University of Essex
Department of Sociology
MA in Sociological Research
SC981-7-FY Dissertation

Hacktivism and its Struggle in Changing the World: The Aaron Swartz Case, Access to Knowledge and Economic Model

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Word count: 14,595

You don't know where are the limits of your rights until you choose to exercise them.

Andrew "weev" Auernheimer

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Abstract

Aaron Swartz was an outstanding programmer and a vigorous activist of freedom of information, a status that conferred him the label of a hacktivist – i.e. someone who uses skills in coding, network and applications to make political statements. He was charged of several felonies and could have faced up to 50 years in prison after a massive download of academic articles from JSTOR through MIT network. He committed suicide before the trial could take place in the age of 26. The prosecution and his death caused considerable repercussions not only in the tech and activist communities but in the general media as well. This dissertation examines the judicial case surrounding Swartz's prosecution in order to analyze the social and political implications of Swartz's actions and death. Drawing primarily on genealogical analysis, the dissertation (1) explores legal difficulties in determining appropriate sentencing in unprecedented and highly contentions areas of law; (2) analyzes how a point of view based on the access to knowledge movement contributes to a genealogy of this case; and (3) adds an epistemological layer to the analysis of the case and its repercussions.

The analysis builds a social context for the prosecution which is concerned with a wider political and ideological debate (one that was absent from the legal prosecution itself). The research explores the sociological implications of different parts of this case towards intellectual property regimes. In particular, it looks into how the circumstances of Swartz's prosecution may be reframing current economic and political debates regarding access to knowledge.

Keywords: hacktivism, sociology of law, access to knowledge, economic sociology.

Introduction

Aaron Swartz committed suicide on January 11th, 2013. He was 26 years old. Since the age of 14 his work as a high skilled programmer and activist has questioned and proposed alternatives to the world regarding mainly technology, information and networks. He contributed to projects such as RSS (Really Simple Syndication), W3C (World Wide Web Consortium), Creative Commons and Reddit – services, standards and technologies that are present in our everyday use of internet.

These are mainly collective projects focused on enhancing the information opportunities worldwide, suggesting that he truly believed in the power of collaborative projects and platforms to change the way people relate to each other and to information. After several years dedicated to coding Swartz decided to work towards changing things in this world:

> When [redacted] asked me why I switched from computer science to sociology, I said it was because Computer Science was hard and I wasn't really good at it, which really isn't true at all. The real reason is because I want to save the world. Maybe I didn't say that because it sounds sort of crazy (Swartz 2005, redacted in the original).

Media reports suggest that he was driven by concerns over the relationship between intellectual property, power, and the new access to information possibilities enabled by the internet (Rimmer 2013, MacFarquhar 2013, WSJ 2013, boyd 2013c). His activism behind the catchphrase "information wants to be free" combined with his knowledge on computing, conferred him the label of hacktivist – i.e. someone who uses the skills in coding, network and applications to make political statements (Doctorow 2013).

His suicide led to ongoing media debates over the motivations of his death. In 2010, Swartz was charged with criminal offenses after a massive download of millions of protected

academic articles from a commercial database. Drawing on Swartz's prosecution,[1] this dissertation explores the sociological implications of different parts of this case to intellectual property regimes. In particular, it looks into how the circumstance of Swartz's prosecution may be reframing current economic and political debates on access to knowledge.

Dissertation Structure

This introduction briefly describes the context of Swartz's case and expands on the research questions, objectives and methodology. The first chapter details relevant passages from the case and its repercussion. On the one hand, it aims at understanding the facts and difficulties on interpreting these facts according to the current legal apparatus. On the other hand, it aims at reading this case through the lens of the configuration of powers in a Foucauldian sense (Cotterrell 1986), i.e. an approach in which "there is a need to break down this orthodox conception of legal science, and to expose the relationship between law and power" (Travers 1993:445). The focus is on presenting and interpreting the case itself from a genealogical perspective.

Chapter 2 is based on the access to knowledge literature relating it to Swartz's case – especially regarding alternative approaches in terms of political and economic models. It suggests a political argument which was absent in the legal case itself and which contributes to the genealogical perspective.

Chapter 3 brings economic sociology in to suggest a theoretical possibility of challenging the institutions mentioned in chapter 2. Beyond taking a genealogical perspective, it argues that an epistemological process can be identified in the case repercussion which has an impact on a cultural and political basis where the current access to knowledge policies rely on. The power of multiple social spheres in shaping markets (Zelizer 1979, 1999 and 2005) and the idea of the cul-

[1] His case and above all his suicide generated a lot of buzz in the media whether it were mainstream newspapers and magazines (such as *The New York Times*, *The Wall Street Journal*, *The Atlantic* and *New Yorker*) or within technology experts community (such as blog posts and opinion articles written during the first semester of 2013). This material is a rich source and is widely used in this dissertation as secondary data required to interpret the case (as it is detailed in the following pages, specifically at the *Methodological discussion* session).

tural and political formation of markets (Fligstein 2001) are put together with Fourcade's (2011) analysis of the performative status of economic and laws and with Fricker's (2007) analysis of epistemic injustices. The idea is not to move from a doctrinal research to a non-doctrinal research, i.e. to establish "a consideration of the problems current affecting the law and the policy underpinning the existing law" (Dobinson and Johns, 2007:20), but to suggest that the mainstream social structures are in constant dialogue with alternative and marginal proposals, and that this process – even if subtle – has significant impact on reshaping mainstream social structures.

Complexities within Swartz's case

In short, what Swartz did was to plug two notebooks into MIT's (Massachusetts Institute of Technology) network which is relatively public and offer access to JSTOR (a huge archive of academic journals). Then, he wrote a code to massively download academic articles in PDF format from JSTOR's database. From September 2010 to January 2011, he played a cat and mouse game with MIT's and JSTOR's IT (information technology) teams who were trying to interrupt these downloads and identify the person responsible for them. Meanwhile Swartz downloaded approximately 4,85 million articles.

In despite of the civil agreement he reached with JSTOR in the aftermath,[2] the USA federal government handed in an indictment charging Swartz for 13 felonies. The US government pushed the prosecuting forward: they acknowledged the civil agreement between Swartz and JSTOR but they did not dismiss the charges against him.[3] An indictment charged Swartz for 4

[2] According to JSTOR, "it was [the USA] government's decision whether to prosecute, not JSTOR's" (JSTOR 2011) as "Aaron returned the data he had in his possession and JSTOR settled any civil claims we [they] might have had against him in June 2011" (JSTOR 2013).

[3] For example, one is the motions protocoled by the US attorneys states: "Swartz later reached a civil agreement with JSTOR, pursuant to which he delivered to the Secret Service four hard drives containing millions of JSTOR's documents". However the same document argues that "Swartz was indicted federally for wire fraud, computer fraud, and data theft" (*USA* v. *Swartz*:386) and firmly concludes that "the Court should deny all of Swartz's motions to suppress evidence" (*USA* v. *Swartz*:430). A similar US attorneys' motion, from the same day, adds "Swartz's Motion to Dismiss Counts … of the Indictment is without merit and should be denied" (*USA* v. *Swartz*:530).

felonies, what could put him in prison for up to 35 years (plus up to 1 million dollars in fines). Later, a superseding indictment added 9 extra felonies to the scope (*USA* v. *Swartz*), foreseeing an even worse sentence. Swartz's suicide happened months before the trial date.[4]

Firstly, the facts were complex enough to be easily acknowledged: there was a legal dispute around whether terms of service violation should be considered felony and whether copying electronic data should be considered larceny. Moreover, it was questioned if Swartz clearly accepted JSTOR's terms of usage[5] before downloading the articles. Yet, there was also a debate around the fact that his act did not deprived JSTOR permanently neither had he any personal gain or profit from the act – issues that would have changed the tone of the indictment. These impasses are clear in the arguments of the government and of Swartz's counsels (*Ibid.*).

Secondly, there is a critique towards the law statutes mobilized by US attorneys: they were not designed for the today's internet and its application raises a series of doubts regarding how they should be interpreted today. In other words, "new forms of technology create the opportunity of new forms of resource use" and, thus, new laws and jurisprudence "should be able to respond to these changes both by preserving what makes sense in the older system and by changing what does not" (Epstein 2003:73-74)[6]. It is also argued that there is not enough jurisprudence regarding cases involving methods similar to the ones used by Swartz, such as changing IP and MAC addresses[7] (*USA* v. *Swartz*:345). Yet, the statutes focused on ICT (information

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[4] Due to the defense's and plaintiff's motions, the trial date was rescheduled a couple of times – and probably would have been rescheduled more if the case went on. The last notification regarding the trial stipulated it to take place on April 1st, 2013 (*USA* v. *Swartz*:566).

[5] It prohibited users to automatically download articles and to download full journal editions.

[6] For instance, as Epstein (2003) states, it is not a simple task to transpose the concept of trespass to a new and analog concept of cybertrespass – and virtual and physical trespassing (respectively, to MIT's network and to MIT's wiring closet) were at the core of Swartz's case. In fact, a hearing was scheduled for January 25, 2013: the judge wanted to hear from the defense and from the plaintiffs more about "whether defendant physically trespassed on MIT's property" (*USA* v. *Swartz*:567). As Aaron committed before that date, the hearing never took place.

[7] IP address is a unique number attributed to a computer in a network. It works as an unique identifier of this computer within this network. MAC address is a unique identifier of a computer interface to connect to a network, working not only as an identifier within a network, but as a globally identifier of this computer. Aaron changed his IP and MAC addresses several times, probably trying to avoid blocks from MIT's and JSTOR's IT teams.

and communication technology) are from the 1980s when the structure and usage of computer networks were considerably different from today. For instance, the piece of statute used by the government to reinforce that electronic impulses should be considered property dates back in 1983 (*Ibid.*:484), while the CFAA (Computer Fraud and Abuse Act), the statute supporting 11 out of the 13 counts, dates back in 1986.

Moreover, interpreting the Fourth Amendment[8] in the internet era sets another grey area in terms of law enforcement since it is difficult to clarify what is and what is not permitted. Indeed, most of the documents which integrate the case refer to disputes about the legality of the evidences the government used, mainly questioning the way they were obtained (*Ibid.*).

Whereas it still early to know what the laws will be for cyber cases, this scenario puts a sociological focus on how this social arrangement is organized and how disputes around powers, intellectual property and economic models are set within this arrangement. Specifically, this scenario stimulates the reflection on three different topics. Firstly, what are the different concepts of intellectual property claimed by the government, by Swartz's act, and by Swartz's legal defense? Secondly, how they relate to the mainstream and to possible alternative economic models. Thirdly, how the mainstream concepts of intellectual property and economic model have influence over civil rights through the interpretations of the current laws and jurisprudence.

Objectives

It is the scope of this research to draw from a case study and approach the issues mentioned above from the perspective of the US government's prosecution against Swartz and from its repercussion. As Fricker (2007) suggests, before legal statutes achieve their maturity and consistency as a means through which the court can judge and promote justice, the politics, the me-

[8] The Fourth Amendment to the US Constitution makes it mandatory to have a warrant or "probable cause" in order to execute searches and seizures. It states that: "The right of the people to be secure in their persons, houses, papers, and effects, against unreasonable searches and seizures, shall not be violated, and no Warrants shall issue, but upon probable cause, supported by Oath or affirmation, and particularly describing the place to be searched, and the persons or things to be seized" (U.S. Const., amend. IV.).

dia and the legal system (among other social spheres) orchestrate their actions through our daily life creating thus an epistemic support for the emergence of certain concepts of fairness and reasonable expectation of what the rights of each citizen are. Therefore, this project looks through different sources to map the epistemological debate underneath Swartz's prosecution.

