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A Critical Conversation with Alexandra Elbakyan: Is she the Pirate Queen, Robin Hood, a Scholarly Activist, or a Butterfly Flapping its Wings?

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Abstract: The conversation with Alexandra Elbakyan intends to explore the Sci-Hub phenomenon and the core motives that initiated Sci-Hub. Accordingly, Sci-Hub is an open science project that has gone viral and is driven by people who pursue knowledge. The core idea behind the Sci-Hub is very simple: people should have access to knowledge without any restrictions. Elbakyan argues that science should be ruled by the scientist, not by the corporations. It is here, in a publish or perish scholarly world, that Sci-Hub aims to give control back to scientists and empower them. Elbakyan claims that for-profit corporations are gatekeeping knowledge, whereas Sci-Hub is disseminating it for the greater good. The conversation with Elbakyan about Sci-Hub raises a critical question for us to answer: Who is the real owner of the information?

Keywords: Sci-Hub, open access, open science, academic journals, piracy.

Highlights

What is already known about this topic:

- Paywalled academic publishing can be a gatekeeping mechanism for open science.
- Academic corporations make millions by restricting access to knowledge.
- The core idea of Sci-Hub is to ensure that people can access knowledge for free.
- The pressure to publish that today's researchers are under has come to be known as a system of publish or perish.

What this paper contributes:

- This paper presents the counter-arguments generated by the Sci-Hub project.
- This paper explores the narratives from the perspective of the guerilla open access movement.

Implications for theory, practice and/or policy:

- Knowledge should be owned by people, and new mechanisms or models are needed to ensure that.
- Open science and open access movements are meant to make knowledge available for everyone and such initiatives should be promoted.
- Scientists should take a collective stance against knowledge colonialism.
- There is a need to critically address the issue of who truly owns knowledge.

Introduction: The one standing all alone in the shadows

The Third Wave by Toffler (1980) argues that information is the new oil (Hirsch, 2014) and that the information economy defines the dynamics of our global society. Within this perspective, most of the academic publishing houses are recognized as gatekeepers, harvesting the information for free yet providing service for a fee. There are, however, many openness philosophy-inspired counter-movements to this system, such as open access, open data, open knowledge, open content, open courses, open license, open scholarship, open science, and open education; these movements stand against the capitalist system that seeks to make profit from knowledge. In addition to conventional



techniques, some initiatives adopt guerilla techniques that interpret and apply the idea of openness from their own given perspective to protest these gatekeepers. Rogue services like Sci-Hub, which is often referred to as the “Pirate Bay of science” operate in this shadow war. Many supporters, whether hidden or visible, sympathize with the efforts of Sci-Hub, which was created by Alexandra Elbakyan, who stands all alone in the shadows to fight for her cause. Inspired by openness (Elbakyan, 2016a), Elbakyan argues that Sci-Hub fits ‘natural law (Elbakyan, 2016b), and she believes that her efforts are helping to liberate knowledge to democratize education.

Alexandra Elbakyan enjoys many monikers, including Pirate Queen, Robin Hood, the champion of copyleft, the scholarly anarchist, the intellectual pirate, a protester against scholarly journals, a game-changer in the scholarly publishing landscape, a warrior against academic publishing houses, a Rockstar in academia, a hero for the PhD students, and the frustrated science student. Likewise, Elbakyan’s creation, Sci-Hub, has come to be popularly known under different names, including a pirate bay of paid publications, a shadow library, the black market for scholarly articles, and Pandora’s box of academia. In many respects, Sci-Hub represents the guerilla open access movement and serves as an example of effective civil disobedience and a fearless movement against the academic gatekeepers.

Considering the many notions about who Alexandra Elbakyan is and what Sci-Hub is all about, the purpose of this critical conversation is to identify the position of Sci-Hub in the open[ness] landscape and to hear the real narrative from its original source.

Interview

Who are you?

AB: Can you briefly introduce yourself to the readers of the Asian Journal of Distance Education?

AE: I was born 32 years ago in Almaty, Kazakhstan, the former Soviet Republic. My mother worked as a computer engineer, so I too started computer programming early. When I was 12, I created a website that was dedicated to various robotic and virtual animals such as Tamagotchi. I tried using neural networks to create a Tamagotchi powered by artificial intelligence. That is how I gradually became interested both in neuroscience and computer science.

