How Academics outside Global Research Centers Challenge Limitations in Access to Scholarly Literature

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abstract: This paper, based on the qualitative study of 100 in-depth interviews, examines the strategies employed by academics in Central and Eastern Europe to challenge the limitations in access to scholarly literature. The findings demonstrate that there are basically four strategies: the first is to use open-source material, the second to "poach" materials, the third to download papers through intermediaries, and the fourth to "pirate" them. An example of the latter is the use of the Sci-Hub, which some people see as a form of resistance against academic capitalism and imperialism and at the same time a call to reform how global knowledge production is accessed.

Introduction

Currently, university researchers are highly dependent on access to paywalled content of international journals published by privately held corporations, such as Reed-Elsevier, Wiley-Blackwell, or Springer. These institutions—henceforth referred to as "global for-profit publishers"—create an oligopoly. As such, they sit at the core of what might be called "academic capitalism."[2] They are known for their high prices, exclusionary business practices, and dangerously powerful size as commercial publishers.[3] As a result, only a tiny percentage of the world's population can access much of the scholarly literature, despite that the underlying research was often funded publicly or philanthropically.

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often funded publicly or philanthropically.[4] The impact of global for-profit publishers on the academic world can be even greater than the power of corporations that engage directly in corrupt tactics, such as attempts to buy favorable legal solutions or to unfairly gain governmental funding for research.[5]

The academic world is far from homogenous. We can distinguish between global centers of academic production—such as the United States and Western Europe—and peripheries, that is countries outside the global research centers.[6] Poland could serve as an example of such a peripheral country. The level of internationalization of Polish universities is low compared to that in global centers of research, both in terms of international faculty and incoming students.[7] Wages in Poland in general and in academia in particular do not compete with the European Union average.[8] Furthermore, inadequate research allowances mean that many professors in Poland cannot afford to attend large international conferences. All this results in the low visibility of research coming out of Poland.[9]

Another major factor at play is that Polish scholars face serious difficulties in accessing scholarly literature. Few Polish university libraries provide access to key databases of international journals. But all Polish scholars, like their colleagues from global centers of research, are expected to publish in those journals to increase the visibility of research done in Poland. Thus, Polish scholars must acquire access on their own to papers in journals owned by global for-profit publishers.

This paper examines various strategies that academics in peripheral countries employ to challenge limitations in the access to scholarly literature. It will focus on the ethical dilemmas faced by researchers whose careers depend on using illegal or questionable methods to access material. The findings originate from 100 in-depth interviews with international scholars who work in Poland and so may provide a distanced look at the Polish academic system.

The paper begins with a literature review section, which defines the notions of "academic capitalism" and "academic imperialism," as well as describes the phenomenon of Sci-Hub,[10] a site founded by Kazakhstani programmer Alexandra Elbakyan in 2011. Second, the "Methodology" section describes the research sample as well as explains how an outsider's perspective captures the peculiarities of the Polish system compared to other places of academic employment.[11] In the empirical section, interviews illustrate how academics use such pirate services as Sci-Hub. The "Discussion" section argues that illegal acquisition and processing of research papers can be seen as a strategy of resistance against academic capitalism,[12] imperialism,[13] or both. Finally, the paper addresses possible alternatives to illegal practices and indicates the key role of libraries in implementing them.

Literature Review

Academic capitalism[14] and academic imperialism[15] are two interconnected phenomena. Today, more than ever before, academic production falls under the strict rules of capitalism insofar as it is driven by the maximization of profits—"universities operate in a discursive space where selling international education works with a neoliberal text to make universities financially independent of governments as well as globally competi-

tive."[16] Not only do universities seek to generate additional profits and minimize costs, but also there is an entire "education-migration industry,"[17] with its international student services (lawyers, travel agents, recruiters, organizers, fixers, and brokers), marketing activities, and even offshore campuses.[18]

Furthermore, successful scholars have voluntarily become involved in academic capitalism. To disseminate one's own findings, one must offer one's research results for free (with no honorarium) and let one of the global for-profit publishers share them for a fee. For non-native English-speaking academics, this task is especially challenging because they must pay for professional proofreading or plumb their networks of friends and acquaintances to find someone willing to help them polish the text. Attending international conferences can also be costly: one must pay a fee, find accommodation, and organize transportation. In developing countries, which have lower international visibility, academic capitalism entails a great threat of predatory publishing, the practice of charging publishing fees to authors while providing few or no editorial services. A recent study demonstrated that "the geographic analysis of the origin of predatory journal articles indicates that they predominantly come from developing countries."[19] In 2018, the director of the National Science Centre in Poland warned researchers about this threat.[20] The much more serious issue is, however, the university libraries' lack of access to electronic journals, very often owned and operated by global for-profit publishers, whom many people view as incarnations of academic imperialism.

