SÉRGIO AMADEU DA SILVEIRA

Sérgio Amadeu da Silveira is a professor at the Federal University of the ABC (UFABC). He has a doctorate in political science from the University of São Paulo (USP) and is a member of the Scientific Council of the Brazilian Association of Cyberculture Researchers (ABCiber). He serves as a civil society representative on the Internet Managing Committee in Brazil. He was president of the National Information Technology Institute (2003-2005).

Email: sergioamadeu@uol.com.br

ABSTRACT

In this article, the author offers a succinct overview of the story of Aaron Swartz, one of the major victims of the war surrounding so-called intellectual property. Aaron was found hanged on January 11, 2013 in his apartment in New York. A programmer and cyberactivist, he was accused by the U.S. government of infiltrating computers for the supposed release of copyrighted academic articles and could have been sentenced to 35 years in prison. The text ties in with the life of Swartz the current battles for freedom of knowledge amid the stiffening of intellectual property legislation and the shadowy activities of the copyright industry, which aim to subordinate human rights to the control of creative sources.

Original in Portuguese. Translated by Murphy McMahon.

Received in June 2013. Approved in June 2013.

KEYWORDS

Aaron Swartz – Cyberactivism – Intellectual property – Sharing – Free knowledge

AARON SWARTZ AND THE BATTLES FOR FREEDOM OF KNOWLEDGE

Sérgio Amadeu da Silveira

Professor Pedro Rezende, a cryptographer at the University of Brasilia, considers Aaron Swartz the first big victim of the cyberwar (REZENDE, 2013). But is there a cyberwar? Who are the armies? What is at stake? The discernible battles are part of a war for the control and modulation of global society in an informational context in which value is increasingly found in symbolic products and intangible goods; that is, in an nonmaterial economy. In this transitional period in history, from an industrial world to the information age, sovereign and disciplinary powers are being supplanted by widely distributed controls which increasingly generate dominions connected to large corporations. These corporations end up assuming powers previously organized within States. In this world knowledge is a direct source of wealth and power in a manner completely distinct from other periods in history.

Aaron Swartz is one of the major victims of the war surrounding so-called intellectual property. Aaron was found hanged in his New York apartment on January 11, 2013. His death, currently held to be a suicide, occurred during the intense battle that the young programmer and cyberactivist was waging with the courts and the police in the United States. Accused by the government of infiltrating computers to supposedly release copyrighted academic articles, he could have been sentenced to 35 years in prison. Federal prosecutors in the US sought an exemplary conviction to compensate for various defeats suffered in the battle to reduce the sharing of digital files on information networks.

With his life interrupted at the age of 26, Swartz, considered an Internet genius, was the co-author of RSS (Really Simple Syndication) when he was only 14. Aggregating the content of sites that are constantly updated, RSS is widely used on the net by both large gateways and small blogs. The idea of sharing culture, knowledge and information was from that very moment present in the actions of the young Aaron, who combined a great passion for freedom with a refined expertise for the development of collaborative network solutions.

To this day, the Internet and the Web are open structures that move forward collaboratively; that is, their principal protocols and standards are defined by public documents called RFCs (Requests for Comments). In 2001, Swartz began working with the World Wide Web Consortium (W3C), an international community that develops open standards with the goal of guaranteeing the growth of the web. In 2004, Swartz signed the publication of RFC 3870, titled "application/rdf+xml Media Type Registration," with the aim of describing a type of media for use with the XML language together with the RDF platform, used to support the Semantic Web. The talented young Aaron Swartz, born on November 8, 1986 in Chicago, wasn't worried about patenting and blocking access to his contributions to the world of technology.

In 2005, while attending Stanford University, Aaron Swartz started the company Infogami, which supported the Open Library project from the Internet Archive portal. Maintained by a non-profit organization, the Internet Archive project works to build a digital library of Internet sites and other cultural artifacts in digital format. Just like a traditional library, it offers free access to its files on the net to researchers, historians, academics and the general public. Here, one can again note Aaron's vocation for the dissemination of and free access to knowledge. In November 2005, Infogami merged with Reddit, a site in which users can vote on links to appear or disappear from the front page. After Reddit was acquired in 2006 by Condé Nast Publications, Swartz did not adapt to work at the new office, leaving the company.

