Black Open Access in Sweden
A study on the perceptions on and usage of illicit repositories of academic documents

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Title

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Abstract

The purpose of this thesis is to create an additional critique of academic publishing through the lens of black open access – illicit measures for access to academic documents. This is done primarily through the process of qualitative interviews with librarians and PhD-students active at two Swedish universites. The thesis also includes a minor statistical case study aiming to show the usage of the black open access repository (or "shadow library") Sci-Hub in Sweden. Black open access has, for some time, been the only alternative to access academic literature for many students and researchers outside the global north. This because, publishers are getting increasingly consolidated, securing a hold over the access to academic information through barriers in technology or infrastructure. This thesis shows that librarians and PhD-students at the institutions are overbearingly positive towards black open access alternatives, often citing the publisher hegemony as the main reason for the emergence of illicit routes of information retrieval. Furthermore, the statistical study shows that the usage of Sci-Hub is very low in Sweden. This can be attributed to a still functioning information infrastructure in Sweden or usage of other platforms and more informal exchanges of "pirated" literature.

Keywords: *Black open access, guerilla open access, publisher hegemony, academic capitalism, shadow library*

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1. Introduction

We are at a point in time where access to academic information and publishing is in a purgatorial state, the remnants of an older tradition has been given new meaning at the dawn of the information age. With this, a status quo marked by hybridity has increasingly created barriers closing in and shutting out the means for a free flow of information within the scientific community. In the state of hybridity, capitalism has taken measures to secure the barriers of access and publishing, through predatory open access journals, exorbitant subscription fees, oligopoly of the market and dominion over critically important outlets for change. This evolution has, however, not come without a reaction, the open access movement has tried to limit the control of publisher hegemony. It has not always succeeded, but definitely created an awareness of the systemic changes that must be fulfilled in order to have a fruitful development of scientific publishing and communication. In the pitfalls of the open access movement, a new movement is incipient, one freed from the frameworks of nation-states, multinational federations, and copyright laws — the black open access movement. Guerrilla open access, pirate open access, rogue open access, Robin Hood open access or black open access (a rose by any other name would smell as sweet) can be defined as a repository which " In contrast to proper repositories which by and large enforce the license rules, these new channels mostly offer the exact digital replicas of the published journal articles, and do so illegally." (Björk 2017, p. 173). This movement circumvents copyright legislation by sharing academic documents illegally, this process can be expressed in various ways, from sharing on academic social networks such as Academia or Researchgate, to more systematic approaches such as LibGen or Sci-Hub, which are large illicit online repositories of categorized and catalogued academic books and articles. The movement has proved to be powerful enough to attract the attention of major players in the publishing world. The research on black open access actors is scarce, and none of it has had a focus on how librarians and students relate to it, this paper aims to begin to fill that hole and approach black open access from a critical standpoint. But in order to do so a general picture must be painted. In the following section an understanding of the publishing hegemony and the research problem is made clearer.

1.1 Background and research problem

The ever-increasing hegemony of large publishing houses has made it more difficult for academics and laypersons outside big budget institutions to access information and research required to further their own work or gain knowledge autonomously. Even universities with large budgets are getting increasingly affected by the status quo. Studies have shown that at least 50% of all academic output in the year 2013 was facilitated through publications owned by five publishing houses, in some cases the situation is even worse, in the social sciences 70% of all research is owned by the

same five publishers (Lariviere, Haustein, Mongeon 2015). Furthermore, the publication houses seek to increase their hegemony through mergers and acquisitions of smaller or weaker publishers, and in some cases, with each other, such as the merger of Springer Verlage and Nature in 2015 effectively reducing the previous "Big Five" publishers to "The Big Four" and further consolidating the hegemony of academic publishing (Van Noorden, 2015).

Publishers journals get ranked based on their impact factor, with the most popular ones for each discipline usually owned by one of the "big four", these journals are attractive to scholars because it promises much needed exposure for their research. In order to get into these journals scholars are forced to give up the intellectual property of their paper to the publishers, who in turn publish them in a suitable journal. University libraries are forced to pay increasingly exorbitant subscription fees in order to access the journals from the publishers (DoBell, 2008). The structure of academic communication itself has, primarily because of the neoliberalization of academic communication, been corrupted, which has created a negative feedback loop where scholars are forced to continue within the system that is hindering them in order to stay relevant as researchers. The centralization of academic publishing is problematic, not only because it creates an oligopoly of publishers, essentially profiting off of public knowledge, but because it detriments the process of sharing and communication between scholars, thus, severely diminishing the possibilities of academic evolution.

2. Purpose and research question

2.1 Purpose

The purpose of this paper is to further the understanding of the perception of shadow libraries in contrast to license based (or closed) access and open access publishing in a Swedish context.. Through interviews with PhD-students and library professionals at two Swedish universities, this paper will explore their understanding of shadow libraries and how it affects their work. Additionally, a further purpose of this text is to engage in a critique of publishing as it is today, primarily focusing on the publisher hegemony and its subjugation of systematic change. This will be done by correlating the interviewed subjects understanding of publishing with black open access to accentuate a deeper systemic issue with how publishing and access to academic information functions in relation to capitalism and neoliberalism.

A statistical overview of Sci-hub use in Sweden will show how shadow libraries are used in a Swedish context, and relate it to the perception of usage presented by PhD-students and library professionals in the interviews.

In short, the purpose of the paper is to further the discussion on academic publishing and availability of academic information from a critical stand point, whilst the purpose is to engage the phenomena of black open access and systemized repositories such as Libgen and Sci-Hub from the perspective of PhD-students and library professionals.

2.1.1 Delimitations

Due to the nature and scope of this study, several delimitations will have to be considered. The total amount of interviewed subjects will be eight individuals, three PhDs and five librarians, this is mainly due to the practical considerations and saturation of answers. Interviewed subjects come from two "Swedish university cities" in order to further obfuscate identities.

This thesis treats science as a unified phenomenon. Primarily as it aims to critique the very idea of academic publishing as it is constructed and actuated upon in the present, but also to show that the specific issue is not only reserved to a single subject. If the thesis would focus on a particular subject, the reasoning employed would perhaps not be viewed as something unilateral, which would further detriment the positioning which is required within the discussion on black open access, as well as, publishing as a whole. Furthermore, the work required to reach the same conclusion (if a singular field of science was chosen) would require a much lengthier study, beyond the scope possible for a master's thesis.

2. 2 Research Questions

The research questions guiding this text forward are primarily empirical but are used to ground the theoretical approaches employed throughout the analysis. This is done partially to solidify the theoretical approaches in the material gained and to shed light on how the consequences described in the theories can be perceived in a concrete fashion.

- How do librarians and PhD students at two Swedish universities perceive and understand the emergence of black open access?
- How do they relate black open access to the outlook of the publishing industry?
- How are black open access/shadow libraries used in a Swedish context and why do students choose to utilize shadow libraries if they have access through other means?

2.3 Outline for thesis

This thesis starts with an introduction and a background, the intention behind them is to show the issues that are going to be treated throughout the paper. In the section above is the purpose and research questions driving the thesis forward, as well as the delimitations deemed valuable for working with this thesis. This section is followed by previous research, intended to show various approaches on the topics of open access, hactivism and shadow libraries from previous researchers After this section, comes the section on theory. In this section three theories will be presented, which will be used to analyze the material gathered. Following the section on theory is the chapter on methodology and material, showing how and why I have chosen the material for this thesis. This is followed by the analysis, which is split into three main themes and two to three sub-themes. After the analysis comes the discussion and results, here the main points of the analysis are brought forth and condensed into answers to the research questions posed. This is finally followed by a conclusion and a section on future research.

The following section will discuss the effects of the publishing oligopoly through the lens of three themes identified in previous research. Firstly, a discussion on open access will reveal the playing field in which the black open access movement emerged. Following the first section, research on hacktivism will be presented in order to place the illicit information community in a wider context, both philosophically and politically. Thereafter, research on shadow libraries is investigated, this will provide a more nuanced understanding of the phenomena and its usage throughout the world, as well as what it means for PhD-students and library professionals. Finally, a concluding discussion will bind the research explored together.

3. Previous research

The previous research explored for this thesis is, as previously mentioned, separated into three distinct themes being: open access, hacktivism and studies on shadow libraries. Throughout the years, significant amounts of critical research on scientific communication and library- and information science as a whole has been produced, such as the anthologies "Open Divide: critical studies on open access" edited by Joachim Schöpfel and Ulric Herd (2018) and "Critical Theory for Library and Information Science : Exploring the Social from Across the Disciplines" edited by Gloria J. Leckie, Lisa M. Givens, and John E. Buschman (2010). These two publications have heavily inspired the routes taken when gathering previous research. Overall, the previous research on scientific communication identified in the reading process of gathering materials is mostly focused on modeling and defining what scientific communication is and means, as well as, how it is practiced. This is exemplified in studies performed by Bo-Christer Björk (2005), Julie M. Hurd (2000) and Trine Fjordback Søndergaard, Jack Andersen and Birger Hjørland (2003). Despite being interesting and important entries in the scientific analysis of scientific communication, they are limited in use for this thesis. Instead, the most invigorating and relevant research has been found in the inception of the open access movements (in terms of initial standardizing documents), as well as, critiques on their evolution and subsumption into capitalist modes of production. Furthermore, this thesis is written with an anti-capitalist perspective, which invites research and philosophy from other disciplines deemed relevant. With this, I as the author want to position myself in a milieu of critique rather than generalization thus motivating the choice made for in-depth presentation in this section.

The possibilities for open access, described in the initial open access initiatives in Europe and the U.S, seemed almost endless. It would provide researchers, universities access to the knowledge they paid for and produced, effectivize the dissemination of academic papers through large repositories linked to university databases, as well as simplify the process for creating derivative works based on previous research (Max Planck Society 2003; Chan et al 2002 ; Brown et al, 2003). Throughout its implementation within academia and scholarly societies, open access has been perceived as the means to break free from the clutches of the academic publishing industry and regaining the control of the product they produce (Horowitz, 2011; Hall, 2008). Furthermore, it is seen as a means to reduce the economic pressure that university libraries have been subjected to (Horowitz, 2011; Hall, 2008; Francke, 2013).

The open access initiative is, however, not generally lauded. There are quite a few critical voices. Magnus Annemark master's thesis (2017) reveals the changed attitudes towards open access from the perspective of publishers, and shows how they have appropriated the open access movement in order to reassure their profits. This is also supported by Horowitz (2008), however, he views it as a deal that is "to the benefit of neither and detriment of all" (p. 84). Haider (2018) challenges the very idea of" openness" in relation to open access, reflecting on who open access really is open

for, and how science was previously "closed". Haider also posits that the "...need to see an acceleration of research is closely linked to the temporal dynamic of capitalism that requires constant acceleration of economic growth", arguing that open access has turned into a race, rather than a tool for openness, as well as suggesting that its appropriation is a weapon in the "privatization of a vast and diverse field of publicly funded knowledge production." (2018, p. 4, 8).

Within the critiques of the open access movements, it is clear that something is not working. Despite positive perspectives regarding open access, open access has not necessarily succeeded with its goals. Green (2017) argues that the different models of open access, such as green and gold, require too much institutional change from a large variation of actors in order to work, he suggests that the change required makes the process and motivations for publishing through these models unattractive. This is further supported in a study conducted by Park and Qin (2007) showing that scholars are apprehensive in their approach toward open access publishing. Green (2017) and Björk (2017) argue that these factors are diminishing the possibilities of open access because they are already trumped by the piracy movement and "black open access".

Black open access is piracy, it functions by using digital replicas and uploading them into repositories where they are freely accessed without the constraints of pay-walls, license-agreements or other bureaucratic and technological limitations (Björk 2017). Black open access, or guerilla open access, is part of the larger piracy movement. Their aim is to democratize the spread and dissemination of information by removing the barriers set up by publishers. In 2008, Aaron Swartz published the Guerilla Open Access Manifesto, a short and concise "call-to-arms" describing the pitfalls of the open access movement and the need for civil disobedience in order to copy and share information world-wide (Swartz 2008).

"Information is power. But like all power, there are those who want to keep it for themselves." (Swartz 2008).

In "A Hacker Manifesto" McKenzie Warks aims to create a coherent picture of the evolution of intellectual property through a post-marxist perspective of class and labour divisions. In opposition to traditional marxism, where the division is between the capitalist class or "the bourgeoisie" and the working class or "the proletariat", McKenzie Wark introduces new class formations within the information age, namely, the hacker class and the vectoralist class (Wark 2004). The new class formations aim to renegotiate the understanding of work, profit and property in the information age, specifically against the backdrop of the commodification of information prevalent in the digital age. Wark claims that the hacker class has the power to subdue and subvert the "vectoralists" —capitalists trading in immaterial rather than material goods — through non-cooperation, denial of subjugation and civil disobedience (2004). Essentially, the manifesto can be seen as a working philosophy for the digital working class, it also provides a theoretical framework for hacktivism. Hacktivism is the term used to describe "acts of malevolence and mischief in the cyber domain, from straightforward crime [...] to the many forms of political protests that are now carried out on the internet" (Lucas 2017, p. 20). Christian Beck (2016) furthers McKenzie Warks's perspective on the hacker class's potentiality by focusing on

direct-digital-action through DDOS-attacks (Distributed Denial of Service) in order to redirect and redistribute the flow of information.

Hacktivism is, however, not only "attacks" against perceived wrongdoers. It can also be found within the black open access movement where constructive, rather than destructive, actions can be used in subversive ways. This is primarily exemplified in the shadow libraries. Large online repositories of catalogued black open access material.

Shadow libraries are not a new phenomena. They have existed in various forms and scope since the early 1990's (Bodó 2018). Shadow libraries as a concept had its beginning in Soviet Russia. The Soviet Union proved to be a uberous starting point for the shadow library, reading was a widely popular leisure activity, and the state enforced rigorous censorship laws which limited the availability of literature. Compounded with these factors were the material restrictions in the publishing industry, meaning that books usually were only published once, and lax copyright laws (Bodó 2018). Before the wider introduction of computers in the Soviet, printed copies were circulated within communities. This practice laid the groundwork for the first digital shadow libraries such as gigapedia, lib.ru, library.nu and Libgen (Bodó 2018).

