconsequential in others.

A disciplinary component that is related to the ratio is the so called "hit and run" that exists on many private trackers. A hit and run occurs when a user downloads a torrent and then immediately after the content is downloaded removes the torrent file from the BitTorrent Client, thus stopping the torrent from seeding. To what extent hit and runs are considered detrimental to the health of the private tracker varies from tracker to tracker. On AB, hit and runs are incorporated in the ratio requirements and when a user has 3 or more hit and runs, s/he has less download slots. If a user has, for example, 5 download slots, s/he can only have 5 torrents downloading at the same time. Ordinarily, users have infinite download slots. Human actors are in this way disciplined by a set of non-human actants. On WCD, no official rule against hit and runs exist, although it is still considered a sort of social stigma by some members. In place here, is the assumption that hit and runs are not preferable and therefore should be avoided even though there are no official rules against it. Here, the norm for private trackers in general affects the way users behave on WCD.

The hit and run is also a norm that differentiates private trackers from public ones. While there can be said to be some kind of loose "netiquette" regarding seeding on public trackers (cf. Andersson 2012; Cenite et al. 2009), there are no sets of rules or features that incentivize it.

5.1.6.2 Incentives
Previously, I have covered the major components of the private trackers. Now, instead, minor components that provide incentives for users to upload content will be considered. These components, however small, still affect the overall structure of the network. These hybrid components primarily affect the transactions of data.

The size of the files uploaded is an important component in this regard. The larger the quantity of data that is shared, the more a user has to lose or gain by downloading or uploading the torrent. Of great importance here, is the fact that if a user uploads a new torrent to the tracker, s/he does not need to take the downloaded data into account, since the content originates from his/her hard drive. If another user decides to download that torrent, the uploader immediately gains upload in the form of data and thus has benefited from uploading new content. The uploader is guaranteed to upload the size of the files referred to in the torrent file.[18] This means that the amount of data gained by uploading is in direct correlation with the size of the files. Ergo, the larger the file, the more value is assured by uploading. In the case of WCD, FLAC files are good examples of larger files. Since an album in FLAC is approximately three times the size of an album in v0[19] mp3, the uploader gains a lot more by uploading the album in FLAC. Furthermore, the FLAC files can be converted into any other lossy[20] format, which almost guarantees that the torrent will be downloaded. On WCD, data

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[18] This is only true for the first download of the torrent. After that, the torrent might have two seeders, which means that the upload of data is according to the code of the BitTorrent protocol.

[19] V0 is the most popular preset for encoding into mp3.

[20] Lossy audio file formats, like mp3, have decreased file size at the expense of sound quality.

generated through the transfer of FLAC files is almost on par with the data generated by mp3s, even though the number of torrents in mp3 is twice as high as the number of FLAC torrents and mp3s are downloaded almost four times as often as FLAC files (Appendix A). This demonstrates how important the size of torrents is and why users benefit from uploading larger torrents.

Of course, the torrent might never be downloaded at all, but the incentive for uploading new content is still at work. Because of this, users have more to gain from uploading larger files than smaller ones. For members, the ratio gained by uploading is an important incentive. One member states that it is in fact the most important reason for uploading. Other members note that it played a crucial part under their first months on the private trackers but later became secondary; then, the reason changed towards that of giving back to the community, as is discussed in section 5.2. This is also connected to the redundancy of ratio at a certain point, as discussed earlier; when a user has acquired a large enough upload buffer, s/he simply does not have to upload more data, since s/he can download content without thinking about how it affects his/her ratio.

Another component that is important to consider is the request feature. Basically, any member may submit a request for content that is not already on the tracker. In doing so, s/he also specifies a "bounty" for the member who uploads these files. Other members may then contribute to this bounty. On WCD, popular, upcoming albums or obscure bootlegs can reach a very high bounty, resulting in that other members might go through significant trouble finding that content.

On both WCD and AB, Power Users and above are able to make use of the notification feature. A number of criteria and keywords can be specified, including, year, tags, name and format; when a torrent is uploaded to the tracker that fills these criteria, the user receives a notification. Some members have set these notifications to automatically download. This means that a lot of new torrents are downloaded immediately when they are uploaded. Thus, if a user uploads a torrent that is specified in a lot of other members' notifications, s/he immediately receives a lot of uploaded data. This, of course, also depends on the popularity of a torrent.

AB has an award system in place that serves to incentivize users to explore new parts of the tracker. Among other things, the bonus point system awards badges for being logged in on IRC for a certain amount of time. One staff member notes that the implementation of the awards created an influx of new members on IRC. All these members might not engage in the discussion, but those who do become a little more "involved" in the tracker. Other awards benefit the tracker n more concrete ways, for example by awarding a badge for a specific amount of data uploaded. These awards differ from user classes in that achieving the prerequisites and getting the awards does not result in any privileges gained. Because of this, awards are less central to the tracker than user classes, although they do have similar effects on users. For example, one member remarks upon how s/he wanted to get all the awards. Not because of any particular reason, more because s/he could. Similarly, many members talk about how they aspired to reach higher user classes only because of the title itself. In this particular aspect, these two different systems create similar sets of incentives

Additionally, AB has a bonus point system, see section 5.1.2, which further incentivizes seeding. With bonus points, the user can buy upload in order to increase his/her ratio, as well as other things, some of which are akin to achievements in that they have no instrumental value; if you buy a watermelon from the bonus point store on AB, you get a watermelon icon beside your name on your profile page, nothing else.

As seen here, private trackers have minor components that enable users to find new content on trackers themselves by using these different features. This generates traffic on the private tracker and ensures that obscure content is downloaded too, through music recommendation threads and notifications. This means that users seldom need to venture outside the tracker in order to find new content to download. These minor components act as a system of incentives that rewards users for using the tracker.