This approach converges to a doctrinal qualitative legal research (Dobinson and Johns 2007:19), i.e. "a research which asks what the law is in a particular area" and "how it has developed in terms of judicial reasoning and legislative enactment". Moreover, it also moves toward an interpretative sociology, which puts back the social context into the area of law (Travers 1993). By these means, this dissertation aims at a sociological debate departing from Swartz's case and focusing on understanding what powers and intellectual debates guided (a) the prosecutors, (b) Swartz's official defense and (c) Swartz's career itself. It is argued that the whole official case (including the defendant side) was based on the mainstream approach to intellectual property and economic model. In contrast, it is also argued that Swartz's projects and activism always pointed to alternative approaches which target these same areas.

Swartz case was meaningful as a portrait of the approach on intellectual property politically sustained by different involved institutions, as well as a portrait of how they were linked to a given economic model. Hence, understanding the subjective discourses colliding in the case is a key to understand what changes are probably a bit ahead of us and how this change can affect our lives as citizens.

Methodological Discussion

The dissertation draws on interpretative sociology in order to add a social and analytical layer to what is written in the case itself (Travers 1993). Through an analysis of primary sources (Swartz case, similar and related cases, the law statutes mentioned, etc.) and secondary sources (mainstream media reports, editorials and op-ed, expert blog posts, key interviews, press releases, etc.), the thesis focus is, using Dobinson and Johns' (2007:19) words, "to describe a body

of law and how it applies". Consequently, this research is basically based on textual material, what is reflected on the following methodological discussion and on the results themselves.

Underneath this methodological approach is the idea that the laws, the way they are developed and the way legal reasoning is performed are crucial to comprehend our society (Cotterrell 1986; Dobinson and Johns, 2007). Furthermore, this social science perspective is required since "judicial inductive reasoning […] must be qualitative in its research methodology" (Dobinson and John 2007:21), because

> law may be knowable but it is not necessarily predictable. Doctrinal research is not simply a case of finding the correct legislation and the relevant cases and making a statement of the law which is objectively verifiable. It is a process of selecting and weighing materials taking into account hierarchy and authority as well as understanding social context and interpretation (*Ibid*:21-22).

Therefore this doctrinal research is based on a qualitative analysis of different sources, understanding that the apparent objectivity of law and judicial judgment must be interpreted according to a context which is social in its nature.

From this point of view, what emerges is an inductive analysis of this social context. After going through all these sources, its content was split and condensed in tiny bits of information, which were read as codes emerged from the meaning of each bit. These codes are a key aspect of qualitative content analysis; in practical terms, "are immediate, are short, and define the action or experience described" (Kvale and Brinkman 2009:202). In order to allow the comparison in terms of similarities and differences within these data instances (*Ibid.*), some common practices from design thinking methodologies were employed: post-its and whiteboard were employed so as to physically have an overview of the different bits of information. The content of each post was a short sentence condensing each relevant point and a small note to link that statement to its source(s). This tangible framework made it possible to move post-its around creating inductive clusters, which emerged from the comparison, similarities and differences from bits of information (Kelley and Littman 2010). On the top of these clusters more coding is employed: when clusters created consistency, this was considered a relevant area and was then titled accordingly.

Thus, "the analysis is gradually moved from descriptive to more theoretical levels, leading to a 'saturation' of the material by coding process, when no new insights and interpretations seem to emerge from further codings" (Kvale and Brinkman 2009:202).

The clustering of information resulted in a meaningful categorization which allowed for an overview of extensive and complex material and made it possible to spot relevant quotes, compare them and investigate differences between their sources (*Ibid.*). Therefore, the analytical process connected data from different sources, seeking to explore the different standpoints and associations between them. Validity and reliability emerged from the constant comparison and association between these different sources, creating triangulation, verifying and reinforcing sources – offering consistency to the analysis (Golafshani 2003).

Following these qualitative research guidelines allowed the analysis to approach the basic assumption behind a doctrinal qualitative legal research: that "the law is not objectively ascertainable" (Dobinson and Johns 2007:32), that "the law is there to be derived from the reasoning applied to the sources found" (*Ibid.*:23). Moreover, the selected methods allowed the analysis to approach the case through a social science lens[9] (*Ibid.*) – i.e. by employing a systematic, justifiable and reproducible process of inductive reasoning to interpret and contextualize Swartz case.

[9] Dobinson and Johns (2007), as well as Travers (1993), highlight that sociology of law must pay attention to the fact that law scholars are not trained as social scientists to consider the social context within the study of laws: "lawyers are not trained in an effective [social qualitative] research methodology" (Dobinson and Johns 2007:32).

1 Swartz's Case within a Specific Political and Social Context

The prosecution the Department of Justice conducted against Swartz is the key for the theoretical analysis and debate proposed here. In this chapter, the first section briefly presents this complex case which took place between late September 2010 and early January 2013 – from the date when Swartz started the downloads to the date when he committed suicide. By using the analytical process described above, the following section highlights different aspects which are relevant in understanding the complexity of this case.[10] Finally, the last section of this chapter introduces the sociological analysis proposed for this dissertation.

1.1 Swartz's Case

By September 2010, Swartz already had a reputation in the hacktivist community, where he was well-known for earlier contributions to collaborative projects, great skills in coding and engagement in social and public debates. By that date he was a member of The Edmond J. Safra Center for Ethics at Harvard University and was a familiar face at MIT: "he was an established member of the MIT community who had given a guest lecture, audited MIT classes, worked on projects with MIT professors, and attended events on campus on multiple occasions", as Swartz's defense argues (*USA* v. *Swartz*:540).

MIT has a considerably open network which allows guests and visitors to have the same access as its students, faculty and employees to, among others, JSTOR. It is required from guests to register on the MIT network with their name and email address and then they can use it up to 14 days per year (*Ibid.*). As the MIT Manager of Network Security & Support Services describes (cited by *Ibid.*:269):

[10] It is important to highlight that all information presented on the section section of this chapter is reported accordingly to the official docket of *USA* v. *Swartz* case, except when other sources are explicitly mentioned.

> No authentication of visitors. Visitor network access is provided as an on-demand self-service process for anyone who walks onto campus, plugs in, or elects to use our wireless network, and declares themselves a visitor, and they get 14 days of network privileges.
>
> No identity verification. Visitors are asked to provide an email address. The email address is not used to verify that a bona fide identity exists …
>
> No authentication of users accessing JSTOR.org. By agreement, JSTOR.org allows any computer with a net 18 IP address [MIT IP root address] to access their resources without further identification or authentication.

Alex Stamos, an expert in investigation of digital crimes, reported that had never seen a network this open (Stamos 2013). Even if he was an expert witness on Swartz's side, his experience and reputation leading investigation on cybercrimes[11] make him able to offer us a relatively balanced opinion on that specific subject (*USA* v. *Swartz*).

Swartz plugged a notebook to a wiring closet at one of MIT buildings and, according to the US attorneys,

> left his laptop and a series of five hard drives for extended periods of time (1) running a high-speed downloading program unattended, (2) on MIT's property, (3) from which they would likely be removed by MIT personnel if discovered, (4) under circumstances intended to conceal that the equipment belonged to him (*Ibid.*:427)

The code he had written – a Python language file called keepgrabbing.py – massively downloaded millions of PDF files from JSTOR database through the MIT network. Meanwhile Swartz connected another notebook to perform the same tasks and constantly changed the IP and MAC address of his equipment. All actions aimed at (1) concealing his real identity, (2) avoiding linking these computers and the external storage devices to Swartz and (3) having its access blocked by MIT and JSTOR It teams. For instance, the user name and email he provided to join MIT network as a guest were fictitious names and emails – even though the email can be considered technically valid emails, in the sense that Swartz was able to receive and reply messages from that address (*Ibid.*).

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[11] As he introduces himself: "Should you doubt my neutrality, let me establish my bona fides. I have led the investigation of dozens of computer crimes, from Latvian hackers blackmailing a stock brokerage to Chinese government-backed attacks against dozens of American enterprises … While we are no stranger to pro bono work … our reports have also been used in the prosecution of at least a half dozen attackers. In short, I am no long-haired-hippy-anarchist who believes that anything goes on the Internet. I am much closer to the stereotypical capitalist-white-hat sellout that the antisec people like to rant about (and steal mail spools from) in the weeks before BlackHat" (Stamos 2013).

Although no confidential information was downloaded, US attorneys accused him of stealing JSTOR property (i.e. the articles he downloaded) and reinforced the relevance of it in these terms: "These articles are JSTOR's lifeblood. JSTOR has spent millions of dollars to locate articles, work out copyright deals, digitize the articles, store them, and make them available online" (*Ibid.*:79). Yet the US attorneys characterized as victims of this act MIT, JSTOR, ITHAKA[12] and "several hundred publishers, on whose behalves JSTOR made academic journals available for purchase by the public" (*Ibid.*:51). Although Swartz was accused of downloading "gigabytes of data from JSTOR, valued in the tens of thousands of dollars" (*USA* v. *Swartz*:413-414), the quantification of the loss caused by the massive download is described as at least five thousand dollars (*Ibid.*:30 and 252).

Beyond characterizing Swartz's act as stealing (regarding JSTOR articles) and as trespassing (regarding MIT physical and virtual infrastructure), the indictments accused him of intentionally damaging JSTOR and MIT networks: "the effects of these rapids and massive downloads and download requests was to impair computers used by JSTOR" (*Ibid.*: 244). Yet, since the attempts of JSTOR to stop these downloads was to block one or several IP addresses from MIT, Swartz was accused of being responsible for leaving parts of and eventually the whole MIT community unable to access JSTOR.[13]

Moreover, US attorneys used a manifesto signed by a group Swartz was member of to infer that he downloaded these articles "all with the purpose of distributing a significant portion of JSTOR's archive through one or more file-sharing sites" (*Ibid.*:208). Similarly, the Department of Justice press release about the case follows that argument: "it is alleged that Swartz avoided MIT's and JSTOR's security efforts in order to distribute a significant proportion of

[12] ITHAKA is the company who owns JSTOR.

[13] The superseding indictment states that firstly JSTOR blocked Aaron's own IP address. When Aaron started to change his IP address, they blocked a range of IP addresses (roughly 250 addresses), preventing "a researcher assigned any one of over 250 other IP addresses … from being able to access JSTOR's archive" (*USA* v. *Swartz*:245). Finally, "JSTOR blocked MIT's entire computer network from accessing JSTOR. The block lasted for several days, again depriving legitimate users at MIT from accessing JSTOR's services" (*Ibid.*:246).

JSTOR's archive through one or more file-sharing sites" (DoJ 2011). In fact, the *Guerilla Open Access Manifesto* (cited by *Ibid.*: 453-454), used to attribute this intention to Swartz's act, reads:

> We need to take information, wherever it is stored, make our copies and share them with the world. We need to take stuff that's out of copyright and add it to the archive. We need to buy secret databases and put them on the Web. We need to download scientific journals and upload them to file sharing networks.

Some people involved in the case and closer to Swartz questioned this strategy adopted by the US attorneys, i.e. they believe that maybe these were not what lead Swartz to download the articles. On the one hand, as Norton[14] (2013) argues, it is not completely fair to "be held to everything we said in our early 20s" (Swartz was 21 when he signed the manifesto), and she also question that four years later no one could say whether this statement still reflects his current thinking. Yet, Norton affirms that "he'd moderated many of his views in the last few years". On the other hand, and balancing Norton personal relationship with Swartz, some of his later researches involved text analysis looking for what kind of legal research was funded by what kind of companies; this type of analysis also appeared before in his career when he identified what kind of users contributed the most to the Wikipedia content (Swartz 2013). Clearly "there had been a time when he cared deeply about copyright issues, but he had moved on", some media reports argue (MacFarquhar 2013). Given his background it is possible to consider both possibilities: the one about uploading the articles to file sharing websites as well as the one about running a kind of analysis over this material; but the fact is that he had done neither of them.