Libgen or "Library Genesis" is still active and a major actor within the black open access community, the shadow library's success is deeply correlated with the structure of their community and administrators as well as their view on what it means to be a digital universal library. For example, they choose to limit their fame as much as possible, referring to the pitfalls of other shadow libraries that aimed to reach as many individuals as possible (Bodó 2018). Instead, they make their source code and collection open source, allowing other actors to be the "face" of the shadow library through server mirrors (such as Sci-Hub, B and a multitude of other websites). The practice of open source is deeply ingrained into the philosophy of libgen, however, it comes with restrictions. The shadow library will freely give aid to and support other mirror-sites that further their cause, but are staunchly opposed to any actor exchanging their collection for payment (Bodó 2018). It is clear that the "librarians" of libgen have clear motivations for their collection beyond piracy, their view of Libgen is in line with the motivations of other "pirate philosophers" such as Aron Swartz and McKenzie Wark. With Libgen, they have created a constructive, yet subversive, method of protest against the structure of the knowledge/information economy status quo through civil disobedience and non-compliance with copyright laws. Their collection is also carefully managed aiming to be a qualitative rather than quantitative universal library. Cabanac (2016) and Houle (2017) reaffirm that Libgen is successful in making up-to-date research available through their platforms. Houle even goes so far as to suggesting that Libgen (and its mirrors) should be viewed as a viable alternatives to other text-sharing initiatives such as academic social networks (Academia, ResearchGate) or the #icanhazpdf movement on twitter (2017).

Sci-Hub is the most publicized mirror-site of Libgen, it is primarily focused on retrieving articles, often using community-provided a keys to gain institutional access to databases in order to download articles en-masse (Bohannon 2016). Sci-Hub was started by Alexandra Elbakayan in 2011, it indexes roughly 64 million articles and

focuses solely on academic material (Bohannon, Elbakayan 2016). In 2015, Dutch publisher Elsevier launched a lawsuit against Elbakayan, her website and Libgen. The lawsuit was a highly publicized affair and helped launch Sci-Hub into the spotlight (Graber-Stiehl 2018; Schiermeier 2017)

Outside Libgen's mirror-site network, there are other actors within the black open access movement that share the same ideals as Libgen. Aaaaarg.fail is one of those, it's collection specializes primarily on the arts and humanities, but other interlinked fields are also readily available. Ekström's (2017) study of the community on aaaaarg.fail shows that there is a clear political motivation behind the dissemination of academic information on the website. In an interview with Sean Dockray, aaaaarg's creator, he describes the website as a platform that exists to develop "critical discourse outside of an institutional framework", he refutes the argument that aaaaarg is a "new building" and asserts that it is rather a "scaffolding that attaches on to existing buildings and creates new architecture between them" (Dean et al 2013). This describes the movement of actors, in and outside academia, who collaboratively create and manage the aaaaarg community through piracy, but also a shared interest in certain academic fields. These factors make aaaaarg a unique actor within the black open access movement.

The reasons behind the usage of shadow libraries are hard to pinpoint. Motivations range from activist ideals to simplicity, and studies performed show fairly equal distribution of users throughout the world (Bohannon 2016; Greshake 2017). It is easy to recall Zipf's (1949) "principle of least effort" in regard to usage of shadow libraries in richer more developed parts of the world. In the global south, however, shadow libraries are a question of academic survival (Bodó 2018; Heidel 2018; Mizukami, Reia 2018). There have been a few statistical studies on the usage of Sci-Hub, both on national levels (Nazarovets 2018), and internationally (Greshake 2017). The studies have shown that the usage can differ quite fundamentally between nations, in the global south the usage tends to be higher, however, there exist disparities within this perspective as some nations in the global north such as U.K, U.S and Russia frequent the site on par with nations such as Iran or China (Greshake 2017; Bohannon 2016).

4. Theory

4.1 Academic capitalism and the neoliberal state project

The theory of academic capitalism, as put forth by Sheila Slaughter and Gary Rhoades, aims to explain the increasing integration of "the new economy" into the realm of academia (Slaughter, Rhoades 2004). It does not suppose that the integration between capitalist interests and academic institutions (both private and public) as an inevitable way forward, but rather, see it as a trend that can be resisted (Slaughter, Rhoades 2004, p. 1). Furthermore, the theory disagrees with the notion of the corporatization or subversion of academic institutions. Rather, the theory argues that academic capitalism is the systematic use of state-resources "to create new circuits of knowledge that link higher education institutions to the new economy" (Slaughter, Rhoades 2004, p. 1). Through the lens of the theory of academic capitalism actors within universities, and other academic institutions, are increasingly using state resources in order to create organizations and managerial roles that inhibit spaces in between the corporate and academic world. These organizations and individuals exist to: further develop the closing gap between capitalist interests and academic institutions, research infrastructure that can be utilized and sold on the private market, as well as, use marketing strategies in order to make academic institutions more attractive to new students and corporations (Slaughter, Rhoades 2004).

As an example of how this process works in practice they present the case of the Missyplicity project, a project based out of the University of Phoenix and funded by billionaire John Sperling, its founder. (It is important to note that the University of Phoenix is a for-profit university, but it operates in similar fashion to private non-profit and public universities. For example, the students at the university are eligible to receive state-funded loans and scholarship. The goal of the Missyplicity project was to clone Sperling's dog Missy, the funds from the project were profits gained from the university, and the intellectual property gained from the experiment was handed to a subsidiary of Sperling's parent company The Apollo Group. The subsidiary has since moved on to create a lucrative business in animal cloning and creating animals with human DNA that are used in pharmaceutical development (Slaughter, Rhoades 2004). Even though the Missyplicity project was funded through private funds, it utilized publicly funded research on biotechnology in order to complete its goals. This shows that taxpayers pay for research that is partly sponsored by corporations, research that is later harnessed by the funding corporations and then developed into products that can be sold back to the public (Slaughter, Rhoades 2004 p. 6).

Despite being carried out at a for-profit academic institution, the case of Missyplicity shows that the intermingling relations between corporations, start-ups and academic institutions is a stark reality. Most importantly it shows that "knowledge [in the new economy] is a critical raw material to be mined and extracted from any unprotected site; patented, copyrighted, trademarked, or held as a trade secret; then sold in the marketplace for a profit" (Slaughter, Rhoades 2004, p. 4).

Slaughter and Rhoades frequently reference the" new economy" as the driving force behind the corporatization in academic institutions. They argue that the" new economy" is a function of, primarily, the neoliberal state (Slaughter, Rhoades 2004, p. 20-22). According to them, the economic modus operandi of the neoliberal state is, primarily, austerity policies, specifically in the realm of social welfare, and allocating the resources to" production functions" (Slaughter, Rhoades, 2004 p. 20). The neoliberal state's main motifs are to redefine the individual into economic actors (essentially turning individuals into consumers) as well as open up new spheres of operation for corporations, both small and large. This includes deregulating state functions and privatizing significant portions of previously state-run affairs. The authors claim that the university, as a function, initially, was not part of the shift in the creation of the neoliberal state, but" often endorsed initiatives directly or indirectly" (Slaugther, Rhoades, 2004, p. 20). Economic historian Philip Mirowski furthers this claim by suggesting that the seeds of the neoliberal state were strategically planted by economic frontfigures within the Mont Pèlerin Society (MPS) in the postwar years (2014). Mirowski explains the integration of neoliberal thought through a metaphor of the russian doll, where each layer represents another "face" of the MPS, by representing and re-representing themselves through several spheres of society, such as media, think-tanks, universities, corporations and foundations they enabled a spread of the neoliberal thought project throughout the world, naturalizing it as the "ideology of no ideology" (Mirowski 2014, p. 28). This is further supported by Quinn Slobodian, another economic historian, that suggests that neoliberal proponents from the MPS were heavily involved in shaping public opinion through several means such as "advising businesses, pressuring governments, drawing charts, and gathering statistics" (2018, p. 20). Slobodian argues that this was done in order to secure the free movements of capital, and internationalizing the economy of the world — plain and simply "the new economy" (2018, p. 20). However, it is important to note that the MPS were not singular actors in this process, they were one of several societies and organizations that, in competition or cooperation, were progenitors of the neoliberal chimera of today's world (Mirowski, 2014).

The neoliberal order has had a significant impact on how the new economy shaped the emergence of academic capitalism. This can be exemplified in Sweden with the introduction of new public management, pushing for flexibility, efficiency and competition for resources between state actors, something previously reserved for the private sector (Liedman, 2013). In Sweden this has been primarily been introduced in the schooling and healthcare systems, with private companies using public funds to start schools for profit, or with the privatization of the previously state-run apothecaries. Slaughter and Rhoades further argues that the "new economy" hinges upon the neoliberal state in order to function, in extension, this means that the academic capitalist regime is tightly interconnected with the neoliberal state project (Slaughter, Rhoades, 2004). Furthermore, universities, as actors within the realm of academic capitalism, are forced to reconcile with the status quo in order to benefit from the opportunities cooperation with the academic capitalist regime gives; in some cases it is a question of survival.

It is important to note that the introduction of the "new economy" and its movement into the academic spheres is a purely ideological affair. By impinging nation states

regulatory power over their economy, primarily through international federations and societies, and freeing up the movement of capital, corporations are handed the ability to harness state funded research for their own gain in multiple nations simultaneously, much like the current publishing oligopoly.

4.2 Societies of control and self-valorization.

The neoliberal state project is not solely reserved to an economic agenda. Rather, it is a conglomeration of mechanisms that aims to redefine the individual, nation states, politics and culture. If the previous order focused on fordist production, where the assembly-line labour force was a collective body producing to the max for the lowest form of wage, the neoliberal order is focused on the individual's performance, and instigating rivalry between workers. This split in the workforce is part of what Gilles Deleuze (1995) defines as the transition from disciplinary to control societies. The idea of the end of disciplinary societies was popularized by Foucault. His work drew parallels between prisons and walks of life, pointing out that schools, hospitals, barracks and factories all were "sites of confinement" (Deleuze 1995). Within the disciplinary society, workers often had the ability to position themselves against management, either through physical separations, such as the factory floor and the offices overlooking them, or through mass-movement unionization between workers. Furthermore, the disciplinary society was marked with finites, schools became barracks became factories and so forth, and all were reminiscent of prisons (Deleuze 1995). The control society, however, is marked by a process-like lifestyle of continuous evaluation and assessment, the factory has been replaced by the multinational corporation, the same can be said about the school, the hospital and even the arts (Deleuze, 1995). The individual has gone through the same transition, the increase in rivalry, or "healthy competition", at all levels of life has fractured possibilities for mass movement, change and breakage from the status quo. Deleuze furthers the redefintion of the individual, within the control society, by examining the fragmentation of the individual. In the disciplinary paradigm, the individual was defined by its contradiction — the collective, whereas with the control society, neither the individual nor the collective persists. Instead, the individual has been broken down into a "dividual" and the collective into "samples, data, markets or "banks"" (Deleuze 1995). The "dividual" is a consequence of the evaluative and rivalrous nature of the control society, it reduces the individual to a performance indicator or other administrative number, and opposes it to others in a mass, determining the individuals worth through their dividual quantitative statistic value (Deleuze 1995).

In Deleuze's discussion on the break from disciplinary to control society, he points out the paradigmatic shift in machinery used to impose control on the individual (dividual), and the collective mass. The machines of the information age are computers and other information technologies, that can be used to inflict control over workers in all disciplines. However, he points out that, like with all machines, there are dangers for capitalist interests. Before the information age, in the disciplinary society, machines could be inflicted with "...the passive danger of entropy and the

active danger of sabotage…" (Deleuze 1995, p. 180). The dangers he points out in today's world are starkly clear, "the passive danger is noise and the active, piracy and viral contamination" (Deleuze 1995, p. 180). Noise can be attributed to the information overload brought forth by networked technology. Piracy and viral contamination, the active dangers against control, permeate throughout the networked society in various forms, such as DDOS-attacks, or piracy websites such as Piratebay. The active dangers, in the control society, are furthered upon by Deleuze in an interview with Antonio Negri, "Computer Piracy and viruses, for example, will replace strikes and what the nineteenth century called "sabotage" ("clogging" the machinery) (Deleuze 1995, p. 175). This suggests that the active forms of resistance, in the information age, have been reshaped in order to deny capitalist imposition of control within digital space. The processes of these resistances, can be characterized as self-valorizing practices.

Self-valorization is an appropriated marxist term, introduced by Antonio Negri in his reading of Karl Marx's Grundrisse. Negri suggests that instead of working in opposition with capitalism, reacting and waiting for a big event (such as a revolution) in order to transition to socialism and finally communism, working class individuals should form immanent antagonistic practices aiming to deny capitalist valorization by "continually [...] broaden the sphere of non-work" (Negri 1991, p. 71). Essentially widening the practices outside of and within "work-life" in order to create, through passionate and libidinal forces, autonomous marxist practices within capitalist societies. In the process of self-valorization, capital will continuously seek to appropriate the practices created within the autonomous communities in order to control and limit its revolutionary tendencies (Negri 1991). This stresses the importance to continually evolve and expand upon the practices themselves to avoid capitalist usurpation. The point of self-valorization is, essentially, to work for other workers rather than working for employer's accumulation of capital. This can be performed both inside and outside of the workplace. Within the workplace it can be done through strikes, slowdowns or sabotage, outside of the workplace it can be protest, communality and going outside of legal frameworks to valorize fellow workers (Negri 1991). Self-valorization can also be perceived as constructive or destructive, which gives certain value to how the different acts of self-valorization are played out. Workers will, throughout the paper, be perceived as individuals who do not own the means of production. Within the university this will complicate matters as some researchers (especially within fields such as biomedicine) own patents. The term workers will not be used to define these types of academics, but it does not mean that there does not exist workers within privileged communities such as academia. The term will, primarily, be used to create a distinction between academics and librarians as "workers" and publishers as "capitalists". The distinction is made because the majority of individuals within academia are not patent owners, or in other ways, in control over their own means of production as a unified class.

4.3 ANT

ANT or actor-network-theory is not a theory in the traditional sense, but rather, a perspective of sociology designated to create a new understanding of the relations between human and non-human actors (Latour 2005). It begins in a reconfiguration of the definition of the social or the "we" that previously regarded social groups or

society as a fixed thing. Instead, it views the social as existing nowhere as a "thing among things" but disseminated "everywhere as a movement connecting non-social things" (Latour 2005, p. 107). ANT perceives the body of the collective, both human and non-human, as several different actors. In a social study, these actors may be connected or in association with each other in various way, implying that there is a possibility that they influence the functions of one another through associations (Latour 2005). Furthermore, ANT claims that the previous perception of the social is incapable of handling the increasingly accelerated pace of the "shape, size heterogeneity, and combinations of the associations" in a modern context (Latour 2005, p. 11).

In regards to networks, ANT does not define them in a traditional sense, instead of perceiving networks as having "two dimensions - or spheres - or three dimensions" it sees it as "nodes that have as many dimensions as connections"(Latour 1996, p. 370). This perspective lends us additional understanding into the role of the actor within society and as an individual, because it removes the idea of hierarchical strata and replaces it with a notion of a more or less connected node. This broadens the perspective of how actors relate, work and connect with each other since the point of bottom-up or top-down relations becomes obsolete when mapping relations.