5.2 Sense of Community and File-Sharing

Now that the components that affect the network that is the private tracker have been discussed, the sense of community that members refer to will be explored. Most of the users that were interviewed think of the private tracker as a kind of community; that is, community in an everyday sense of the word, not in the academic one, as mentioned earlier. As previously discussed, the focus lies on *how* the community is imagined, as Feenberg and Bakardjieva (2004, p.37) state, not whether or not it constitutes a community. For many of the heavily contributing users, which were the ones interviewed, the sense of community is an important reason for uploading content to the tracker. This can be related to Huang's (2005, p.42) idea of the social networking perspective on file-sharing, where users use the platform to socialize. Since this is the case, it is important to look at what is meant by referring to a sense of community, as well as how it affects users' uploading habits. As mentioned before, uploading new content is not enforced by the rules of the tracker (although there are lots of rules governing how users should upload content), which means that this action is not forced upon the users. Rather, it is a voluntary act, in contrast to the act maintaining a set ratio, which users must do in order to not lose their privileges. This sense of community in relation to the act of uploading is exemplified in a similar way by several users (#6; #5):

> [20:54] <CF> Why did you start uploading content to [WCD]?
> [20:57] <#6> Because I felt like giving back to the community. Pretty trivial I know, but that is really why. I love sharing and helping when I'm able to. Also I think music is a big part of the worlds "culture" and stuff related to culture should really be available for everyone. [WCD] makes that possible
>
> [19:54] <#5> The site would be a lot different without the community - nobody would care enough to do anything for the site. A lot of what's made it good are things like uploading drives, request-filling contests, etc

In the first quote, the member also expresses the idea that culture should be free for everyone, which is very much in line with what Lindgren (2009, pp.210-211) refers to as the political paradigm. However, this is mentioned after referring to the sense of community, which can be said to be seen as the primary reason for uploading for this

member. A couple of members (#2; #13) also explicitly relate their social activity on the trackers to their uploading behavior:

> [19:37] <CF> What makes it more appealing to upload on a private tracker, like AB [rather than public ones]?
> [19:38] <#2> Never felt like it, and I guess the lack of community stops me as well.
> [19:38] <#2> Since there is no real community, I don't feel I have to somehow give back.
>
> [19:02] <CF> How important is these social aspects of private trackers, like forums and IRC, to you?
> [19:04] <#13> For [WCD], pretty important. For the other private trackers, I've only posted a couple of times. For public trackers, almost never unless it's about my own uploads. [...]
> [19:05] <CF> Do you also upload content to trackers where you aren't as involved in the community?
> [19:06] <#13> Yes, but [WCD] consists of the vast majority of my uploads, as well as my activity in the social aspects of trackers.

Most of the other members expressed similar ideas on the importance of community. One member also mentions that the learning curve of private trackers is an important reason as to why users later refer to a sense of community. Since the users themselves have received help on the forums, the wiki, and such, they are more inclined to feel an urge to "give back to the community" by uploading new content, as well as helping other users getting started.

A couple of members state that the private tracker as a whole does not constitute a community in their opinions. Instead, they mean that there are subgroups of members active in the community. These two members (#8; #3) also emphasize that the sense of community very much consist of "talking" or discussing:

> [20:44] <CF> Would you characterize [WCD] as a community?
> [20:44] <#8> The people that interact in the forums, uploading, or IRC yes. Sadly that's still not much of the site's members
>
> [17:42] <CF> In what ways do you feel that AB constitutes a community?
> [17:43] <#3> AB does not, the majority of users do not participate in the community aspect of AB
> [17:43] <#3> There is a community within AB
> [17:43] <#3> It is a group of people who share the same general interest
> [17:44] <#3> and want a place to talk about it

Since the majority of members of the private tracker do not engage in discussion, they cannot be part of the community in these members' opinion. That being said, they still consider the user base who does not partake in the discussion on the forums or IRC a vital part of the tracker. As one of them (#8) states, "[a]s long as they seed, they're still doing an important part." CarawaSeeding is an important aspect since it improves the accessibility of torrents. However, this sort of passive contribution to the tracker is not the main catalyst; that evolution of the tracker is dependent on users who upload new content, which is also evident in studies of other file sharing networks (Cenite et. al. 2009, pp.209-210).

Another member (#10) acknowledges these problematic aspects, but is less hesitant to include users who only seed as part of the community:

> [21:54] <#10> That's a tough one :|

[21:55] <#10> I guess. I mean it's like anything else. You can be a part of a sports team fanbase without buying tons of paraphernalia and going to games and such
[21:55] <#10> or even watching every game
[21:55] <#10> Community in my mind really requires you to identify as a member of it.
[21:56] <#10> If you think of yourself as a member of [WCD] and are proud that you are part of it then I don't see why that person should be excluded

As shown here, what constitutes the sense of community varies a lot depending on the individual and platform, which is also observed by Caraway (2012, p.578). However, common to most accounts of being part of the community is some sort of solidarity, or commonality, as noted by Willson (2006, p.30). For most members, the social aspects of private trackers, like the forums and IRC, is a big part of why they frequent the sites. Only a couple of members mention that the social aspects are not very important to them. Even though they expressively do not find the social aspects important, they state that they do find them enjoyable.

As we have seen, the sense of community is often mentioned by members of these private trackers. How, then, is this sense of community constructed and manifested by the different actants in the network? Now would be a good time to reiterate Latour's (2005, p.8) thoughts concerning the lack of explanative potential of the social. In ANT, the social cannot be seen as the glue that holds networks together. Instead, this community, or sense of community, that the members refer to is a product of the complex interplay of several different actants at work.

First off, the most important arenas for the construction of the sense of community are the forums and the IRC. For many of the interviewed members, there can be no community without verbal communication of some kind. One member (#14) mentions that the forums and IRC help feel users who do not contribute heavily in the form of uploading part of the community:

[19:11] <#14> Forums and IRC and to a lesser degree, torrent comments tend to bring people together, and as there are fairly active users who are actually not big "users" of the site with respect to uploading and downloading, there are a number of ways to use the site which some people enjoy more than just the desire to share music

For this one member, the community level and the torrent level are two separate arenas of the private tracker. Mainly because the niche content on the tracker is not necessarily what is mostly discussed in the forums. However, the forums and IRC make users want to spend time on the private tracker because they find it enjoyable. When users spend time on the tracker they may notice new facets of the tracker and talk to users who are uploaders. In this way, it becomes more likely that these users try to upload a torrent. Through this experience, users may also notice the hierarchy of user classes which act as an incentive to upload new content. Furthermore, the trackers themselves have the power to define something as a community. This sentiment is conveyed in the general rules section on both AB and WCD: "We're a community. Working together is what makes this place what it is."

Secondly, it is constructed through the common interest of music in the case of WCD and Japanese culture in the case of AB. This, however, is only relevant in the initial stages of entering the private tracker. A couple of members on AB note how their common interest in manga and anime sparked some discussion when they first joined

the tracker, but later, although often discussed, became a secondary topic for discussion. Instead, they mean that they became "part of the community" and thereby felt a closer tie to the other active users on the tracker. This "closeness" to other members is more evident on AB than on WCD, which may very well be an effect of the size of the tracker. One member of AB (#7) notes that s/he tends to lose interest in a tracker after it grows in size:

> [16:05] <#7> I was very active when the sites first opened up, I was a member on most of them within the first month or two of them opening.
> [16:06] <#7> After the community grew, I sort of lost my will to post and speak on the IRC.