Modern academic capitalism would not exist without what some scholars call "academic imperialism,"[21] in which universities and scholars in Western countries dominate those in peripheral countries.[22] Usually, academics from peripheral countries migrate to global academic centers epitomized by such countries such as the United States, Germany, the United Kingdom, France, or Switzerland.[23] Even if there is cooperation between centers and peripheries, it will likely be unequal, because the former are richer and far more prestigious than the latter. Moreover, scholars in the peripheries try to imitate central standards. Despite attempts by intellectuals in peripheral countries to change this relation, it remains asymmetrical.[24]

From the point of view of this paper, the most crucial consequence of international capitalism and imperialism is that most prestigious "international" journals are controlled from the center and seldom publish research that does not fit the current trends.[25] As indicated earlier, Polish academics, like their Central European counterparts, are prone to falling into the "internationalization trap"; they are required to publish internationally, but at the same time lack the necessary resources, in this case, official access to Western journals. A growing global open source movement seeks to remove restrictions on the use and reuse of scholarly materials and make them free of cost. Recent estimates suggest paywalls limit the access to three-quarters of the scholarly literature on the Internet, and even the most optimistic say that nearly 50 percent of newly published articles are not available without a paid subscription.[26] This deficiency is most strongly felt by scholars outside global centers. Anecdotal evidence suggests that some Polish professors cannot even read a paper written by their colleagues next-door if it has been published by a paywalled journal.

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The resistance movement against academic capitalism is often called "digital socialism,"[27] also dubbed the "new new economy," "gift economy," "open knowledge production," "peer production," "collective intelligence," and "postcapitalism."[28] According to Kevin Kelly, the founding editor of *Wired* magazine, the term "digital socialism" refers to

> the advent of a global collectivist society sustained and nourished by the communication, exchange and knowledge sharing activities undertaken by tens of thousands of voluntary web content producers, maintainers and developers, knowledge exchangers and free agents throughout the world. In their social interactions and in providing their cross border selfless services, they all rely on social technology.[29]

Importantly, digital socialism cannot be categorized as a fully formed ideology but is rather a "spectrum of attitudes, techniques, and tools that promote collaboration, sharing, aggregation, coordination, adhocracy, and a host of other newly enabled types of social cooperation."[30] The main idea behind it is that "the internet has the potential to socialize and democratize the digital economy."[31] The result is a movement against strict copyright legislation and favoring the free dissemination of ideas, that is, "the potential—both technical and cultural—for audiences to share content for their own purposes, sometimes with the permission of rights holders, sometimes against their wishes."[32] Open access policy fits this model, but open source journals only partially fill the demand. The gap between needs and resources forces scholars to infringe copyright by using such sites as ResearchGate, Academia.edu, or Sci-Hub.

ResearchGate and Academia.edu are social networking sites for researchers and scientists, both launched in 2008.[33] ResearchGate has many features, such as following a research interest or the work of other individual members, and commenting on papers, but most importantly it offers a platform where authors can upload papers they wish to share with other scholars to boost citations.[34] By doing so, they often violate agreements with publishers. The infringement is the most obvious when a scholar publicly shares a paper's full pdf file on one of the portals. In 2017 (in Germany) and 2018 (in the United States), Elsevier jointly with the American Chemical Society sued ResearchGate.[35] The cases against it are ongoing at the time of writing this paper in December 2019. Academia.edu is another site where researchers can upload their papers and permit other researchers to download them, again in many cases violating copyrights. The upload-download feature is free, but authors can pay for extra services (such as monitoring mentions, facilitated searching, and the like).[36]