The "actor" in the relation actor-network, should not be regarded as the cause of action within a network. Rather, the actor should be seen as a target which actions unfold upon in a relational process (Latour 2005). The actor closely resembles the stage actor. When thinking of the actor questions one should consider is"is this real? Is this fake? Does the audience's reaction play a part? Is the director's message conveyed appropriately? …" (Latour 2005, p. 62). By considering the actor in actor-network as a stage actor, the purpose of their presence is to convey action in a larger spectrum than recitation of lines, the actor is something that affects and is affected upon (Latour 2005). The relation between actors should not be seen as causal but as movement of action, that is reformed in every new connection within networks (Latour 2005). Viewing actors through this perspective lends agency to non-human entities such as machines. Latour exemplifies this by comparing the act of hammering with or without a hammer, or boiling water with or without a kettle, all of which are integral in the processes in which they act (2005). He also points out that these "machines" do not necessarily decide the actions which they commit, but he posits that they have the possibility to "authorize, encourage, block, permit, forbid, influence…[etc]" actions they are part of (Latour 2005, p. 91).

ANT will, in this thesis, play a minor role in comparison to the other theories chosen. Due to the nature of ANT it might just as well have been part of the methodological section, however, I have chosen to include it within this section due to its relation to the other theories chosen, primarily its relation to Deleuze and his oeuvre. Actor-network-theory, was initially supposed to be called "Actant-rhizome-ontology" by Latour (Latour 1996). This because, it does not aim to be a formalized tool used to describe a situation, but rather an ontological presupposition allowing a worldview that is generally not considered. The use of rhizome (harkening back to Deleuze) aims to invite practitioners of ANT to perceive relations in a non-hierarchical relational manner dependent on connections in networks rather than top-down relations. This is the purpose of ANT considered within this thesis. So, it is used, not only to describe

the agency of non-human agents, but also, to illuminate the effects of power structures within the networks of academia and the private sphere and their effects on PhDs and library professionals. Since this is performed without a clear use of concepts (such as Deleuze's "dividuality" or Slaughter and Rhoades's "academic capitalism") it could at times seem obsolete. This has been thoroughly considered, and I have reached the conclusion that the relations, and their consequences for actors, described in the analysis would lack their edge without an actant-rhizome-ontology.

4.4 Discussion on the theories

The three theoretical perspectives introduced will be used in the appropriate context when applied on the material in the analysis. Actor-network-theory is the glue binding together the ideas presented in the previous sections. It will be used to show how neoliberalism is not a specter that descended from a mountain in the Swiss alps, but a collection of actors acting upon each other throughout different networks forming a state project that takes on varying shapes within the areas in which it operates. This includes the economic, as well as, the political goal of the project. The same can be said about the operations of the autonomous movements and the self-valorizing practices they espouse. It is important to note that neither the "neoliberal" or the "autonomous marxist" projects exemplified in this paper are intentionally political in their nature, they should rather be viewed as examples of how these ideologies can be perceived in the practices of shadow libraries or publishing houses, or within movements like black open access or open access. ANT will also provide theoretical basis for viewing information systems, technology and "machines" as actors in both neoliberal and autonomous marxist practices, this will further nuance the blockages, openings and circumventions employed by either actors in order to fulfill the goals of their movements.

ANT is, however, not the only relevant connector between the theories presented. Academic capitalism, as a function, can also be perceived as a result of the control society. Not only because it relies on neoliberal economic policies in order to function, such as using state funding for private capital accumulation, but also because of the consequences it has on workers and functions within the universities. This can be exemplified through the metrics researchers are judged by, or management of consortiums in order to afford relevant journals and databases in university libraries. The three theories will not be used as a unified theoretical framework, but rather as three different approaches occasionally acting in unison and occasionally as separate theoretical approaches. This is dependent on the reflections from the informants and how they are intertwined with the perspectives that are relevant within the theories chosen for this study.

5. Method and material

5.1 Primary Method

The primary method employed in this thesis is qualitative interviews. As the thesis aims to create an understanding for a certain groups' professional perception of a phenomenon, interviews will allow for deeper and more nuanced expressions of opinions and effects of shadow libraries within the library profession. By interviewing individuals within a social milieu, valuable insights on the state of the milieu can be gained (Ahrne, Svensson 2015 p. 34). By mapping the perception of shadow libraries within the library profession at a specific institution, this thesis will further an understanding of the effects of shadow libraries for the library profession, why shadow libraries exist, as well as, create a framework of perceptions, amongst librarians, on the status quo of license-based publishing and open access.

Furthermore, interviews have been held with PhD students in order to fully understand how they perceive their future as publishing academics within the current milieu of academic publishing. In addition to this the interviews delve into their own usage of shadow libraries, or if they utilize them at all. This will further uncover the motivations regarding illicit methods of acquiring academic material and reveal whether shadow libraries and black open access is a viable, possible or even thinkable option for PhD students.

5.1.1 Sample

As this paper aims to create an understanding of how library professionals and researchers perceive the concept of shadow libraries and black open access, the subjects for the interviews belong to either of these two groups. Initially, library professionals working with research support or inter-library loans were inquired. This, because they work intimately with the publishing of scientific articles and books, and aid researchers in their search for the correct journals and publishers to choose from in order to maximize the circulation of their work. Librarians working with journal subscriptions have been chosen as subjects, this because of their intimate knowledge of license-based and open access journals. Ahrne and Svensson highlights the importance of choosing the correct person for the study which one conducts, simply choosing any librarian, regardless of their role, inhibits the study in unnecessary ways (2015, p 40). The sample of librarians have been found through the directories on the university libraries web pages. Due to practical considerations, the interview subjects came from two Swedish universities. The total amount of interviewed librarians is five. It was limited to this, partially through practical considerations (such as the length of the paper) and saturation of answers (the same perspectives were repeated after a certain point).

The PhD students were found through the process of snowball sampling, I began by initiating contact with an active PhD candidate. This was the first interviewed subject, the remaining subjects were gathered from the person's personal and professional network. Snowball sampling is the process of asking interviewees for references in regard to finding additional research subjects, thus implying, a snowball effect (Ahrne, Svensson 2015, p. 41). Additionally this was performed through the lens of actor-network-theory, in which part of the interviewees answers and "stores" served as the foundation for finding new connections throughout the network that they operated within, these connections were not be reserved to human actors as the connections to machines, and in this specific case, the infrastructure of shadow libraries play a significant part in the study, meaning that active users of shadow libraries, that are already publishing researchers, could have been interviewed, this was, however, not the case (Ahre, Svensson 2015, p. 41).The reason for including PhD-students was to understand their hopes, fears and perceptions in regards to their future as publishing researchers, as well as, an understanding of how and why they access academic articles. It allowed for a broader perspective on the idea of why or why not PhD students use shadow libraries and how that usage is performed. The total amount of interviewed PhD-students was three.

All interviews were conducted in Swedish, and then translated into english, this is primarily due to pragmatic and ethical considerations which are further discussed in a later section.

5.1.2 Implementation
In order to fully understand and create an understanding of the emergence of shadow libraries the interviews conducted focused on creating a connection between myself and the interviewee. In-depth interviews are the most apt in order to explore the possibility of creating a more 'deeper' connection between the interviewer and the subject. In-depth interviews are constructed as a more conversational type of interviewing where the two parties aim to create a deeper understanding of themselves, as well as, the subject at hand (Ahre, Svensson 2015, p. 38). This allowed for me, the interviewer, to reflect on my position within the conversation and in the process learn something about myself, the interviewee and the subject. As the aim of the proposed study is to explore the perceptions of shadow libraries, in-depth interviews opened up the conversation further, which is essential when trying to decipher personal aspects, such as feelings, values, lived experience, cultural knowledge and cultural perspectives (Ahre, Svenson 2015, p. 38-39). Since this study is based on and framed around the perceptions of shadow libraries within two professional groups, it is important to take into regard the emotions of the interviewed subject. According to Jan Trost (2010), emotions are actions, activities and behaviour, together, these factors formed the basis of the interview guide and interviews in the hopes of establishing a clear perception of both the interviewee and I in regards to the subject at hand (p. 69). Due to the highly personal nature of the in-depth interview, it was important to reflect upon several and thorough ethical considerations (Ahre, Svensson 2015, p. 39). This will be dealt with in a later section.

The in-depth interview were conducted in a semi-structured fashion, several key words and questions focused the conversation, but the conversation itself acted as the

guide in order to fully connect with the interviewee and their core perception of the phenomenon of black open access. Each interview began with presenting statistical data and diagrams, they provided a basic understanding of the use of the shadow library Sci-hub, allowing the interviewed subjects to collect and reflect on their feelings and perspectives in regards to it when going into the conversation. The focus of the interviews with the librarians is reflections on license-based access contra open access and black open access. The PhD-students were asked to reflect on what they know about the status quo of publishing, initiating a different conversation regarding the same topic. The focus of the interviews with the PhD students was on publishing and access to academic information. The interviews were recorded.

5.1.3 Ethical Considerations
Due to the sensitive nature of the topic of this study, the ethical considerations play a large part in how the interviews will be conducted. This is especially important for library professionals and PhD students who view the emergence of shadow libraries as a positive occurrence - this, due to its illegal nature. In order to fully ensure the safety of the interviewee, an informed consent document will be provided, entailing the details of the study. Irving Seidman accentuates the importance of written informed consent that the interviewee can partake and sign in order to show that the interviewee is fully informed and takes part of the study at their own free will, according to him the document should contain information on:

- Who the study is for, and why the study is conducted
- The risks that participants in the study may be subjected to
- The right to participate or decline being part of the interview
- The right to read and decline being part of the interview after it has been conducted
- Anonymity
- How the result of the study will be spread
                              (Seidman 1998, p. 51 in Trost 2010, p. 126).

The biggest ethical hurdle that I as the interviewer and interviewees have to consider, is the question of anonymity. Complete anonymity will be impossible to achieve, instead "confidentiality" is the word utilized within the informed consent document. Confidentiality, rather than anonymity, is significantly easier to achieve, as it only requires that I, as a researcher, vow to not spread the contents of the interview to any third-party, besides my supervisor. This is especially important for the librarians that participate in the study. As the study aims to understand librarians' perception of shadow libraries it is required that they work with specific duties that are connected to research support, interlibrary loans and open access work, this creates quite a small set of representatives which are eligible for questioning and, in extension, identification. In order to further complicate identification, the universities in which the study was performed has also been scrubbed. Jan Trost stresses that the ethical principle of confidentiality is irrecusable, and that it is uniquely important that the presentation of the study respects the integrity of the interviewed subjects, and that no one, besides the interviewer and the interviewee, should be able to decipher the identity of the person questioned (Trost 2010, p. 127)

In order to further obfuscate the identity of the interviewees, the interviews were conducted in Swedish and then translated into English. As English is a secondary language in Sweden, colleagues, family members or employers will have a harder time identifying interviewees in a language that is rarely utilized in a casual setting. Furthermore, the quotes that were pulled from each interview have been edited. This was primarily done to erase the speech disfluencies such as irregularities, false starts and non-lexical utterances, but it also provided further shelter for the identities of the interviewed subjects. Trost claims that this process shields the interviewees personal integrity and removes them from being subjected to ridicule due to speech disfluencies, it also aids the readability of the study performed (Trost 2010, p. 129).

5.1.4 Method of analysis

In order to get an analyzable body of text from the recorded interviews, several considerations must be taken. Unlike quantitative interviews, qualitative interviews do not have a set of predefined analytical rules and tools (Trost 2010). Instead, most of the work within the analysis is applying honest, relevant and rigorous sourcing of theories and previous studies (Trost 2010). There are several ways to tackle material gathered through qualitative analysis. I have chosen to gather all the material and then work my way through the analysis. This because, the study requires that the full body of the material is gathered in order to fully engage with the research questions. A full transcription of each interview is not performed, instead the answers, thoughts and actions that directly correlate to the study is written down and processed. Trost (2010) suggests that taking notes while listening to the interview and then consolidate those notes into a conclusion, that is structured in accordance with the interview guide, will eliminate unnecessary material that is not relevant within the frame of the study (p 150). It is important to note that some of the material might be lost in this process, however, the recording can provide a basis to return to if the gathered materials are insufficient (Trost 2010, p 150). This is a, mainly, pragmatic consideration, considering the time frame and scope of the study.

When processed, the interviews are analyzed in correlation to the data gathered from Sci-Hub (more information on this will be provided in the section on secondary method).The thesis aims to contrast the perception of shadow libraries with the perception of academic publishing, publisher hegemony, as well as, license-based access (or "closed-access") and open access in general. The purpose of the interviews is, in another words, to give readers an in-depth understanding of the publishing regime, understand the infrastructure at work, as well as, give a foundation for a critique of open access and publishing as it is today. In order to fully achieve this, the interviews were filtered through the perspectives of the theories and provided an understanding of the feelings, values and perceptions of the individuals who, within their profession, are forced to reconcile with the nature of academic publishing as it is today.

5.2 Secondary Method

In order to fully understand how people in Sweden interact with shadow libraries, a quantitative approach is required. John Bohannon, a journalist who previously worked for Science, and Alexandra Elbakyan, the creator and curator of the shadow library Sci-Hub joined forces in order to make available data on downloads from Elbakyan's website during a six-month period between 2015-2016 (Bohannon, Elbakyan 2016). This data lay the foundation for the article "Who's downloading papers? Everyone" published in 2016 (Bohannon 2016). As a part of this endeavour they made the data used available to all researchers interested in discovering what and where people were downloading pirated articles, and implored researchers to discover a why. By using this data and limiting it to searches made from Sweden, I hope to reach an understanding of how many download requests were made to Sci-Hub in a six-month period, this includes information on which publisher is responsible for the downloaded material and if the material in question is open access or not. Furthermore, it revealed how broad the usage of Sci-Hub really is in Sweden. The material gained from this method was in turn be compared with other studies performed on the same or similar datasets and created a deeper understanding of Sci-Hub as an actor within the shadow library community in Sweden. The processed dataset was also used as talking points throughout the interviews, with the hope of inviting more insights into the usage or non-usage of Sci-Hub in a Swedish context. The goal of this method is not to find a generalizable result but rather to exemplify use of Sci-Hub in the form of a case study. The reasoning behind this choice is simply the limited amount of data available for Sweden, which inhibits the possibility of generalizable conclusions.