This kind of involvement can be said to be less related to the act of file-sharing and more akin to general online forums. As one member (#14) notes, "[...] a lot of the community isn't based strictly on discussing music (and the other content allowed on the tracker." Nonetheless, members explicitly state that they find these types of discussions enjoyable, which impacts the way they use the trackers.

Finally, the sense of community can also be said to be partially constructed as a movement against anti-piracy law, for the freedom of the web, which is evident in other studies (Lindgren 2009). As one member (#14) states,

> [19:12] <#14> It also helps that p2p communities are under siege.
> [19:12] <#14> This sense of everybody being in the same boat, or "all in it together" forms a stronger bond than, say, going to Amazon and writing a record review for an album you liked.

This also means that the community on the private tracker is constituted as a goal-oriented activity, similar to that of Wikipedia, as Lessig (2008, p.159) argues: "Wikipedians are not a community [...] in some abstract sense of a bunch of people with a common interest, but instead in the very significant sense of people who have worked together on a common problem"; the common problem on private trackers being the state of anti-piracy legislation. Another relevant point here is the exclusivity of private trackers; since these trackers require people to be members, which is not always easy to accomplish, an immediate sense of belonging can be said to exist. How anti-piracy law affects the private trackers in other ways is discussed in the following sections.

5.3 Law and Legislation

Some members mention that the security of private trackers is important to them. One member (#5) is, for instance, wary of using public trackers because of the risk of getting caught:

> [19:36] <CF> [...] do you yourself use public trackers?
> [19:36] <#5> Never - there's usually a huge drop in quality as well as the risk of being caught (as my brother just earned the family a DMCA notice by using demonoid[21]...)
> [19:38] <CF> Is the risk of [getting] caught a central reason as to why you prefer private ones?
> [19:39] <#5> I would say that quality and security are both top priorities, neither more important than the other

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[21] Demonoid is a public tracker that has some features of private trackers.

Another member states that the security of private trackers is not as important to him/her at the moment, but that pending anti-piracy legislation might change that. Other members note that the laws do not actively affect their file-sharing habits, but nonetheless have opinions on the matter. These members' opinions of the laws and legislation are not homogenous; a dominant type of opinion exists, but the members have different opinions on the ethical aspects of file-sharing. Many members of both AB and WCD are quick to point out that they do, in fact, purchase a lot of the material they like and that their presence on private trackers has affected their habits of consumption in a positive manner.

In general, the concerns expressed by members of the private trackers are reminiscent of Zittrain's (2008) argument that the generative character of the Internet is threatened. Nolin (2010) further elaborates Zittrain's argument and means that the free spheres of the Internet would, in such a scenario, be colonized. Corporations would acquire the important locations for users, which would eventually enable them exercise power over the users that frequent those locations. However, important to note is that the Internet, because of its decentralized nature, can only be partially controlled and that private trackers are a counterforce to this attempt to control the Internet.

5.3.1 The End of the Archive
As private trackers are under siege by anti-piracy laws, many members are concerned that the private trackers will disappear because in the near future:

> [20:27] <CF> What effects do you think that the legislation have on private trackers now?
> [20:28] <#1> If you read the forums, people are starting to imagine not having access.
> [20:28] <#1> [...] folks are thinking, "what if the servers go away suddenly"?

In a couple of studies it is shown that fear of punishment is inhibiting piracy to some extent (Williams, Nicholas & Rowlands 2010, p.295; Plowman & Goode 2009, p.93). However, as most members of WCD and AB state, in the case of private trackers it is not the individual that is concerned about being prosecuted; rather, it is the tracker in its totality that is threatened. Right before WCD emerged as a private tracker, Oink, a similar private music tracker, was taken down (Huge Pirate Music Site Shut Down 2007). In this way, private trackers are similar to mythical hydras, as one member (#14) observes: "Oink grew faster than soulseek[22], [WCD] grew faster than oink, and if we went away tomorrow, whatever took our place would grow faster than we did." Furthermore, content originally uploaded to WCD migrates to other file-sharing sites, which makes the process of gathering material for a new private or public tracker less cumbersome, since the content is already "out there" in flawless form:

> [19:41] <#14> Every time we get the metadata right on [WCD] means that in some future world where [WCD] (and waffles[23]) goes away and someone's going back to, say, Soulseek, that particular album will have good ID3 tags[24] and a level of quality above what is the norm for a lot of the p2p community outside private torrent trackers.

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[22] Soulseek is a peer-to-peer file-sharing program, reminiscent of Napster.

[23] Waffles is another private music tracker.

[24] ID3 tags carry the metadata of mp3 files.

[19:41] <#14> It's such an ambitious project that one can be pessimistic and use that as an excuse to not investing the time.
[19:42] <#14> But collecting new content and getting the metadata right is easier as time goes on.

If WCD or AB would get shut down, the meta-information and organization of the torrent files on the trackers would, however, still go to waste: the meta-information of the content itself, however, stays intact. Although members do put in a considerate amount of time organizing the content on site, it seems as though the content specified in the torrent files is of primary concern. One member of WCD (#1), for instance, started an initiative to archive FLAC albums on the hard drives of the participating users:

[10:31] <CF> Why did you take interest in the Flac archival squad?
[10:32] <#4> because i'm a FLAC downloader, obviously
[10:32] <#4> the whole interweb was buzzing back then
[10:32] <#4> after the MU[25] news
[10:33] <#4> someone in an Elite thread talked earlier about the need to snatch single-seeded torrents
[10:33] <#4> to preserve them
[10:33] <#4> i thought we can go one further

As shown here, users take some kinds precautions in order to preserve the content of the torrents. Both the private tracker itself, its organizational system and database of torrent files, as well as the content located on users' hard drives are important aspects of these file-sharing networks. Although these two parts can be forcibly separated, as seen here, they are connected to each other in a number of significant ways, since without the meta-information on the private tracker, the torrents are not as accessible.

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[25] S/he is referring to the shutdown of Megaupload, where the servers owned by Megaupload were confiscated. The servers hosted all kinds of personal documents, not only copyrighted material (Albanesius 2012).

