



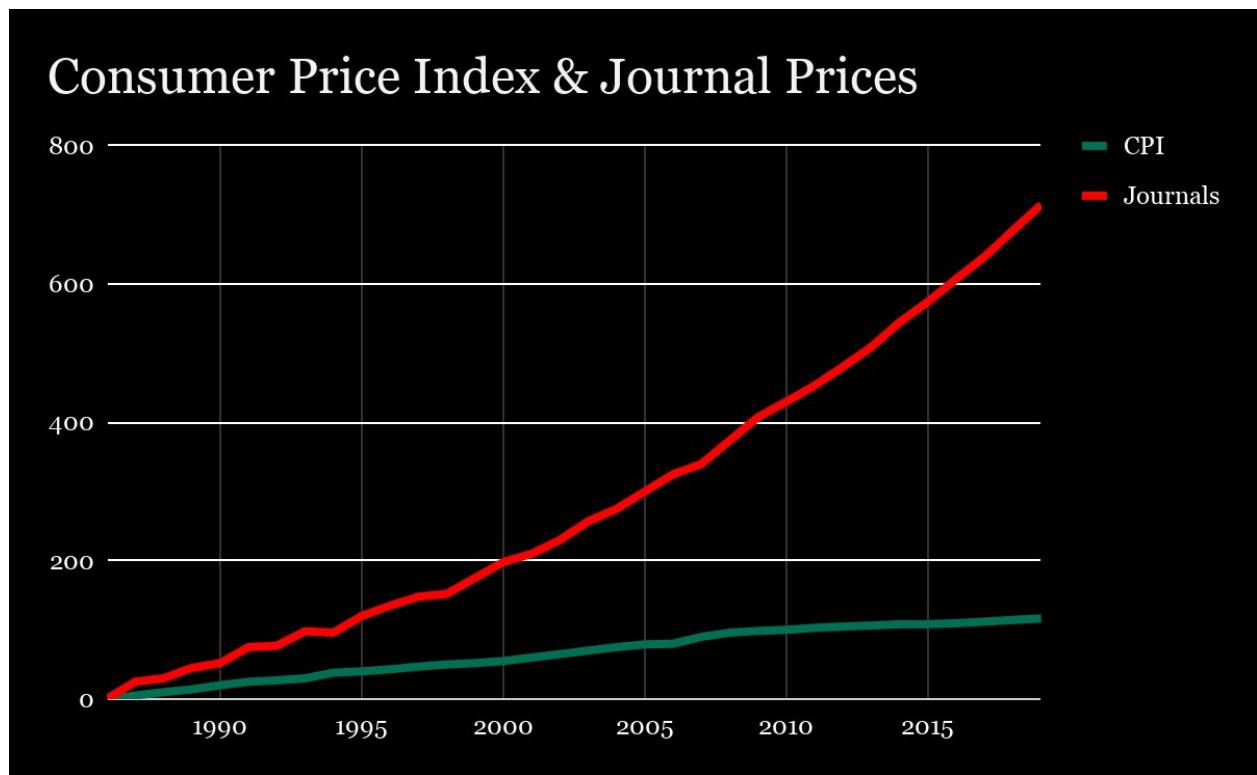
JOURNAL PUBLISHING AND PRICING

READINGS & DATA FOR UVM FACULTY

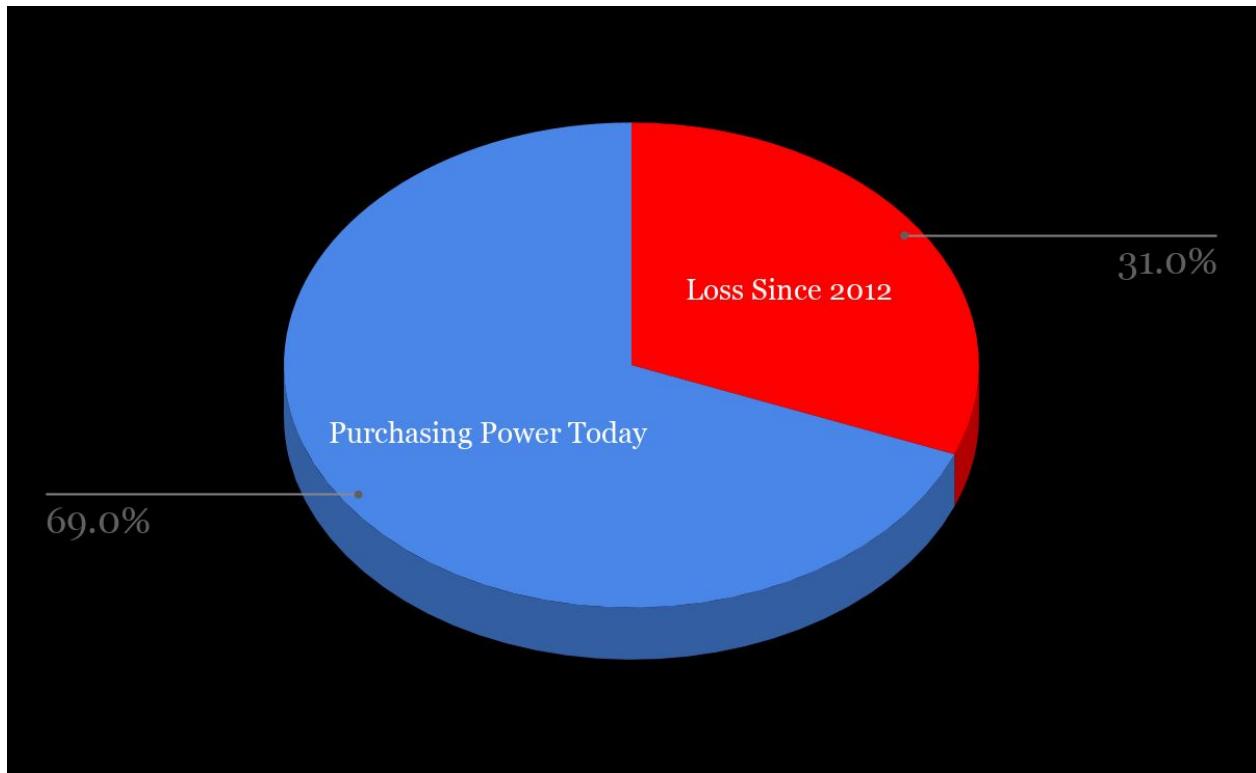
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#1: JOURNAL PRICE INFLATION AND THE CONSUMER PRICE INDEX, 1986-PRESENT