In spite of the indictment (protocoled on July 14th, 2011), JSTOR reached a civil agreement with Swartz by June 4th, 2011, which US attorneys were aware of.[15] And in despite of this agreement, the prosecutors decided to keep the case running – yet the tone was to aggravate it with a superseding indictment (protocoled on September 12th, 2012), ending up in

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[14] Quinn Norton (2013) is a journalist specialized in covering the hacker scene and, moreover she was one of Aaron's closest friend and eventually his ex-girlfriend. Hence, whereas her opinion is relevant to the case, her personal relation to Aaron asks for a careful interpretation.

[15] This agreement appears in a document handed in by US attorneys on September 27th, 2011 (*USA* v. *Swartz*:84) and again in another document dated from November 16th, 2012 (*Ibid.*:386).

tion, some people close to the case report that Swartz was offered a deal: "three months in prison, three months in some sort of halfway house, and three months probation, and one felony count" (Norton 2013). When Swartz committed suicide the case was still open. The trial would probably take place in the forthcoming months (*USA* v. *Swartz*).

Swartz said once, walking by the White House: "they don't let felons work here" (Norton 2013); he was already being prosecuted. Considering his political engagement, Norton considers: "To be a felon in this country is to be a pariah, to be unlistened to. Swartz wanted more than anything to speak to power, to make reforms … In most states a felon can't even vote. The thought of him not voting was unfathomable" (*Ibid.*). Moreover, "he did not consider his JSTOR action an act of civil disobedience for which he was prepared to sacrifice a portion of his life in prison" (MacFarquhar 2013).

This research does not aim at providing all the details of the case, but to briefly offer a context which is required to ponder on the social context the prosecution happened. The next section goes through the difficulties of interpreting the case according to the law, aiming at avoiding a strictly objective reading of the case – the idea is to draw, from these difficulties, the basis for a social analysis in terms of access to knowledge.

1.2 Interpreting the Facts and the Law

Swartz's case is one among other contemporaneous law cases involving discussion on how current laws fit the current usages of internet. An article from the *Rolling Stones* magazine website featured 7 hackers being prosecuted.[16] Titled *The New Political Prisoners: Leakers, Hackers and Activists* (Clark 2013) the article tells the story of 7 recent crimes, highlighting possible problems in each one of these prosecutions.

One of the cases is from 2010: Andrew Auernheimer – or 'weev', as he goes by – discovered that the AT&T database of users of iPad which was powered with 3G technology was nei-

[16] Swartz was not listed, as he had already passed away; he was mentioned in the introduction.

ther protected nor encrypted. He wrote a code which collected these data (e.g. email addresses and names), and shared it online, exposing AT&T's security flaw. According to the article "all of the data … was not encrypted, which means that anyone could have gained access to it" and weev's "conviction could make other 'white hat' hackers less willing to point out such flaws, leaving people less secure online" (Clark 2013).[17] He was sentenced to roughly 3.5 years in prison (Smith 2013), but no charges were put against AT&T, who left users' data unprotected and unencrypted.

In such cases, there are many plausible interpretations of the facts and of the legal doctrine. Moreover, as the article title suggests, these interpretations have political influence. Hence, as it is not the aim of this research to write on the legal doctrine itself, the objective here is to look to the context of Swartz's prosecution through the lens of a genealogy and of a sociological analysis of the way these different interpretations are succeeding or failing.

This section presents a series of complexities involved in interpreting the facts, the exhibits, and the laws within Swartz's prosecution. The focus is to establish a scenario where an objective interpretation of the law seems blurred and where the resulting subjective interpretation can be analyzed through sociological lens. As Swartz's defense said, "this is not a garden-variety criminal case involving factual issues that are readily intelligible to any layperson" (*USA* v. *Swartz*:552). This session aims at listing different aspects of the case that highlight how complex it is to interpret what Swartz did and how complex it is to use current laws to judge it.

1.2.1 Issues on interpreting the facts

Regardless of the statutes employed by plaintiff and defense, the facts themselves are referred in different terms during the process. While the US attorneys precisely characterize some

[17] White hats (in opposition to black hats) are hackers that explore system flaws to point out security issues and do not to take any advantage of these flaws, being considered valued for companies by helping them to design more secure systems. For instance, Apple maintains a page online with credits dedicated to several people who reported security bugs on their developer platform (Apple 2013).

discovery materials simply as "analyses of downloading methods or network vulnerabilities" (*USA* v. *Swartz*:79), Swartz's steps are more complex to characterize:

> Aaron did not "hack" the JSTOR website for all reasonable definitions of "hack". Aaron wrote a handful of basic Python scripts that first discovered the URLs of journal articles and then used curl to request them. Aaron did not use parameter tampering, break a CAPTCHA, or do anything more complicated than call a basic command line tool that downloads a file in the same manner as right-clicking and choosing "Save As" from your favorite browser (Stamos 2013).[18]

As it could also be argued in weev's case (Peters 2013), Swartz could have only exceeded authorized access, as there were no crack, no break in. As Stamos (2013) comments, he "found a loophole that allowed him to download a lot of documents quickly. This loophole was created intentionally by MIT and JSTOR, and was codified contractually in the piles of paperwork turned over during discovery." weev found a loophole in AT&T system and Swartz did the same regarding MIT and JSTOR systems; the difference was that Swartz did not make the documents, neither his act public.

Even though Swartz neither identified himself properly nor provided an email he regularly used, "MIT never took any step to actually verify the identity" (*USA* v. *Swartz*:541) – as the defense argued. Regarding JSTOR, the defense added: "the number of articles downloaded by Swartz may have exceeded JSTOR's terms of service, but the wire fraud statute does not exist to police violations of private contracts" (*Ibid*.:345). Even JSTOR characterized Swartz's act in a much lighter note than the US attorneys did: according the journal database press release, "JSTOR experienced a significant misuse of our database" (JSTOR 2011). The Department of Justice press release title reads "alleged hacker charged with stealing over four million documents from MIT network" (DoJ 2011). Nevertheless Swartz's defense considered that "nothing in what Swartz did … was intended to deprive JSTOR of its property permanently" (*USA* v.

[18] Curl is a very basic command in many programming languages and operational systems. It basically downloads any given file from a given address (an URL), and supports a wide range of different communications protocols to run the download (e.g. HTTP, FTP, IMAP, POP3, Gopher etc.).

Swartz:3412) and JSTOR still holds the PDF articles and the online services offered intactly (Lessig 2013, cited by Wendy 2011).[19]

Admittedly the arguments above are tendentious to the defendant side, however the idea is neither to judge the case nor to evaluate whether plaintiff and defense debate was balanced or reasonable. The idea is to suggest that certain technological circumstances involved in the case are not precisely foreseen by the laws. Thus the proposal is to explore these gaps and to analyze how these gaps where enacted during the prosecution – i.e. to understand the different basis to each interpretation.

For instance, a recurrent argument from the media is that as JSTOR dropped the case, the government should not interfere (WSJ 2013 and Lessig 2013), assuming that since JSTOR has secured that their content was safe, there would be no more plaints against Swartz (JSTOR 2011). Therefore it is needed to explore how the US attorneys justified their decision. The House of Representatives addressed a letter to the Department of Justice on January 28th, 2013, roughly two weeks after Swartz's death, asking precisely this.[20] The letter acknowledges that "many questions have been raised about the appropriate level of punishment sought by prosecutors" and asks what factors influenced the decision to prosecute him. In fact it explicitly questions whether Swartz's opposition to SOPA (Stop Online Piracy Act, a bill proposed by the House of Representatives in 2012) had something to do with the prosecutors' motivation, and whether the superseding indictment was necessary.

Finally, Lawrence Lessig, a professor at Harvard Law School and one of founders of the Creative Commons, pondered whether Swartz's act should be considered an act of civil disobedience, as well as, if the punishment pursued by the prosecutors was reasonable (Lessig, cited by Wendy 2013). As he rhetorically phrased it: "So what was that appropriate punishment? Was

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[19] Yet some call the attention to the fact that MIT did not stand up for Swartz – what was expected from the institution whose reputation includes being the origin of the concept of hacking (WSJ 2013, Lessig 2013).

[20] Issa, D. and Cummings, E., communication by letter to The Honorable Eric H. Holder Jr., Attorney General, U.S. Department of Justice. January 28th, 2013. The letter was made public (or leaked) and is available at: http://www.scribd.com/doc/122695909/Oversight-letter-to-DOJ-on-Swartz [Accessed: 14 Jun. 2013].

Aaron a terrorist? Or a cracker trying to profit from stolen goods? Or was this something completely different?" A *New Yorker* article brought similar statements by Elliot Peters, one of Swartz's lawyers during the case:

> The prosecutor, Stephen Heymann, told Swartz's lawyer, Elliot Peters, that if Swartz pleaded guilty to all counts he would spend six months in jail; if he lost at trial, it would be much worse. "He said the value of what was taken from JSTOR was two million dollars, and under the sentencing guidelines that would equate to a sentence in the neighborhood of seven years," Peters says. "And I said, 'What he took from JSTOR wasn't worth anything! It was a bunch of, like, the 1942 edition of the *Journal of Botany*!' The idea that Aaron should be sentenced the same way as someone who tries to beat someone out of two million dollars in a security-fraud scam? (*sic*.)" (MacFarquhar 2013).

Peters did not explicitly use the idea of civil disobedience during the defense, however his statement echoes what Lessig asked, i.e. whether Swartz's act was a crime or not and if the argument against him was 'stealing' the value of what he had stolen was ridiculous low:

> From the beginning, the government worked as hard as it could to characterize what Aaron did in the most extreme and absurd way. The "property" Aaron had "stolen," we were told, was worth "millions of dollars" — with the hint, and then the suggestion, that his aim must have been to profit from his crime. But anyone who says that there is money to be made in a stash of *ACADEMIC ARTICLES* is either an idiot or a liar. It was clear what this was not, yet our government continued to push as if it had caught the 9/11 terrorists red-handed (Lessig 2013, emphasis in the original).

Hence, there are many possible interpretations in Swartz's case. "An indictment is an allegation. It states facts the government believes it can prove. It isn't proof of the facts. It is one side in a dispute." (Lessig, cited by Wendy 2013). The defense constitutes the other side and it is possible to infer from Swartz's lifetime works that his ideals had a civil motivation (Doctorow 2013, boyd 2013c). It is impossible to know how magistrates would judge the case, but it is possible to analyze the arguments from both sides adding the social context to them (Dobinson and Johns 2007). Before proceeding towards this direction, the next section briefly present issues about the legal statues involved.

1.2.2 Statutes and law enforcement issues

The technology involved in Swartz's case puts together elements that are not clearly foreseen by the legal statutes. It is possible to question, for example, if Swartz virtually trespassed MIT network, or whether copying digital documents are stealing or not – since the previous

owner still owns the same documents (*USA* v. *Swartz*). This research does not answer these questions; it is, indeed, the role of the judge:

> Even if the facts the government alleges are true, I am not sure they constitute a crime. There is considerable uncertainty in this area of the law. Many wonder about the quick conversion of terms-of-service into criminal prosecution. But that's a question the courts will ultimately have to resolve (Lessig, cited by Wendy 2013).