6. Discussion and Conclusions

In this section, the research questions will first be discussed and problematized. Thereafter, previous research on file-sharing will be explored again, and related to the findings of this study. Lastly, I will sum up the main findings of this study and point out different problematic areas that could be explored in future research.

6.1 Research Questions Revisited

Throughout this thesis I have discussed how the content is connected to the actors in the network, both by referring to the important technical components of the private trackers and interviews with members. I will here reiterate the research questions and discuss them.

How is the content available on the private tracker perceived by actors in the network?

This question is complex, since the content on the private trackers is translated by and through several layers of mediaries. First off, the content is intrinsically connected to the concept of ratio for many members, since the ratio is affected when data is downloaded and uploaded to the tracker and accessing the content necessarily results in such a transfer of data. As previously noted, however, users gradually disassociate the content from the ratio the longer they have been members of the private trackers and the better their ratio becomes. As this is the case, their views on the content also changes, since they become less restricted to view the content in terms of data.

Secondly, the various ways of exploring new kinds of content through features of the private trackers also contribute to this changing perspective. By engaging in the discussions on the forums and discovering music or anime recommendation threads, users are more likely to download specific content from the private trackers. These social aspects broaden the scope of private trackers, since users can access meta-information about the content through the same channels as the content itself. This way, the private trackers are able to fulfill users' needs on several different levels: by enabling access to the content, by enabling access to the meta-information about the content and by enabling users to find this meta-information on site. As mentioned previously, several members explore the private trackers with the help of these components, all of which alter the way the content is perceived.

Thirdly, as private trackers create networks of internal hyperlinks of tags, artists, anime series and similar categories, the content specified in the torrent file becomes part of a larger network in the minds of users. As previously noted, the act of

torrent*ing* has many connotations that go beyond the dualist signifier/signified relationship exemplified by the torrent file and the content it refers to. The torrent viewed by the members of the private trackers is much more than a technical intermediary between the user and the content, which brings us to the second research question:

How is the content mediated by and through artifacts and how does this mediation affect the structure that human actors interact with?

This question is largely related to structure of the torrent file and the mediaries that affect the construction of this file in the network. As mentioned earlier, the torrent file only consists of meta-information; this meta-information specifies a specific set of files that can be accessed through a BitTorrent client. The mediation of the torrent in the network can be thought of as a chain of translation with several different links. The first link in this chain of translation is the content on a user's hard drive, the mp3 files or anime series, for instance. This link has been produced through a process that to some extent pre-dates its inclusion into the network. It may have been ripped from a physical CD or DVD, downloaded from another tracker or file-sharing site, transcoded from a lossless format, or a number of other things. In either case, these digital artifacts that are the referents of the torrent file are the basic components of file-sharing, the files wanted by other users. However, in the case of private trackers, nothing exists before the torrent file is created and uploaded to the private tracker; neither can any communication between peers take place without the BitTorrent tracker.

The processes that pre-date the creation of the torrent are only relevant in retrospect. Users of the private trackers refer to these processes in order to categorize the torrent accordingly; for example, if the audio files are encoded in FLAC, the torrent should be categorized as FLAC when uploaded to the private trackers. This organizational system also includes tags, artist, year and other variables on WCD and anime series and manga on AB. This system is what primarily affects how the user accesses the torrent since it constitutes a large part of the interface.

Once the torrent is uploaded to the private tracker, a different set of actants plays a part in the translation and affect how users interact with the content. This set includes all of the major components discussed earlier, as well as couple of minor components. The forums and IRC are the primary arenas for the construction of the sense of community and therefore affect the way users perceive the content, since the content available on the tracker is set in the context of how it is discussed in the forums. The design of the site and its organizational features have a more direct effect on the mediation of the content as they, in a way, constitute the artifacts they organize. As (Weinberger, pp.104-105) notes, levels of meta-information stack onto each other in digital environments so that the meta-levels themselves are concealed and everything is treated as metadata. This is similar to the way the torrent is perceived by the users; the torrent itself is perceived as both the content and a link to the content.

The content that users interact with has all these connotations that affect the way it is perceived. These connotations consist of both human actors, as in the case of the forums, and non-human actants, as in the case of the torrent file. No pre-set relation

between the individual and the content can be observed. Instead, all relations are highly contextual and constructed through the interplay of different actants in the specific network that constitutes the private tracker, which brings us to the last research question:

How is the network constituted and what connections between the individual and the content are visible?

As Giesler argues (2006, p.31), the concept of metareciprocity is central to file-sharing networks. On private trackers, every data transfer is negotiated by the BitTorrent tracker, which makes it a locus point of all connections taking place on the torrent-level of the private tracker. These connections are, however, not a verbal form of communication. Verbal communication on the private trackers is instead located on the forums and IRC. If non-human actants can be said to dominate the exchanges on the torrent-level, human actants are central to the forums and IRC, or what is referred to as the community-level by Andrade et al. (2009). These two levels, that are associated with the BitTorrent index and the BitTorrent tracker respectively, are not wholly separate spheres of communication. Information is translated through these two levels and establishes meaning through circulating reference, the interplay between the semiotic and material aspects of the private tracker.

A prime example of this kind of circulating reference that has been explored in the thesis is the system of user classes. This system is maintained through a complex and diverse set of effects. The different user classes provide tangible benefits for the users who have reached the specific classes, such as, for instance, the ability to edit torrent information, as well as other exclusive features. In addition to these benefits, a number of benefits that can be said to be of a more social nature also exist, such as access to user class forums and the user class title. These latter benefits are, as previously shown, translated through the culture of the private tracker; users that belong to a higher user class are treated with a certain amount of respect by other members. This reputation is in turn based on how well the users have interacted with the primarily material aspects of the site, like the ratio, for instance.

Through this process, the culture of private trackers is understood through the circulating reference that connects human and non-human actants in the network. Because of the interplay between these different actants, private trackers can be said to maintain a high level of reciprocity. In this aspect, private trackers differ from public trackers that have a relatively weak rate of reciprocity, as Cenite et al. (2009, p.210) state, which means that only a small percentage of users upload data.

6.2 Why Altruism Is Not Enough

Much of the previous research on file-sharing or file-sharing communities has a noticeable focus on human actors, especially in relation to anti-piracy laws. The specific technology that facilitates peer-to-peer file-sharing is often not discussed, even though it has a distinctive impact on file-sharing, as observed by Andersson (2012, p.591) and Caraway (2012, pp.575-576). Although research on the motivations of file-sharers certainly is needed, I argue that it is beneficial to include a discussion the specific technology that facilitates the type of file-sharing that is analyzed.