1 Free knowledge activism

In 1984, Steven Levy wrote *Hackers: Heroes of the Computer Revolution*. His work looked to translate what would be the fundamental traits of the so-called hacker subculture, which arose in the United States in the 1960s, decisively influenced by the North American counterculture. Levy clarifies the ethical pillars of hacker collectives in the following passage:

> *Access to computers... should be unlimited and total...*
> *All information should be free...*
> *Mistrust authority – promote decentralization...*
> *Hackers should be judged by their hacking,*
> *not bogus criteria such as degrees, age, race, or position...*
> *You can create art and beauty on a computer...*
> *Computers can change your life for the better.*
> (LEVY, 2001, p. 27-33)

In these terms, Aaron Swartz can be seen as a hacker in the original sense of the expression. An aficionado for source code and the sharing of intellectual challenges that he could overcome. Pekka Himanen, who studies the hacker ethic, observed that "the primary value that guides the life of a hacker is passion; that is, some interesting goal that moves him or her and that in fact generates

happiness in its accomplishment" (HIMANEN, 2001, p. 18). Aaron Swartz never seemed worried about making money. Following his short life, one notices that, for him, the greatest wealth was in collaborating in the creation and dissemination of knowledge. What is most interesting is that supporters of private ownership and file-share blocking could never make the claim against Swartz that his defense of sharing was the fruit of technical shortcomings or technological inferiority, which feeds much shadowy and prejudiced rhetoric. Swartz had impressive intelligence and creative capacity.

In 2008, he utilized a script that automated the download of more than 2 million documents from PACER, the website on which all United States federal court documents are stored. To access PACER documents, one had to use an online payment system. Swartz used his program to get around the payment system, allowing free access to the texts, which were public. Because of this, the FBI investigated him. However, since no formal complaint was registered, his case was shelved.

Proposing a civic insurgence against the privatization of knowledge – which for him came from a collective construction, emerging from what was common – Swartz in 2008 released the *Guerilla Open Access Manifesto*, which clearly outlines his ideology of freedom of access to cultural and scientific resources. The following excerpts clearly demonstrate the kind of guerrilla Aaron was proposing:

> *Information is power. But like all power, there are those who want to keep it for themselves. The world's entire scientific and cultural heritage, published over centuries in books and journals, is increasingly being digitized and locked up by a handful of private corporations. Want to read the papers featuring the most famous results of the sciences? You'll need to send enormous amounts to publishers like Reed Elsevier.*
>
> *(...)*
>
> *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. We need to fight for Guerilla Open Access.*
>
> *With enough of us, around the world, we'll not just send a strong message opposing the privatization of knowledge — we'll make it a thing of the past. Will you join us?*
>
> Aaron Swartz July 2008, Eremo, Italy.

Free access and exchange of knowledge constitute part of the so-called hacker culture. It inspired thousands of other software developers dedicated to sharing, such as Richard Stallman, the founder of the free software movement. It is notable that all of these developers believe in the utopian possibilities of the democratization of access to information and in the importance of the free flow thereof. This hacker perspective was opposed by large corporations, who wanted

to transform algorithms and code into products that were artificially similar to the merchandise of the industrial world. Hackers were therefore subject to semiotic attacks by the media, who depended on the advertising revenue of the source code industry conglomerates.

Furthermore, studying the way that hackers were seen by the mass media, Sandor Vegh noticed that after September 11, 2001, there was a change in the discourse. Hackers, who had been depicted as common criminals, came to be described in the news as cyberterrorists. Vegh (2005) also found that articles in the United States media increasingly used a sensational tone when talking about hackers, while observing that one of the principal consequences was to open the way for the approval of laws and regulations that limit cyberactivism and "hacktivism."