This section briefly presents what in Swartz's case can be labeled as law uncertainties. The argument departs from the repercussion of the case itself, starting from what Carmem Ortiz, US attorney in charge, declared: "Stealing is stealing whether you use a computer command or a crowbar, and whether you take documents, data or dollars. It is equally harmful to the victim whether you sell what you have stolen or give it away" (DoJ 2011).

Ortiz's phrase sums up the tone of the prosecution, and it was not well received by the media and other social spheres (as the letter from the House of Representatives aforementioned suggests). The two biggest newspapers in the US published editorials and opinions opposing Ortiz's standpoint, arguing that this prosecution was about a failure in modernizing the law. According to *The New York Times*, "a lot has changed since 1986 [year of the CFAA], when very few academics and technology enthusiasts had access to rudimentary e-mail systems" (NYT 2013:SR10), while *The Wall Street Journal* (WSJ 2013:A14) states "if copyright can't safeguard an outfit like JSTOR and prosecutors can't distinguish real cyber crimes from an abortive political stunt, then it's another warning that the U.S. legal architecture for intellectual property is out of date".

The Slater blogger Justin Peters (2013) attacks the same issue with a touch of irony: "Did you fill out an NCAA bracket from your work computer today? Congratulations! Depending on your office's computer use policies, you may have violated the CFAA!" On a similar note, *The New Yorker* columnist Tim Wu (2013) remembers the Judge Alex Kozinski using the same irony:

> Dating sites … usually mandate that you tell the truth, making lying about your age and weight technically a crime. Or consider employer restrictions on computers that ban personal usage, like checking ESPN or online shopping. The Justice Department's interpretation makes the American desk-worker a felon.

These comments reveal that the recent technological changes make it difficult to interpret the facts in the light of old dated laws. On the one hand, Swartz's defense cites *USA* v. *Jones* (from 2012):

> it may be necessary to reconsider the premise that an individual has no reasonable expectation of privacy in information voluntarily disclosed to third parties … This approach is ill suited to the digital age, in which people reveal a great deal of information about themselves to third parties in the course of carrying out mundane tasks. People disclose the phone numbers that they dial or text to their cellular providers; the URLs that they visit and the e-mail addresses with which they correspond to their Internet service providers; and the books, groceries, and medications they purchase to online retailers (*USA* v. *Jones*, cited by *USA* v. *Swartz*:269).

On the other hand, Wu (2013) remembers that "in the prominent cyberbullying case United States v. Drew, a federal prosecutor asserted that violating MySpace's terms of service would be a federal felony".

Beyond the jurisprudence itself, these two opposing decisions point towards different aspects. Firstly, the question is about how to apply the current legislation to digital crimes. In Swartz's case, for example, most of the documents debate whether he had reasonable expectation of privacy. Two notebooks, external storage devices and other gadgets were searched for digital and physical evidences (e.g. programs, logs, fingerprints etc.). The defense criticized these proceedings, referring to the Fourth Amendment: law enforcement had no right to seizure and search certain equipments, Swartz was supposed to have a reasonable expectation of privacy (*USA* v. *Swartz*). Yet the defense argues that "the advent of the internet presented a host of potential breaches that the Fourth Amendment does not address" (*Crispin* v. *Christian Audigier, Inc.*, cited by *USA* v. *Swartz*:282-283).

Eventually one could say that the term 'reasonable' requires a subjective interpretation of the Fourth Amendment. However there still much to debate and to interpret considering the terms used by the statutes specifically created for ICT crimes: media reports put in question what 'a protected computer', 'access without authorization' or 'exceeding authorized access' means nowadays (Wu 2013, WSJ 2013). These legal concepts are subject to interpretation because the internet has made it extremely easy to surf on the web, accessing different links and

accessing different computers, servers and networks in a few clicks – something unimaginable two decades ago.

Jay Leiderman, a lawyer who has been working for hackitivists,[21] believes that we are "actually getting to see a kind of resetting and rethinking of how computer laws, and specifically computer crimes, are fitting within society". He cites the CFAA as an example:

> [It] was written in 1986, when you used to have to dial up a computer, take out your old dial phone, put it on a modem, you dial up a specific computer, like a university. That is how networks worked that time. And then HTTP protocol came about, the modern internet as we know it. There were browsers and you can just type into a search box and start clicking away, and there you are, you navigate… the laws weren't designed for that kind of net.

Secondly there is yet a second layer to consider: whether this is a matter of private or public interests, i.e. whether the violation of terms of service should be considered felony. Evidence alleged by the US attorneys, such as changing IP or MAC address intentionally in order to misstep a network administration is a also common task and it is just a few clicks away from any user in modern operational system (*USA* v. *Swartz*). As Stamos (2013) states, "changing one's MAC address (which the government inaccurately identified as equivalent to a car's VIN number) or putting a Mailinator email address into a captured portal are not crimes. If they were, you could arrest half of the people who have ever used airport wifi"[22]. According to Stamos, anyone is able to intentionally misstep airport wifi systems to get extra free '15 minutes' with a new email address or MAC address.

This debate does not aim at affirming that the law is out of date, or that jurisdiction is opting for the 'wrong' side. The idea is to make it clear that there is a "gap in collective interpretive resources", in Fricker terms (2007:1). The law school already recognizes that the digital era requires a rethinking of the property relations (Epstein 2003) and the focus here is on bringing in

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[21] He was interviews for this research project. Among the clients he has worked for there are weev and hackers from Anonymous group.

[22] The US attorneys described Mailinator as follows: "Mailinator advertised itself as a free e-mail service that would accept mail for any e- mail address directed to mailinator.com without need for a prior registration or account; would automatically delete all e-mail after several hours, whether read or not; and would keep no logs (records) of e-mail access" (*USA* v. *Swartz*:379).

the 'collective' voice, since it is part of the media, of the legislation process and of politics – institutions able to establish epistemological and hermeneutical basis for justice (Fricker 2007).

Analyzing the different arguments within Swartz case, especially when it comes to the conflicting liberal values between the right of private property and freedom of speech (Coleman 2013) means "a making explicit of the 'hidden' rules or structures of discourse in a particular disciplinary field so as to reveal the contingent character of taken-for-granted disciplinary practices" (Cotterrell 1986:14).

1.3 A Sociological Approach on Swartz's Prosecution

As Coleman (2013) describes in her ethnography on hackers, this community is endowed with political motivations: hackers and programmers groups, such as the free software and open-source software advocates, "represent a liberal critique within liberalism" (*Ibid.*). Contemporaneous liberal traditions involves "a theory of political economic practices that proposes human well-being can be best advanced by liberating entrepreneurial freedoms and skills within an institutional framework characterized by strong property rights, free market and free trade" (Harvey,2005:2). Hacktivists, in turn, "even if tethered to liberal ideologies, spills beyond and exceeds liberal tenets or liberal notions of personhood, most often melding with a more romantic sensibility concerned with a heightened form of individual expression" (Coleman 2013).

Underneath this opposition lies the access to knowledge movement and a specific approach identified as "an emerging conceptual critique of the narrative that legitimates the dramatic expansion in intellectual property rights" (Kapczynski 2010). On the one hand, Swartz's case can de read as a critique towards an over-concentration of property rights, on the other hand, Swartz's case underscores the dilemma between hacktivism and liberalism. In Coleman's (2013) words: "Once I considered how hackers question one central pillar of liberal jurisprudence, intellectual property, by reformulating ideals from another one, free speech, it was evident that hackers also unmistakably revealed the fault line between two cherished sets of liberal principle".

Both these pillars are central to liberalism and to US Constitution. Sociological perspectives on law assume that social and cultural changes, in terms of worldview, is the first step in stimulating an intellectual space to reflect on the legal doctrine itself, and then to promote changes within it (Cotterrell 1986). Moreover, inputs from the outside are capable of empowering this process:

> it can be hypothesized that technical, social or political factors reflected in the character of legal systems at particular times determine the amount of 'intellectual space' within which alternative modes of legal science can exert widespread influence on legal scholarship and legal practice as a whole. Only when, for various reasons, legal science is incapable of satisfactorily demonstrating the unity and integrity of legal doctrine through its normal analytical methods, will effective confrontations of other disciplines with law be possible, for only in these conditions is the self-sufficiency of legal discourse seriously put in question (Cotterrell 1986:18).

Cotterrell utilizes Kuhn and Foucault to characterize the way through which the legal doctrine evolves: on the one hand, he adopts the social process of validation described by Kuhn; on the other hand, he employs Foucault's archaeology to characterize this process as dependent on specific configurations of powers, concluding that "the sociological study of law is thus, above all, a study of (legal) forms and mechanisms of power of (legal) ideas controlling and shaping social life" (Cotterrell 1986:27).

Returning to hacktivism, it is possible to approach this debate by looking forward to map powers and discourses. Coleman (2013) ponders:

> US courts in the last twenty-five years have openly broached the issue by asserting that any negative consequences of censoring speech are far outweighed by the public benefit of copyright law. In other words, as a matter of public policy, copyright law represents an acceptable restriction on speech because it is the basis for what is designated as 'the marketplace of ideas' (Coleman 2013).

In addition, there are accusations against the current political system, claiming that it is broken, that representativeness have been dumped by lobbies – in this scenario, under the influence of lobbyists, representatives legitimate the priority of intellectual property over free speech (Kapczynski 2010, Lessig 2004) – and hacktivists fights back (Coleman 2013). For example, challenging this narrative from within, the free software and open-source software community seeks "alternative legal agreements that threat knowledge, inventions, and other creative expressions not as property, but rather as speech to be freely shared, circulated, and modified" (Coleman 2013). For instance, they are 'within the property logic':

> Free software licensed under the General Public License (GPL), for example, requires that the source code for the software be made available by anyone who modifies and redistributes the software. But that requirement is effective only if copyright governs software. If copyright did not govern software, then free software could not impose the

> same kind of requirements on its adopters. It thus depend upon copyright law just as Microsoft does (Lessig 2004:264-265).

Hence, hacktivism can be read not as purely opposed to intellectual property, but as a movement trying to promote change from inside out; they confront concepts such as patents, copyrights and trademarks with alternatives such as public domain, commons, sharing, openness, access and so on (Kapczynski 2010). These sets of ideals embrace not only technology, but an entire economic and political dimension. In addition, the relevance of technology has been raised considerably: "the digital network revolution, for example, places the technologies of information production and exchange in the hands of (at least some) 'average' citizens in a way that was not true in the era of the industrial assembly line and the printing press" (Kapczynski 2010:21).

Considering the repercussion of Swartz case, it is argued here that we are facing one of these moments when, in Cotterrell words (aforementioned), "legal science is incapable of satisfactorily demonstrating the unity and integrity of legal doctrine through its normal analytical methods". In spite of the uncertainty about what Swartz would have done with the millions articles, it is possible to look back to the projects he embraced, to the critiques he made to the mainstream approach on intellectual property, and therefore characterize him as an advocate of the access to knowledge ideals. For instance, a couple of Swartz's quotes can express his opinion about lobbies, politics and economy: "the industry is putting pressure on the governments all over the world; the world is changing quickly, and probably they see that as the last chance to try to keep their old fashion way of doing things", "I was frustrated with the way it seemed to be no major political group in the US that combined a careful lobby in Washington and a wide online activism" (Swartz 2013).