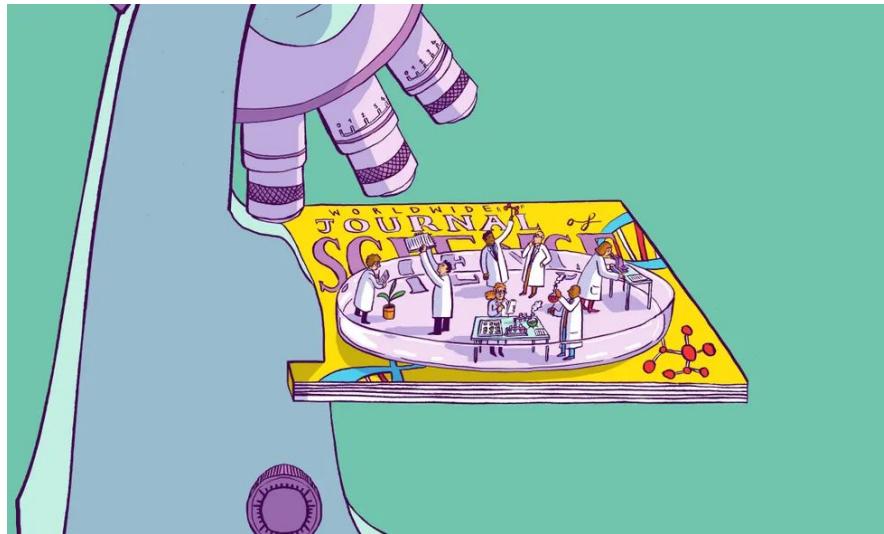


#2: DECLINE IN UVM LIBRARY PURCHASING POWER



#3: Is the Staggeringly Profitable Business of Scientific Publishing Bad for Science?

the guardian



By [Stephen Buranyi](#)

Main image: illustration for science publishing long read Illustration: Dom McKenzie

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In 2011, Claudio Aspesi, a senior investment analyst at Bernstein Research in London, made a bet that the dominant firm in one of the most lucrative industries in the world was headed for a crash. [Reed-Elsevier](#), a multinational publishing giant with annual revenues exceeding £6bn, was an investor's darling. It was one of the few publishers that had successfully managed the transition to the internet, and a recent company report was predicting yet another year of growth. Aspesi, though, had reason to believe that that prediction – along with those of every other major financial analyst – was wrong.

The core of Elsevier's operation is in scientific journals, the weekly or monthly publications in which scientists share their results. Despite the narrow audience, scientific publishing is a remarkably big business. With total global revenues of more than £19bn, it weighs in somewhere between the recording and the film industries in size, but it is far more profitable. In 2010, Elsevier's scientific publishing arm reported profits of £724m on just over £2bn in revenue. It was a 36% margin – higher than Apple, Google, or Amazon posted that year.

But Elsevier's business model seemed a truly puzzling thing. In order to make money, a traditional publisher – say, a magazine – first has to cover a multitude of costs: it pays writers for the articles; it employs editors to commission, shape and check the articles; and it pays to distribute the finished product

to subscribers and retailers. All of this is expensive, and successful magazines typically make profits of around 12-15%.

The way to make money from a scientific article looks very similar, except that scientific publishers manage to duck most of the actual costs. Scientists create work under their own direction – funded largely by governments – and give it to publishers for free; the publisher pays scientific editors who judge whether the work is worth publishing and check its grammar, but the bulk of the editorial burden – checking the scientific validity and evaluating the experiments, a process known as [peer review](#) – is done by working scientists on a volunteer basis. The publishers then sell the product back to government-funded institutional and university libraries, to be read by scientists – who, in a collective sense, created the product in the first place.