Unlike Academia.edu or ResearchGate, Sci-Hub provides access to a complete pdf file without the publisher's or the author's consent: anyone who has a link to the original paywalled paper can simply download the full version within seconds. Sci-Hub brands itself as "the first pirate website in the world to provide mass and public access to tens of millions of research papers."[37] The website was launched in 2011 by Alexandra Elbakyan, a computer programmer and native of Kazakhstan. Elbakyan describes herself as motivated to provide universal access to knowledge.[38] She declines to say exactly how she acquires the papers, but the main method Sci-Hub uses to bypass paywalls is by obtaining leaked authentication credentials for educational institutions.[39]

Websites such as Sci-Hub and Library Genesis or LibGen (so-called Sci-Hub for books) are user-friendly and totally free. Probably for that reason, as Daniel Himmelstein

and his coauthors report, as of March 2017, Sci-Hub's database contained 68.9 percent of the 81.6 million scholarly articles registered with Crossref, a cooperative effort among publishers to promote citation linking in online journals, and 85.1 percent of articles published in paid access journals. For toll access articles, it was found that Sci-Hub provides greater coverage than the University of Pennsylvania, a major research university in the United States.[40]

Sci-Hub's server log data from September 2015 through February 2016 showing the number of download requests reveal that Poland's participation or usage is extensive, especially when compared to that of the Scandinavian countries, but much less than that of such countries as Germany or France.[41] This may be because they are bigger countries, with a greater number of scholars and higher awareness of Sci-Hub, at least among researchers at an early stage of their career, as the study reveals.[42]

The only existing study that focused on usage of Sci-Hub in Poland was a paper based on a very small sample (n = 10 for Poland) of interviewees. Despite the pioneering character of this study, it should be noted that it was limited to young researchers and does not present the motivations for using Sci-Hub, nor does it discuss ethical dilemmas related to it. This paper seeks to fill this gap.

Methodology

The main research question was: How do academics employed in a peripheral country deal with the lack of access to contemporary scholarly literature? This question was asked in a large project on foreign-born scholars residing in Poland funded by the Polish Ministry of Science and Higher Education.[43] The point was to diagnose the situation of international scholars in Poland in a time of increased effort to make Polish research more globally visible. Foreign-born scholars working in Poland constitute a modest sign of the internationalization of Polish science but also provide "the outsider's perspective,"[44] as opposed to an insider view. The respondents had worked abroad in different cultural settings (for example, during previous work or doctoral studies), enabling them to compare the situation in Poland with that in other countries.

This paper draws on 100 in-depth interviews conducted in 2018 and 2019—mostly in Polish (76 out of 100 cases), though each interviewee could also opt for English. Polish quotations were translated by the authors. Data were collected during a series of individual face-to-face meetings that lasted for approximately 70 to 90 minutes in locations selected by the interviewee. The discussion guide comprised various open-ended questions regarding career path, research experience, and family situation.

The sample was diversified by professional experience (from teaching assistants to full professors), type of institution (public institutions and private universities), academic field, gender, and country of origin. Although this study is based on a purposive sample (that is, a nonrandom selection of interviewees who met the study's requirements), the distribution of each key variable resembles the distribution in the population of foreign-born scholars in Poland, based on data from the Ministry of Science and Higher Education, approximately 3,000 cases. For the sake of the interviewees' privacy, the authors do not provide data on the interviewees' nationality, gender, place of work, discipline, or any similar detail, unless it is an important factor in the analysis. Due to

the very small number of international academics from certain countries employed in Poland (sometimes a single person or a few individuals), the indication that someone is, for instance, "a physicist from Armenia," could help to identify the subject. In those cases, the authors employed a "principle of least (minimal) privilege" borrowed from the information technology.[45] In this context, it means that data are presented only if necessary for the paper's argument.

The interviews were fully transcribed and analyzed thematically in a qualitative fashion,[46] allowing the researchers to create three types of codes: theory-driven, data-driven, and by-products of an interview protocol (structural codes).[47] In the analysis, emphasis was put on the codes related to work resources, science funding, and attitudes toward copyright infringements.

Findings

The empirical research helped to identify four strategies of bypassing paywalled content necessary for effective academic work: (1) relying on open source materials, (2) using social networking portals, (3) downloading papers through intermediaries, and (4) using pirate repositories.

Interviewees emphasized that papers become available in open access mode significantly later than the paywalled version . . .