5.2.1 Sample

The data used is a sample from a larger dataset created by John Bohannon and Alexandra Elbakyan. It is a collection of download request made between September 2015 and February 2016. The total dataset contains 28 million requests from all over the world and contains information on the city the request was made from, country, coordinates and digital object identifier (DOI). The variables that are of interest in this study is: which publisher is responsible for the document downloaded, what subject the downloaded paper is in and which city the request comes from. Therefore, the two variables selected will be DOI and city. Despite these delimitations there remains a significant amount of data to analyze and draw conclusions from. Since there still remains a research gap on the use of shadow libraries in Sweden, the sample at hand was regarded as an exploratory sampling. Exploratory sampling is often used in similar small-scale research projects in order to discover new ideas or theories (Denscombe 2016 p. 63). In this study, exploratory sampling does not provide readers with an understanding of how students utilize Sci-Hub, or how it is used by different gender identities or age groups. This, because the data does not support such inquiries. Instead, the use of exploratory sampling helps uncover interesting, extreme or unusual examples that could aid in providing an understanding of how shadow libraries are used, in a limited Swedish context (Denscombe 2016, s. 64).

Due to the rapid evolution of the open access movement, a dataset from 2015-2016 may seem old. However, due to the nature of the source of the data, as well as the study, it will have to be enough.

5.2.2 Implementation

As previously mentioned, the dataset has been downloaded from the public database created by John Bohannon and Alexandra Elbakyan. This data consists of 28 million download requests spanning six months and partitioned into six separate tab-delimited files. In order to make sense of a data set this large I began by looking at one month at a time. The dataset for each month was imported into Microsoft Excel and then separated into columns based on the varying variables, as follows: DOI, country, city and coordinates. After this was completed, I separated the data for Sweden from the rest of the dataset. At this point there was a complete list of all download requests for each month. In order to discover what journal and which publisher the DOI signifies, doi.org's database will be used. In order to effectively process the rather large amount of DOI, the tool "simple-query-tool" developed by Heather Piwowar and Jason Priem of the Impactstory non-profit was used. The service in question is found on the project-website unpaywall.org. The simple-query-tool allows users to resolve up to 1000 DOIs simultaneously and returns information on journals, publishers, open access or license-based access among other things. The DOIs are run against doi.orgs database, any unresolved DOI were checked individually and included into the charts regardless of their status.

The dataset is represented in seven different charts, one for each corresponding month showing a total amount of downloads for the month, and which publisher is responsible for the original publication. The seventh chart shows each month's data divided into three sections: total downloads, license-based access downloads and open access downloads.

5.2.3 Ethical Considerations

Since the entire dataset is already anonymized, no individual is implicated as part of revealing the dataset in this study. Furthermore, the coordinates provided only center towards a single point in each city, making it incredibly difficult to know who made the request, how many requests were made or exactly where the download request was made from. Finding individuals based on the coordinates provided is out of my capabilities and interest, besides, due to the fact that the individuals behind the data are already hidden, no informed consent document is considered in the process of filtering through or presenting the data. Since the data is considered a published secondary source and not something I, as a researcher, have personally gathered, it will be required that I rigorously reference the source from which it came from. Bohannon and Elbakyan published the material under the Creative Commons Zero universal public domain, which means that all copyright has been waived and that the material may be copied, modified and distributed, even for commercial purposes (Creative Commons, n.d). This allowed the study at hand to utilize it without any regards to copyright laws, however, due to Swedish legislation credit will still be

attributed to Elbakyan and Bohannon. Denscombe describes the use of data that is within public domain (and where the subject is anonymized) to be outside the realm of ethical consideration, this, because the data has already been collected and processed at a previous point, and no personal integrity is violated (Denscombe 2016, p. 426).

5.2.4 Method of analysis

The primary point of the gathered materials was to provide a foundation for working with the case of Sci-Hubs position as a shadow library in a Swedish context. It was also used in correlation with the interviews in order to reveal further insights in the usage of Sci-Hub in Sweden. This provided additional talking points and further deepened the conversations with the informants, uncovering more in-depth insights into the present state of academic publishing. Furthermore, it provided a statistical element for the analysis.

As the dataset was visualized in diagrams it has a quantitative statistical element to it, despite the generally qualitative nature of case studies. The statistics are presented in accordance with the principles of descriptive statistics. Descriptive statistics are descriptive studies aimed at giving information or mapping the case or situation that is the subject of the study (Körner, Berg 1984, p. 14). By exemplifying the case of Sci-Hub, further insights into the structure of academic publishing can be achieved.

The combination of methods provides a richer body of material to analyze and extrapolate knowledge and understanding from. Additionally, it lends a more nuanced base to analyze, and enriches the study because it allows the subject of the study to be perceived through the lens of several perspectives, and it is pragmatic as it is grounded in an understanding that the research question and purpose, not the method, should lead the way in the process of analyzing the material (Denscombe 2016, p. 211).

6. Analysis

The analysis is split up into three major themes, they are in turn split up in two or three sub-themes showing aspects of publishing or access that I have identified as relevant in regard to the major theme. The themes are based on quotes that relate to the research questions in this paper. The first theme discusses the emergence of black open access, it is split into the sub-themes "Oligopoly", "Technology" and "Hacktivism and journal as commodity". The second theme is "It feels like a fetter now" and is split into the sub-themes "Administration" and "Open? Access". The second theme is focused on the problems of the evolution of open access and how it has created an unbearable situation for the interviewed subjects. The third theme is "Our students do not need to use illegal services" – The Case of Sci-Hub in Sweden" and is divided into the sub-themes "Usage in Sweden" and "Legitimate alternative — dreams and realities". This section focuses primarily on how librarians and PhD-students encounter and use black open access and Sci-Hub.

6.1 "Almost organically" - on the emergence of black open access

"Before I had proper insights into the world of publishing, I thought it was a given that researchers had access to the research they needed. Now I understand that researchers and employees in universities, even in rich parts of the world, do not always have the access they need. In such a case alternative routes develop almost organically - they serve an unfulfilled need".

(Librarian 3)

6.1.1 Oligopoly

When discussing the emergence of black open access as a phenomenon, every interview subjects saw the occurrence as something natural. It can be deduced that this perspective on black open access comes from an understanding that the publisher oligopoly, and its network of actors, has created a situation where counter-movements are inevitable. Since almost every interviewed subject used some variation of the word natural within this context, this section will delve further into environment which forced black open access into becoming a "natural" occurrence.

As stated in the previous research, the academic publishing field is in a state of oligopoly. The research of Haustein, Lariviere and Mongeon (2015), shows that a significant section of academic output is consolidated between five major players within the academic publishing field. This concentration of connections between five actors has effectively created a barrier, isolating fiscally weak universities and countries from the research they need to further their own work. The ability to create and maintain a hegemonic network of this kind requires a significant infrastructure, not only of publishers and technology, but researchers and administration alike. The

infrastructure in question is the foundation of the quantitative aspect of measuring and rating journals, researchers and research. An infrastructure, such as this, can be found throughout universities in Sweden as well as around the world — a consequence of globalization. Throughout the interviews, librarians and PhD students both discuss the problems they face in regards to this rigid tradition of publishing, often blaming each other. One librarian expressed a deep frustration in regard to the practice:

> " Researchers seem to believe that it is of utmost importance to publish in a small selection of journals. It is quite sad that they [researchers] do not use their seniority to affect the power relations that exist. However, it is unfair to apply a broad brush approach".

(Librarian 2)

In contrast a PhD student, when faced with a similar question, responded with frustration regarding a seminar on publishing held by librarians:

> "If I am going to be completely honest, I could not give a shit about the information I received. What I really want is that the universities, or the state reclaimed and regulated the way publishing is handled, specifically in regard to intellectual property. Or that researchers, in some way, could go against it."

(PhD student 1)

Both interview subjects, represent a general consensus between the interviewed librarians and PhD students, that it is in the fault of the administration (interviewed Phd students) or the researchers (interviewed librarians). However, both quotes relay a form of apprehensiveness within their frustration, which reveals a reflexive position towards their own communities' proliferation of the status quo. The evaluative system in question, is deeply related to the structure of control societies and how it skews the concept of individuality, primarily through reducing it to "dividuality".

 The various performance indicators that measure researchers and journals such as h-index and impact-factor[1] contribute to sustaining the infrastructure of publishing where quantitative metrics, rather than qualitative output is premiered. Furthermore, this aspect of control society creates antagonisms or "healthy competition" between workers within the same organizations. This ultimately leads to a stalemate where the possibility of cooperation that can be created and used for fundamental structural change, such as a more vibrant consensus between all university workers against publisher oligopoly, is replaced with internal strife and competition. In regard to this situation, the infrastructure of metrics and performance-indicators favor publishers because it asserts its power through the non-human actors that can block the possibility of creating self-valorizing networks of connection between, for example, librarians and researchers. Based on the quotes above, there exists a will to create such networks, however, the burden of change is beset on the opposing group, which further aggravates any possibility for fundamental change.

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[1] H-index is a metric that shows an individual researchers scientific output, it is a formula developed by Jorge Hirsch in 2005. Different subjects have differents standards for citations, therefore it is not useful for comparisons between disciplines (Froghi et al 2012). Impact factor is a journal-level metric aimed to quantify the worth of a journal by measuring the number of citations in the journal (Garfield 2006).

In the situation in which we find ourselves today, where the system that university workers are forced to comply with, no real alternative can fully be implemented until the actors within institutions make fundamental changes to their practices. Therefore, it should not be perceived as strange that so many of the interviewed subjects view the emergence of black open access as "organic" or "natural".

6.1.2 Technology

Since academic capitalism only can function if public funds are used for private gain. The academic capitalist regime, alongside the publisher oligopoly, has created the infrastructure allowing metrics to decide the worth of research and journals by melding with the "new economy". In regard to this one librarian said:

> "I think that publishers are needed, results should be peer-reviewed, edited and disseminated in a professional way. There is nothing wrong with commercial companies per se, but the large publishing houses make huge profits that rarely, if ever, goes to the writers or funders — which often are public. I think that the situation we have found ourselves in is unhealthy and unsustainable."
>
> *(Librarian 2).*

This librarian was generally positive towards the qualitative aspect of the closed access system but disliked the commercial aspect of it. This can be seen as a reaction against the structure of publishing and its role within academic capitalism. The librarian quoted above, forgoes to mention a variable that several other interview subjects viewed as fundamental to the integration between the "new economy", academic capitalism and the publishing oligopoly — technology. One of the librarians interviewed, when discussing the relation between technology and the closed access system, said the following:

> "The traditional publishing is a method that has worked in the past, but it has changed due to technological development. I'm neither positive nor negative towards it, [closed access publishing] is a functioning model for accommodating libraries with scientific material."
>
> *(Librarian 4)*

Much like Librarian 2, Librarian 4 agrees with the notion that the closed access system has some functional methods for publishing and acquiring academic material. However, one of the librarians mentions technologies influence on the sphere of publishing and access, albeit in a slightly different context. When questioned on how the technological development has affected the closed access system, the same librarian answered:

> It has complicated the relationship between libraries and publisher, it feels like it was better before. The price raises have, since the 90's, complicated the relationship and created a rift between libraries and publishers.
>
> *(Librarian 4)*

The alienation, or "rift", towards publishers felt by the librarian in the quote above was furthered in another interview:

> "The closed access system does not work. In a historic perspective, it has worked very well and been cost-effective. But with technological development, we have found ourselves in a system that is no longer interested in spreading research, but limiting it."

<p align="right">*(Librarian 3).*</p>

Throughout the interviews, the feeling of alienation persists, not only amongst librarians, but PhD-students as well. The intensified measuring of individuals and the human, and non-human, networks of infrastructures it rests upon, has created a situation where every actor and actant have become distanced from each other. This can be seen as a direct consequence of the influence of control society and it's symptom — academic capitalism. Furthermore, the system of publishing, and the oligopoly that is dominant today, is entirely dependent on technological developments of recent decades, the same can be said about black open access as a phenomenon.

Technology is, however, not the sole determinant, the social relation to technology has had a significant impact in how the status quo was reached. The closed access system worked in the past because the production of information was not possible in the same scale as it is now. Two librarians reflected on the past in the following way:

> "Before electronic material became an everyday occurrence, the process of gaining information was easier — despite being more limited. Nowadays we almost have an abundance of information, I notice it makes students anxious and overwhelmed to see everything they can choose between, and everything that is not just there."

<p align="right">*(Librarian 2)*</p>

> "In the past you only had a journal if the library had a subscription — you could only access it physically. Today, we are aware that everything exists, so naturally, we want it. The scientific method has developed in unison with the technological development. Researchers need to know about <u>everything</u> in order to evolve science, especially in the STEM-fields[2] Availability and access accentuate unavailability"

<p align="right">*(Librarian 5)*</p>

Through these quotes, a perspective on the relation between technology and research emerges. A new burden has been introduced by the biopolitical[3] system in which technological development took place, namely, overload. Due to the explosion of information, within the information-age paradigm, students and researchers have become painfully aware of what they lack in relation to academic material. Technology has metastasized the cancer of infrastructural blockage by revealing the wealth of information to users that is available, as well as, not available. In a frustrating situation such as this, the idea of black open access as a "natural occurrence" becomes even clearer.

It is important to note that technology does not determinate how it is used, rather, it is born of our relation to it within systems of norms and social practices, which in

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[2] Short for "science, technology, engineering, mathematics"

[3] This refers to biopolitics in the focauldian tradition, pointing to the use of political (bio)power, used by both state and capital, in all sections of human life (Foucault 2009).

todays world is heavily influenced by the neoliberal state project. Black open access has made use of the same technological development to create wildly different infrastructures regarding academic materials, specifically when it comes to accessing and sharing information locked behind pay-walls. .

> "It is about technology and the technological possibilities that allows something like [shadow libraries] to exist. It is partially a symptom of not being able to get certain information… but the main reason why it is now and not before, is the technological development of recent years."
>
> *(PhD-student 1)*

Technology in this case, makes visible the distinct routes of development that can be taken in regard to how we produce and circulate knowledge. Technology as a non-human actor is freed from morals, however, when it becomes acted upon through various ideological projects, such as the controlling aspect of publisher oligopoly, or rebellious attitude of black open access, it repeats and extends the norms based on its progenitor, and their future actions. It is also interesting to view the relations between publisher oligopoly actors and actors within the black open access movement, as they are by and large, wholly inter-relational.

> "I do not think that black open access would exist if there was a different perspective on how to share research. It is not really the publishers' fault, there is enough research on market economies to understand that the situation we are in is inevitable. A commercial company is its own organism, it will continue to accumulate capital as much as it can because that is how the system is structured"
>
> *(Librarian 5)*

The relations between black open access actors and the publisher oligopoly is purely antagonistic. However, the movement of actors within the black open access community and the way they function highlight a use of technology that, despite being illicit, rests upon the infrastructures established by publishers. This can be exemplified in various ways; librarians, students and researchers sharing log-ins for institutional access; phishing schemes by "hackers" used to trick users with institutional access to share their access; community uploading, where a single user uploads a purchased/stolen/copied e-book or article to a shadow library; or changing urls and servers to escape publisher prosecution. The publishers respond to these movements by using national legislation and the judicial arm of various countries to attack actors within the black open access movement, such as the cases of Aaron Swartz or Alexandra Elbakyan, or by further updating and securing their platforms and software in order to limit platform leakage. The actions taken by the black open access community exemplify the need to constantly shift and evolve in order to avoid being subsumed and dominated by the publishers. Whilst the publishers appropriate legislation in order to further their accumulation of capital, and enact control over the sphere of publishing internationally.