Unlike most research on file-sharing, Giesler and Pohlmann's (2003a; 2003b) studies take the context of the file-sharing network, as well as other non-human actants, into account. As mentioned earlier, Giesler's (2006) concept of metareciprocity remains true for file-sharing on private trackers. However, his idea of cybernetic gift-giving as pure gift-giving appears, as previously noted, somewhat flawed in this context. Giesler (2006, p.47) argues that his

> [...] findings show that the cybernetic gift can be interpreted in the spirit of the pure gift. Not only does the cybernetic gift cut traditional economic strings, it also fundamentally brackets out social gifting relationships.

I will here discuss why this idea of altruism does not exist on private trackers. Firstly, as mentioned in section 2.1, private trackers are not separated from the traditional market economy. The private trackers are still obligated to exist on the conditions of the market economy translated through anti-piracy law. This affects them, as well as their users, in very concrete ways. Anti-piracy law as well as laws of copyright and intellectual property can be considered actants in the network that affects the nature of the cybernetic gift.

Secondly, private trackers have sets of rules, which constantly counteract any altruistic intentions. Users of private trackers often act in a manner that is not detrimental to their ratio. This means that the ratio is often taken into account before any other factors. This does not mean that users are not appealed by concepts of altruism, and actually make an effort to adhere to these; it just means that the file-sharing is more complex and more context-dependent than the idea of altruism suggests. As Andersson (2012, p.591) notes, "[...] contemporary file-sharing is highly complex and dependent on the particular protocol or network in question." This complexity makes it difficult to trace ideological constructs, such as altruism.

Thirdly, although Giesler and Pohlmann (2003a; 2003b) do take non-human actants into account, the relations they describe are only filtered through the technology of Napster. The transactions are only translated in terms of metareciprocity. Other impacts of non-human actants are ignored. Thus, the relationships within the community are still primarily described as social, which is not necessarily the case; as we have seen, the gifts, or data transfers, are translated through a number of non-human actants that have a significant impact on the integral structure of this gift. The interface also affects the way users relate to the content on the private trackers; for instance, a several actants affect the processes of uploading and downloading and assure that certain types of content are downloaded and other types are not.

That altruism is a potential explanatory force is an overstatement of the way file-sharing in general, and particularly on private trackers, works. Users do want to give back to the community, but as we have seen, the sense of community is constructed through a very specific set of practices on private trackers. In line with Giesler and Pohlmann, Cenite et al. (2009, p.210) contend that "receiving a gift creates an obligation to repay, and gift exchanges create community solidarity." Although this is true to some extent, it is still a gross simplification. Private trackers are more complex than that. Even though, members refer to the sense of community, other aspects of the trackers also incentivize sharing to a large extent.

6.3 Concluding Remarks

As shown in this study, file-sharing on private trackers is both dependent on non-human actants that incentivize uploading and a sense of community experienced by the members. This sense of community is constructed by several different actors on the private trackers. Even though members refer to the private trackers as a community, I argue that it is not suitable to use the academic concept of community to explore these kinds of the platforms. The interplay between social and technological forces is a central part of the ecology of private trackers. Some of the previous research on file-sharing can be said to fall short in this regard, since non-human actants are not taken into account. This study complements some of the earlier research on the attitudes and motivations of file-sharers because of its focus a specific platform that is used by many file-sharers, the BitTorrent protocol.

Throughout this thesis, the motivations for uploading content to private trackers have been thoroughly explored. The concept of a "pure gift" has no real equivalent on private trackers; instead, members of the private trackers refer to a number of non-altruistic motivations for uploading, several of which are mediated by non-human actants. This mediation and structural complexity makes it difficult to use the concept of cybernetic gift-giving on private trackers. Although, Giesler and Pohlmann (2003a; 2003b) argue that such a pure gift exists on Napster, the results of this study suggest that this is not the case on private trackers. However, further studies in this field are necessary to fully elucidate this claim. I believe that the specific platform for file-sharing, whether it be private trackers, public trackers, Napster, needs to be taken into account when studying file-sharing networks.

Another area of research that has not received the space it deserves in this thesis is the study of the concrete effects of anti-piracy law on file-sharing. Though this subject is brushed upon in a large number of studies, it is often discussed in a general manner and the specific platforms for file-sharing are seldom considered. By identifying the concrete ways in which laws affect specific file-sharing networks, a deeper understanding of the interplay between file-sharing and anti-piracy law can be attained.

7. Reference List

7.1 Interviews

Interview #1. 02-29-2012.

Interview #2. 02-08-2012.

Interview #3. 03-18-2012.

Interview #4. 03-07-2012.

Interview #5. 03-04-2012.

Interview #6. 03-05-2012.

Interview #7. 03-12-2012.

Interview #8. 03-04-2012.

Interview #9. 03-18-2012.

Interview #10. 03-20-2012.

Interview #11. 03-20-2012.

Interview #12. 03-21-2012.

Interview #13. 03-25-2012.

Interview #14. 03-25-2012.

Preliminary Interview #1. 01-02-2012.

Preliminary Interview #2. 02-05-2012.

7.2 Literature

Akrich, M. & Latour, B. (1992). A Summary of a Convenient Vocabulary for the Semiotics of Human and Nonhuman Assemblies. In: Bijker, W. & Law, J., ed.

Shaping Technology / Building Society: Studies in Sociotechnological Change. Cambridge: MIT Press, pp.259-264.

Albanesius, C. (2012). "File-Sharing Site Megaupload Shut Down Over Piracy, Execs Indicted." *PC Magazine*. Available from:
< http://www.pcmag.com/article2/0,2817,2399105,00.asp> [Accessed 30 May 2012].

Andersson, J. (2012). "The Quiet Agglomeration of Data: How Piracy is Made Mundane." *International Journal of Communication*, 6, pp.585-605.

Andrade, N., Santos-Neto, E., Brasileiro, F., Ripeanu, M. (2009). "Resource Demand and Supply in BitTorrent Content-sharing Communities." *Computer Networks*, 3(4), pp.515-527.

Association of Internet Researchers (2002). *Ethical decision-making and Internet Research: Recommendations from the Aoir Ethics Working Committee.* Available from: <http://aoir.org/reports/ethics.pdf> [Accessed 10 April 2012].

Bampton, R., & Cowton, J. (2002). "The E-Interview." *Forum: Qualitative Research*, 3(2).