It is as if the New Yorker or the Economist demanded that journalists write and edit each other's work for free, and asked the government to foot the bill. Outside observers tend to fall into a sort of stunned disbelief when describing this setup. A 2004 parliamentary science and technology committee report on the industry drily observed that “in a traditional market suppliers are paid for the goods they provide”. A 2005 Deutsche Bank report referred to it as a “bizarre” “triple-pay” system, in which “the state funds most research, pays the salaries of most of those checking the quality of research, and then buys most of the published product”.

Scientists are well aware that they seem to be getting a bad deal. The publishing business is “perverse and needless”, the Berkeley biologist Michael Eisen [wrote in a 2003 article for the Guardian](#), declaring that it “should be a public scandal”. Adrian Sutton, a physicist at Imperial College, told me that scientists “are all slaves to publishers. What other industry receives its raw materials from its customers, gets those same customers to carry out the quality control of those materials, and then sells the same materials back to the customers at a vastly inflated price?” (A representative of RELX Group, the official name of Elsevier since 2015, told me that it and other publishers “serve the research community by doing things that they need that they either cannot, or do not do on their own, and charge a fair price for that service”.)

Many scientists also believe that the publishing industry exerts too much influence over what scientists choose to study, which is ultimately bad for science itself. Journals prize new and spectacular results – after all, they are in the business of selling subscriptions – and scientists, knowing exactly what kind of work gets published, align their submissions accordingly. This produces a steady stream of papers, the importance of which is immediately apparent. But it also means that scientists do not have an accurate map of their field of inquiry. Researchers may end up inadvertently exploring dead ends that their fellow scientists have already run up against, solely because the information about previous failures has never been given space in the pages of the relevant scientific publications. A 2013 study, for example, reported that half of all clinical trials in the US [are never published](#) in a journal.

According to critics, the journal system actually holds back scientific progress. In [a 2008 essay](#), Dr Neal Young of the National Institutes of Health (NIH), which funds and conducts medical research for the US government, argued that, given the importance of scientific innovation to society, “there is a moral imperative to reconsider how scientific data are judged and disseminated”.

Aspesi, after talking to a network of more than 25 prominent scientists and activists, had come to believe the tide was about to turn against the industry that Elsevier led. More and more research libraries, which purchase journals for universities, were claiming that their budgets were exhausted by decades of price increases, and were threatening to cancel their multi-million-pound subscription packages unless Elsevier

dropped its prices. State organisations such as the American NIH and the German Research Foundation (DFG) had recently committed to making their research available through free online journals, and Aspesi believed that governments might step in and ensure that all publicly funded research would be available for free, to anyone. Elsevier and its competitors would be caught in a perfect storm, with their customers revolting from below, and government regulation looming above.

In March 2011, Aspesi published a report recommending that his clients sell Elsevier stock. A few months later, in a conference call between Elsevier management and investment firms, he pressed the CEO of Elsevier, Erik Engstrom, about the deteriorating relationship with the libraries. He asked what was wrong with the business if “your customers are so desperate”. Engstrom dodged the question. Over the next two weeks, Elsevier stock tumbled by more than 20%, losing £1bn in value. The problems Aspesi saw were deep and structural, and he believed they would play out over the next half-decade – but things already seemed to be moving in the direction he had predicted.

Over the next year, however, most libraries backed down and committed to Elsevier’s contracts, and governments largely failed to push an alternative model for disseminating research. In 2012 and 2013, Elsevier posted profit margins of more than 40%. The following year, Aspesi reversed his recommendation to sell. “He listened to us too closely, and he got a bit burned,” David Prosser, the head of Research Libraries UK, and a prominent voice for reforming the publishing industry, told me recently. Elsevier was here to stay.



Illustration: Dom McKenzie

Aspesi was not the first person to incorrectly predict the end of the scientific publishing boom, and he is unlikely to be the last. It is hard to believe that what is essentially a for-profit oligopoly functioning within an otherwise heavily regulated, government-funded enterprise can avoid extinction in the long run. But publishing has been deeply enmeshed in the science profession for decades. Today,

every scientist knows that their career depends on being published, and professional success is especially determined by getting work into the most prestigious journals. The long, slow, nearly directionless work pursued by some of the most influential scientists of the 20th century is no longer a viable career option. Under today’s system, the father of genetic sequencing, Fred Sanger, who published very little in the two decades between his 1958 and 1980 Nobel prizes, may well have found himself out of a job.

Even scientists who are fighting for reform are often not aware of the roots of the system: how, in the boom years after the second world war, entrepreneurs built fortunes by taking publishing out of the hands of scientists and expanding the business on a previously unimaginable scale. And no one was more transformative and ingenious than Robert Maxwell, who turned scientific journals into a spectacular money-making machine that bankrolled his rise in British society. Maxwell would go on to become an MP, a press baron who challenged Rupert Murdoch, and one of the most notorious figures in British life. But his true importance was far larger than most of us realise. Improbable as it might sound, few people in the last century have done more to shape the way science is conducted today than Maxwell.

In 1946, the 23-year-old Robert Maxwell was working in Berlin and already had a significant reputation. Although he had grown up in a poor Czech village, he had fought for the British army during the war as part of a contingent of European exiles, winning a Military Cross and British citizenship in the process. After the war, he served as an intelligence officer in Berlin, using his nine languages to interrogate prisoners. Maxwell was tall, brash, and not at all content with his already considerable success – an acquaintance at the time recalled him confessing his greatest desire: “to be a millionaire”.