Despite this scenario of growing persecution of hackers and activists, Swartz deepened his role in defense of transparency and the sharing of knowledge. In 2008, he founded Watchdog.net, to aggregate and visualize data about politics. In 2010, he was one of the co-founders of Demand Progress, a collective dedicated to political reform of the government and civil liberties activism.

2 Informational capitalism, intellectual property and human rights

Informational capitalism found its growth in the codification and digitalization of knowledge, culture and symbolic and nonmaterial goods and products. Cybernetic technologies operated by software made digital networks viable. These networks covered the planet and became indispensable to the daily life of a large part of society, making communication a structural element of social, economic, cultural and political processes. But digital communication is a form of communication mediated by software. Cybernetic, informational society, which can be seen as a society of control, has in software its principal media.

Researcher Lev Manovich (2008) was very astute in affirming that, just as electricity, the machine, and combustion made industrial society possible, it is software that makes global informational society possible. Software, seen as media that guarantees the growing digitalization of social activities and practices, is not apparent to this same society. Its role is not clear, much less evident. Seen as akin to any other technology, and presented by the market as merely a product, software contains source code that defines it and determines what it is capable of doing. Meanwhile, software has the power to completely determine our communication. Its design, its functions, operations and interfaces are defined by the programmers that create and maintain it. This code, in general, is closed-source and incomprehensible to those that use it.

This is something obscure, lacking any transparency. For the software market, it is this opacity of the code for its users that makes up part of the intellectual property rights of its creators. The mainstream software market was structured around a model of remuneration of property based on the denial of access to the knowledge of its logically nested routines. But the lack of source

code transparency in the context of intense digital codification isn't limited to the software market. It extends to the bodies and essential codes of the species. It is in the fusion of various disciplines with Biology and Computer Science that biotechnology, nanotechnology, and genetic engineering arise. As Adriano Premebida and Jalcione Almeida point out:

> *With the influence of cybernetics, a live organism is treated like an information system, with an extensive history of adaptation, able to be both interpretable and executed by molecular biology. Politics about life tends to center around the indifferentiation of the borders between species and understand the materiality of living beings as 'a matrix of virtual,' or possible, 'genetic combinations' (Ferreira, 2002: 238). The junction between techniques and policies in the manufacture of living beings is what will be at the center of the contemporary commercial/industrial dynamic in areas of knowledge informed by genetic engineering. 'Life can no longer be simply thought of as the result of reproduction. Life is now able to be produced' (Ibidem, 223). Biological life is part of modern power strategies and currently these strategies also focus on genetic information.*
>
> (PREMEBIDA; ALMEIDA, 2010)

The remuneration model of genetic encoding in cognitive capitalism involves closed source code or restrictions on its use through patent enforcement. Thus we witness the proximity of Microsoft and Monsanto, or Pfizer and Oracle, in their business models. Blocking free access to scientific knowledge is a profound concern for large corporations. And that is exactly where Aaron Swartz was vigorously involved.

On January 6, 2011, at 24 years old, Aaron was arrested for electronic fraud, computer fraud and unlawfully obtaining information from and recklessly damaging a protected computer. Specifically, Swartz was accused of downloading 4.8 million documents from the JSTOR academic article archives, violating its terms of use, and circumventing the Massachusetts Institute of Technology's (MIT) attempts to stop him.

According to the report, Swartz bought a laptop in 2010 and registered on the MIT network under a ghost username. On this computer, Swartz wrote a script in the Python language that allowed him to rapidly download articles from JSTOR. JSTOR detected the script and blocked the IP address. According to the report, Swartz repeatedly changed the IP and MAC address to evade JSTOR's and MIT's efforts to block access.

When JSTOR normalized MIT's network access some weeks later, Swartz had changed his technique to download the files. He was accused of going to a room containing networking equipment and hiding his laptop behind some equipment so that it would not be found. He thus circumvented existing blocking and filtering mechanisms via the direct connection to the servers, successfully executing his downloads. The police report describes how Swartz, as he went to recover his laptop from its hiding place, had his bicycle helmet clearly filmed, despite using a mask to cover his face.