For some of the interviewees, open source materials were sufficient. This was primarily a way to avoid the high prices for papers, which are more severe for scholars in peripheral countries where salaries are much lower than in global research centers. Interviewees emphasized that papers become available in open access mode significantly later than the paywalled version:

> Open access—there is such a huge corpus of knowledge and sharing of information that it puts out [only] really marginal things. I mean . . . a small, low-wage scientist has to decide whether to buy an article, or, for example, go out to dinner with his fiancée . . . But I think that if someone wants to get a free article, s/he would get it, maybe not this year, but next year.
>
> (interview 51)

Another option was to visit websites where authors share their papers—social networking sites.[48] The two most commonly accessed portals were Academia.edu and ResearchGate. These portals replaced—to a large extent—traditional e-mail communication between two researchers unfamiliar with each other to obtain the necessary materials (such as books, reprints, or copies of papers).

> A typical way is to write to the author and request the last two articles. There is also a ResearchGate network. You can also search what's on ResearchGate, and I regularly use that.
>
> (interview 20)

> Of course, articles are a problem, but there is Academia.edu, there is ResearchGate, you can write to the authors, so it is nonsense when someone tells me that they cannot find the article they are looking for.
>
> (interview 27)

> If you want to stay in touch with someone, you just send them an e-mail. Some people reply, some don't . . . I don't see any major problems.
> (interview 3)

Moreover, peripheral scholars often use their networks of relationships to acquire a paywalled paper not from the author himself but from someone who had legal access to a full-text database. These intermediaries were usually individuals working outside Poland. While such practices were not entirely legal (the access for which they asked was intended for someone else), they were not entirely illegal either:

> I do not use these [paywalled] data sets. I mean, I used to ask friends who had access, but it still is not legal, so you need legal access.
>
> (interview 24)

> I have never used such [pirate] sites; I have not used Russian websites. I generally avoid hacker situations and try to find a book, if possible, and if not, I mobilize my friends from all over the world, from London, Bulgaria, Romania, and Russia . . . and I was never disappointed. I always found what I was looking for.
>
> (interview 27)

In the peripheries, however, some scholars can neither afford paywall content nor wait for papers on the most recent discoveries in their field,[49] and they lack the social relationships to get the paper from authors or scholars having access to full-text databases. In this case, they needed to search for alternative ways to get the paper of interest.

This qualitative study confirmed that Sci-Hub was the first and main way to read and analyze recent scholarly literature. This portal, along with smaller similar projects, is widely used among foreign-born scholars in Poland. The main research focus involved two interrelated issues: the main motivations for using these sites and the ethical issues such use may cause. Approximately 40 percent of the interviewees for whom this was a relevant question have used the service. Most of them represented science, technology, engineering, and mathematics (STEM) fields. Another one-third did not use Sci-Hub for various reasons, for example, because they believed it was more for scientists than for scholars in the humanities, because they focused their academic activity on local contexts and local academic journals, or because they preferred not to break the law. Some, as already discussed, preferred to mobilize their social relationships to get the papers they needed. The remaining interviewees were not even aware of Sci-Hub's existence. The most prominent barrier was the generation gap—young people tended to be familiar with illegal portals, while many older interviewees had not heard about Sci-Hub. Interviewee 24 said, "Never heard about it. I have not heard of such a portal. And what are these portals?"

The interviews suggest that Sci-Hub was used in Poland for two main reasons. Except for the already discussed lack of legal access to research papers, the interviewees

also expressed a strong opinion that Sci-Hub is simply a convenient and user-friendly repository: "Well, it is simply brilliant—just enter the title and the paper appears. Well, I wish the search engines in our electronic library would do just that." (interview 88)

Another interviewee indicates that library resources are not only scarce and outdated but also difficult to access:

> I think it [access to books and journals] is good, but mainly because there is this website where you can order articles like for free. That's my main source. There's also a system at the library: the library has some connection [to a system], and you can log in and so on. Actually, it's much more complicated than just pasting the address of the site and finding it there . . . Officially there are some libraries, but I was quite disappointed, because many books were quite outdated. And the thing is, many books are stored somewhere and you have to order them a few days in advance; you can't just go to a library and browse through the books and to take what's interesting for you. So that's something I miss, good public libraries.
>
> (interview 70)

The Sci-Hub users interviewed for this paper did not believe that using the service was a significant ethical problem. Interestingly, nonusers also did not consider it a serious transgression. Usually, the interviewees argued that the global for-profit publishers take away some of the value of their work, which was perceived as deeply unfair. Global for-profit publishers often do not sign any contracts, do not support research financially, and do not pay the authors. And finally, such publishers charge scholars for access to academic papers, even their own papers. As one of the interviewed scholars briefly summarized, "We work and then we give our results to private corporations."