At the same time, the British government was preparing an unlikely project that would allow him to do just that. Top British scientists – from Alexander Fleming, who discovered penicillin, to the physicist Charles Galton Darwin, grandson of Charles Darwin – were concerned that while British science was world-class, its publishing arm was dismal. Science publishers were mainly known for being inefficient and constantly broke. Journals, which often appeared on cheap, thin paper, were produced almost as an afterthought by scientific societies. The British Chemical Society had a months-long backlog of articles for publication, and relied on cash handouts from the Royal Society to run its printing operations.

The government’s solution was to pair the venerable British publishing house Butterworths (now owned by Elsevier) with the renowned German publisher Springer, to draw on the latter’s expertise. Butterworths would learn to turn a profit on journals, and British science would get its work out at a faster pace. Maxwell had already established his own business helping Springer ship scientific articles to Britain. The Butterworths directors, being ex-British intelligence themselves, hired the young Maxwell to help manage the company, and another ex-spy, Paul Rosbaud, a metallurgist who spent the war passing Nazi nuclear secrets to the British through the French and Dutch resistance, as scientific editor.

They couldn’t have begun at a better time. Science was about to enter a period of unprecedented growth, having gone from being a scattered, amateur pursuit of wealthy gentleman to a respected profession. In the postwar years, it would become a byword for progress. “Science has been in the wings. It should be brought to the centre of the stage – for in it lies much of our hope for the future,” wrote the American engineer and Manhattan Project administrator Vannevar Bush, in a 1945 report to President Harry S Truman. After the war, government emerged for the first time as the major patron of scientific endeavour, not just in the military, but through newly created agencies such as the US National Science Foundation, and the rapidly expanding university system.

When Butterworths decided to abandon the fledgling project in 1951, Maxwell offered £13,000 (about £420,000 today) for both Butterworth’s and Springer’s shares, giving him control of the company. Rosbaud stayed on as scientific director, and named the new venture Pergamon Press, after a coin from the ancient Greek city of Pergamon, featuring Athena, goddess of wisdom, which they adapted for the company’s logo – a simple line drawing appropriately representing both knowledge and money.

In an environment newly flush with cash and optimism, it was Rosbaud who pioneered the method that would drive Pergamon’s success. As science expanded, he realised that it would need new journals to cover new areas of study. The scientific societies that had traditionally created journals were unwieldy institutions that tended to move slowly, hampered by internal debates between members about the boundaries of their field. Rosbaud had none of these constraints. All he needed to do was to convince a prominent academic that their particular field required a new journal to showcase it properly, and install that person at the helm of it. Pergamon would then begin selling subscriptions to university libraries, which suddenly had a lot of government money to spend.

Maxwell was a quick study. In 1955, he and Rosbaud attended the Geneva Conference on Peaceful Uses of Atomic Energy. Maxwell rented an office near the conference and wandered into seminars and official functions offering to publish any papers the scientists had come to present, and asking them to sign exclusive contracts to edit Pergamon journals. Other publishers were shocked by his brash style. Daan Frank, of North Holland [Publishing](#) (now owned by Elsevier) would later complain that Maxwell was “dishonest” for scooping up scientists without regard for specific content.

Rosbaud, too, was reportedly put off by Maxwell’s hunger for profit. Unlike the humble former scientist, Maxwell favoured expensive suits and slicked-back hair. Having rounded his Czech accent into a formidably posh, newsreader basso, he looked and sounded precisely like the tycoon he wished to be. In 1955, Rosbaud told the Nobel prize-winning physicist Nevill Mott that the journals were his beloved little “ewe lambs”, and Maxwell was the biblical King David, who would butcher and sell them for profit. In 1956, the pair had a falling out, and Rosbaud left the company.

By then, Maxwell had taken Rosbaud’s business model and turned it into something all his own. Scientific conferences tended to be drab, low-ceilinged affairs, but when Maxwell returned to the Geneva conference that year, he rented a house in nearby Collonge-Bellerive, a picturesque town on the lakeshore, where he entertained guests at parties with booze, cigars and sailboat trips.

Scientists had never seen anything like him. “He always said we don’t compete on sales, we compete on authors,” Albert Henderson, a former deputy director at Pergamon, told me. “We would attend conferences specifically looking to recruit editors for new journals.” There are tales of parties on the roof of the Athens Hilton, of gifts of Concorde flights, of scientists being put on a chartered boat tour of the Greek islands to plan their new journal.

By 1959, Pergamon was publishing 40 journals; six years later it would publish 150. This put Maxwell well ahead of the competition. (In 1959, Pergamon’s rival, Elsevier, had just 10 English-language journals, and it would take the company another decade to reach 50.) By 1960, Maxwell had taken to being driven in a chauffeured Rolls-Royce, and moved his home and the Pergamon operation from London to the palatial Headington Hill Hall estate in Oxford, which was also home to the British book publishing house Blackwell’s.