On the top of that, considering other internet defendants, Swartz's case was subtle. His case does not configure a 'black hat' attitude. The prosecutors compared Swartz's case to *USA* v. *Harris* (cited by *USA* v. *Swartz*:523), where the defendant was also accused of wire fraud; however the conviction in *USA* v. *Harris* was "for selling cable modem hacking software that would allow users to obtain free Internet service by mimicking identities … used by Internet service providers to identify legitimate subscribers". In opposition to weev, Swartz did not make any data public. Neither did he take, as Harris did, any profit of the data he accessed. This context leads to the question about what was Swartz's motivation. And one

way to approach this question is to understand it as a provocative civil rights act (even if he would probably deny it, as aforementioned).

Leiderman considers hacktivism a "next degree frontier of civil rights" which claims that "governments and big corporations should be transparent … and people should be entitled to privacy". This argument fits Swartz previous statements: "I think there's a fight now, where several major institutions, such as Google, Facebook and governments are trying to increase their powers and control over the internet – and I think this is very dangerous, and that's why I'm excited to see that people are working together to prevent this" (Swartz 2013). For Swartz (2013), as is also for the access to knowledge movement (Kapczynski 2010), the matter of access to information is a matter of democracy; concentration of protected information would be anti-democratic as it confers power to the ones holding the information.

Yet Leiderman suggests that civil disobedience is a symbolic crime which historically has been punished by a symbolic penalty. He recalls the *Scopes Monkey Trial*, a famous case from the 1920s, "where a teacher who taught evolution to his class, instead of teaching that God has created all of us, taught the theory of evolution; this was one of the most famous trials of the century and it ended up in a fine". Considering that, he adds:

> There's a long tradition of symbolic penalties for symbolic crimes. But then you see not symbolic penalties … you see deeper problems in society. So when we're trying to lock up our best and brightest, our really vocal advocates … we're talking about locking them up for decades … This is more than you'd expect from dictatorial regimes, than what is supposed to be the United States of America. We aren't free.

Leiderman surely is a firmly believer in hacktivsim, even taking cases *pro bono.* In fact some would argue that he is biased. Nevertheless his approach has the advantage of putting Swartz case into a social and political context: it allows us (a) to escape from the technical application of the legal doctrine, (b) to have a sight of different powers involved, and (c) to consider the repercussion of the case as a valid instance of collective perception about the law, about the prosecutors procedures and about someone making a massive download of academic articles. The next chapter goes deeper in the access to knowledge movement to offer a theoretical basis of this attempt to discuss intellectual property.

2 Swartz and the Access to Knowledge Debate

Right after Swartz's death, *The Wall Street Journal* published an editorial commenting the case and its repercussion regarding intellectual property and law (WSJ 2013). Entitled *Cyber Crime and Punishment*, the text uses Swartz case to question the role that intellectual property rights should play in society:

> The larger principle is that intellectual creation is legally protected, explicitly so in the Constitution, to promote scientific progress and the useful arts. Consumers are willing to pay for content they find valuable, and whether and how much to charge is for its owner – and ultimately the market – to decide (*Ibid.*:A14).

This session follows this debate and aims to frame Swartz case in a wider political and social context through the access to knowledge literature. Beyond the legal debate, this context provides basis for a worldview change that may influence the current debate regarding cyber crimes and intellectual property. This chapter analyzes the academic connections between these two instances without providing any judgment as to whether the access to knowledge movement is right.

The extract from *The Wall Street Journal* represents a standpoint which is based both on the liberal economy premises and on the principle that the global economy is informational (rather than industrial) – i.e. the premise that "knowledge matters in its technological capacity, for its effect on productivity and growth" (Kapczynski 2010:18). Therefore scientific and technical knowledge are key resources for economic productivity, and areas such as financial services, marketing, software, education and biotechnology (among others) are the most important resources in this scenario (*Ibid.*). To support this informational economic environment, intellectual property laws have been expanding worldwide and entitlements as patents, copyrights and trademarks "give their holders the ability to prevent others from copying or deploying the covered information in specific ways", resulting in "an alchemy that turns immaterial expressions and ideas into tradable commodities" (*Ibid.*:23).

This trend also expanded geographically: the World Trade Organization (WTO) requires every member to adhere to the Trade Related Aspects of Intellectual Property Rights Agreement (TRIPS Agreement, from 1994), a document that reinforces efforts towards legally protecting intellectual property rights (Franz 2010). It is "an exceptionally audacious attempt to extract value from and exert control over informational domains all of the countries of the world" (Kapczynski 2010:26). Moreover, it represents the political side of this shift:

> [Intellectual property industries] pushed governments to move from seeing intellectual property policy as involving a series of discrete policy issues that represented industry-specific tradeoffs to viewing these problems as a broad project of setting industrial policy in a global information economy, one in which they were information exporters (Benkler 2010:221).

In parallel to the emergence of the informational economy, a "shift from mass-mediated culture and monopoly telecommunications systems to the networked information society" took place (*Ibid.*:222). For a while, long distance mass communication was possible only from a concentrated group of media companies that held enough (economical or political) capital to afford the high costs involved in producing and disseminating culture. However, since the mid-1990s the internet has been changing this scenario, introducing a high level of decentralization in production and publication (*Ibid.*).

These new communication possibilities act in favor of an alternative approach to intellectual property. As Kapczynski (2010) suggests, there are two ways to consider the debate over intellectual property right and its efficiency or deficiency in promoting innovation. On the one hand, it is said that private rights over intellectual property is the optimum way to attract investment in informational goods, a position mostly based on the Chicago School of economics (*Ibid.*): to compensate the effort (time and money) to innovate, innovators should have the right to exclusively explore this innovation in the market. On the other hand, information economics treats information as a non-rival asset, i.e. more than one actor can have access to it without limiting the access to this information to other actors (*Ibid.*). For informational economics, information is infinitely sharable without losing its qualities, what drives to inefficiencies in the short and

long terms (*Ibid.*). As the marginal cost of production of information[23] is zero there is no sense in conceiving a competition price for information in the market. In the short term fewer people would have access to this good – and, since it is a 'marginal costless good', it was supposed to be widely accessible. Moreover, in the long term, this situation tends to derive in monopolies according to this same logic (*Ibid.*). Verzola (2010) characterizes this movement as a mechanism through which abundance of a certain good (e.g. information) is attacked in favor of an artificial creation of scarcity in the market.

The access to knowledge movement argues that there is space for alternative economic and policy approaches focused on creativity and innovation. This alternative opposes the supremacy of the mainstream intellectual property rights, arguing that concepts such as public domain, commons, sharing, openness and access are able to empower creativity and innovation (Kapczynski 2010). For instance, the open and free software communities and their successful products, such as the Linux kernel or Wikipedia (Benkler 2010 and Verzola 2010), and also the Human Genome Project (Kapczynski 2010 and Verzola 2010) are often mentioned as practical examples about access to knowledge promoting creativity and innovation (Benkler 2010, Verzola 2010 and Kapczynski 2010).

Given this background, Swartz's case establishes three different approaches related to the access to knowledge movement: a personal and political motivation, an act of civil disobedience and a counter-point to the power of big corporations.

2.1 Personal and Political Motivations

As mentioned, Swartz's (2004) view seems to fit the access to knowledge movement:

> Stealing is wrong. But downloading isn't stealing. If I shoplift an album from my local record store, no one else can buy it. But when I download a song, no one loses it and another person gets it. There's no ethical problem … Libraries and video stores (neither of which pay [the artist or the company that holds the copyrights] per rental) hurt sales too. Is it unethical to use them?

[23] "The marginal cost of production is the cost required to produce one additional unit of the good" (Kapczynski 2010:51).

In a wider sense, considering this quote, or even the *Guerilla Open Access Manifesto* (aforementioned), it is possible to build an account of the personal and political motivations Swartz had; something similar to Ress' argument (2010:465): "there has been an enormous growth in research being conducted at the global level, but access to this knowledge increasingly has been restricted by the erection of substantial economic barriers".

This critique is based on the idea that the openness and the straightforward ways to digitalize and share files over the internet would make research (information) more accessible. It turns out that a paradox was established as the expectation did not meet the reality. Journals embraced new technologies in a way through which research copyrights ended up more concentrated under a few companies and these companies increased the fares for accessing this information. Moreover, by controlling the access to this digital archive, they do not offer a more permanent access to this data, as it was with printed copies (*Ibid.*) – i.e. once expired a subscription, the library has no access to the resources it had once.

Yet Ress (*Ibid.*) reinforces that the access knowledge movement is not simply in favor of the abolition of copyright, but argues that access should be granted upon authors' consent and should not require an elimination of commercial and derivative usage. However, she states (*Ibid.*:477) that "authors publishing in academic journals have routinely been asked to assign their copyrights to publishers seeking exclusive distribution rights", and these "publishers, in turn, have been able to set the price of subscriptions to what the market (institutional libraries, mostly) can bear". Therefore, even with the easiness to digitalize, archive, search, find and share articles, access to knowledge has become stricter, and the prices paid for this access have been raised considerably.

2.2 Swartz's Act as a Civic Disobedience

Swartz's case can also be interpreted as someone trying to make a point in terms of democratic and civic participation. The aforementioned editorial from *The Wall Street Journal* opening

statement reads: "The suicide of Aaron Swartz has unleashed another debate pitting intellectual property against digital democracy" (WSJ 2013:A14). Even if the tone of the editorial points towards an interpretation of intellectual property as the best way to promote innovation, in the following lines there is a clear interpretation about Swartz's purpose: "Swartz was making a political statement about free digital information" (*Ibid.*).

Leiderman when commenting on hackers political motivations considers that the tradition of civil disobedience is that one intentionally break the laws to challenge it. On the one hand, he considers that "certainly there are consequences that come from that type of behavior", but on the other hand, symbolic crimes should call for symbolic penalties (aforementioned). In that sense boyd (2013d) reframes the idea of civil disobedience, taking into account hacktivism and access to knowledge principles:

> Those who've watched protests in recent years know that traditional physical civil disobedience doesn't create the iconic narratives and images that it once did. And thus, not surprisingly, what it means to protest is changing … Thus, questioning authority by leaking information that shows that power is being abused becomes a more valuable and notable form of civil disobedience.

This logic can interpret Swartz case according to his motivations, to the social meaning of what he did. As boyd (2013b) puts, the tone of the prosecution involved "reframing his information liberation project as a story of a vicious hacker whose terroristic acts are meant to destroy democracy" – what clearly was not in his mind, she would argue. Yet this interpretation also opposes the mainstream approach to intellectual property rights which believes that preserving copyright laws is the only way to nurture innovation.

In short, while access to knowledge supporters would assert that Swartz case was about a political discourse, causing no real economic or physical harm (Wu 2013), intellectual property enthusiasts would argue that "had Swartz succeeded, innovations like JSTOR may not exist for his successors to destroy" (WSJ 2013:A14). Hence, access to knowledge tends to characterize the massive download as inoffensive in economic terms, and to argue that, even if the download was morally wrong (Lessig 2013, boyd 2013a and 2013b), Swartz offered no real danger to soci-

ety such as a terrorist (Lessig 2013) or someone who could be blamed for oil spills catastrophes (Norton 2013).

The strength of such political interpretation is to propose an alternative political and economic approach for intellectual property, one in which creativity and innovation are nurtured in a completely different way. Supporting this view, Bort (2013) argues that Swartz was the first person to be awarded posthumously the *James Madison Award*, which honors outstanding contributions in terms of "public access to government information and the public's right to know national information". She argues, yet, that "Swartz was protesting how JSTOR limited academic research, meant for the expansion of public knowledge and often funded by government grants, to those who had paid accounts".