The question of alienation between libraries, librarians, universities, researchers and publishers becomes important in publisher battles with shadow libraries and other black open access initiatives. As a result of the feeling of alienation none of the interviewed subjects claimed to have any loyalty towards the publishers, and quite a

few of them held positive opinions towards black open access initiatives, this notion will be further developed in the next section.

6.1.3 Hacktivism and journal as commodity

> "I think most of my generation grew up thinking [pirating] was a way to rebel, born out of an almost cyberpunky[4] idea. Everything was supposed to be free; I think it is something that has attracted a lot of people to the library as well"
>
> *(Librarian 1)*

Disrupting the flows of work has always been an essential tool in workers struggles against capital. In a control society, the scope of disruption available to implement antagonism, both destructive and constructive, is severely limited. Mainly due to the breakage between and within individuals and collectives in the workplace, and general life. However, this does not mean that the wills and possibilities for change have completely subsided, rather, they have changed. In the above quote from librarian 1, one can sense a new form of antagonism that is born out of issues that were not present within fordist disciplinary societies: piratism and hacktivism. The attitudes towards these forms of antagonism are generally accepting amongst the interviewed subjects, some being more positive than others, not one of the interviewed subjects held any negative views.

> "Personally, I sympathize with the rebellious movement that it actually is. And I think it is unfair to compare it with pirating of music and movies, because in this case it is about the prosperity of mankind in a larger perspective"
>
> *(Librarian 5)*

This librarian highlights an important aspect of the black open access hacktivism and piracy, especially the difference in comparison with the more publicized piracy movement focused on movies and music. Not only is the material gathered and distributed through black open access initiatives fundamentally different from entertainment, it is also an essential tool in the process of creating knowledge. Another librarian delves further into this topic:

> "You can not replace one journal with another, and that is the beginning of the problem. If you have a multinational company that buys irreplaceable journals and then sets the terms when it comes to selling them, you have a situation like today. It is wrong and expensive, very expensive."
>
> *(Librarian 1)*

This certainly only pertains to journals, but it highlights an important point. Journals are not like other forms of commodity, mainly because of how the structure of scientific communication is shaped. This becomes clearer in relation to metrics and

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[4] Cyberpunk i a sub-genre of science fiction, often set in post-apocalyptic worlds. Famous examples of cyberpunk media includes William Gibson's "Neuromancer" and Ridley Scott's "Blade Runner"

their effect on the publishing business, if a journal within a certain subject has the highest impact-factor, and in extension, the most spread, more researchers will want to both access and publish in it. This leads to a situation in which the most qualitative research, for the subject in question, is available in that journal alone. This means that the general rules of supply and demand no longer factor in, as most universities will be required to purchase a subscription to this specific publication in order to produce relevant and up to date research. This in turn allows publishers to constantly increase the prices, since they have the sole ability to produce the journal as commodity. One librarian perceived this situation in relation to black open access in the following way:

> "We discussed black open access quite a bit when the Elsevier deal was not prolonged because we saw a risk that we would no longer be able to access the material. We realized that there was a need to inform [our users] about alternatives, and there is no real alternative way except for black open access"

> *(Librarian 5)*

The librarian understands that Elsevier has material that no other publisher can deliver, essentially forcing them to start regarding black open access as an actual alternative, which can be perceived as almost ridiculous for a government institution to do. Furthermore, it makes visible the foundation for the positive attitudes towards black open access found amongst the interviewed librarians — namely alienation from publisher perspectives and actions.

The fundamental differences between the hacktivist ideals within the academic piracy movement in contrast to the entertainment hacktivist community are vast. They are not acting in the way they are because they simply do not want to pay, but because they are being shut out from an essential part of knowledge creation. A part that they, oftentimes, have funded and worked for themselves. The hacktivism in the black open access community can be regarded as a form of self-valorizing practice, "Hacking" (to use McKenzie Warks terminology) the flow of work to increase the possibilities given to workers in the information age.

6.2 "It feels like a fetter now" – the relation to the publishing industry

> "Open access has become incredibly hard to work with due to the condition we are in. It has become a complex situation focusing too much on the allocation of finances and transformative deals for it to be sustainable. If we could remove ourselves from it I would be much more comfortable with my job. It feels like a fetter now"

> *(Librarian 4)*

6.2.1 Administration

One of the basic tenets of the academic capitalist regime is the increase of administration, explicitly between the university and corporations. As the open access movement is becoming increasingly complex, mainly, due to corporate (publishers) and federational (EU) involvement, there has arisen an increased need for mediation and administration to sustain the rapid fluctuations of open access publishing. The different levels of open access require specialists in their own rights, and the burden of specialization is rarely attributed to other professions than librarians. With this, a large section of librarians working with supporting researchers are forced to understand legal documents and financial movements in order to sustain a collection that is equally wide in scope as it is specialized. The librarian in the quote above has become increasingly exasperated in regard to open access, something that was reflected by several other interviewed subjects:

> "If we want open access we can not have these systems, and the only ones who can change it is academia. They need to take back control. We can not have these merit and financial systems that rest on amounts of publications in journal. We need new ways, [librarians] are unable to affect the publishers, it is an expensive and naive process"

(Librarian 5)

> "We discuss the openness of open access from time to time. If you can read it, is it open access? Or is [open access] when you can use the data, make it your own and republish it? Or is it something in-between?"

(Librarian 2)

Librarian 5 expresses a deep frustration with the development of open access, the informant indicates an, almost, desperate attitude to the direction in which open access has taken, mentioning the merit-based metrics and the financial aspects as the core cause of their frustration. Both the merit system and the increased fiscality requires a heavy work load within the library, these two core functions of academic publishing, when introduced into the sphere of the library, obfuscates the meaning of open access even for seasoned veterans within the area, as expressed by Librarian 2 in the quote above. The administrative functions of academic capitalism are based in the paradigm of new public management, mainly in regard to the measuring features of metrics and movement of capital.

This is directly related to the change of capitalism within control society, where increased attention is put on selling service rather than producing products. For the library, this means that librarians are put within a state of perpetual evaluation which in practice asserts control by imposing new directives and changed agreements that librarians have to learn from the corporations that want to sell what the universities have produced. Born from the grasps of control comes a frustration, not only within administrative sections of academia, but from the university as a whole — which effectively can lead to deep antagonism towards the publisher oligarchy. From an antagonistic position, breaking down the barriers set up by the publishers can be the only meaningful, although desperate, way of resistance, Librarian 5 regarded the situation like this:

"I think researchers and employees at the university, that share their access, does it out of a frustration with the publishers. Researchers write and review for free so that the library at the institution have to buy a service that their own employees have performed. It is a reckless use of public funds"

<div align="right">*(Librarian 5)*</div>

It reveals that increased administration, increased dividualisation and increased competition feeds directly into the hands of the black open access movement. When academia has become entrenched into the system we are in, and academic capitalism parsimoniously feeds off of the fruits of academic labour, contributions to and use of black open access is the sole act of rebellion and resistance for workers within the universities. One librarian claimed that:

"There surely exists those that spread [academic material] consciously as a form of rebellion, a way to say "fuck off this is mine I will spread it any way I want"

<div align="right">*(Librarian 1)*</div>

The first quote of this theme, by Librarian 4, when discussing the open access system, said that it felt like a fetter. Throughout this section, librarians have in various ways described the fetter-like relation to the structure of open access publishing in regard to black open access and its relation to administration. As librarian 1 claimed in the quote above, some choose to spread their institutional access as a way to rebel against the current publishing paradigm. I questioned PhD-students on how they viewed this perspective and got the following answers:

"I use shadow libraries quite a lot. I think the main reason for their existence is the way copyright laws [and publishers] work, their structure inhibits science. It is incredibly difficult to access academic material through official channels. The technology exists, so it is going to be used."

<div align="right">*(PhD-student 3)*</div>

"…I use it mostly because it is easy and efficient. However, I do think that it is nice that these websites weaken the big publishers monopoly, so, on a certain level, it is incredibly satisfying to use Sci-Hub or Libgen for that reason as well."

<div align="right">*(PhD-student 1)*</div>

"I feel privileged with the access I have, which also includes a larger budget for purchasing literature outside of the library infrastructure. I am also quite patient, so waiting for a interlibrary loan does not really affect me negatively. I have no use of pirated material."

<div align="right">*(PhD student 2)*</div>

There seems to be, at least in regard to PhD 1 and 3, a kernel of truth in the perspective of librarians regarding the rebellious motifs of black open access usage. For the most part, however, they utilize the illicit infrastructures as a way to quickly retrieve the material they need. In all three cases the principle of least effort seems to reign supreme. They all utilize the infrastructures they are most comfortable with; in certain cases, this also means that their ideological stand points become fulfilled in the process.

In conclusion, there seems to be a general frustration towards the administrative sides of the publishing regime within academic capitalism, this frustration is expressed in a variety of ways dependent on the informant. Some regard the extra steps in retrieving information through official channels as an administrative dimension of their work. Others see the increased marketization, performance indicators and transformative deals as inhibitions in their work-process. Regardless, these frustrations hinder the possibility to evolve the open access, or even, the general publishing and access status quo which produces a logical gap which black open access fills. Further analysis of the participants views on open access is presented in the following section.

6.2.2 Open? Access

The "openness" of open access is a highly debated question, most of the interviewed subjects had several different perspectives regarding what open access actually meant. Despite quite clear directives at the inception of the open access movement, the previous section shows that librarians have become disillusioned by how the open access phenomena has developed, one facet being the increased administrative work-load as a consequence of the development. One of the interviewed PhD-students had previously worked for a publishing company that employed open access models for publication, the PhD-student's perspective was less than flattering:

> " I used to work for a publisher that published scientific and popular science material. They required payment for publication which they later profited from. I have a hard time not considering that relationship parasitical, they extract the worth that someone else has produced elsewhere."

(PhD-student 3)

This aspect of open access mentioned in the quote above is one of the key points in the interviewed subjects' critique of the openness within open access. If open access simply is the transferal of financing from one actor to another, does it really achieve openness? One librarian discussed it in the following way:

> "At the current point in time we have both the subscription model and the open access model, and I think it feels like a con job. We are paying the publishers twice. There is however opportunities such as EU-legislation pushing for a move towards a universal golden open access model. But it is going to be a painful period of hybridity before we land in a open access world. However, the switch only really means that we move the money in between two different actors, from the library budget to other financial backers. The money will, most likely, still come from public funds and I do not see how the [open access] system will challenge publisher hegemony. The publishers will still control the journals and they will want to keep the profit-margins they have already succeeded to achieve. One way to fix this is Plan S, which aims to regulate the limit for APC's[5] thus forcing the profit-margins down, but I am skeptical towards it and I am not overjoyed that everyone will have to pay to publish. In such a system it might even become worse than today for researchers "

(Librarian 1)

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[5] Short for "article processing charge"

The open access model, as described by the two quoted informants in this section, does not really seem to promote openness as a function. Rather it has moved the "closedness" from one area of publishing and access to another. The barrier that now hinder university libraries from having an exhaustive collection of databases and journals is removed, and instead, erected between researchers and their possibility to publish. It shows that the multinational legislative powers, despite acting out of interest for the good of research, play into the hands of the publisher hegemony. In Sweden, especially for big-budget institutions, this might not cause any fundamental changes in practices, as the country is generally quite privileged within the academic world. For nations in the global south and institutions with less fiscal power the effect might be detrimental to their ability to contribute to the researching community.

> "I do not think that the commercial open access channels are open, they have simply moved the barrier from one side to another. I think it is a given that some sort of barrier should exist, but it should function based on quality rather than money"

> *(Librarian 3)*

> "I think that the open access system today contributes to inequality where the west is privileged within scientific communication. Open access can only do shallow things for the [global south]. The publishers dominance of the discourse has made it all about money"

> *(Librarian 4)*

Even though the introduction of universal open access could initially be attributed to goals of making research simpler and more manageable for all researchers the annexing of the discourse by the publishers has created a discourse that is increasingly focused on making money. This is reflected in the quotes above. As part of this annexation of discourse, the goal of democratizing scientific communication has become increasingly shunned. Even though this might not be detrimental for more privileged researchers individually, it can be catastrophic for research in a global context. If the barriers were to be moved to the side of publishing rather than access, a significant portion of researchers, able to contribute to the global research conversation, will be excluded based on poor financial standing. This will also have effects on how the black open access movement works, and steps might be taken to increase their connections within the larger network of publishing actors and evolve the movements goal of universal access to universal publishing — this is however purely speculative.

Despite all of this, the open access actors do not really affect the relations within the black open access networks, the same norms of academic information usage (Piwowar 2018) are reproduced by the Swedish users of the shadow library Sci-Hub, they seemingly do not discriminate between license based or open access material (the Swedish usage of Sci-Hub will be furthered upon in the next section of this analysis)
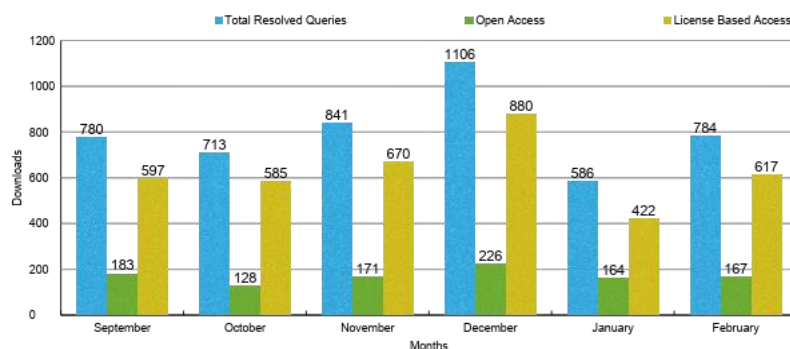
This might seem like a given at first glance, but it accentuates a dimension of publishing and access that has only been touched by few researchers prior to this study, namely that, the black open access movement is not interested in the speculations and legislations in national or multinational federations, their modus does not open up for debate regarding movement of capital or neoliberal ideals. Instead, it lies well in line with the hacktivist or ”cyberpunk” sphere of morality, where freedom to create and disseminate information is the foremost goal. As mentioned previously they are, seemingly, not interested in ”getting things for free”, but rather, freeing the flow of information for everyone involved in academia. Therefore, the ”openness” debate of open access reveals the flaws in the publishing and access networks which effectively pushes researchers into the sphere of black open access and radicalizes their notion of what the discourse actually means for them — both materially and immaterially, a prime example of this is the story of Alexandra Elbakyan.