Scientific societies, such as the British Society of Rheology, seeing the writing on the wall, even began letting Pergamon take over their journals for a small regular fee. Leslie Iversen, former editor at the Journal of Neurochemistry, recalls being wooed with lavish dinners at Maxwell’s estate. “He was very impressive, this big entrepreneur,” said Iversen. “We would get dinner and fine wine, and at the end he would present us a cheque – a few thousand pounds for the society. It was more money than us poor scientists had ever seen.”

Maxwell insisted on grand titles – “International Journal of” was a favourite prefix. Peter Ashby, a former vice president at Pergamon, described this to me as a “PR trick”, but it also reflected a deep understanding of how science, and society’s attitude to science, had changed. Collaborating and getting your work seen on the international stage was becoming a new form of prestige for researchers, and in many cases Maxwell had the market cornered before anyone else realised it existed. When the Soviet Union launched Sputnik, the first man-made satellite, in 1957, western scientists scrambled to catch up on Russian space research, and were surprised to learn that Maxwell had already negotiated an exclusive English-language deal to publish the Russian Academy of Sciences’ journals earlier in the decade.

“He had interests in all of these places. I went to Japan, he had an American man running an office there by himself. I went to India, there was someone there,” said Ashby. And the international markets could be extremely lucrative. Ronald Suleski, who ran Pergamon’s Japanese office in the 1970s, told me that the Japanese scientific societies, desperate to get their work published in English, gave Maxwell the rights to their members’ results for free.

In a letter celebrating Pergamon’s 40th anniversary, Eiichi Kobayashi, director of Maruzen, Pergamon’s longtime Japanese distributor, recalled of Maxwell that “each time I have the pleasure of meeting him, I am reminded of F Scott Fitzgerald’s words that a millionaire is no ordinary man”.

The scientific article has essentially become the only way science is systematically represented in the world. (As Robert Kiley, head of digital services at the library of the Wellcome Trust, the world’s second-biggest private funder of biomedical research, puts it: “We spend a billion pounds a year, and we get back articles.”) It is the primary resource of our most respected realm of expertise. “Publishing is the expression of our work. A good idea, a conversation or correspondence, even from the most brilliant person in the world … doesn’t count for anything unless you have it published,” says Neal Young of the NIH. If you control access to the scientific literature, it is, to all intents and purposes, like controlling science.

Maxwell’s success was built on an insight into the nature of scientific journals that would take others years to understand and replicate. While his competitors groused about him diluting the market, Maxwell knew that there was, in fact, no limit to the market. Creating *The Journal of Nuclear Energy* didn’t take business away from rival publisher North Holland’s journal *Nuclear Physics*. Scientific articles are about unique discoveries: one article cannot substitute for another. If a serious new journal appeared, scientists would simply request that their university library subscribe to that one as well. If Maxwell was creating three times as many journals as his competition, he would make three times more money.

The only potential limit was a slow-down in government funding, but there was little sign of that happening. In the 1960s, Kennedy bankrolled the space programme, and at the outset of the 1970s Nixon declared a “war on cancer”, while at the same time the British government developed its own nuclear programme with American aid. No matter the political climate, science was buoyed by great swells of government money.



Robert Maxwell in 1985. Photograph: Terry O'Neill/Hulton/Getty

In its early days, Pergamon had been at the centre of fierce debates about the ethics of allowing commercial interests into the supposedly disinterested and profit-shunning world of science. In a 1988 letter commemorating the 40th anniversary of Pergamon, John Coales of Cambridge University noted that initially many of his friends “considered [Maxwell] the greatest villain yet unhung”.

But by the end of the 1960s, commercial publishing was considered the status quo, and publishers were seen as a necessary partner in the advancement of science. Pergamon helped turbocharge the field’s great expansion by speeding up the publication process and presenting it in a more stylish package. Scientists’

concerns about signing away their copyright were overwhelmed by the convenience of dealing with Pergamon, the shine it gave their work, and the force of Maxwell's personality. Scientists, it seemed, were largely happy with the wolf they had let in the door.

"He was a bully, but I quite liked him," says Denis Noble, a physiologist at Oxford University and the editor of the journal *Progress in Biophysics & Molecular Biology*. Occasionally, Maxwell would call Noble to his house for a meeting. "Often there would be a party going on, a nice musical ensemble, there was no barrier between his work and personal life," Noble says. Maxwell would then proceed to alternately browbeat and charm him into splitting the biannual journal into a monthly or bimonthly publication, which would lead to an attendant increase in subscription payments.

In the end, though, Maxwell would nearly always defer to the scientists' wishes, and scientists came to appreciate his patronly persona. "I have to confess that, quickly realising his predatory and entrepreneurial ambitions, I nevertheless took a great liking to him," Arthur Barrett, then editor of the journal *Vacuum*, wrote in a 1988 piece about the publication's early years. And the feeling was mutual. Maxwell doted on his relationships with famous scientists, who were treated with uncharacteristic deference. "He realised early on that the scientists were vitally important. He would do whatever they wanted. It drove the rest of the staff crazy," Richard Coleman, who worked in journal production at Pergamon in the late 1960s, told me. When Pergamon was the target of a hostile takeover attempt, a 1973 *Guardian* article reported that journal editors threatened "to desert" rather than work for another chairman.