Barratt, M. (2011). "The Efficacy of Interviewing Young Drug Users through Online Chat." *Drug and Alcohol Review*, pp.1-7.

Baym, N. (1998). The Emergence of On-Line Community. In: Jones, S., ed. *Cybersociety 2.0*. London: SAGE.

Bell, D. (2001). *An Introduction to Cybercultures*. London: Routledge.

Belk, R. & Coon, G. (1993). "Gift Giving as Agapic Love: An Alternative to the Exchange Paradigm Based on Dating Experiences." *Journal of Consumer Research*, 20, pp.393-417.

Berg, M. (2011). Netnografi. In: Ahrne, G. & Svensson, P., ed. *Handbok i kvalitativa metoder*. Malmö: Liber, pp.118-130.

BitTorrent.org - For Users (n.d.). Available from:
<http://www.bittorrent.org/introduction.html> [Accessed 17 April 2012].

Blok, A, & Elgaard Jensen, T. (2011). *Bruno Latour: Hybrid Thoughts in a Hybrid World*. Suffolk: Routledge.

Bowker, S. & Star, L. (1999). *Sorting Things Out: Classification and Its Consequences*. Cambridge: MIT Press.

Bruhn Jensen, K. & Helles, R. (2011). "The Internet as a Cultural Forum: Implications for Research." *New Media & Society*, 13(4), pp.517-533.

Callon, M. (1991). Techno-economic Networks and Irreversibility. In: J. Law, ed. *Actor Network Theory and After*. Oxford: Blackwell, pp.132-164.

Caraway, B. (2012). "Survey of File-Sharing Culture." *International Journal of Communication*, 6, pp.564-584.

Cardoso, G., Caetano, M., Espahna, R., Jacobetty, P. & Quintanilha, T. (2012). "P2P in the Networked Future of European Cinema." *International Journal of Communication*, 6, pp.795-821.

Castells, M. (2000). "Materials for an Exploratory Theory of the Network Society." *British Journal of Sociology*, 51(1), pp.5-24.

Cenite, M., Wanzheng Wang, M., Peiwen, C. & Shimin Chan, G. (2009). "More Than Just Free Content: Motivations of Peer-to-Peer File Sharers." *Journal of Communication Inquiry*, 33(3), pp.206-221.

Cohen, B. (2009). "The BitTorrent Protocol Specification." Available from: <http://www.bittorrent.org/beps/bep_0003.html> [Accessed 17 April 2012].

Davis, M., Bolding, G., Hart, G., Sherr, L., & Elford, J. (2004). "Reflecting on the Experience of Interviewing Online: Perspectives from the Internet and HIV study in London." *Aids Care*, 16(8), pp.944-952.

Deleuze, G. & Guattari, F. (2004). *A Thousand Plateaus: Capitalism and Schizophrenia*. London: Continuum.

Dryden, J. (2008). "Copyright Issues in the Selection of Archival Material for Internet Access." *Archive Science*, 8, pp.123-147.

Elmholdt, C. (n.d.). "Cyberspace alternativer til ansigt-til-ansigt interviewet." Available from: <http://psy.au.dk/fileadmin/site_files/filer_psykologi/dokumenter/CKM/NB41/cyberspace.pdf> [Accessed 30 May 2012].

Farb, S. (2006). "Libraries, Licensing and the Challenge of Stewardship." *First Monday*, 11(7).

Feenberg, A & Bakardjieva, M. (2004). "Virtual Community: No 'Killer Implication.'" *New Media and Society*, 6(37), pp.37-43.

Fernback, J. (2007). "Beyond the Diluted Community Concept: A Symbolic Interactionist Perspective on Online Social Relations." *New Media & Society*, 9(1), pp.49-69.

Flanagin, A., Flanagin, C. & Flanagin, J. (2010). "Technical Code and the Social Construction of the Internet." *New Media & Society*, 12(2), pp.179-196.

Fleming, D. (2012). "Poisoning the Affective Economy of RW Culture: Re-Mapping the Agents." *International Journal of Communication*, 6, pp.669-688.

Forte, A. & Bruckman, A. (2005). "Why Do People Write for Wikipedia? Incentives to Contribute to Open-content Publishing." Workshop on Sustaining Community: The Role and Design of Incentive Mechanisms in Online Systems, ACM Group, Sanibel Island, FL.

Giesler, M. & Pohlmann, M. (2003a). "The Anthropology of File Sharing: Consuming Napster as a Gift." In: Keller, P., ed. & Rook, D., ed. *Advances in Consumer Research*, 30, Association for Consumer Research, Valdosta: GA.

Giesler, M. & Pohlmann, M. (2003b). "The Social Form of Napster: Cultivating the Paradox of Consumer Emancipation." In: Keller, P. & Rook, D., ed. *Advances in Consumer Research*, 30, Association for Consumer Research, Valdosta: GA.

Giesler, M. (2006). Cybernetic Gift-Giving and Social Drama: A Netnography of the Napster File-Sharing Community. In Ayers, M., ed. *Cybersounds: Essays on Virtual Music Culture*. New York: Peter Lang.

Gouchenour, P. (2006). "Distributed Communities and Nodal Subjects." *New Media & Society*, 8(1), pp.33-51.

Happy Birthday to … Us! (2006). Available from:
<http://web.archive.org/web/20060613042533/http://oink.me.uk/> [Accessed 1 June 2012].

Harrisson, D. (2008). "Private Torrents." Available from:
 <http://www.bittorrent.org/beps/bep_0027.html> [Accessed 17 April 2012].

Huang, C. (2005). "File Sharing as a Form of Music Consumption." *International Journal of Electric Commerce*, 9(4), pp.37-55.

Huge Pirate Music Site Shut Down (2007). *BBC News*, 23 October 2007. Available from: <http://news.bbc.co.uk/2/hi/uk_news/england/tees/7057812.stm> [Accessed 1 June 2012].

Kaghan, W. & Bowker, G. (2001). "Out of Machine Age?: Complexity, Sociotechnical Systems and Actor Network Theory." *Journal of Engineering and Technology Management*, 18, pp.253-269.

Kallinikos, J., Aaltonen, A. & Marton, A. (2010). "A Theory of Digital Objects." *First Monday, 15(6).*

Katyal, S. (2009). "Filtering, Piracy Surveillance and Disobedience." *Columbia Journal of Law and the Arts*, 32(4), pp.401-426.