Finally, it is worth remembering that even if his massive downloads were a challenge to current intellectual property rights, Swartz himself seemed to deny that what he did was an act of civil disobedience, as he denied any deal that would sentence him as a felon (MacFarquhar 2013). Probably he believed that he was accessing public available data, and that should not be considered a crime (maybe, and at maximum, a violation of terms of service).

2.3 Political Counter-Point to the Power of Big Corporations

Both Swartz's case and access to knowledge movement criticize the political power of big corporations and their impact on policies and law. Lessig (2004:268-269) argues that "if it should be obvious to everyone that the government does not seek balance, that the government is simply the tool of the most powerful lobbyists … it might be crazy to believe that government policy will be something more than the handmaiden of the most powerful interests". Also Lessig (2013), now commenting specifically on Swartz's prosecution, characterizes this influence in the following words: "we live in a world where the architects of the financial crisis regularly dine at the White House", suggesting a reason why the prosecutors acted so intensively.

Other repercussions also highlight this same institutional power. For instance, boyd (2013a and 2013b) characterizes political motivated hackers as either freeing information or as protecting innocent users from corporate flaws, and she also argues that these acts represent a dispute about power. In this context, "Aaron's stunt to free JSTOR's material using MIT's network gave federal agents enough evidence to bring him to trial so they could use him as an example, condemning him before the trial even began" (2013b). This performance of justice was to make a point to the entire Cambridge hacker community,[24] to diminish the power of hacktivism as a civil movement (*Ibid.*).

The repercussion also marked a lack of trust in the prosecutors (Wu 2013, WSJ 2013 and Norton 2013). Beyond the aforementioned letter from the House of Representatives, after Swartz's death "Attorney General Eric Holder was dragged to Congress to defend the prosecution and he claimed there was no way Swartz was going to receive 35 years" (Fakhoury 2013).[25] Fakhoury (*Ibid.*) concludes:

> while these maximum sentence press releases may not be in the realm of reality, they do serve a purpose: to scare future defendants and deter current ones from fighting their case. After all, there must be a reason why Congress is consistently trying to impose harsher CFAA [Computer Fraud and Abuse Act] penalties rather than reduce them.

Therefore, whether Swartz was over-prosecuted (Lessig 2013) or not, the general repercussion criticizes the way the US attorneys handled the case. Aa mentioned, law scholars and practitioners consider that (a) big companies and big media are interested in avoiding changes in the way law considers intellectual property, and that (b) the political system is broken under lobbies' influence, or, at best, it is moving in a very slow pace when compared to technological advances.

Swartz (2013) himself would agree that government and big companies are problematic, since they are empowering themselves even more with new technologies, being able to create and

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[24] Cambridge (and, ironically, MIT) is considered the cradle of the hacker scene, from innocent pranks to white and black hat hacker communities (We Are Legion. The Story of the Hacktivists, 2012).

[25] The Attorney General is the head of the Department of Justice of the USA.

expand their control over the internet. According to him, governments and companies like Google and Facebook have great political powers and great knowledge about people, storing a lot of data about users. This mean they have considerable influence over lawmakers, over institutions and over what kind of services and contents are allowed in the internet (for instance, Facebook filters the posts on users' wall, and Google filters search result according to each users' history[26]). In short, Swartz's (2013) argument is that these big institutions are taking the power from ordinary people, acting (at best) as internet gate keepers – what he would consider harmful for individual freedom and for free information.

For instance, for Swartz (2010) Apple's mobile operational system is completely designed for the control of the company over users, which contradicts the opportunity to nurture openness and freedom. In his words: "iPhone OS [operational system] will only run software that they [Apple] specifically approve. No Flash or other alternate runtimes, no one-off apps or open source customizations. Just total control by Apple. It's a frightening future".

Hence, whether it is about preserving intellectual property rights, or about expanding control over users, Swartz's biography is congruent in criticizing a convergence of powers (from corporations and government) limiting freedom – what is also a common argument in the access to knowledge movement. As Verzola (2010) argues, when companies have access to certain technologies, they can align with governments' specific ways of exploring these technologies; the governments design policies that encourage people to adopt these companies' solution and this makes it difficult for people to work with alternative means. Verzola illustrates this situation with the case of genetic engineered hybrids that incorporate biological herbicidal or toxins resistance. On the one hand, government offered low interest credit for those interested in acquiring these seeds. On the other hand, the ones who use these seeds use herbicide and pesticide to combat any other plants than the one cultivated (i.e. to kill weeds and pests), this, in turn, contaminated the environment and killed the culture of neighbors using traditional seeds.

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[26] Refer to Pariser (2011).

Hence, the argument here is that market, culture and politics are indissociable. The point is not that the governments or big companies are capable of changing culture and market, but that economic power is not able of doing so alone. The access to knowledge movement may argue that the combination of government and big companies creates an almost unbeatable power through the imposition of a unique approach on intellectual property. Paradoxically the same movement seems to believe that it is possible to resist and confront these powers. The next chapter proposes sources from the economic sociology to discuss this apparent contradiction and how to analyze changes in well established institutions.

3 Swartz Case and an Epistemological Basis

The previous section framed a debate over Swartz individual initiative against the power of big corporations and governments. It also recalled that the access to knowledge movement claims for change in these institutions. This chapter analyzes how changes can emerge in similar circumstances – i.e. where individuals confront institutional powers – and how Swartz case can be meaningful for the future of legal and economic instances.

This chapter is backed by empirical studies from the economic sociology, a sub-area that has offered theoretical basis for understanding the making of markets in contrast to a given economic account (mainly, the neoclassical one). It argues that the focus on social relations is relevant to understand how markets are a byproduct of a complex social set and not a pure outcome of individuals following (neoclassic) economic premises (Fourcade 2007). Swartz case is not a case of a making of a marketing, however it (and its repercussions) criticizes the mainstream approach towards a given economic model and towards a given approach on the access to knowledge. It also proposes a cultural and political shift – just as the other two empirical economic sociology studies this section discusses. In other words, by bringing into the stage other social spheres (government, law school, hacktivism, media, etc.), economic sociology offers a framework in order to understand how Swartz case confronts economic premises.

It seemed justifiable to use this approach since economic sociologists argue that the economic sphere is tangled up with (and, somehow dependent of) cultural (Zelizer 1979, 1999 and 2005) and political (Fligstein 2001) spheres, Moreover, economic sociology should not be restricted to the exploration of economic actions and institutions, but should also contribute to a wider set of social theory (Fourcade 2007). Therefore, the proposal here is to put economic sociology together with access to knowledge in an epistemological analysis of Swartz case.

The first part of this chapter briefly presents two case studies that are milestones in the cultural and political approach within economic sociology: Zelizer's (1979) study on life insur-

ance and Fligstein's (2001) analysis of the Silicon Valley. The second part links these studies with the political instance involved in changing established institutions. The final part adds an epistemological layer, setting a philosophical basis for this change process.

3.1 Markets as a Byproduct of Complex Social Settings

The two aforementioned cases try to offer an alternative explanation to the (neoclassic) economic approach. Firstly, this economic doctrine was unable to coherently explain why life insurance changed from a rejected to a desired product in a couple of decades (Zelizer 1979). Secondly, the economic argument about efficiency was an incomplete assessment of the emergence of the Silicon Valley (Fligstein 2001). Therefore, these two studies suggest that economic models and institutions are not undisputed entities, but are socially forged as a byproduct of cultural and political debates.

3.1.1 The Cultural Shift Underneath the Life Insurance Market

Life insurance appeared in the late XVIII century in the USA, a time of shift towards a highly urbanized society. This change resulted in nuclear and patriarchal households in which the man was the wealth provider for the family. Therefore the death of the 'family man' meant an economic issue for his dependents – and that was the approach used by life insurance companies to promote their product. Americans were offered life insurance products that they could afford, and that fitted their economic needs. But (surprisingly) they did not want it – the product was a failure in the market for roughly 50 years (Zelizer 1979).

From 1840s this trend drastically changed, even though the product (life insurance) was the same product. Economists and historians tried to address this change recurring to a more advanced stage of urbanization and to different marketing strategies. In spite of that, Zelizer (*Ibid.*) argues that there was still a sociological gap in these approaches since a more social explanation

would better address this shift: there was an important cultural change in the perception of this product.

Her analysis accomplishes three different set of cultural changes: (a) a religious change that resulted in a softened modern religious behavior, against the more fundamentalist tone that was typical back then; (b) a greater acceptance of risk and speculation as fair means to pursue one's own income; and (c) the nuclear familiar set itself, which made it difficult to easily accept the help of close friends and relatives. The combination of these cultural changes had an unexpected effect, namely the acknowledgement of a possible economic value to human's death. And this wider cultural change was what promoted a new social order in which life insurance was legitimated as desired product (*Ibid.*).

Without that cultural change, the linkage between money and death was impossible since one of them was sacred (life) and the other, profane (death). This paradox made it unacceptable to accept money due to someone's death. Once this cultural resistance was overcame, life insurance could be perceived as a secular comfort left from a beloved one, as a shield to help the family face the difficulties after the death of the 'family man'. Moreover, this secular approach allowed this 'family man' to work during his lifetime on a honored image able to last even after his death: the dignified 'family man' should be able to provide his family even after passing way – and the life insurance offered his this possibility. As Zelizer (*Ibid.*) argues, the Christian sense of immortality (extra-mundane salvation and paradise) is complemented by a social sense of immortality (foresight the provision of your family). As she puts, a Reverend in 1870 pondered: "Once the question was: can a Christian man rightfully seek Life Assurance? That day is passed. Now the question is: can a Christian man justify himself in neglecting such a duty?" (*Ibid.*:56).

Hence, the economic and historic explanations ignore that life insurance ought to be redefined to incorporate a sacred and honored value through which it was possible to afford its legitimation in the religious, moral, social and, consequently, market sphere. As Zelizer (*Ibid.*:115)

summarizes, the life insurance "industry was not justified by profits alone but as an agency of moral and spiritual uplift. Business served God, character, and culture".

3.1.2 The Political Influence Underneath Silicon Valley

The Silicon Valley emergence raised a set of economic arguments around the idea of efficiency: while some companies were able to establish the standards for specific technological markets and became incumbents in their own sectors, challengers were free to propose new technologies and keep in the market aiming at being bought by one of these incumbents, doing an IPO or eventually becoming one of the incumbents. All these possibilities were explored in economics in terms of efficiency; an incomplete approach, Fligstein (2001) argues.

To see this IT market as a matter of efficiency – i.e. a market where the best succeed, whether they are incumbents who set the market standards or challengers ready to cash out – is an incomplete interpretation since (a) "it ignores the broader political-legal context that certainly affects the production of market institutions" (*Ibid.*:230); (b) the network approach which considers that small firms (challengers) "lack an understanding of the entire market as a field"; and (c) "they do not consider … whether or not the market is emerging stable or being transformed" (*Ibid.*:231).

To be a 'stable market' is to be an 'ordered market' (Aspers 2011). In other words it means establishing the field and its internal rules according to which institutions are able to act. The establishment of this field requires a cultural and a political debate in which different parts try to consolidate their proposal of how to proceed in this market (field). Fligstein (2001) reinforces the interplay between market-specific instances and the state power within this process. In the Silicon Valley case the US Department of Defense invested in the transistor, semiconductor and computer industries, and it was the main costumer of the first companies created there (e.g. Hewlett-Packard). It also funded researchers to develop a decentralized network of communications for security issues (under a hypothetical nuclear war, if one node is destroyed, the commu-

nication network is still resilient between other nodes) – the resulting network ended up as the internet itself. Policies eventually relaxed internet sales tax (giving advantage for online shops) and made it easier for foreigners to join and to bring extra knowledge to these companies (*Ibid.*).