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> In most cases, if someone publishes an article, it is based on research done at the university, for example, right? . . . If they are state universities, the taxpayer has already paid for this, right? . . . We work and then we give our results to private corporations . . . Therefore, as long as there is a system that we have to pay for access to research . . . there must be ways of bypassing it.
>
> (interview 57)

> I mean, I'm not a fan of publishers. Personally, I have never had any benefits from contacts with publishers, and it is also difficult for me to justify the benefits and usefulness of publishers in today's modern world, when everything is published on the Internet.
>
> (interview 98)

Another argument among the respondents is that of "the common good," that is "facilities—whether material, cultural or institutional—that the members of a community provide to all members in order to fulfil a relational obligation they all have to care for certain interests that they have in common."[50] The interviewees, most notably scholars in science and technology, argued that the results of scientific work should be made publicly available and serve society, which is both in the public's best interest and beneficial for the reputation of individual researchers:

> Even when I publish, I don't want to hide this information, I don't want people to pay me—I just want to share what I discover.
>
> (interview 23)

The interviewees, most notably scholars in science and technology, argued that the results of scientific work should be made publicly available and serve society, which is both in the public's best interest and beneficial for the reputation of individual researchers.

> From my point of view, as the paper's author, I'm quite happy when I can get something illegally, but it's a problem for the people who are publishing it—the publishing houses are most concerned with this kind of thing. And in practice, I mean, if anyone requests it of me via e-mail that I send them a paper or access to my papers—for me it's not really a problem if people want to read my papers illegally. I'm just happy they are reading them!
>
> (interview 3)

This kind of argumentation concerning the ethical side of Sci-Hub resembles a physician's dilemma described in the scholarly literature. In this theoretical example, a physician must choose between applying an outdated therapy or using a pirate repository to provide the best and most timely care for a patient.[51]

According to some interviewees, monetizing access to academic papers is especially unfair, because often a paper for which one is charged—judged initially by its abstract—turns out to be useless for a scholar:

> There are even pirate databases where can you download everything. And of course, I use it, and I think it's a good idea that they did so, because now such large publishing houses have such a monopolization of science and it is very bad for science. For example, when the cost of one article is 40 euros or 40 dollars . . . and I don't know if I will need the article at all, because . . . it is very difficult to assess from the abstract.
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> (interview 50)

Some interviewees justified their support for Sci-Hub by contrasting Sci-Hub's activity with stealing texts or other cultural items from their creators, and subsequently deriving profit from them. They believe that Sci-Hub is different:

> I use it [Sci-Hub]. I would have ethical problems regarding fiction or any work where the authors are getting paid for the work they're doing, like the publishing process, or I would not that much download books, I would rather rent them from the library or buy the books.
>
> (interview 75)

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According to the interviewees, academia should rise above the usual market competition. They believe that scholars look mainly for acknowledgment and recognition, which

translates into citations, invitations to speak, and the like. They believe that money, a mainstay of market transactions, should not be the main currency in the academic world. "Commercialism is killing science," as one interviewee held:

> This should be resolved in a different way. Let the credit to the author be announced in capital letters five times, and so on. These people, thanks to their publications, are invited to lectures, to classes, to lead—it should be enough for them! Anyway, it's not the authors, but the publishers [creating the problem in the first place].
>
> (interview 11)

Discussion

Scholars employed in the peripheries of global academic production utilized four distinct tactics to access recent scholarly papers. The first one was legal and easy—to rely on open source databases or journals. An obvious limitation was the limited number of papers available in open source compared to the large number of groundbreaking articles behind a paywall. The second scenario consisted in using social networking sites to either download or ask for a paper (or its "preprint" version). The third scenario relied on transnational networks. Scholars with an international background currently employed in Poland could ask their friends and acquaintances in other countries to help them get access to interesting papers. The fourth widespread strategy of accessing recent papers, as the narratives have shown, was the use of pirate repositories for downloading journal papers and books. According to the interviewees, such repositories were not only costless but also easier to use than official full-text databases.