I was accepted to Kazakh National State University. I was studying computer programming and security. In my graduation project, I wanted to do some research on brain-machine interfaces. I tried to get academic journals to learn more about the topic, but they were extremely expensive. So, I thought there must be some place on the Internet where any person can read academic journals for free. And in 2011, I started the project called Sci-Hub, a website that now provides free access to more than 85 million research documents.

AB: Which one better defines you and why? A Pirate Queen, Robin Hood or a scholarly activist?

AE: I want to be a person who makes a revolution in science, not a Robin Hood or a Queen, and not just an activist! A Robin Hood was a good person, he was stealing from overly rich people and giving to the poor (in my view that is how the taxation system in modern governments should work) And Sci-Hub is often seen as the scientific Robin Hood who steals income from extremely rich academic publishers and gives science to the poor researchers. However, Robin Hood’s actions did not change anything on the global scale, but Sci-Hub has changed research communication globally and I hope that will be a long-term change.

In 2016 The Verge [published a long article](#) [1] about me, calling me a Science Pirate Queen. When I learned about the article, I was a bit offended, because I come from the communist background. In communism, there is nothing good in being a king or a queen, because a country should be ruled by people, not kings or queens. Science should be also ruled by scientists themselves. But instead, today

science is controlled by big academic corporations. And the task of Sci-Hub is to bring control back to scientists.

Sci-Hub

AB: One single step can change everything. Let us imagine you are a [butterfly](#) [2] flapping your wings in Asia; how did you [cause a hurricane](#) in the rest of the academic publishing landscape?

AE: Sci-Hub started as a simple PHP script that was programmed in about 3 days and was hosted on a free web hosting. It was an automatic web application that could use library passwords to download research papers for free. At the beginning, it was used by Russian scientists and gained huge popularity from the start. Later researchers in such countries as Iran, China, India and others learned about Sci-Hub and started using it too. I did not do any special promotion of Sci-Hub in other countries, people learned about it themselves, from colleagues and from the Internet. In 2016, Sci-Hub was featured in [The Atlantic](#) [3] and later in other newspapers and research journals such as [Nature](#) [4] and [Science](#) [5], so even more researchers learned about the website and started using it.

AB: What was your internal motive to create Sci-Hub? How did things start and lead you to your current initiative?

AE: When I was at school, and later at the university, I used to download academic books from various pirate websites, such as [Gigapedia](#) [6]. There did not exist any other option to get these books. So, I had a dream that, perhaps, in future, I will create such a website with books myself! I also used a program called eMule to download scientific documentaries and books for free. That program [implemented a peer-to-peer network](#) [7] similar to torrents, allowing everyone to pirate music, movies, books, and other files. So, the idea of Sci-Hub as a tool to access knowledge for free, was very straightforward for me, it was something that any person would do.

In 2011 I encountered many people who struggled to get access to academic journals. They asked for help to download research papers on the online science forum. There was a special sub-forum for such requests, so you could see what other people ask, help them, and get thanked in response, it was organized as a game, so I got involved. When I got the idea that I can write an automatic program that can solve these requests, I was just thrilled to see whether this idea will work, and it worked! I got a lot of gratitude from other forum members and that motivated me to work on Sci-Hub further.

AB: What are the core ideas of Sci-Hub? What does the Sci-Hub logo stand for, and is there any ideological impetus behind the Sci-Hub?

AE: The history of Sci-Hub logo is simple. In 2015 I was searching in Google for a picture to use as a logo in Sci-Hub social network group. I googled for 'books' and 'key' to show the idea of *Sci-Hub as key to knowledge*. Then I found it: a bird on the books holding a key (Figure 1), and immediately loved this picture. I added it not only to the social network, but also to the website. The raven in various mythologies represents knowledge and wisdom. For example, in Norse mythology the creator God has two ravens serving him: Huginn and Muninn which represents 'thought' and 'memory'. In mythologies of native people who live in the far East of Russia, the raven represents the creator God himself. In Harry Potter, the faculty with the smartest wizards is named Ravenclaw.

Regarding the ideology, I always viewed Sci-Hub as a communist project, because its idea is that science should belong to everyone, to all people, and it is not right when [knowledge becomes a private property](#) [8] of some corporation such as Elsevier, accessible only to the elites. Sci-Hub is against the idea of intellectual property, there can be no ownership of information and knowledge, it is a common thing.



Figure 1. A raven as the logo representing Sci-Hub.