Kling, R., McKim, G. & King, A. (2003). "A Bit More IT: Scholarly Communication Forums as Socio-Technical Interaction Networks." *Journal of the American Society for Information Science and Technology*, 54(1), pp.47-67.

Kozinets, R. (2010). *Netnography: Doing Ethnographic Research Online*. London: SAGE.

Kretschmer, M. & Pratt, C. (2009). "Legal Form and Cultural Symbol: Music, Copyright, and Information and Communication Studies." *Information, Communication & Society*, 12(2), pp.165-177.

Lampel, J, & Bhalla, A. (2007). "The Role of Status Seeking in Online Communities: Giving the Gift of Experience." *Journal of Computer-Mediated Communication*, 12, pp.434-455.

Larsson, S. (2011). "The Path Dependence of European Copyright." *SCRIPTed*, 8(1), pp.8-31.

Latour, B. & Woolgar, S. (1986). *Laboratory Life: the Construction of Scientific Facts*. Princeton: Princeton UP.

Latour, B. (1991). Technology is Society Made Durable. In: Law, J., ed. *A Sociology of Monsters: Essays on Power, Technology and Domination*. London: Routledge, pp.103-132.

Latour, B. (1992). The Sociology of a Few Mundane Artifacts. In: Bijker, W. & Law, J., ed. *Shaping Technology/Building Society: Studies in Sociotechnological Change*. Cambridge: MIT Press, pp.225-258.

Latour, B. (1996). "On Actor-Network Theory: A Few Clarifications Plus More than a Few Complications." Available from:
http://www9.georgetown.edu/faculty/irvinem/theory/Latour-clarifications.pdf>
[Accessed 1 May 2012]

Latour, B. (1999a). On Recalling ANT. In: Law, J., ed. *Actor Network Theory and After*. Oxford: Blackwell, pp.15-25.

Latour, B. (1999b). *Pandora's Hope: Essays on the Reality of Science Studies*. London: Harvard UP.

Latour, B. (2005). *Reassembling the Social: An Introduction to Actor-Network-Theory*. Oxford: Oxford UP.

Leonardi, P. (2010). "Digital Materiality? How Artifacts Without Matter, Matter." *First Monday*, 15(6).

Lessig, L. (2008). *Remix: Making Art and Commerce Thrive in the Hybrid Economy*. New York: The Penguin Press.

Lindgren, S. (2009). Unga fildelningskulturer. In: Lindgren, S., ed. *Ungdomskulturer*. Malmö: Gleerups.

Meijas, U. A. (2010). "The Limits of Networks as Models for Organizing the Social." *New Media & Society*, 12(4), pp.603-617.

Niederer, S. & van Dijck, J. (2010). "Wisdom of the Crowd or Technicity of Content? Wikipedia as a Sociotechnical System." *New Media & Society*, 12, pp.1368-1387.

Nolin, J. (2010). "Speedism, Boxism and Markism: Three Ideologies of the Internet." *First Monday*, 15(10).

O'Connor, H. & Madge, C. (2001). "Cyber-Mothers: Online Synchronous Interviewing using Conferencing Software." *Sociological Research Online*, 5(4).

Opdenakker, R. (2006). "Advantages and Disadvantages of Four Interview Techniques in Qualitative Research." *Forum: Qualitative Social Research*, 7(4).

Petersen, S. (2008). "Loser Generated Content: from Participation to Exploration." *First Monday*, 13(3).

Plowman, S. & Goode, S. (2009). "Factors Affecting the Intention to Download Music: Quality Perceptions and Downloading Intensity." *Journal of Computer Information Systems*, Summer 2009.

Rheingold, H. (1993). *The Virtual Community: Homesteading on the Electronic Frontier*. New York: HarperPerennial.

Salmons, J. (2010). *Online Interviews in Real Time*. Thousand Oaks: SAGE.

Sano-Franchini, J. (2010). "Intellectual Property and the Cultures of BitTorrent Communities." *Computers and Composition*, 27, p.202-210.

Sherry, J. (1983). "Gift Giving in Anthropological Perspective." *Journal of Consumer Research*, 10, pp.157-168.

Shirky, C. (2008). *Here Comes Everybody: the Power of Organizing Without Organizations*. New York: The Penguin Press.

Sundin, O. (2010). "Janitors of Knowledge: Constructing Knowledge in the Everyday Life of Wikipedia Editors." *Journal of Documentation*, 67(5), pp.840-862.

Talja, S. (2009). "Science and Technology Studies." *Encyclopedia of Library and Information Sciences,* 3rd ed., pp.4605-4612.

Taylor, C. & Pellegrini, F. (2001). The End of Napster as We Know It. *Time US*. Available from: <http://www.time.com/time/nation/article/0,8599,101268,00.html> [Accessed 30 May 2012].

Tyson, J. (n.d.). "How the Old Napster Worked." Available from: <http://computer.howstuffworks.com/napster2.htm> [Accessed 20 April 2012].

Vetenskapsrådet (2011). *Good Research Practice.* Available from: <http://www.vr.se/download/18.3a36c20d133af0c1295800030/Good+Research+Pract ice+3.2011_webb.pdf> [Accessed 1 June 2012]

Weinberger, D. (2007). *Everything Is Miscellaneous: the Power of the New Digital Disorder*. New York: Times Books.

Wheeler, W. (2010). Bruno Latour: Documenting Human and Nonhuman Associations. In: Leckie, G., Given, L., Buschman, J., ed. *Critical Theory for Library and Information Science: Exploring the Social from Across the Disciplines*. Santa Barbara: Libraries Unlimited.

Williams, P., Nicholas, D. & Rowlands, I. (2010). "The Attitudes and Behaviors of Illegal Downloaders." *Aslib Proceedings: New Information Perspectives*, 62(3), pp.283-301.

Willson, M. (2006). *Technically Together: Rethinking Community within Techno-Society*. New York: Peter Lang.

Zittrain, J. (2008). *The Future of the Internet and How to Stop It*. New Haven: Yale UP.