Having in mind these governmental actions, Fligstein (*Ibid.*) argues that the efficiency claimed by economists may not be possible without the stability offered in terms of the institutional arrangement supporting this IT development. Moreover, "identifying the key dynamics that define who are incumbents and challengers, and making sense of the conception of control that allows the reproduction of that structure, is the job of the analyst" (*Ibid.*:231). Hence, the idea is that a sociological approach to the Silicon Valley must take into account the way through which the field became ordered – and these ways are political (and, in this case, governmental):

> In sum, government is everywhere. It nurtures technologies, allows private exploitation of them, and provides legal and regulatory structures to make it easier for firms to raise and make money. It also allows forms to define the rules if competition … It is difficult to interpret this action as being about anything but an industrial policy favoring one set of industries over another (*Ibid.*:226).

3.2 From a Cultural-Political Critique to Economic Change (and Back Again)

The two cases above consider economic configurations (the emergence of two different markets) as deeply related to changes originated in other social institutions (e.g. religion, family, policies, education and research). On the one hand, both of them reinforce that these changes were crucial to create the social circumstances in which these new economic configurations could develop into established institutions. On the other hand, the changes from other social spheres did not necessarily intend to create these news institutions – e.g. the secularization of the American society do not have the purpose of creating a market for life insurance, neither the initial investment of the Department of Defense aimed at the creation of the commercial internet. The emergence of these markets, even if intrinsically related to these conditions, can be seen as contingencies of an initial purpose, as contingent result of social changes.

In that sense, Fourcade (2011) argues that role of the political influence on market can be more or less explicit. For instance, she comments on the formation of local strawberry auctions

in France (Garcia 1986), and on the case of an oil spill in Alaska (Fourcade 2011): in the first case, the policy role is explicit and intends to promote the creation of an economic model in accordance to the auction mechanism, but in the former

> non-market accounting has been crafted not only by agencies interested in developing health, safety, or environmental standards, but by the corporate actors these standards seek to monitor and discipline; by executive departments weighing the pros and cons of different national security strategies; by civic organizations working to promote certain values – such as biodiversity or gender equity; or by courts seeking to compensate individuals and communities for physical, psychological, or social 'injuries' (*Ibid.*:45-46).

By these means, what economic sociology addresses is that, on the one hand, "the subjective orientations of actors *mediate the effect of social structures to shape the functioning of markets*" (Fourcade 2007:1024, emphasis added). On the other hand, "the political-cultural approach is useful to analyze particular markets, general transformations of firms within a giving society, *the construction of rules that underlies markets*, and the structuring of general labor market principles in a given society" (Fligstein 2001:231, emphasis added). In opposition to the neoclassical economic premises, economic sociology puts culture and politics as part of a social interplay which has as an outcome established social institutions.

The point here is that different social spheres reflect the contemporary debates in cultural and political sphere. Considering the relationship between law and economics, Forucade (2011:48) argues that "law is more than a 'context' that frames economic activity: it is fundamentally one of the locations where a whole set of economic outcomes is being produced, with powerful consequences". Moreover "non-market valuation methods are never immune to political changes, precisely because the economic values they produce are always dependent on extensive framing work and are contingent on the configuration of political pressures" (*Ibid.*:57).

The last part of this chapter takes into account these cultural and political arguments to contextualize Swartz case. The idea is to frame it within the political, economic and cultural spheres, and to explore the interplay where each part attempts to establish its own standpoint, i.e. attempts to forge new institutions from this ideological debate.

3.3 An Epistemological Sight on Swartz Case

In sum, this chapter argued that cultural and political spheres can have influence over the consolidation of non-cultural and non-political institutions, such as markets. It also argued that well established institutions may have a political influence in its origins – intentional or unintentional. To link this with Swartz case, one extra step is needed. Fricker (2007:1) argues that one type of epistemic injustice happens "when a gap in collective interpretative resources puts someone at an unfair disadvantage when it comes to making sense of their social experiences". The story that exemplifies this case reads that a woman who suffered sexual harassment before this concept was conceived had no means to understand what happened to her, to tell others about it; she was alone and unintelligible to others. Once the concept of sexual harassment was created, she could better comprehend what happened and others could communicate about it.[27]

Whereas the approaches from the economic sociology usually argues that best positions within the field (institution) grants more structural power (Fourcade 2007), epistemic injustices involves no culprit, being simply a structural notion (Fricker 2007). The point is that the legal objective and subjective apparatus need some epistemological basis to operate. But even if this basis is socially constructed (just as markets), the lack of it does not represent a powerfulness or powerlessness position within society. It is practically contingent (*Ibid.*).

That said, regarding Swartz case, on the one hand, the prosecutors represented the strong political influence of solid institutions (Fligstein 2001 and Fourcade 2011), i.e. the government pushing towards a conservative approach based on the mainstream economic model (Fricker 2007 and Fourcade 2007). On the other hand, the media repercussion characterizes a strong public debate around the intensity of the prosecutions, maybe signalizing that contemporary culture is about to challenge the mainstream economic model and its premises, eventually through the access to knowledge movement.

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[27] In fact, that woman's appeal on court only succeeded when some feminist lawyers were able to forge the specific concept of sexual harassment (Fricker 2007).

Whereas it is impossible to affirm what the laws and jurisdiction will be for the internet and intellectual property crimes, Swartz's prosecution and its repercussion go in different directions: it reinforces the strength of the mainstream economic model as well as the impact that the alternative stream had on the public and media. One possibility is that even if opposition nurtures itself from hacktivism, it still cannot beat the conservative institutions. Alternatively, another possibility is that the considerable repercussion meant a step forward towards the access to knowledge claims. In sum, that is the richness of the sociological analysis of Swartz case: it allows the reader to understand the complex set of social relations involved (from personal motivations to great political powers), setting a social context to understand modern law.

Beyond that there lies a not sociological territory. Beyond that what is possible to foresee is political debate or social judgment – and neither of them fits the scope of this research. Hence, the next section concludes this sociological analysis of Swartz case, aiming at what can be learned from it in a sociological sense.

Debate: Was Swartz's Desire to Change the World a Utopia?

Due to Swartz tragic death we will never know what would have been the outcome of his trial. His massive download from JSTOR through MIT network, as well as, the subsequent prosecution and repercussion, provoked social debates concerning how the current legal apparatus fits the current IT possibilities. These debates involved different social spheres: hacktivism, legal scholars and different segments of the media (political, economic, technological etc.).

The sociological analysis built here aimed at a social consideration of Swartz's case, namely, to explore what it tells us about a wider, in depth and abstract intellectual debate. According to the sociology of the laws (Cotterrell 1986, Dobinson and Johns 2007), this type of debate is primordial to understand what the laws are and how laws change. And according to a philosophical approach (Fricker 2007), this type of debate is capable of setting epistemological basis to create a social sense of justice. The economic sociology contributed with an empirical basis linking these approaches, reinforcing that intangible shifts on different social spheres, as well as, intended or contingent effects of stable institutions are capable of provoking institutional reconfiguration. Putting together these cultural and political efforts, Fligstein (2001:232) states:

> My basic argument is that governments and citizens in capitalist democracies are responsible for agreeing to produce stable arrangements … For all these reasons, citizens and governments are responsible for the stable conditions that allow corporations to exist. Economic growth and wealth creation would not be possible without these rules and social relationships. For this reason, citizens and governments have the right to make claims on corporations.

By these means, Swartz case is meaningful as it reveals the two sides of this responsibility: on the one hand, government (through the Department of Justice) spoke through the intensive tone of US attorneys; on the other hand, the same government (through the House of Representatives) also questioned this same decision together with the media, law scholars and the hacktivist community. The impossibility of a clear-cut interpretation of Swartz's case according to the law pushed the legal environment to a contingent valuation of Swartz acts – what usually falls into conservatism (Fourcade 2011), into the mainstream economic model and its approach

to intellectual property. Alternatively, this situation offered room to an intellectual debate questioning these economic premises over intellectual property – and Swartz's oeuvre (in coding and in activism) always argued in favor of this opposition.

Mapping these influences is important in order to set the context where the prosecution took place and, consequently, to better understand which powers and claims were involved. Furthermore, given the weight of the repercussion, and given its alignment with the access to knowledge movement, it is possible to nurture expectations of an increase in the relevance of this discourse in further public debates. And this is, again, aligned with Swartz' lifetime contributions: for example, Creative Commons enables people to openly create and collaborate with each other, while Reddit give to ordinary people the power to put the news they want into the highlights of 'their' media (and not let this task to big media companies).

Moreover, economic alternatives are nurtured by this alternative approaches to intellectual property: as mentioned, the outcomes of the Human Genome Project, Linux and Wikipedia are acknowledged worldwide. Yet, they change the traditional economic approach from inside out; an alternative path that has been proving to be reliable. The area of collaborative economy, based on crowdsourcing technological platforms, is another example of (a) tangible initiatives nurtured by this intellectual debate, and of (b) the power of technologies in backing this debate by making changes tangible. Kickstarter is the most popular crowd-funding site in the world and ordinary people can fund the project they want over there (without depending on bigger companies to create and put these projects on the market). Also a Brazilian platform called Catarse, inspired by Kickstarter, is developed in an open-source license: anyone can use their code to develop crowd-based projects. By now, it has already given birth to several other crowd-based platforms all around the world, including, among others, platforms for the lower socio-economic classes, for health and fitness projects, urbanism, environmental, education, social change, shar-

ing and so on[28] (Maia 2013) – and many people involved in these projects are making a living of it (*Ibid.*).

Finally, in 2013 the House of Representatives proposed a bill titled Aaron's Law (2013) which focused on eradicating some of the vagueness of the CFAA (in terms such as "unauthorized access, or exceeding authorized access") and focused the statute on hacking, avoiding creating grey areas with common internet usage. Moreover, drafts of the bill were posted by the representatives at Reddit in order to receive public feedback.

It is not the role of this sociological dissertation to assess these neither of these initiatives, but there is something Swartz case tells us: beyond the possibility of chasing an alternative economic model to intellectual property through the access to knowledge discourse, we can have higher expectations for change in this issue. The intellectual debate is taking place and it can influence the economic and legal spheres. Some fruits of this debate are already there to be noticed and used as examples. Moreover the considerable repercussion and the intellectual debate which followed Swartz case are a sign of the strength of this set of ideas in changing the world.

[28] Refer to projects as Impulso, Medstartr, Urban Kit, Neighbor.ly, We The Trees, Mineo, Nós.vc and Mútuo.

References

Aaron's Law Act of 2013 (House of Representatives). Available at: http://www.lofgren.house.gov/images/stories/pdf/aarons%20law%20-%20lofgren%20-%20061913.pdf [Accessed: 20 Jun. 2013].

Apple 2013. Apple Web Server notifications [online]. Available at: http://support.apple.com/kb/HT1318 [Accessed: 20 Aug. 2013].

Aspers, P. (2011). *Markets*. Malden: Polity.

Benkler, Y. (2010). The Idea of Access to Knowledge and the Information Commons. Long-Term Trends and Basic Elements. In Krikorian, G. and Kapczynski, A. (eds.). *Access to Knowledge. In the Age of Intellectual Property*. New York: Zone Books.

Bort, J. (2013). The American Library Association Has Given Aaron Swartz Its First Ever Posthumous Award. *Business Insider*, 15 Mar. [online]. Available at: http://businessinsider.com/aaron-swartz-granted-posthumous-award-2013-3 [Accessed: 27 Mar. 2013].

boyd, d. (2013a). Processing the Loss of Aaron Swartz. *danah boyd. Apophenia. Making Connections Where None Previously Existed* [blog] 13 Jan. 2013. Available at: http://zephoria.org/thoughts/archives/2013/01/13/aaron-swartz.html [Accessed: 14 Jan. 2013].