This happens, primarily, because the actors operating within the network of open access publishing (such as publishers, states and the EU) are interactive with the neoliberal state project, meaning that the changes taken primarily serve the major actors within that paradigm. A Swedish example of this was laid out by one of the interviewed librarians:

> “In the Swedish library sphere, certain university actors retained large parts of their budgets after the Elsevier deal was cancelled. As a result of that, they approach the open access question in a bad way, because they choose to pay the publishers for open access and hybrid publishing. The same actors are also leading within the national library network, which means that the open access question is being managed in a careless way.”
>
> *(Librarian 5)*

The quote above shows that the major actors within the university library network in Sweden are, seemingly, disengaged from the general discourse on openness within open access, preferring to maintain the status quo of open access for the sake of stability. Furthermore, it increases the competitiveness between state-institutions because certain universities complicity with the status quo allows them to produce and publish more research, making them more marketable. However, this can have dire consequences in the relations between researchers and administration within these institutions. Librarian 5 furthers this argument:

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"The National Library has pushed for the use of CC-0[6], something that is not even possible in Sweden. It is naive and it alienates researchers because it takes away their right to their own research. It deprives them of their own creation"

(Librarian 5)

This is an example of how academic capitalism can take shape within a control society paradigm, researchers are denied the right to their work (even within an open access system) by enforcing a CC-0 license. The work is then published in an open access journal, after payment to the publisher, and then distributed without any form of recognition for the creator. Librarian 5 is probably correct in their assessment that this will push away researcher support for the open access model, meaning another stalemate is achieved, and perhaps, more users and uploaders are pushed towards illegal rebellion. The point being that continued growth and support for shadow libraries and other forms of illicit dissemination is unavoidable with a system that premiers the accumulation of capital rather than qualitative practices regarding publishing and access. And even though this point has not been reached in Sweden, which the following section will show, the current path will inevitably lead to this. However, the pressure to fold and maintain the status quo is hard to break from, as the involved actors that facilitate the wishes of publisher hegemony need to do so in order to continue to have fruitful relationships with the corporations in charge — a dire consequence of the integration of corporations and the new economy in academia.

6.3 "Our students do not need to use illegal services" – The case of Sci-Hub in Sweden

"We have not really discussed the phenomena in-depth in my unit. It comes up from time to time but mostly as a foot note. It affects us, but our students do not need to use illegal services"

(Librarian 4)

6.3.1 Usage in Sweden

Throughout the interviews the opinion stated in the above quote was solidified. Almost all interviewed librarians shared similar experiences regarding the usage of Sci-Hub and other shadow libraries. Most considered that the existence of the services was positive but that their students had no need for it. This consideration is reflected in the statistics put together for this study (see appendix 1)
Based on the data collected from Bohannon and Elbakyan (2016) dataset, a picture of the Swedish usage of Sci-Hub becomes clear. The most prolific months of downloading, September and December, barely reaching 1200 downloads, an almost insignificant amount, especially when compared to the usage in Ukraine for the same

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[6] CC-0 or Creative Commons Zero is a form of licensing developed by Creative Commons. The license allows for users to fully utilize the work without attribution (Creative Commons n.d.).

period in Nazarovet's (2018) study where Kiev City alone boasted almost 200.000 downloads from Sci-Hub. All interviewed librarians were presented with the same statistics as above, these were some of the reactions:

> "I do not think that black open access has any effects on the intermediation of literature for governmental organizations in Sweden. But I can not say anything about librarians in Kazakhstan or the global south"
>
> *(Librarian 2)*

This librarian considered the usage in poorer countries. Like librarian 4 in the first quote of this section, librarian 2 did not think that the usage was necessary in a Swedish university context, citing the governmental support to universities as a main cause for the lack of usage.

> "I have seen the statistics before, I was surprised that the usage in the U.K and U.S was so high. One would think that they have the assets to buy journals and databases. But I think that Swedes are a bit more apprehensive and law abiding — and we do have access to very much. I think it might change as a result of the Elsevier thing; it could have an effect on Swedish usage of shadow libraries"
>
> *(Librarian 3)*

Librarian 3 was already familiar with the statistics and brought forth quite a few interesting points regarding usage, both internationally and in Sweden. This librarian cited Swedish cultural norms as one of the reasons for the low usage in comparison with similar income nations such as the U.S and U.K, a step further than Librarian 2 who only considered the usage from a purely economic standpoint. Furthermore, Librarian 3 was curious of the contrast of usage after the Elsevier deal ended. The librarian's reasoning can be connected to the points brought forth throughout the previous sections of this analysis, simply that the conditions for growth of Sci-Hub and other shadow libraries have not been met within Swedish society yet, but the path currently trodden could incite more widespread usage.

 The U.S and U.K have, for quite some time, had publicly and privately funded universities, as well as, for-profit universities with more intimate connections to the corporate world, this is exemplified in the "Missyplicity" project (Slaughter, Rhoades 2004). As these connections become more evolved within the network of university and corporate actors, there follows an increased usage of illicit venues for accessing academic documents. Surely as a result of the proletarianization of the research community, increased administration and introduction of the "new economy" within academia in both of these countries. Similar consequences could be present in the Swedish context if, for example, the national library continues to cater to the needs of the publisher hegemony. Especially if this unhappy marriage increases the alienation felt by researchers and librarians forced to comply with the regulations put forth.

> "I hope that the usage is low because people come to the libraries, but I think it is more likely that it occurs in a more informal manner between researchers. There are similarities in sharing between research and on black open access websites, both cases infringe on copyright laws. On the other hand, I think users do not really care about copyright when they need certain material."
>
> *(Librarian 4)*

As a follow up to the the quote that initiated this section of the analysis Librarian 4 reflected on the use of academic social networks and other informal exchanges of academic material between scholars, pointing out that it falls within the scope of black open access. One of the PhD-students agreed with this notion:

> "I have smaller internal groups with other researchers, where we share texts and books that are relevant for our research. Which is some form of piracy"
>
> *(PhD-student 3)*

Much like the initiation of the shadow library community in the Soviet Republic, the smaller groups dedicated to pirate material, that they can not afford or access through other means, could represent a larger part of the black open access movement in Sweden. These informal exchanges of literature, both in academic social networks and in smaller informal groups could attribute to the overall low usage of Sci-Hub in Sweden.

Another one of the PhD-students reflected on the difference in access to literature, between the previous university they attended compared to the one in Sweden, and their personal use of shadow libraries:

> "I think it is great that [shadow libraries] exist. Partially because of selfish reasons, I used to attend a university with terrible access, mostly because it was so small and could not afford all the journals and databases that [Swedish university] can provide, so it was incredibly useful for me. It was fast and I had access to everything, it solved a lot of my problems."
>
> *(PhD-student 1)*

> "I have access to a lot more now than I used to, but the process of retrieving an e-book, for example, is incredibly tedious as the process involves several logins and usernames as well as certain programs just to read a couple of page or chapters. I usually just forego the process and download it directly from a [shadow library] put in a map on my desktop and use it at my leisure."
>
> *(PhD-student 1).*

The PhD-student cited poor access at their previous university as the main cause for beginning to utilize the illicit information infrastructures. The continued use is attributed to the difference in speed and simplicity between university library services and the black open access alternatives. One librarian agreed, stating that:

> "I think researchers and students with institutional access use black open access services because they are simple. If you have a a known object it will be directly accessible through Sci-Hub. Despite our efforts to make the university services easy to use, there are always more clicks involved, I think we might complicate things too much."
>
> *(Librarian 5).*

It seems that the users of shadow libraries, in Sweden, encountered through the interviews and from the experiences of the interviewees, choose to use them despite having access through other means. This might be attributed to "the principle of least effort" or, in some cases, ideological reasons. This line of thought is developed in the following section.

6.3.2 Legitimate alternative? — Dreams and realities

> "The websites I use are not legal, but they are the simplest way to, digitally, get access to literature fast. Most of the time this alleviates the research process extremely, in comparison with interlibrary loans which can take up to two weeks. It is easier to just fix something that takes five minutes to download."
>
> *(PhD-student 3)*

This student motivates their usage of shadow libraries primarily on the factor of simplicity and speed. Through previous quotes shared the same student described the relation between publisher-university-researcher as "parasitical" (PhD-student 3), revealing an ideological inclination towards further usage. The ideological standpoint can also be weighted against the PhD-students previous work for a publisher where the PhD-student clearly pointed out that the parasitical nature was based on the extraction of worth from something produced elsewhere. Recalling the changed nature of capitalism with control society, the student's experiences with publishing, from both sides of the fence, reveals a blunt correlation between the structure of academic publishing and the nature of capitalism within control society — non-production of products, and control over the mediation of service. The experiences of PhD-student 3 could have a leading role in their wish to utilize illicit shadow libraries rather than official networks of knowledge. This student's perspective is, however, not universal. Another one of the interviewed PhD-students has had a radically different experience and thus, a different perspective on the usage of shadow libraries:

> "I am in a very privileged situation, because the research project I am a part of has quite a large stipend reserved for the purchase of literature. So if I can not find something or if I have to wait for an interlibrary loan, I usually just buy the article or book instead. If I did not have this opportunity, I would consider using illegal services"
>
> *(PhD-student 2)*

Based on this situation, a completely different perspective on acquiring academic material is revealed. Due to this PhD-students self-described privileged situation, the relation to library services is vastly different than PhD-student 3 because of the difference of situation. If something is not satisfactory for this student, they have the material prerequisites to circumvent the library network and engage in a direct exchange with the publishers. The same is not the case for the other student meaning that the choice of using shadow library ends up being the only logical direction to take. Furthermore, PhD-student 2 reveals that they would also apply the same route if they were not aided by the stipend. When I questioned PhD-student 2 on their ideal vision of publishing and access, I received an answer laden with ideological perspectives:

> "I wish the universities were free and autonomous, publicly financed but separated from the state. Built on networks of exchange between universities for the betterment of the global condition, with a particular emphasis on the global south"
>
> *(PhD-student 2)*

This shows that there is surely an ideological dimension to their, seemingly, lackadaisical approach towards illicit alternatives. As previously mentioned, the will to change the conditions of publishing and access has been prevalent within all the interviewed subjects, regardless of their profession. But the influence of control society and, its symptom, academic capitalism has made it difficult to create networks of connections in order to act out the will. The idea of "healthy competition", or rivalry, is one factor inhibiting the process as it can create antagonism between the actors that need to connect in order to create venues for change that are necessary in order to establish PhD-student 2's ideal:

> "I think it is a bit frightening that you can reach this stage in your education and not understand the difference between documents in the publication process, or how resources are distributed. I think it is important that researchers and PhD-students understand scientific communication and the forces that affect it. It is something we, as an institution, have not been able to communicate properly."
>
> *(Librarian 2).*

Librarian 2 exemplifies this in the above quote, referencing lack of awareness as a core problem in the retrieval of illicit document, simultaneously pushing for increased education rather than systematic change in order to alter the "the forces" affecting the sphere of scientific communication. This can be seen as a direct result of the naturalization of neoliberalism within control society, where continuous assessment, conformity and education trumps critical thinking and change. However, Librarian 2 does have a valid point, as the same consequences of control society produced this perspective:

> "I do not really notice the sums that the university pays for subscriptions and publishing, so I do not really give a shit about it. I think it is strange that they do not fix the situation. At some point they must have agreed with it."
>
> *(PhD-student 2)*

This furthers the idea of divide within collectives that could, when connected, fulfill the wishes of both interviewed subjects. The "rivalry" found between the two conflicting quotes furthers a stalemate that could lead to further estrangement between actors and actants in library-researcher networks. The result of this could be an abandonment of library service for black open access channels.

It is important to note that black open access is not a permanent solution, but a way for administrators, laypersons, academics and others to combat or survive publisher hegemony, academic capitalism and the effects of control society, PhD-student 1 sums it up in a clear way:

> "They are not the solution but a symptom of the world we live in, I do not want to romanticize them and say that they're the dream, but their structure is incredibly efficient and fast."
>
> *(PhD-student 1).*

7. Discussion and results

7.1 How do librarians and PhD students at two Swedish universities perceive and understand the emergence of black open access? RQ1

Throughout the interviews conducted, the primary reasoning behind the emergence of black open access was situated in a milieu of publishing and accessing academic material. Based on the situation explained by the interviewed subjects, the occurrence was almost universally understood as a "natural" outcome. "Natural", as discussed by the interviewed subjects, seems to be equivalent to self-evident, or obvious. Through a marxist reading, the self-evident is born out of the material conditions that force actors to react towards the situation they find themselves in.

Much like the material conditions that instigated the growth of pirated materials in the Soviet Union (and the subsequent digital shadow libraries grown out of that condition), the situation we find ourselves in today produces the same needs as seen in the inception of the shadow library movement. Deleuze writes "In a control-based system nothing's left alone for long" (1995), clarifying how the clutches of control society, aims to dominate every aspect of society, not through discipline but "continuous control and instant communication" (p. 174-175). This is exemplified in the analysis by the anchoring in the informants understanding of the emergence of black open access through the two sub-themes — the publishing oligopoly and technology. They reveal that the structure of academic capitalism and control society has, through a common network of actors, fully integrated into the structure of academia. This is performed through human and non-human actors of infrastructure and technology, such as performance-metrics and dominance of the marketplace, which in turn has created a situation in which shadow libraries can proliferate.

The third sub-theme shows how the ideological reaction towards these aspects may be perceived through the theories present in this paper. Hacktivism is surely a product of our time, being intimately bound by the technological development. The ideologies and purposes behind it, however, is older and multitudinous. Within this sub-theme the politics of hacktivism, as presented by McKenzie Wark, is favored — along with the principle of constructive self-valorization. This is done by illuminating hacktivism in relation to the production of journals as a commodity. By doing so, a clearer picture is evoked of the motivations behind the actors within the black open access movement. By first showing how the publishing industry is heavily influenced by neoliberal policy (in the form of control and academic capitalism) and then contrasting it with hacktivist ideals regarding free distribution of information and the means to do so (through constructive self-valorization), the analysis gives a deeper understanding of how black open access actors have been able to create meaningful networks of sharing. So when librarians and PhD-students see the occurrence as natural or organic, it is born from an inherent understanding, within the informants, that the current situation of publishing and access is problematic to the point where illegal measures are the only ones available to disrupt the status quo.