The United States government alleged that Swartz probably downloaded the articles to freely distribute them on P2P (peer-to-peer) networks. However, JSTOR itself recognized that the downloaded content was not used, transferred nor distributed. But, for government representatives, mass downloading many articles from academic journals constitutes a hacker crime and should be punished by imprisonment. The interesting part is that Swartz, as an MIT student, had free access to any of the articles that he downloaded. The criminal attitude was the use of a script to download many articles.

The United States federal prosecutors sought an exemplary conviction. They wanted a sentence of 35 years and said they were acting to discourage copyright violation. Pressure mounted on the young Swartz, who had a large role in the campaign against the Stop Online Piracy Act (SOPA) and PROTECT IP Act bills in the U.S. Congress in January of 2012. These proposed bills sought to block U.S. citizens' access to digital contents and applications that supposedly were in violation of intellectual property. Furthermore, companies in the United States would have five days to block access to such sites.

The stiffening of intellectual property legislation and the shadowy activities of the copyright industry are an attempt to gain control of the sources of creation and knowledge. The case against Swartz is a legal aberration, since the only consistent accusation was over his intention to release academic texts on P2P networks for free downloading. Computer forensics consultant Alex Stamos, who is frequently asked to testify in cases to determine if intrusions in digital systems and informational crimes occurred, wrote on his blog:

> *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, 2012)

Following the tragic death of Aaron Swartz, United States federal prosecutors dropped all of the charges against him. Many people around the world noted the truculence and arbitrariness being practiced in order to block the sharing of cultural goods and knowledge. The battles do not appear to be cooling down. The possibilities for collaboration, interaction and digital file exchange will continue to grow if the Internet continues to be open, not proprietary, and not submitted to the telecommunications infrastructure controllers. Still, the copyright industry articulates its next steps to turn cultural goods and symbolic expression proprietary, as if they were limited resources. Governments, such as the United States, coordinate treaties and laws to subjugate the rights of all citizens to the defense of intellectual property. Yes, Aaron was a major victim of this war. But millions of young people do not live and have never lived under proprietary licenses. They want to share the possibilities that information

technology creates for all. There no longer seems to be any doubt that one of the principal conflicts of the twenty-first century centers around the sharing of knowledge and cultural goods.

REFERENCES

Bibliography and other sources

ARRINGTON, Michael. 2006. Breaking News: Condé Nast/Wired Acquires Reddit.

Techcrunch, October 31st, 2006. Available at: <http://techcrunch.com/2006/10/31/breaking-news-conde-nastwired-acquires-reddit/>. Last accessed: May, 2013.

GALLOWAY, Alexander R. 2004. **Protocol**: how control exists after decentralization. Cambridge, Mass.: MIT Press.

HIMANEN, Pekka. 2001. **A ética dos hackers e o espírito da era da informação**. Rio de Janeiro: Campus.

LEVY, Steven. 2001. **Hackers**: heroes of the computer revolution. New York: Penguin Books.

MANOVICH, Lev. 2008. **Software takes command**. Available at: <www.softwarestudies.com/softbook>. Last accessed: May, 2013.

PREMEBIDA, Adriano; ALMEIDA, Jalcione. 2010. Biotecnologia, biopolítica e novas sociabilidades. UNOPAR Científica. Ciências Humanas e Educação, Londrina, PR, v. 11, n. 2, p. 5-14, out. Available at: <http://www12.unopar.br/unopar/pesquisa/rcArtigos.action>. Last accessed: May, 2013.

REZENDE, Pedro Antonio Dourado. 2013. **Aaron Swartz enfrenta Ciberfariseus**: o primeiro mártir da ciberguerra. Brasília, 24 de janeiro de 2013. Available at: <http://www.dicas-l.com.br/arquivo/aaron_swartz_enfrenta_ciberfariseus_o_primeiro_martir_da_ciberguerra.php#.UdzjZUmNOYN>. Last accessed: May, 2013.