Maxwell had transformed the business of publishing, but the day-to-day work of science remained unchanged. Scientists still largely took their work to whichever journal was the best fit for their research area – and Maxwell was happy to publish any and all research that his editors deemed sufficiently rigorous. In the mid-1970s, though, publishers began to meddle with the practice of science itself, starting down a path that would lock scientists' careers into the publishing system, and impose the business's own standards on the direction of research. One journal became the symbol of this transformation.

"At the start of my career, nobody took much notice of where you published, and then everything changed in 1974 with *Cell*," Randy Schekman, the Berkeley molecular biologist and Nobel prize winner, told me. *Cell* (now owned by Elsevier) was a journal started by [Massachusetts Institute of Technology \(MIT\)](#) to showcase the newly ascendant field of molecular biology. It was edited by a young biologist named Ben Lewin, who approached his work with an intense, almost literary bent. Lewin prized long, rigorous papers that answered big questions – often representing years of research that would have yielded multiple papers in other venues – and, breaking with the idea that journals were passive instruments to communicate science, he rejected far more papers than he published.

What he created was a venue for scientific blockbusters, and scientists began shaping their work on his terms. "Lewin was clever. He realised scientists are very vain, and wanted to be part of this selective members club; *Cell* was 'it', and you had to get your paper in there," Schekman said. "I was subject to this kind of pressure, too." He ended up publishing some of his Nobel-cited work in *Cell*.

Suddenly, *where* you published became immensely important. Other editors took a similarly activist approach in the hopes of replicating *Cell*'s success. Publishers also adopted a metric called "impact factor," invented in the 1960s by Eugene Garfield, a librarian and linguist, as a rough calculation of how often papers in a given journal are cited in other papers. For publishers, it became a way to rank and

advertise the scientific reach of their products. The new-look journals, with their emphasis on big results, shot to the top of these new rankings, and scientists who published in “high-impact” journals were rewarded with jobs and funding. Almost overnight, a new currency of prestige had been created in the scientific world. (Garfield later referred to his creation as “like nuclear energy … a mixed blessing”.)

It is difficult to overstate how much power a journal editor now had to shape a scientist’s career and the direction of science itself. “Young people tell me all the time, ‘If I don’t publish in CNS [a common acronym for Cell/Nature/Science, the most prestigious journals in biology], I won’t get a job,’ says Schekman. He compared the pursuit of high-impact publications to an incentive system as rotten as banking bonuses. “They have a very big influence on where science goes,” he said.

And so science became a strange co-production between scientists and journal editors, with the former increasingly pursuing discoveries that would impress the latter. These days, given a choice of projects, a scientist will almost always reject both the prosaic work of confirming or disproving past studies, and the decades-long pursuit of a risky “moonshot”, in favour of a middle ground: a topic that is popular with editors and likely to yield regular publications. “Academics are incentivised to produce research that caters to these demands,” said the biologist and Nobel laureate Sydney Brenner in a [2014 interview](#), calling the system “corrupt.”

Maxwell understood the way journals were now the kingmakers of science. But his main concern was still expansion, and he still had a keen vision of where science was heading, and which new fields of study he could colonise. Richard Charkin, the former CEO of the British publisher Macmillan, who was an editor at Pergamon in 1974, recalls Maxwell waving [Watson and Crick’s one-page report](#) on the structure of DNA at an editorial meeting and declaring that the future was in life science and its multitude of tiny questions, each of which could have its own publication. “I think we launched a hundred journals that year,” Charkin said. “I mean, Jesus wept.”

Pergamon also branched into social sciences and psychology. A series of journals prefixed “Computers and” suggest that Maxwell spotted the growing importance of digital technology. “It was endless,” Peter Ashby told me. “Oxford Polytechnic [now Oxford Brookes University] started a department of hospitality with a chef. We had to go find out who the head of the department was, make him start a journal. And boom – International Journal of Hospitality Management.”

By the late 1970s, Maxwell was also dealing with a more crowded market. “I was at Oxford University Press at that time,” Charkin told me. “We sat up and said, ‘Hell, these journals make a lot of money!’” Meanwhile, in the Netherlands, Elsevier had begun expanding its English-language journals, absorbing the domestic competition in a series of acquisitions and growing at a rate of 35 titles a year.

As Maxwell had predicted, competition didn’t drive down prices. Between 1975 and 1985, the average price of a journal doubled. The New York Times reported that in 1984 it cost \$2,500 to subscribe to the journal Brain Research; in 1988, it cost more than \$5,000. That same year, Harvard Library overran its research journal budget by half a million dollars.

Scientists occasionally questioned the fairness of this hugely profitable business to which they supplied their work for free, but it was university librarians who first realised the trap in the market Maxwell had created. The librarians used university funds to buy journals on behalf of scientists. Maxwell was well

aware of this. “Scientists are not as price-conscious as other professionals, mainly because they are not spending their own money,” he told his publication Global Business in a 1988 interview. And since there was no way to swap one journal for another, cheaper one, the result was, Maxwell continued, “a perpetual financing machine”. Librarians were locked into a series of thousands of tiny monopolies. There were now more than a million scientific articles being published a year, and they had to buy all of them at whatever price the publishers wanted.