Interviews has allowed a more intimate view on the perceptions held by academic professionals in and outside the library, as it opens to reflection in a more casual setting. Thus, ensuring that the informants can give more nuanced answers on their perspective and on how they perceive the emergence of black open access. By doing it from a Swedish perspective, an understanding of how the phenomena is developing in countries with privileged access to the academic community puts light on the "crisis" of publishing and access today. It severely questions the structure of academic publishing when a privileged nation in the global north is starting to engage in illicit measure to be able to fulfill their work in the ivory towers of academia. However, since the scope of this study is limited, no real conclusions on the general perspective on the emergence of black open access can be given — even for the two cities involved. This would require a much lengthier and more in-depth study. Despite not being able to draw any general conclusions on how librarians and PhD-students perceive the emergence of black open access, the interview process quickly became saturated. It was surprising to see that the informants had quite similar experiences regarding the publishing industry and its relation to academic capitalism. All of them were negative towards the use of public funds for profit:

> " The theory of academic capitalism focuses on networks—new circuits of knowledge, interstitial organizational emergence, networks that intermediate between public and private sector, extended managerial capacity—that link institutions as well as faculty, administrators, academic professionals and students to the new economy."

> *(Slaughter, Rhoades 2004, p. 23)*

As seen in the quote above, their seemingly similar answers are grounded in the theoretical approach of academic capitalism because it permeates throughout the entire network of academia. Primarily because of how the aspects and ideology of neoliberalism and control society is spread throughout society, Mirowski writes:

> "The abstract "rule of law" is frequently conflated with or subordinated to conformity to the neoliberal vision of an ideal mark. The "night watchman" version of the state is thus comprehensively repudiated: there is no separate sphere of the market, fenced off, as it were, from the sphere of civil society. Everything is fair game for marketization."

> *(2014, p. 58)*

Mirowski bares the intentionality behind the grasping clutches of neoliberalism and control society, aiming to monetize every aspect of civil society, something impossible without functional infrastructures, technology and networks of actors able to connect and influence each other. This in turn relates to the perspectives in ANT that both gives agency to the non-human actors within the equation as well as alleviating the ability to make connections between the bigger picture of control society and the smaller picture of a symptom within control society — academic capitalism.

The theoretical framework has aided significantly in displaying the:
- Direct consequences of funneling public funds for profit (academic capitalism),

- Bigger picture showing the conditions in which academic capitalism could grow (control society)
- Relations in between the previous two points in forms of networks of infrastructure and technology, both human and non-human (ANT)

The adjoining theories have thus been able to freely show how associations on both a macro and micro level have created and maintained the status quo in which the emergence of black open access is the only natural outcome. This is, however, from a critical standpoint, a similar study based on other ideological theories would most likely reach radically different conclusions.

7.2 How do they relate it to the outlook of the publishing industry? RQ2

This question corresponds with the second theme of the analysis, which aims to further deepen the understanding of the climate in which black open access grew from. Rather than focusing on how black open access came to be, this section shows why open access has become an increasingly complex alternative to license-based access and forced the proliferation of black open access. In order to visualize this, two sub-themes are introduced that represent a few of the issues with the development of open access and the relation that has to why black open access has come to be.

> "…from a leftist perspective, the "entrenched bureaucracy" of the midcentury corporations begins to look positively progressive when compared to its downsized, lean-and-mean heir. But in academics, it's precisely the bloating of entrenched administration that has furthered the negative effects of corporatization."
>
> *(Nealon 2012, p. 72)*

The increase in administration required to sustain the complexity of open access harmonizes with the increase of corporate influence in academia. As the analysis and previous research shows, there is an acute awareness amongst: PhD-students, researchers and librarians of the publisher hegemony's seizure of the open access debate. As a result of this seizure, the "game" of open access is played, mostly, on the publishers side of the court. This means that publishers have an increased amount of associations which they can utilize in order to further their own agenda within the open access paradigm. For the publishers to do so, the libraries must constantly be able to react to new deals, new terms and new shifts in standardized practice, essentially, increased administration. The increase in administration is of utmost importance in order to bolster the academic capitalist regime. It is also an important aspect of control society, as administration is key in the mediation of dividuality and split of the collective, through metrics and financial rivalry. To relate the increase in administration to black open access, the librarians and PhD-students mentioned alienation and frustration as key factors in their perception of the publishing regime. Because the outcomes of open access debates end up favoring the wishes of publishers, the university workers producing and consuming the services have become increasingly distanced from their own labor, which effectively reaches a point of frustration. As mentioned in the analysis, this frustration ends up creating an impasse where the open access movement no longer serves the ideals of its creators,

leaving a significant space in which black open access can evolve — through the use of shadow libraries, in academic social networks or in smaller informal groups exchanging academic material. The frustration and alienation can possibly influence individuals within academia to start sharing their institutional access with black open access initiatives, thus further feeding into the shadow library networks.

The second sub-theme explores the "openness" of open access. In Haider's (2018) paper on openness in open access, she explores the meaning of "open" in open access and links it to the increase in privatization and marketization of the open access system. This idea is developed upon in the section and acted as a basis when going into the interviews. The primary responses to "openness" when discussing open access focused on a shift of barriers, from the side of access to the side of publishing. This seemed to be a key factor in many of the informants' critique of the openness of open access, as many of them viewed the movement of barriers as just another form of exclusion. Michael Perelman writes:

> "As our economy becomes increasingly dependent on information, our traditional system of property rights applied to information becomes a costly fetter on our development."

> *(Perelman 1998, p.88)*

This harkens back to the section in the analysis on the journal as commodity, but even more importantly it accentuates the result of allowing corporations to steer the debate on open access. The informants thought it was problematic that the new barriers of open access could result in a situation where researchers in the global south, or at low-budget institutions, no longer could contribute to science. Even though this is a problem today, and one of the main motivations for the informants to continue to work with open access, the shift of barriers from access to publishing could result in a decline of scientific output. This in turn, means that the global scientific community, potentially, could suffer immensely from lost perspectives of colleagues in countries and universities that, potentially, will not be able to afford publishing. The two themes, filtrated through the theories, show that alienation towards the concept of open access and the increased work it requires (administration) could result in a further push towards black open access options, both amongst PhD-students and librarians. This is related to the core systemic functions of capitalism and neoliberalism, where the increase in alienation also creates rifts between actors inhibiting the pursuit of change. Gilles Deleuze, discusses the changed nature of capitalism in control society, pointing out the administrators essential position within it as well as underscoring the pervasiveness of capital in every segment of society:

> "What it seeks to sell is services, and what it seeks to buy, activities. It's a capitalism no longer directed toward production but toward products, that is, toward sales or markets. Thus, it's essentially dispersive, with factories giving way to businesses. Family, school, army and factory are no longer so many analogous but different sites converging in an owner, whether the state or some private power, but transmutable or transformable coded configurations of a single business where the only people left are administrators."

> *(1995, p. 181).*

Deleuze lays bare that which the analysis, by and large, revealed. That the increased administration is a direct cause of the shift in capitalism. This also aids the theory of academic capitalism as the administrator has an essential role in maintaining that regime, since this is a systematic question the administrator is "forced" to do so whether the person wants to or not.

7.3 How is black open access/shadow libraries used in a Swedish context and why do students choose to utilize shadow libraries if they have access through other means? RQ3

The final theme corresponds to the third question posed in this thesis. This themes differs slightly from the previous two, as it focuses primarily on how black open access alternatives are used in Sweden. The theme is split up in to two sub-themes, each focusing on one of the two-part questions. The first sub-theme "Usage in Sweden" reviews the statistical material compiled by using Elbakyan and Bohannon's 2016 dataset. The statistical material was used as a basis for conversation in the interview. It revealed that the usage in Sweden was very low, if compared to usage around the world. Bohannon's 2016 article " Who's downloading pirated papers? Everyone" shows that in an international context the usage in Sweden is considerably lower than in the rest of the world:
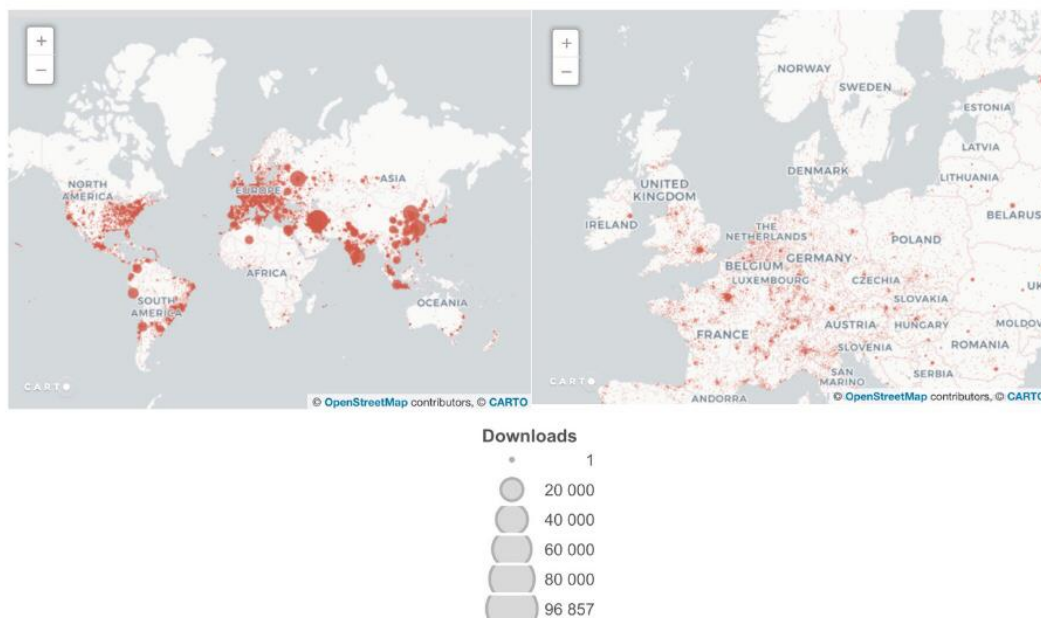
(Figure 2, Bohannon 2016)

The librarians were not surprised when presented with the statistical models. Some of the library informants credited good information infrastructure as one of the key aspects in regard to the overall low usage of Sci-Hub in Sweden, one other cited Swedish culture as a major factor in comparison with usage in countries with similar

information infrastructures such as the U.S and U.K. One librarian also made an important connection between the illicit dissemination on academic social networks with black open access, mentioning that the same copyright infringements were actualized in some of the sharing on those platforms.

The PhD-students were allowed to reflect on their own practices in relation to black open access, two out of the three questioned were frequent users of formalized black open access initiatives such as Sci-Hub, and one of the Sci-Hub users also discussed a more informal sharing initiative among peers. The third PhD-student had no need for black open access but was positively inclined towards the phenomena.

The second sub-theme "Legitimate alternative? — Dreams and realities" delved further into why the PhD-students (and other students librarians have encountered), with institutional access, did or did not use black open access. In this section of the analysis it was revealed that all three of the interviewed PhD-candidates had positive inclinations towards the use of illicit alternatives, at least from an ideological standpoint. As mentioned previously, two out of the three PhD-students actively used shadow libraries, the third PhD-student, however, had no need for illegal alternatives but claimed that their own usage would increase if it were not for their stipend. All of the PhDs interviewed seemed to be using the alternatives which they found most efficient and simple to use — regardless of legality. The interviewed PhD-students had, generally, negative views towards publishers and the process involved in acquiring academic material through legal channels. Furthermore, this sub-theme exposed how the effects of neoliberalism and control society indirectly affected the relations within academic working-class compositions. Showing a separation in communication and a split in class consciousness amongst two of the interviewed subjects. The use of black open access infrastructure, if viewed through an ideological set of glasses, could be the unifying factor in bridging this divide. This is, however, if the method is used as a self-valorizing practice for workers within academia. Self-valorization enriches the working class by giving priority to working class needs rather than working for capital's need for increased value (Negri 1991). The same could be achieved with regular open access if the process of academic capitalism was subjugated and publishers no longer possessed the amount of control that they do.

Framing the final part of the analysis as a case study of sorts was fruitful in order to capture as many perspectives as possible from the interviewed subjects as well as the statistical material. By working with both materials, a clearer picture of the Swedish relation to black open access is unveiled, showing that multiple factors are responsible for the relatively low usage of Sci-Hub in Sweden.

The discussion has shown how librarians and PhD-students view the emergence of black open access and why it is perceived as natural. Furthermore it revealed how this idea is being proliferated by contrasting it with the pitfalls and failures of open access, and how open access has not lived up to its original goals. Finally it has show how and why Swedish PhD-students chose to use black open access alternatives despite having access through other means. The next section will put forth further conclusions and suggest further research.

As part of this discussion it is important that I, as the author of this thesis, clarify my own ideological convictions. This thesis was planned, produced and written through a leftist perspective. This has several ramifications, particularly in the descriptions of publishers' "hegemony" and how that power is exemplified through the theories employed. The theories in question are not all necessarily anti-capitalist but have been used in order to further an anti-capitalist mode of thought. This has been done consciously as it serves the purpose of critique, as well as, my own ideological stand point. Naturally, this has had a significant impact on the contents of the analysis, results and discussion, but also on language and wording. In short, this thesis has a conscious and aware leftist perspective, and should also be read with that understanding.

8. Conclusion

In this thesis the perspective of library professionals and PhD-students has been consulted in order to uncover insights into the black open access movement. Furthermore, it has shown the usage of Sci-Hub in a Swedish context, and how black open access could be perceived as a form of resistance against publisher hegemony. This has mainly been done through the process of interviews and a minor statistical study. The thesis reveals that the interviewed subjects are apprehensive against the funneling of of public resources for private gain, as the theory of academic capitalism claims, and that they generally regard black open access as a positive phenomenon. In the thesis, a critical approach has been used to demonstrate societal factors that have shaped the publishing climate such as the theory of control society and critical views on neoliberalism. It has also shown that the countermovement of black open access can, and should, be perceived as a self-valorizing practice aiming to enrich the working class rather than corporations. This has also revealed the deeper issues both of closed (or license based) access and open access, and how their functions, technology and infrastructure inhibit the connections needed in order to create conscious self-valorizing networks within academia.

In conclusion, black open access can be a powerful way for academia to reclaim control of publishing, and access to information. It should, however, not be a goal in and of itself, since it is far too volatile to be a useable long-term solution. Perhaps it can be a path out of hybridity and into a more sustainable model for scientific communication, one in which capital and corporations do not exert the same control of the status quo as today.

8.1 Further research

Throughout the process of working with this thesis I have identified several different potential future studies on the subject of black open access as well as the state of publishing, and the use of theoretical approaches to examine how academia functions.