SILVEIRA, Sérgio Amadeu. 2010. Ciberativismo, cultura hacker e o individualismo colaborativo. **Revista USP**, São Paulo, v. 1, n. 86 p. 28-39, jun./ago. 2010.

STAMOS, Alex. **The Truth about Aaron Swartz's "Crime".** Available at: <http://unhandled.com/2013/01/12/the-truth-about-aaron-swartzs-crime/>. Last accessed: May, 2013.

SWARTZ, Aaron. 2008. **Guerilla Open Access Manifesto**. July 2008, Eremo, Italy. Available at: <http://archive.org/stream/GuerillaOpenAccessManifesto/Goamjuly2008_djvu.txt>. Last accessed: May, 2013.

TAYLOR, Jerome. 2012. Why I want to bring down the internet – for a day. **The Independent**, 17 January 2012. Available at: <http://www.independent.co.uk/life-style/gadgets-and-tech/news/why-i-want-to-bring-down-the-internet—for-a-day-6290703.html>. Last accessed: May, 2013.

VEGH, Sandor. 2005. The media's portrayal of hacking, hackers, and hacktivism before and after September 11. **First Monday**, v. 10, no. 2, Feb. Available at: <http://firstmonday.org/issues/issue10_2/vegh/index.html>. Last accessed: May, 2013.

Sites:

Aaron Swartz–<http://www.aaronsw.com/> and http://en.wikipedia.org/wiki/Aaron_Swartz. Last accessed on: May 2013

Demand Progress–http://demandprogress.org/. Last accessed on: May 2013

Internet Archive–<http://archive.org/index.php>. Last accessed: May 2013.

Introducing Infogami–http://web.archive.org/web/20071224194042/http://infogami.com/blog/introduction. Last accessed on: May 2013

Open Library–http://openlibrary.org/. Last accessed on: May 2013

Reddit–http://www.reddit.com/. Last accessed on: May 2013

RFC 3870–application/rdf+xml Media Type Registration–http://tools.ietf.org/html/rfc3870. Last accessed on: May 2013

RESUMO

O artigo relata sucintamente a história de Aaron Swartz, uma das grandes vítimas da guerra travada em torno da chamada propriedade do conhecimento. Aaron foi encontrado enforcado no dia 11 de janeiro de 2013, no apartamento em que morava em Nova York. Programador e ciberativista, acusado pelo governo norte-americano de invadir computadores para uma suposta liberação de artigos acadêmicos protegidos por *copyright*, poderia ser condenado a 35 anos de prisão. O texto articula a vida de Swartz com os embates atuais pela liberdade do conhecimento diante do enrijecimento das legislações de propriedade intelectual e da atuação obscura da indústria do *copyright* com vista a subordinar os direitos humanos ao controle das fontes de criação.

PALAVRAS-CHAVE

Aaron Swartz – Ciberativismo – Propriedade intelectual – Compartilhamento – Conhecimento livre

RESUMEN

Este artículo relata de forma resumida la historia de Aaron Swartz, una de las grandes víctimas de la guerra instaurada en torno a la llamada propiedad del conocimiento. Aaron fue encontrado ahorcado el día 11 de enero de 2013, en el apartamento en el que vivía en Nueva York. Programador y ciberactivista, fue acusado por el gobierno norteamericano de invadir computadoras para una supuesta liberación de artículos académicos protegidos por *copyright*, por lo que podría ser condenado a 35 años de prisión. Este texto articula la vida de Swartz con las luchas actuales por la libertad del conocimiento frente al endurecimiento de las legislaciones de propiedad intelectual y de la oscura actuación de la industria del *copyright* con el fin de subordinar los derechos humanos al control de las fuentes de creación.

PALABRAS CLAVE

Aaron Swartz – Ciberactivismo – Propiedad intelectual – Intercambio de información – Conocimiento libre