From a business perspective, it was a total victory for Maxwell. Libraries were a captive market, and journals had improbably installed themselves as the gatekeepers of scientific prestige – meaning that scientists couldn’t simply abandon them if a new method of sharing results came along. “Were we not so naive, we would long ago have recognised our true position: that we are sitting on top of fat piles of money which clever people on all sides are trying to transfer on to their piles,” wrote the University of Michigan librarian Robert Houbeck in a trade journal in 1988. Three years earlier, despite scientific funding suffering its first multi-year dip in decades, Pergamon had reported a 47% profit margin.

Maxwell wouldn’t be around to tend his victorious empire. The acquisitive nature that drove Pergamon’s success also led him to make a surfeit of flashy but questionable investments, including the football teams Oxford United and Derby County FC, television stations around the world, and, in 1984, the UK’s Mirror newspaper group, where he began to spend more and more of his time. In 1991, to finance his impending purchase of the New York Daily News, Maxwell sold Pergamon to its quiet Dutch competitor Elsevier for £440m (£919m today).

Many former Pergamon employees separately told me that they knew it was all over for Maxwell when he made the Elsevier deal, because Pergamon was the company he truly loved. Later that year, he became mired in a series of scandals over his mounting debts, shady accounting practices, and an explosive accusation by the American journalist Seymour Hersh that he was an Israeli spy with links to arms traders. On 5 November 1991, Maxwell was found drowned off his yacht in the Canary Islands. The world was stunned, and by the next day the Mirror’s tabloid rival Sun was posing the question on everyone’s mind: “DID HE FALL … DID HE JUMP?”, its headline blared. (A third explanation, that he was pushed, would also come up.)

The story dominated the British press for months, with suspicion growing that Maxwell had committed suicide, after an investigation revealed that [he had stolen more than £400m](#) from the Mirror pension fund to service his debts. (In December 1991, a Spanish coroner’s report ruled the death accidental.) The speculation was endless: in 2003, the journalists Gordon Thomas and Martin Dillon published a book alleging that Maxwell was assassinated by Mossad to hide his spying activities. By that time, Maxwell was long gone, but the business he had started continued to thrive in new hands, reaching new levels of profit and global power over the coming decades.

If Maxwell’s genius was in expansion, Elsevier’s was in consolidation. With the purchase of Pergamon’s 400-strong catalogue, Elsevier now controlled more than 1,000 scientific journals, making it by far the largest scientific publisher in the world.

At the time of the merger, Charkin, the former Macmillan CEO, recalls advising Pierre Vinken, the CEO of Elsevier, that Pergamon was a mature business, and that Elsevier had overpaid for it. But Vinken had no doubts, Charkin recalled: “He said, ‘You have no idea how profitable these journals are once you stop

doing anything. When you're building a journal, you spend time getting good editorial boards, you treat them well, you give them dinners. Then you market the thing and your salespeople go out there to sell subscriptions, which is slow and tough, and you try to make the journal as good as possible. That's what happened at Pergamon. And then we buy it and we stop doing all that stuff and then the cash just pours out and you wouldn't believe how wonderful it is.' He was right and I was wrong."

By 1994, three years after acquiring Pergamon, Elsevier had raised its prices by 50%. Universities complained that their budgets were stretched to breaking point – the US-based Publishers Weekly reported librarians referring to a “doomsday machine” in their industry – and, for the first time, they began cancelling subscriptions to less popular journals.

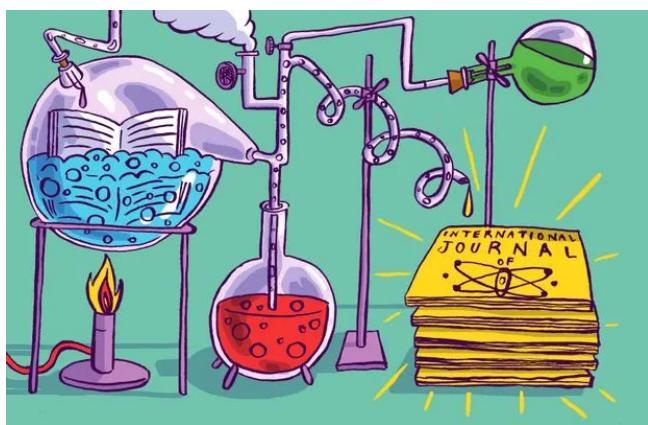


Illustration: Dom McKenzie

At the time, Elsevier's behaviour seemed suicidal. It was angering its customers just as the internet was arriving to offer them a free alternative. A 1995 Forbes article described scientists sharing results over early web servers, and asked if Elsevier was to be “The Internet’s First Victim”. But, as always, the publishers understood the market better than the academics.

In 1998, Elsevier rolled out its plan for the internet age, which would come to be called “The Big Deal”. It offered electronic access to bundles of hundreds of journals at a time: a university would pay a set fee each year – according to a report based on freedom of information requests, Cornell University’s 2009 tab was just short of \$2m – and any student or professor could download any journal they wanted through Elsevier’s website. Universities signed up en masse.