Journals cognitive authority[7] – an inquiry into the journal as commodity
The idea of journals as a commodity unlike other commodities is quite unique. Since many of the most popular journals are built on a long tradition, it is problematic that they are bartered on the free market. The study could focus on how certain journals became so prominent within a certain field — this could be examined historically. The implications of metrics when applying worth to journals is also an interesting

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[7] Cognitive authority is a social epistemology developed by Patrick Wilson. With it, Wilson argues that knowledge is derived from first and second-hand experience, the majority being gained from second-hand experience or information outside themselves (books, schools, people). Cognitive authority suggests that humans give authority to certain things/people based on their status, age or other factors that are in line with the information-seekers paradigm (Wilson 1983).

topic, as it is a driving force in maintaining a specific journals status, an analysis of metrics in relation to cognitive authority and dividualization could make for an interesting study.

Predatory OA – a growing issue in the shift to OA?
In the shift from license-based publishing to open access this thesis has shown that the barriers may be moved from access to academic information to publishing information. With open access, the problem of predatory journals have always been an issue, so what measures could and should be taken to ameliorate this situation? This study could be shaped around the problems of academic capitalism, and capitalism in large in the shaping of a open access world.

The meaning of black open access — an quest for a definition?
One of the struggles in gathering previous research for this thesis was a finding a concise definition of what black open access is. Is it a systematic repository? All informal sharing? Both? It would be interesting, and useful for further studies to historicize the concept of black open access from its beginning to where it is today,

Stress, anxiety and publishing — Neoliberalism and its effect on scientific communication
One of the factors that frequently came up during the interviews but is not developed upon in this thesis is the stress and anxiety involved in producing articles for publication. The article has come to be the premier way of publishing in all disciplines despite being a form created and traditionally used in a limited number of fields. It would be interesting to have a larger interview study focused solely on researchers in fields where articles are not the traditional form of publishing, such as the arts and humanities, and connect their input to new public management, neoliberalism and the need for efficiency and quantitative output to measure success. Specifically, it would study what effects this has for fields that are held back by the article format.

Shadow Librarians — an interview study with the curators of shadow libraries
Understanding the technology, effects and infrastructures of shadow libraries is one thing. But behind the scenes there exist communities which selects, manages and curates the collections stored on large digital repository. It would be interesting to see what ideals drive them to perform the work they do, and perhaps, contrast it with traditional librarian work. Essentially, this study would reveal how fully digital illegal library collections function, LibGen would be especially interesting for this study as it is the oldest and most extensive shadow library still in existence.

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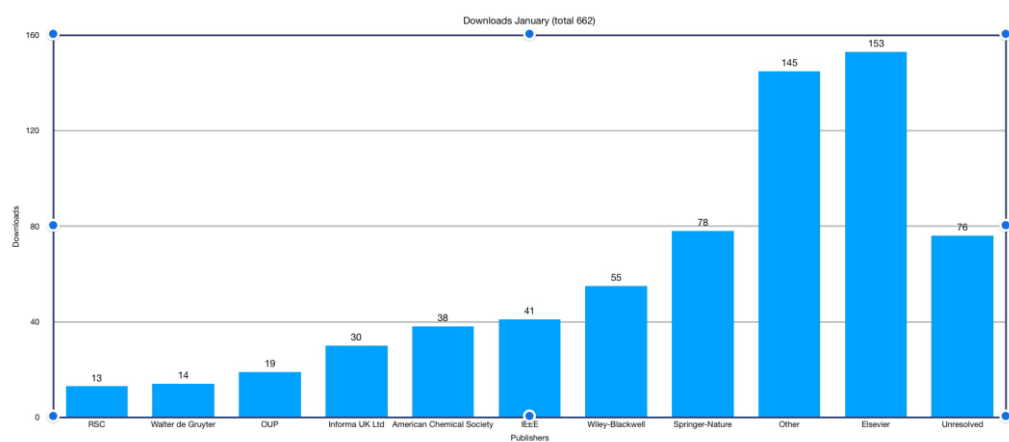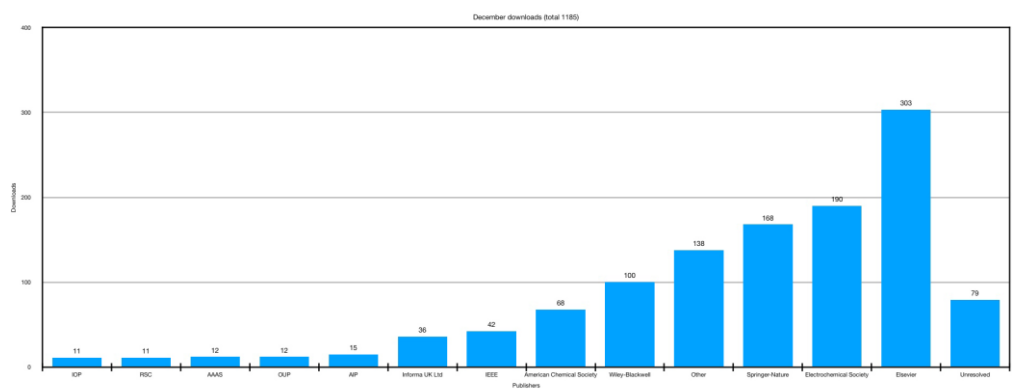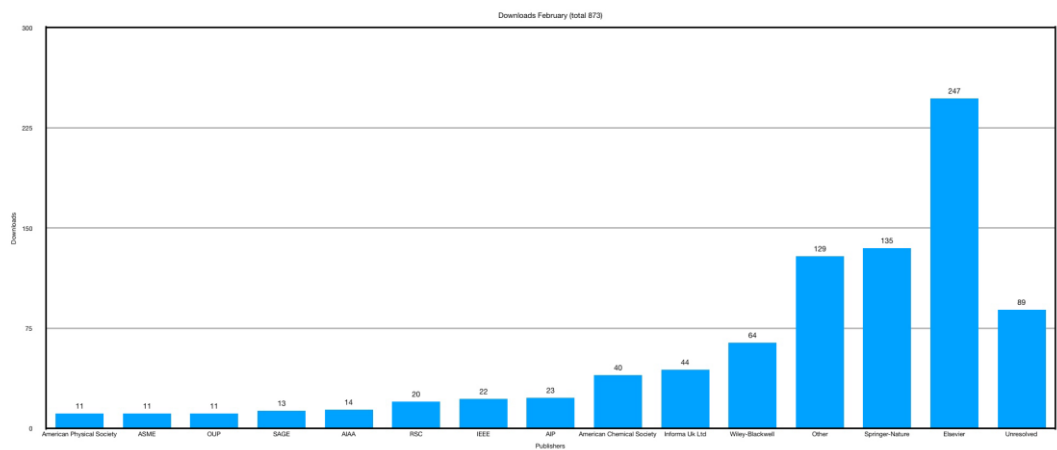Trost, J. (2010*) Kvalitativa intervjuer*. Lund : Studentlitteratur, 2010

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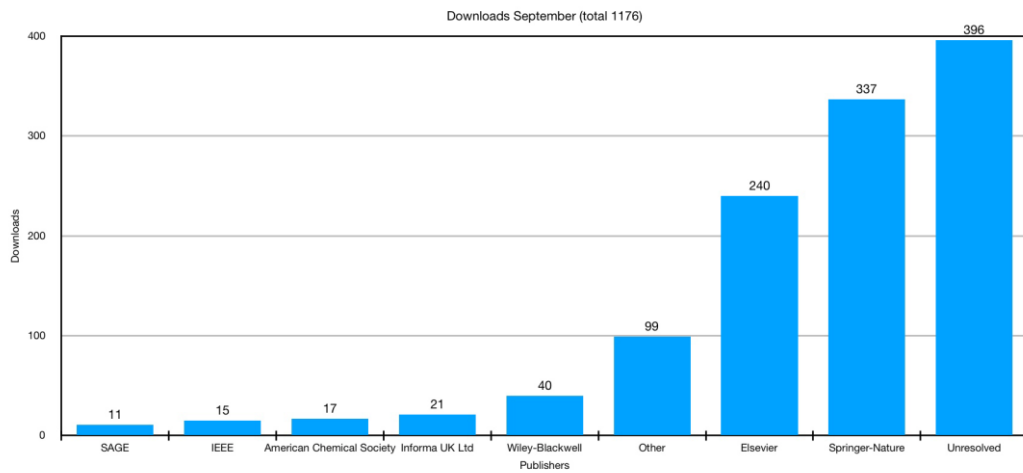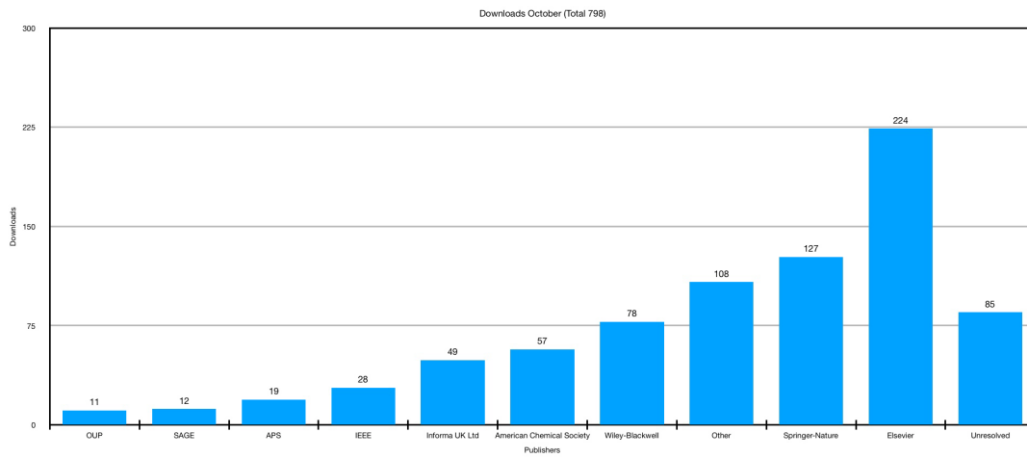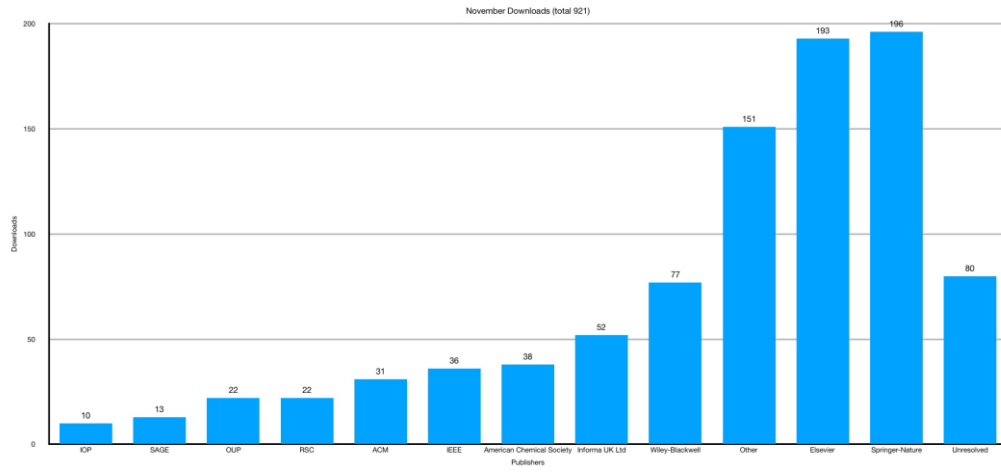
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9.1 Appendices

Appendix 1

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December downloads (total 1185)

Downloads January (total 662)

Novermber Downloads (total 921)

Publisher	Downloads
IOP	10
SAGE	13
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RSC	22
ACM	31
IEEE	36
American Chemical Society	38
Informa UK Ltd	52
Wiley-Blackwell	77
Other	151
Elsevier	193
Springer-Nature	196
Unresolved	80

Downloads October (Total 798)

Publisher	Downloads
OUP	11
SAGE	12
APS	19
IEEE	28
Informa UK Ltd	49
American Chemical Society	57
Wiley-Blackwell	78
Other	108
Springer-Nature	127
Elsevier	224
Unresolved	85

Downloads September (total 1176)

Publisher	Downloads
SAGE	11
IEEE	15
American Chemical Society	17
Informa UK Ltd	21
Wiley-Blackwell	40
Other	99
Elsevier	240
Springer-Nature	337
Unresolved	396

Appendix 2

Informed consent

This study is for my master's thesis in library and information science, it will be read by my examiner, supervisor and fellow students. This paper will be published on the Lund University student papers website alongside all other masters theses. Your personal information will not be shared to anyone apart from my supervisor.

Due to the nature of the topic of my essay, there might be repercussions regarding your personal or professional stance towards shadow libraries or black open access. This might extend to your workplace and management, and not affect you directly.

You have the right to, at any point, end the interview. If you are not comfortable with anything that you have said after the interview has ended you are welcome to contact me and your participation will be removed as well as deleted.

You have the right to complete confidentiality, your name, geographic location, age or gender will not be revealed, any quote used from this interview will be rewritten in order to erase any chance of identification, this includes speech disfluencies and non-lexical utterances.

Supervisor: Jonas Fransson
E-mail: jonas.fransson@mau.se

Signature:

Appendix 3

Interview guide - doctoral students

Publishing:
 Mention 2-3 things that you know about publishing
What are your feelings towards (n)?
What does (n) symbolize to you?

Are you motivated by spread of academic recognition?
Publish or perish
Personal contra professional opinion regarding PoP

How do you feel in regard to License based publishing and Open Access publishing?
Do you feel that you have been sufficiently informed on the differences?

Describe your ideal vision of how your work should be published and who should have access to it.
How would this vision affect you as a scholar?

Access
Are you familiar with the idea of a shadow library? (Show statistics)
What are your feelings towards it?
Would you use it?

During your time as a student have you ever felt that the research available to you was not satisfactory?
Do you find it difficult to gain access to relevant material?

Why do you think Shadow libraries exist?

Describe your ideal vision of access to literature.

Librarian interview

Shadow libraries/BOA
Are you familiar with the concept of BOA/GOA/SL, what are your personal feelings towards it?
Professional?
(Show and discuss statistics, relate to what is mentioned above)

Why do you think Shadow libraries/BOA/GOA exists?
Why do you think students and researchers with access use SL?

How do you think that BOA/SL affects your profession?

Have you ever discussed SL/BOA/GOA in your work-place? (Either formally or informally)
How was that discussion framed? (Who initiated, what were the reactions etc)

License Based Access/Open Access
What is your personal feelings towards license based access/traditional/subscription based access publishing?
Professional?
How do you view open access as an alternative?

What makes Open Access "Open" in your opinion (access, publishing, spread)?
Do you think the current status quo lives up to the promise of Open Access?

Do you think the infrastructures of BOA/SL could contribute to the way we access academic information?
Why?
Why not?

In your perfect world, how would publishing and spread of academic information look and work?
How would this ideal affect your profession?