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Should All Research Papers Be Free?

By KATE MURPHY

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DRAWING comparisons to [Edward Snowden](#), a graduate student from Kazakhstan named [Alexandra Elbakyan](#) is believed to be hiding out in Russia after illegally leaking millions of documents. While she didn't reveal state secrets, she took a stand for the public's right to know by providing free online access to just about every scientific paper ever published, on topics ranging from acoustics to zymology.

Her protest against scholarly journals' paywalls has earned her rock-star status among advocates for open access, and has shined a light on how scientific findings that could inform personal and public policy decisions on matters as consequential as health care, economics and the environment are often prohibitively expensive to read and impossible to aggregate and datamine.

"Realistically only scientists at really big, well-funded universities in the developed world have full access to published research," said [Michael Eisen](#), a professor of genetics, genomics and development at the University of California, Berkeley, and a longtime champion of open access. "The current system slows science by slowing communication of work, slows it by limiting the number of people who can access information and quashes the ability to do the kind of data analysis" that is possible when articles aren't "sitting on various siloed databases."

Journal publishers collectively earned \$10 billion last year, much of it from research libraries, which pay annual subscription fees ranging from \$2,000 to \$35,000 per title if they don't buy subscriptions of bundled titles, which cost millions. The largest companies, like [Elsevier](#), [Taylor & Francis](#), [Springer](#) and [Wiley](#), typically have profit margins of over [30 percent](#), which they say is justified because they are curators of research, selecting only the most worthy papers for publication. Moreover, they orchestrate the vetting, editing and archiving of articles.

That is the argument Elsevier made, supported by a raft of industry amicus briefs, when it filed [suit](#) against Ms. Elbakyan, resulting in an injunction last fall against her file-sharing website, [Sci-Hub](#). "It's as if somehow stealing content is justifiable if it's seen as expensive, and I find that surprising," said Alicia Wise, director of universal access at Elsevier. "It's not as if you'd walk into a grocery store and feel vindicated about stealing an organic chocolate bar as long as you left the Kit Kat bar on the shelf."

But since a federal court order isn't enforceable in Russia (Ms. Elbakyan won't confirm where she is exactly), much less on the Internet, Sci-Hub continues to deliver hundreds of thousands of journal articles per day to a total of 10 million visitors. In an email exchange,

Ms. Elbakyan said her motivations were both practical — she needs articles to do her own academic research — and philosophical. She views the Internet as a “global brain,” and because paywalls inhibit the free flow of information, they prevent humanity from being fully “conscious.” The next court date on the matter is March 17.

A shadow hanging over the case is the memory of the computer programmer and open access activist [Aaron Swartz](#), who hanged himself in 2013 after federal prosecutors [charged](#) him with wire fraud and various violations of the Computer Fraud and Abuse Act after he downloaded millions of academic journal articles via an M.I.T. server. He was facing crushing financial penalties along with jail time, even though it wasn't clear what he planned to do with the cache.

In response to the suit filed against her, Ms. Elbakyan wrote a [letter](#) to the judge pointing out that Elsevier, like other journal publishers, pays nothing to acquire researchers' studies. Moreover, publishers don't pay for the volunteer peer reviewers or editors. But they charge those same researchers, reviewers and editors, not to mention the public, whose tax dollars most likely funded the study in the first place, to read the resulting articles.

“That is very different from the music or movie industry, where creators receive money from each copy sold,” Ms. Elbakyan wrote. “I would like to also mention that we never received any complaints from authors or researchers.”

Legally downloading a single journal article when you don't have a subscription costs around \$30, which adds up quickly considering a search on even narrow topics can return hundreds if not thousands of articles. And the skyrocketing cost of journal subscriptions, which have unlimited downloads, is straining library budgets.

“The prices have been rising twice as fast as the price of health care over the past 20 years, so there's a real scandal there to be exposed,” said Peter Suber, Harvard's director of the office of scholarly communication. “It's important that Harvard is suffering when it has the largest budget of any academic library in the world.”

Mr. Suber was quick to add, however, that he didn't condone Ms. Elbakyan's guerrilla tactics: “Unlawful access gives open access a bad name.”

One solution, he said, was to persuade researchers to publish in open-access journals like those under the umbrella of the Public Library of Science, or [PLOS](#), co-founded by Dr. Eisen at Berkeley. But that financial model requires authors to pay a processing charge that can run anywhere from \$1,500 to \$3,000 per article so the publisher can recoup its costs.

Another option is to upload papers to so-called pre-print repositories where research papers are made available before they've been accepted by a publisher and undergone peer review or editing. Inhibiting this is the widely held belief that more prestigious journals are less likely to accept a study that's already in the public domain.

Following Mr. Swartz's death, the White House issued a [directive](#) requiring agencies that make more than \$100 million in research grants to develop plans so that recipients release their findings to the public within a year of publication. Moreover, there is [legislation](#) before Congress that requires the same, only shortening the embargo period to six months. Private funders such as the [Wellcome Trust](#), [Howard Hughes Medical Institute](#) and the [Bill & Melinda Gates Foundation](#) have also begun making grants contingent on open access to

resulting articles, as well as possibly to the underlying data.

Researchers in some disciplines, such as physics and mathematics, have started open access [journals](#) to protest journal publishers' paywalls or have formed [consortiums](#) that will cover the fees publishers charge authors to make their work open access.

“We are starting to see a shift to an era of experimentation and implementation on how open access can work,” said David Crotty, editorial director for journals policy at the nonprofit [Oxford University Press](#), which has been moving toward exclusively open access formats when starting new journals.

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Possibly the biggest barrier to open access is that scientists are judged by where they have published when they compete for jobs, promotions, tenure and grant money. And the most prestigious journals, such as [Cell](#), [Nature](#) and [The Lancet](#), also tend to be the most protective of their content.

“The real people to blame are the leaders of the scientific community — Nobel scientists, heads of institutions, the presidents of universities — who are in a position to change things but have never faced up to this problem in part because they are beneficiaries of the system,” said Dr. Eisen. “University presidents love to tout how important their scientists are because they publish in these journals.”

Until the system changes, Ms. Elbakyan said she would continue to distribute journal articles to whoever wants them. Paraphrasing [part](#) of the United Nations Charter, she said, “Everyone has the right to freely share in scientific advancement and its benefits.”