

## The Real Cost of Knowledge

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**The University of California has broken with one of the world's largest academic publishers. Is this the end of a very profitable business model?**



The Geisel Library at UC San Diego Lenny Ignelzi / AP

This past Thursday, the University of California, one of the largest research institutions in the world, [blew up negotiations](#) with Elsevier, one of the largest publishers of research articles in the world. The university would no longer pay Elsevier millions of dollars a year to subscribe to its journals. It simply walked away.

Not so long ago, blowing off a publisher as important as Elsevier would have been unthinkable. But academics have been joining in an open revolt against Elsevier's extremely profitable business model. In 2012, mathematicians started a petition to boycott the publisher that has since been signed by [more than 17,000 researchers](#). In December 2016, [universities in Germany](#) stopped paying for Elsevier's journals. In 2018, the same thing happened in [Sweden](#) and then [Hungary](#).

Elsevier still made [\\$1.17 billion in publishing in 2017](#), which is precisely the problem, according to its critics. At its loftiest, academic publishing is supposed to be about disseminating hard-won knowledge. But publishers charge hefty subscription fees, making that knowledge often inaccessible to researchers at all but the wealthiest institutions. Last year, the University of California paid Elsevier \$11 million.

At the same time academic institutions are paying for access to journals, their employees are providing labor to journals for free. When journals receive a

manuscript, they send it to experts in the field in a process called peer review. Peer reviewers vet the articles, make detailed suggestions, and offer a recommendation for or against the manuscript's publication. Journals do not pay peer reviewers, even though their work takes substantial time and is absolutely vital to academic publishing.

Nor do journals pay for the research that they publish. In the United States, research funding often comes from government agencies—in other words, from taxpayers. Yet if members of the public tried to read new academic research, they would very quickly hit paywalls. This puts the public in the odd position of having to pay for research twice—first to fund it, and a second time to access its results.

Alternatives have started to emerge. There are illegal ones, such as the website Sci-Hub, that allow users to [pirate journal articles](#). (Elsevier sued Sci-Hub and [won \\$15 million in 2017](#).) But the strongest push for a new, aboveboard system has come from the open-access movement.

[ Read: [The research pirates of the dark web](#) ]

*Open access* means a journal article is free to read, but researchers pay the journal a fee to cover the cost of publishing. For publishers, it means changing their business model from charging readers to charging authors. In 2001, scientists founded the [Public Library of Science](#) to publish open-access journals. The idea caught on, and even traditional publishers, [including Elsevier](#), have since introduced open-access journals under their umbrella. But the most prestigious journals, such as *Nature* and *Science*, remain behind a paywall.

The agencies that fund scientific research are growing enthusiastic about open access. In the United States, government agencies such as the National Institutes of Health and the National Science Foundation require grantees to deposit their papers in a public repository within 12 months of publication. Last fall, 11 European agencies that collectively fund \$8.8 billion in research put forward a far more radical proposal, Plan S. By 2020, the scientists they fund would be able to publish only in journals that are free to read upon publication. (“The S in *Plan S* can stand for ‘science, speed, solution, shock,’” its leading proponent [told Nature](#).) The Bill & Melinda Gates Foundation later [signed on to Plan S](#) as well.

[ Read: [Academics want you to read their work for free](#) ]

The University of California cast its negotiations with Elsevier as a battle over open access, too. It went in with the goal of making all research from UC authors open access by default. The university wanted one contract to cover both the cost of publishing open-access articles and the cost of journal subscriptions. Elsevier says it offered UC a “unique model” that would offer researchers options for publishing. But the two sides couldn't agree on specifics or a number. On one hand, this is a dispute about library fees. On the other, this is a dispute about the future of how knowledge is disseminated. UC Berkeley's university librarian, Jeffrey MacKie-

Mason, did not hesitate to put it in high-minded terms: “This really affects the progress of science in society and the advancement of humanity.”

When Elsevier was founded, in 1880, it took its name from the legendary Dutch publishing house Elzevir, which had ceased publishing more than a century earlier. As its logo, Elsevier used the Elzevir family’s printer’s mark, a tree entwined with a vine alongside the words *Non Solus*, or Latin for “not alone.” The logo represents, [Elsevier has suggested](#), “the symbiotic relationship between publisher and scholar.” It is a nice sentiment, but certainly not a universal one.