In this regard, we can distinguish between "poaching" and "pirating." Poaching, building on Michel de Certeau's classic theory of the practice of everyday life, consists in using already existing products (or the hyphae of the extant research, such as abstracts, unofficial versions, and conference presentations).[52] This strategy has serious limitations. The first one is availability of resources—many papers are not available at all. The second is the time factor, namely the delay in accessing current research. Although the uploaded papers are available instantly, in some cases it is necessary to request the full text from an author, who might have uploaded only the first few pages. The response can come within a couple of hours or never. This leads many peripheral scholars to switch from being a digital poacher to a digital pirate. The interviewed scholars often turned to websites that provided them with pirated papers. In many cases, this was the only affordable option because low research allowances do not cover access to expensive journals owned by global for-profit publishers.

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However, some scholars indicated that such repositories as Sci-Hub are simply convenient and user-friendly, unlike other platforms or systems provided by legal databases. This echoes the reason identified by John Bohannon in the Western world. He provided a simple answer to the question of "Who uses

pirated papers?" by saying that everyone does. He explains that many users can access the same papers through their libraries but turn to Sci-Hub instead—for convenience rather than necessity.[53] It is much easier to paste the URL or DOI number into the tab than to log in to a university system, which would take "too many clicks."[54] Academics in Poland also indicated this as a strong advantage of Sci-Hub. This could explain why even in the United States, Germany, and France, which are centers of global knowledge production, numerous papers have been downloaded from Sci-Hub as well.[55] Yet, what discourages many users affiliated with Western institutions from the use of Sci-Hub is the risk of getting entangled in legal and ethical issues. Unfortunately, scholars in peripheral countries must face ethical dilemmas if they wish to keep up-to-date with scholarly literature. For them, Sci-Hub (and other similar websites) are doors to the current academic discussions. This effect is magnified by current higher education reforms in many Eastern European countries.

Unfortunately, scholars in peripheral countries must face ethical dilemmas if they wish to keep up-to-date with scholarly literature.

In Poland, the ongoing higher education reform strongly relies on Scopus or Web of Science platforms—the official evaluation process is based on them and their rankings. This concerns both departments and individual scholars. From the perspective of this paper, it remains of crucial importance that this evaluation of academic employees is based on their publications in the journals included in the list published by the Polish Ministry of Science and Higher Education, which favors large international journals. The latest version of this list was published on December 18, 2019, and encompasses 30,404 academic journals.[56] Every paper has a corresponding number of "points" awarded to an author for publication: 20, 40, 70, 100, 140, or 200. Basically, the number of points depends on the Scopus percentile benchmarks. Those not indexed in Scopus or in the lowest percentile score only 20 points. Then, depending on the quartile, a paper receives 40, 70, 100, or 140 points. Journals awarded 200 points are those from the top 3 percent. This translates into the highest ranked thresholds being reserved for international journals (mainly American or British), which puts pressure on Polish academics to publish only internationally in American or British journals. To do that, one must engage with up-to-date scholarly literature, much of it in English, but hardly any Polish university library has a good full-text database of international journals. This creates an "internationalization trap."

Electronic journals are a means of academic production, because research papers are commodities used in the production of new research ideas. Paradoxically, they are not in the possession of the employers, such as universities or research institutes, but rather of the global for-profit publishers. Insofar as the ownership and control of the means of production constitute power, these institutional actors play a central role in the contemporary academic field. It should be, however, acknowledged that power is "differentiated in the network society and that the power structure is not fully determined by one group or one kind of power structure."[57] In this context, various forms of cultural resistance against international publishers have arisen.[58] The "pirates" help the scholarly community worldwide get access to paywall content for free and enable them to keep up with the West.