8. Appendices

Appendix A – Lossy vs. Lossless uploads on WCD (provided by WCD)

	Notes:	Lossy	Lossless
By Snatches	complete snatches	39,828,617	8,887,866
By Bytes	filesize x snatches	4,209,450,241,890,880	3,947,638,498,868,540
By Torrents	torrents, snatched & unsnatched	803,184	352,688
snatches per torrent	popularity	49.59	25.20
bytes transferred per torrent	performance of average torrent	5,240,953,806	11,193,004,862
bytes transferred per snatch	average filesize of snatches	105,689,089	444,160,443
% Snatches	percentages of transactions	81.76%	18.24%
% Bytes	percentages of traffic	51.60%	48.40%
% Torrents	percentages of offerings	69.49%	30.51%

Appendix B - User class statistics on WCD (provided by WCD)

	Notes:	Torrent Master	Elite	Power User	Member	User
By Snatches	complete snatches	1,866,155	15,386,752	14,531,176	6,577,875	4,299,748
By Bytes	filesize x snatches	333,656,084,482,778	2,794,398,140,790,872	2,393,421,628,499,390	1,013,742,013,578,597	580,791,601,465,982
By Torrents	torrents, snatched & unsnatched	109,725	420,741	236,568	107,351	87,920
snatches per torrent	*popularity*	17.01	36.57	61.42	61.27	48.91
bytes transferred per torrent	*performance of average torrent*	3,040,839,230	6,641,611,207	10,117,267,029	9,443,247,045	6,605,909,935
bytes transferred per snatch	*average filesize of snatches*	178,793,340	181,610,657	164,709,424	154,113,907	135,075,730
% Snatches	*percentages of transactions*	3.83%	31.58%	29.83%	13.50%	8.83%
% Bytes	*percentages of traffic*	4.09%	34.26%	29.34%	12.43%	7.12%
% Torrents	*percentages of offerings*	9.49%	36.40%	20.47%	9.29%	7.61%
Snatched Torrents		77,160	361,255	217,580	99,312	78,874
Unsnatched Torrents		32,565	59,486	18,988	8,039	9,046
% snatched		70.32%	85.86%	91.97%	92.51%	89.71%
% unsnatched		29.68%	14.14%	8.03%	7.49%	10.29%
	Reverse rank, # of torrents	11	13	14	15	16
Users		191	3,463	14,527	55,872	219,003
% of users (current)		0.07%	1.18%	4.95%	19.03%	74.58%
uploads/users	*average uploads per person*	574.48	121.50	16.28	1.92	0.40
snatches/users	*ave snatches each user generates*	9,770.45	4,443.19	1,000.29	117.73	19.63

Appendix C - Interview Guide

Background
Which trackers do you mostly use?
What is a "tracker" in your opinion?
How frequently do you use private trackers?

Sharing/Leeching
Why do you seed?
Why do you upload material?
What is your relation to the material you upload?
Do you rip material yourself or find torrents on other trackers?
What are your thoughts on sharing on private versus public trackers?
Why do you use private trackers?
What is achieved by uploading material to private trackers in your opinion?
How does the way you use trackers depend on what is being shared?

Interaction: Bodies
How important is the social aspect of private trackers to you?
How would you describe your connection to other members?
Do you post in the forums, spend time on IRC?
What, in your opinion, is a community?
In what ways do you think [tracker] could be thought of as community?
Do you think that a sense of community is beneficial for file-sharing?

Interaction: Machines
How important do you feel that the organisation of the material on site is? (e.g, tags, meta-info)
Do you provide meta-information, tags, develop wiki, etc?
Do you use the tracker to explore new music/anime?
            Browse recent snatches/uploads?
            Survey forums for tips?
How is the improvement of the tracker in general important to you?
Do you try to improve the code, post feature suggestions, etc.?

Legislation: Peripheral visions
Are you familiar with anti-piracy legislation?
How do you think such legislation affects private trackers?
            Directly, indirectly?
What are your thoughts in general about the current state of anti-piracy legislation?

9. Glossary

Anime: Japanese animated series or movies.

BitTorrent: A protocol used to facilitate peer-to-peer file-sharing.

BitTorrent Client: A BitTorrent client is required to download and upload data to a BitTorrent tracker.

BitTorrent Index: A BitTorrent index is, simply put, a list of torrents with descriptions about their content.

BitTorrent Tracker: The BitTorrent tracker is what makes the transfer of data between users possible.

Content: When members of the private trackers refer to the content, they mean the files that are downloaded through loading the torrent file into the BitTorrent client.

FLAC: FLAC (Free Lossless Audio Codec) is the most popular lossless encoding format for audio files.

Freeleech: If a torrent is set to freeleech, it does not generate data that counts towards the user's ratio when downloaded.

Hit and Run: A Hit and Run occurs when a user downloads the content of a torrent file and then immediately removes the torrent from the BitTorrent client when it has finished downloading.

IRC: (Internet Relay Chat) Simply put, an internet chat that can accessed with a IRC client.

Leech: Leeching means that a user is mainly downloading data from a torrent, not uploading.

Lossless: A lossless audio file is a compressed file that has the same sound quality as the original source.

Lossy: A lossy audio file is usually of a smaller size than a lossless one, but has reduced sound quality. Data has been deleted from the file in order to make it smaller.

Manga: Japanese comics.

Mp3: The most popular lossy encoding format for audio files.

Private Tracker: A private tracker in the everyday sense of the term consists of both a BitTorrent index and a BitTorrent tracker. Private trackers require membership, which most of the time is attained through invites from existing members.

Public Tracker: Public trackers differ from private trackers in that they do not require membership. Instead, they are open to all users, which means that they do not have as much control over the content.

Ratio: The ratio is a user's amount of uploaded data divided by his/her downloaded data. If a user drops below a certain ratio, s/he loses his/her downloading privileges and may eventually be banned from the tracker.

Rip: Ripping is the act of copying the content of a physical data container, like a CD or a DVD. Similarly, a rip is the result of this process, like a DVDrip. However, the meaning of this word has become more vague with the introduction of digital releases, for example WEBrips, where the material is not actually ripped, rather just downloaded. Therefore, it can be said to imply that the data of the original file has been transported, and usually transformed, in some way.

Seed: Seeding means that the torrent is kept running in the BitTorrent client after the download is completed, allowing other users to download data.

Snatch: The act of downloading a torrent file.

Swarm: The sum of users that have a torrent file running in a BitTorrent client. The BitTorrent tracker makes communication, as in transfer of data, between these users in the swarm possible.

Torrent: Torrent can be used both to denote the torrent file and the content signified by the torrent file. A torrent file contains only meta-information that points toward a specific set of files. When opened in a BitTorrent client, the specific set of files can be downloaded.

Upload: It is important to differentiate the countable noun "upload" from the uncountable noun. The countable noun, as in "an upload", refers to the act of uploading a new torrent to the site, whereas the uncountable noun refers to the amount of data (bytes) uploaded on the site. This data counts towards the user's ratio.