_____ (2013b). Beyond Aaron Swartz: We Don't Need Martyrs… But Changes. *Wired*, 16 Jan.[online]. Available at: http://www.wired.com/opinion/2013/01/beyond-aaron-swartz-we-dont-need-martyrs-but-changes/ [Accessed: 30 Jan. 2013].

_____ (2013c). Mourning and Public-ness. *danah boyd. Apophenia. Making Connections Where None Previously Existed* [blog] 2 Feb. 2013. Available at: http://www.zephoria.org/thoughts/archives/2013/02/02/mourning-and-public-ness.html [Accessed: 3 Feb. 2013].

_____(2013d). Whistleblowing Is the New Civil Disobedience. Why Edward Snowden Matters. *danah boyd. Apophenia. Making Connections Where None Previously Existed* [blog] 19 Jul. 2013. Available at: http://www.zephoria.org/thoughts/archives/2013/07/19/edward-snowden-whistleblower.html [Accessed: 20 Jul. 2013].

Clark, M. (2013). The New Political Prisoners: Leakers, Hackers and Activists. *Rolling Stones*, 1 Mar. [online] Available at: http://www.rollingstone.com/politics/lists/the-new-political-prisoners-leakers-hackers-and-activists-20130301 [Accessed: 5 Mar. 2013].

Coleman, E. G. (2013). *Coding Freedom. The Ethics and Aesthetics of Hacking* [digital book]. Princeton: Princeton University Press.

Cotterrell, R. (1986). Law and Sociology. Notes on Constitution and Confrontations of Disciplines. *Journal of Law and Society*, 13(1). Pp. 9-34.

Dobinson, I. and Johns, F. (2007). Qualitative Legal Research. In McConville, M. and Chui, W. H. (eds.). *Research Methods for Law*. Edimburgh: Edinburgh University Press.

Doctorow, D. (2013). RIP, Aaron Swartz. *Boing Boing* [online] 12 Jan. 2013. Available at: http://boingboing.net/2013/01/12/rip-aaron-swartz.html [Accessed: 5 Feb. 2013].

DoJ (Department of Justice) 2011. Alleged Hacker Charged with Stealing Over Four Million Documents from MIT Network. [press release] 19 Jul. 2011. Available at: http://www.justice.gov/usao/ma/news/2011/July/SwartzAaronPR.html [Accessed: 10 Mar. 2013].

Epstein, R. (2003). Cybertrespass. *The University of Chicago Law Review*, 70(1). Pp. 73-88.

Fakhoury, H. (2013). The Matthew Keys Case, the CFAA, and Why Maximum Sentences Matter. *Electronic Frontier Foundation. Defending Your Rights in the Digital World*, 14 mar. [blog]. Available at:
https://www.eff.org/deeplinks/2013/03/3-months-or-35-years-understanding-cfaa-sentencing-part-1-why-maximums-matter [Accessed: 21 Apr. 2013].

Fligstein, N. (2001). *The Architecture of Markets: An Economic Sociology of Twenty-First-Century Capitalist Societies*. Princeton: Princeton University Press.

Fourcade, M. (2007). Theories of Markets and Theories of Society. *American Behavioral Scientist*, 50. Pp. 1015-1034.

_____. (2011). Price and Prejudice. On Economics and the Enchantment (and Disenchantment) of Nature. In Beckert, J. and Aspers, P. (eds.). *The Worth of Goods. Valuation and Pricing in the Economy*. Oxford; Oxford University Press.

Franz, V. (2010). Back to Balance. Limitations and Expectations to Copyright. In Krikorian, G. and Kapczynski, A. (eds.). *Access to Knowledge. In the Age of Intellectual Property*. New York: Zone Books.

Fricker, M. (2007). *Epistemic Injustice. Power and the Ethics of Knowing*. New York: Oxford University Press.

Garcia, M.-F. (1986). La Construction Sociale d'un Marché Parfait. Le Marché au Cadran de Fontaines-en-Sologne. *Actes de la Recherche en Sciences Sociales*, 65. Pp 2-13.

Golafshani, N. Understanding Reliability and Validity in Qualitative Research. *The Qualitative Report*, 8(4). Pp. 597-607.

Harvey, D. (2005). *A Brief History of Neoliberalism*. Oxford: Oxford University Press.

JSTOR 2011. Misuse Incident and Criminal Case. [press release] 19 Jul. 2011. Available at: http://about.jstor.org/news/jstor-statement-misuse-incident-and-criminal-case [Accessed: 10 Jun. 2013].

_____ (2013). Aaron Swartz. [press release] 12 Jan. 2013. Available at: http://about.jstor.org/statement-swartz [Acessed: 14 Jan. 2013].

Kapczynski, A. (2010). Access to Knowledge. A Conceptual Genealogy. In Krikorian, G. and Kapczynski, A. (eds.). *Access to Knowledge. In the Age of Intellectual Property*. New York: Zone Books.

Kelley, T. and Littman, J. *The Ten Faces of Innovation. IDEO's Strategies for Beating the Devil's Advocate & Driving Creativity Throughout Your Organization.* London: Currency Doubleday.

Kvale, S. and Brinkman, S. (2009). *Interviews. Learning the craft of qualitative research interviewing*. London: Sage.

Lessig, L. (2004). *Free Culture. How Big Media Uses Technology and the Law to Lock Down Culture and Control Creativity*. New York: Penguin Press.

_____ (2013). Prosecutor as bully. *Lessig Blog. v2* [blog] 12 Jan. 2013. Available at: http://lessig.tumblr.com/post/40347463044/prosecutor-as-bully [Acessed: 12 Jan. 2013].

Lofgren, Z. (2013). I'm Rep Zoe Lofgren, Here is a Modified Draft Version of Aaron's Law Reflecting the Internet's Input. *Reddit*, 1 Feb. [online]. Available at: http://redd.it/17pisv [Accessed: 20 Jun. 2013].

MacFarquhar, L. (2013). Requiem for a Dream. *The New Yorker*, 11 Mar. [online] Available at: http://www.newyorker.com/reporting/2013/03/11/130311fa_fact_macfarquhar?currentPage=all [Accessed: 11 Jun. 2013].

Maia, R. (2013). Catarse and crowdfunding in Brazil. *25 of the Information Society in Latim America and the Caribbean 2000-2025*. [online] Available at: http://info25.org/catarse [Accessed: 24 Jun. 2013].

Norton, Q. (2013). Life Inside the Aaron Swartz Investigation. *The Atlantic*, 9 Mar. [online] Available at: http://www.theatlantic.com/technology/archive/2013/03/life-inside-the-aaron-swartz-investigation/273654/?single_page=true [Acessed: 30 Jun. 2013].

NYT. Googling You. *The New York Times*, 16 Mar. 2013. P. SR10.

Pariser, E. (2011). *The Filter Bubble. What the Internet Is Hiding from You.* New York: Penguin.

Peters, J. (2013). Andrew "Weev" Auernheimer Might Be a Jerk. But That Doesn't Make Him a Computer Criminal. *Slate* [online] 18 Mar, 2013. Available at: http://www.slate.com/blogs/crime/2013/03/18/andrew_auernheimer_hacker_prison_weev_might_be_a_jerk_but_that_doesn_t_make.html [Accessed: 19 Mar. 2013].

Ress, M. (2010). Open-Access Publishing. From Principles to Practice. In Krikorian, G. and Kapczynski, A. (eds.). *Access to Knowledge. In the Age of Intellectual Property*. New York: Zone Books.

Rimmer, M. (2013). Aaron's Army fights the Trans-Pacific Partnership. *The Conversation* [online] 8 Mar. 2013. Available at: http://theconversation.com/aarons-army-fights-the- trans-pacific-partnership-12273 [Accessed: 6 Aug. 2013].

Stamos, A. (2013. The) Truth about Aaron Swartz's "Crime". *Unhandled Exception. Building Better Internets* [blog] 12. Jan. Available at: http://unhandled.com/2013/01/12/the-truth-about-aaron-swartzs-crime/ [Accessed: 5 Feb. 2013].

Smith, G. (2013). Andrew 'Weev' Auernheimer Sentenced To Over 3 Years In Prison For Hacking AT&T Servers. *The Huffington Post* [online] 18 Mar. Available at: http://www.huffingtonpost.com/2013/03/18/andrew-weev-auernheimer_n_2900387.html [Accessed: 18 Mar. 2013].

Swartz, A. (2004). Counterpoint: Downloading Isn't Stealing. *Raw Though. Aarons Swartz's Weblog*, [blog] 8 Jan. Available at: http://aaronsw.com/weblog/001112 [Accessed: 05 May 2013].

_____ (2005). Stanford: Mr. Unincredible. *Raw Though. Aarons Swartz's Weblog*, [blog] 26 Mar. Available at: http://aaronsw.com/weblog/001629 [Accessed: 05 May 2013].

_____ (2010). Is Apple Evil?. *Raw Though. Aarons Swartz's Weblog*, [blog] 27 Jan. Available at: http://aaronsw.com/weblog/ipad [Accessed: 23 May 2013].

_____ (2013). *"É crucial estarmos vigilantes"*. Interviewed by Tatiana de Mello Dias [via email] to *Link* [blog] 2012. Available at: http://blogs.estadao.com.br/link/e-crucial-estarmos-vigilantes/ [Acessed: 9 Feb. 2013].

Travers, M. (1993). Putting Sociology Back into the Sociology of Law. *Journal of Law and Society*, 20(4). Pp. 438-451.

United States of America (1971) Amendment IV. In *The Constitution of the United States of America*.

_____ (1986) *Computer Fraud and Abuse Act 1986*. 18 USC § 1030.

USA v *Swartz* [2013] United States District Court, District of Massachusetts, Criminal Docket for Case #1.11-cr-10260-NMG-1.

Verzola, R. (2010).Undermining Abundance. Counterproductive Uses of Technology and Law in Nature, Agriculture and the Information Sector. In Krikorian, G. and Kapczynski, A. (eds.). *Access to Knowledge. In the Age of Intellectual Property*. New York: Zone Books.

We Are Legion. The Story of the Hacktivists. 2012. [movie] USA: Brian Knappenberger.

Wendy, M. (2013). Larry Lessig Responds – Says Swartz's Alleged Actions Crossed Ethical Line. *Media Freedom. The Truth about Free Press and the Radical Media Reformistas* [blog] 20 Jul. 2011. Available at: http://mediafreedom.org/?p=362 [Accessed: 4 Feb. 2013].

WSJ 2013. Cyber Crime and Punishment. *The Wall Street Journal*, 18th Jan. P. A14.

Wu, T. (2013). Fixing the Worst Law in Technology: Aaron Swartz and the Computer Fraud and Abuse Act. *The New Yorker* [online] 18 Mar. 2013. Available at: http://www.newyorker.com/online/blogs/newsdesk/2013/03/fixing-the-worst-law-in-technology-aaron-swartz-and-the-computer-fraud-and-abuse-act.html [Accessed: 2 Jun. 2013].

Zelizer, V. (1979). *Morals and Markets*. New York: Columbia University Press.

_____. (1999). Multiple Markets. Multiple Cultures. In Smelser, N. and Alexander, J. (eds.). *Diversity and Its Discontents. Cultural Conflict and Common Ground in Contemporany American Society*. Princeton: Princeton University Press.

_____. (2005). *The Purchase of Intimacy*. Princeton: Princeton University Press.