Sci-Hub vs Academic Publishing

AB: There is an ongoing war between Sci-Hub and academic publishing companies. ? You have been sued in some countries, and the Twitter account of Sci-Hub has recently been banned? How do you defend your cause?

AE: Since 2015 Sci-Hub has been sued in many countries, including the United States, Russia, Italy, France, Germany, Austria, Great Britain, and perhaps others. In the US Sci-Hub was prohibited to operate, in other countries it got blocked at the ISP level. But the opinion of people and researchers was on the side of Sci-Hub. You could read what people say on the Internet, in their social networks, and their commentaries for articles in the media such as Washington Post. Nobody supports the publishers and the decision to ban Sci-Hub! People agree that knowledge should be accessible to everyone. That knowledge was produced using taxpayers' money, and now it became privatized by commercial corporations such as Elsevier. Many people also found it very laughable that Sci-Hub, a website to read academic journals and books, is prohibited by the government. They found it ludicrous that in modern society, science became a crime!

The latest lawsuit was in India. Academic publishers Elsevier, Wiley and Springer-Nature filed the documents to the Delhi High Court on December 21 right before New Year and Christmas. The requested Court to ban all Sci-Hub addresses in India. When I learned about the upcoming ban, I posted this bad news on [Sci-Hub Twitter](#) [9] which had around 185 thousand subscribers. And it became a real scandal: many Indian researchers [voiced their opinion against it](#), stating that it will be impossible to do science if Sci-Hub is banned because there is no other way to get access to academic literature. Some [Indian researchers urged the court](#) [10] to allow Sci-Hub to continue its operation, and I was contacted by lawyers who expressed their wish to protect Sci-Hub in the court. As a result, Sci-Hub was not banned in India right before Christmas as publishers wanted to, but hearing is still ongoing.

But, shortly after that Sci-Hub account [was banned on Twitter](#) [11]! Twitter did not give any reasonable explanation why this happened. Sci-Hub was on Twitter for several years without any problem.

AB: There is a business model in academic publishing as a process whereby authors produce knowledge for free, reviewers and editors improve it, and journals publish for free, but those who demand freely produced knowledge must pay for it. What do you think about this lucrative business model of academic publishing? How do you position Sci-Hub in such a landscape?

AE: That is true that academic publishers receive research articles from authors for free, sell these works at exorbitant prices, and do not pay authors anything in return. Publishers argue that they do hard work editing and organizing the selection of papers they receive, and this work must be paid, but one should be very sceptical of these claims. For example, research papers published more than 10 years ago are still available only for very expensive prices from publishers, why is that? Haven't the costs of publishing these papers been covered in 10 years? These papers could be available for free, but they aren't.

The reality is that academic publishers only increase prices to get higher profits. According to published statistics, science publishing today [is more profitable](#) [12] than high-tech businesses such as Google, BMW, banks and even the oil industry. That is unbelievable.

The trouble started around 40 years ago. Previously, scholarly journals were mostly non-commercial and published by academic societies, but then most journals were bought by commercial corporations such as Elsevier. They started increasing journals subscription prices at a mad rate, and it was called 'serials crisis' by university librarians. Even rich universities in rich countries [started experiencing difficulties](#) [13] because of that.

Since the 1990s, the trouble has been extensively discussed, and a lot of scientists are protesting against this state of things, including Nobel Prize recipients such as [Harold Varmus](#) [14] or [Randy Scheckman](#) [15], or the arXiv.org creator [Paul Ginsparg](#) [16]. All of them agree that the business of academic publishers is unjust, and we must do something about it. In fact, academic corporations make millions by restricting access to knowledge. And this knowledge was produced using the taxpayers' money!

Many scientists in the 1990s were hoping that the [Internet would destroy this state of things](#) [17], since every researcher will post their work online for free, or self-archive. That did not happen. But the Internet eventually gave birth to Sci-Hub, so it made academic knowledge free, just not in the way it was initially thought. Sci-Hub has fulfilled the mission of the Internet that was intended by its creator: [to make academic information freely accessible to anyone](#) [18].

AB: As researchers/academics, if we are willingly or constantly feeding this [predatory] ecosystem, are we in [Stockholm Syndrome](#) [19]? If not, how would you define our case?