In the view of the authors of this paper, the theoretical interpretation of the Sci-Hub phenomenon requires a return to notions from classical social conflict theories, including power struggles, resistance, and modes of production, as well as newer, critical concepts, such as the "digital labor theory of value."[59] The use of Sci-Hub can be seen as the aftermath of different modes of academic production. The current capitalist mode is based in the United States and Western Europe and its main representatives, for example, Elsevier in the Netherlands, Springer in Germany, and Wiley in the United States. They derive profit by selling access to the products of its unsalaried labor force (academics). The countries of the former Union of Soviet Socialist Republics, such as Russia, Belarus, and Ukraine, support the "Belgorod Declaration"—a system committed to spreading open access research.[60]

The academics employed in peripheral countries usually perceive global for-profit publishers as entities that rob them of profit, acting as capitalists in a global knowledge economy where the scholars are the workers. As Christian Fuchs argues, "Knowledge is a peculiar commodity that can quickly be copied and does not disappear by consumption, which does, however, not mean that its producers are unproductive."[61] Thus, "digital socialism" is not "a third way that renders irrelevant the old debates," as originally proposed by Kevin Kelly.[62] Free market logic epitomized by the global for-profit publishers and the interest of people working together remain in sharp contradiction. The argument of a common good is often used by peripheral scholars to justify their rebellion against the system invented and supported by the Western states. Himmelstein and his coauthors declare that "Sci-Hub represents a seismic shift in access to scholarly literature,"[63] but whether it is perceived as "an awe-inspiring act of altruism or a massive criminal enterprise" depends on one's social standing.[64]

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The only solution seems to be to create a library-like system, in which universities from all over the world could participate. It would resemble the WorldCat in terms of coverage but would be not a catalog, rather a repository collecting all journal databases. It would keep the resources both complete and convenient to access, and make them available to scholars all over the world. This would move the burden of the struggle to universities (and libraries as one of their pillars), or in a broader perspective to state governments, as the third party that would then mediate between scholars and global for-profit publishers.

A good example of such support is the boycott of some academic corporations (mostly Elsevier) by certain institutions in individual Western countries due to the high prices of subscriptions.[65] Such a movement is likely to strengthen as millennials (also known as Generation Y, born between late 1980s and 2000s) become more dominant on the academic scene. They are comfortable in their usage of digital technologies and social media and accustomed to easy and instant access. They will demand the same

from a good international digital library system. This shift in expectation is apparent in what Alexandra Elbakyan, herself a millennial, said about Sci-Hub:

> What was especially surprising for me is that there are many people who view Sci-Hub as some kind of a tool to change the system. Like changing the system was a goal, and Sci-Hub was a tool to achieve it. My view is completely different. For me, Sci-Hub has a value by itself, as a website where users can access knowledge . . . The system has to be changed so that websites like Sci-Hub can work without running into problems. Sci-Hub is a goal, changing the system is one of the methods to achieve it.[66]

Elbakyan's reason for launching Sci-Hub was her belief that the fruits of global knowledge production should be accessible to everyone. Millennials will likely use such sites, without respect for copyright,[67] if such use is technically possible, convenient, and private, and if the users have a moral argument at hand (for example, global for-profit publishers rob academics of profit).

Conclusions

The qualitative analysis of interviews (from 2018 and 2019) with international scholars working in Poland sheds new light on the theory of academic labor and the ownership of means of production in academia. In the context of scarce financial resources, scholars from peripheral countries who want to publish internationally and take part in a global debate face many obstacles unless they take one of the "digital backdoors" to global academic knowledge: open source, academic social networking sites (ResearchGate, Academia.edu), downloading papers through intermediaries, or pirate websites (Sci-Hub, LibGen). The first one is entirely legal, whereas the last is decidedly not; the middle options, however, are in the gray zone, as they often infringe copyright, but—as such—are not illegal. Thus, we should distinguish between open access, "shared" content, and "stolen" content.

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The demand for pirate websites is obviously higher in underfinanced, peripheral academic systems, but their convenience of use makes them a threat to official full-text databases in the Western countries as well. In this sense, Sci-Hub may trigger the transformation of what university libraries offer to their users, both in the peripheries and centers of global knowledge production. The precarious conditions in the academia of peripheral countries highlight the apparently global issue of piracy and illegal access to scholarship, which in turn places in question the entire system based on unsalaried authors, paywalled content, for-profit publishers, and libraries acting as intermediaries.

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Notes

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MA: Polity, 2017), 52. The academic publishing industry works in a similar way, and when we replace the three music or film corporations with Reed-Elsevier, Wiley-Blackwell, and Springer, we can draw interesting analogies related to motivations observed in Poland in the case of illegally downloaded music, as well as movies and TV series. Kendall Bartsch even compares Sci-Hub to the once famous Napster in "The Napster Moment: Access and Innovation in Academic Publishing," *Information Services & Use* 37, 3 (2017): 343–48.

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