AE: No, the problem is how the research system is organized. Researchers today are under pressure to publish and that system is called *publish or perish*. A scientist needs to publish a lot of papers in good journals in order to survive in science. These journals are controlled by big corporations such as Elsevier, Springer-Nature, and Wiley. For a single person, there is no easy way out of this system, because the work of a researcher is evaluated based on his or her publications in journals. Together we can change things.

Openness and Open Science

AB: What do you think about open licensing? Considering Sci-Hub activities, would you suggest an alternative (see Figure 2) or a *seventh* label for [Creative Commons](#) [20]?

AE: I never studied open licensing in detail, but that is a good idea that should be supported.



Figure 2. Sci-Hub to depict the guerilla open access movement

AB: From your perspective, who owns academic research and knowledge?

AE: Today knowledge became a private property of commercial corporations, but it should be owned by people.

AB: During the Covid-19 Pandemic, we have witnessed that there is a strong need for open educational practices (OEP) and open educational resources (OERS). Sharing has been a key motive and there has been a high demand for open, free resources. Within this framework, how has the pandemic affected Sci-Hub? Do you have any reflections on this?

AE: During the lockdown, the number of unique visitors to Sci-Hub increased by about 100,000 people, it became 600,000+ instead of 500,000+ and the articles about coronavirus were accessed 10-100 times more often than articles about other diseases.

AB: What are your thoughts on repositories, preprint services, and open science?

AE: I fully support all these activities, but I should say they are not as effective as a Sci-Hub solution to the paywall problem :)

AB: During the first waves of the COVID-19 pandemic, it was reported that many [educators instinctively, unwittingly, and unintentionally shared copyrighted learning materials](#) [21] in order to survive these wild times. If, as a crisis, the COVID-19 pandemic justifies such acts, what prevents it from justifying Sci-Hub, considering that these wild times that are the *new normal* for many parts of the globe but have been the *normal* for other parts of the globe.

AE: Even before COVID-19, Sci-Hub was used by many doctors and patients [to learn about diseases](#) [22] and better treatments, because a great part of science journals are medical journals. Doctors use Sci-Hub to get information about such diseases as cancer for years. For example, during 2020, the total number of views of articles in top medical journals via Sci-Hub was more than 12 million. Open access to knowledge can save people from death. If that does not justify Sci-Hub, what else can justify?

AB: In the field of Open and Distance Learning (ODL) or Distance Education, the openness philosophy is the core value, with most of our theoretical or conceptual approaches being shaped around openness. Openness has further empowered many recent approaches, such as OEP, OER and MOOCs. However, open is a contextual, relative term with many grey areas. Do you think that Sci-Hub is associated with the openness philosophy? If yes, *how*, if no, *why*?

AE: From the very beginning, I considered Sci-Hub to be an Open Science project because Sci-Hub is a tool to open access to research papers. The whole point of the Open Science / Open Access movement is to make science available for everyone, and that is what Sci-Hub exactly does. Some Open Access advocates such as Peter Suber do not endorse Sci-Hub because it is not legal, and even gave its name of [‘black’ open access model](#), the legal models being ‘green’ and ‘gold’, but in my view, Sci-Hub is the only effective open access method by now, and I hope it will be eventually considered legal. Why should reading academic journals be considered illegal, after all?

Final remarks

AB: Do you have any further comments? If you were able to convey one message to the academic world, what would it be?

AE: I’m currently collecting stories about Sci-Hub usage, how it helped in your research. If you want to share a story, please share it by email: alexandra@dns.cymru Looking forward to hearing from you!

Notes

Embedded citable references are as follows: [1] Graber-Stiehl, 2018); [2] (Lorenz, 1972); [3] (Waddell, 2016); [4] (Woolston, 2016); [5] (Bohannon, 2016); [6] (Estienne, 2014); [7] (TF, 2012); [8] (Barok et al., 2015); [9] (Sci-Hub Twitter, n.d); [10] (The Wire Staff, 2021); [11] (Der Sar, 2021); [12] (Holcombe, 2015); [13] (Guedon, 2003); [14] (Marxhall, 1999); [15] (UC Berkeley Public Affairs, 2019); [16] (Hayes, 1995);

[17] (Björk, 2001); [18] (Prem et al., 2016); [19] (Kuleshnyk, 1984); [20] (Creative Commons, n.d.); [21] (Bozkurt, & Sharma, 2020); [22] (Bendezú-Quispe et al., 2016); [23] (Green, 2017).

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