Those predicting Elsevier’s downfall had assumed scientists experimenting with sharing their work for free online could slowly outcompete Elsevier’s titles by replacing them one at a time. In response, Elsevier created a switch that fused Maxwell’s thousands of tiny monopolies into one so large that, like a basic resource – say water, or power – it was impossible for universities to do without. Pay, and the scientific lights stayed on, but refuse, and up to a quarter of the scientific literature would go dark at any one institution. It concentrated immense power in the hands of the largest publishers, and Elsevier’s profits began another steep rise that would lead them into the billions by the 2010s. In 2015, a Financial Times article anointed Elsevier “the business the internet could not kill”.

Publishers are now wound so tightly around the various organs of the scientific body that no single effort has been able to dislodge them. In a 2015 report, an information scientist from the University of Montreal, Vincent Larivière, showed that Elsevier owned 24% of the scientific journal market, while Maxwell’s old partners Springer, and his crosstown rivals Wiley-Blackwell, controlled about another 12% each. These three companies accounted for half the market. (An Elsevier representative familiar with the report told me that by their own estimate they publish only 16% of the scientific literature.)

“Despite my giving sermons all over the world on this topic, it seems journals hold sway even more prominently than before,” Randy Schekman told me. It is that influence, more than the profits that drove the system’s expansion, that most frustrates scientists today.

Elsevier says its primary goal is to facilitate the work of scientists and other researchers. An Elsevier rep noted that the company received 1.5m article submissions last year, and published 420,000; 14 million scientists entrust Elsevier to publish their results, and 800,000 scientists donate their time to help them with editing and peer-review. “We help researchers be more productive and efficient,” Alicia Wise, senior vice president of global strategic networks, told me. “And that’s a win for research institutions, and for research funders like governments.”

On the question of why so many scientists are so critical of journal publishers, Tom Reller, vice president of corporate relations at Elsevier, said: “It’s not for us to talk about other people’s motivations. We look at the numbers [of scientists who trust their results to Elsevier] and that suggests we are doing a good job.” Asked about criticisms of Elsevier’s business model, Reller said in an email that these criticisms overlooked “all the things that publishers do to add value – above and beyond the contributions that public-sector funding brings”. That, he said, is what they were charging for.

In a sense, it is not any one publisher’s fault that the scientific world seems to bend to the industry’s gravitational pull. When governments including those of China and Mexico offer financial bonuses for publishing in high-impact journals, they are not responding to a demand by any specific publisher, but following the rewards of an enormously complex system that has to accommodate the utopian ideals of science with the commercial goals of the publishers that dominate it. (“We scientists have not given a lot of thought to the water we’re swimming in,” Neal Young told me.)

Since the early 2000s, scientists have championed an alternative to subscription publishing called “open access”. This solves the difficulty of balancing scientific and commercial imperatives by simply removing the commercial element. In practice, this usually takes the form of online journals, to which scientists pay an upfront fee to cover editing costs, which then ensure the work is available free to access for anyone in perpetuity. But despite the backing of some of the biggest funding agencies in the world, including the Gates Foundation and the Wellcome Trust, only about a quarter of scientific papers are made freely available at the time of their publication.

The idea that scientific research should be freely available for anyone to use is a sharp departure, even a threat, to the current system – which relies on publishers’ ability to restrict access to the scientific literature in order to maintain its immense profitability. In recent years, the most radical opposition to the status quo has coalesced around a controversial website called Sci-Hub – a sort of Napster for science that allows anyone to download scientific papers for free. Its creator, Alexandra Elbakyan, a Kazakhstani, is in hiding, facing charges of hacking and copyright infringement in the US. Elsevier recently obtained [a \\$15m injunction](#) (the maximum allowable amount) against her.

Elbakyan is an unabashed utopian. “Science should belong to scientists and not the publishers,” she told me in an email. In a letter to the court, she cited Article 27 of the UN’s Universal Declaration of Human Rights, asserting the right “to share in scientific advancement and its benefits”.

Whatever the fate of Sci-Hub, it seems that frustration with the current system is growing. But history shows that betting against science publishers is a risky move. After all, back in 1988, Maxwell predicted that in the future there would only be a handful of immensely powerful publishing companies left, and

that they would ply their trade in an electronic age with no printing costs, leading to almost “pure profit”. That sounds a lot like the world we live in now.

#4: UC DROPS ELSEVIER



After months of negotiating over open-access fees and paywalls, the University of California System follows through on threat to cancel its journal subscription deal with Elsevier.

By Lindsay McKenzie

March 1, 2019



The University of California System has canceled its multimillion-dollar subscription contract with Elsevier, an academic publisher.

Other institutions have canceled their “[big deal](#)” journal subscription contracts with major publishers before. But none in the U.S. have the financial and scholarly clout of the UC system -- which accounts for nearly 10 percent of the nation's publishing output.

The cancellation, announced Thursday, is a blow to Elsevier, which is facing increasing pressure to change its largely subscription-based business model. Last year, hundreds of institutions in Germany and Sweden refused to sign a deal with Elsevier unless it agreed to fundamentally change the way it charges institutions to access and publish research.

UC has been pushing for a so-called [read-and-publish](#) deal with the company, which would offset the cost of open access publishing against the cost of access to subscription content. Lead negotiators for the system argue that this kind of deal will help publishers accelerate open-access publishing and eventually eliminate paywalls. Under such a deal, all UC research published in Elsevier journals would be immediately available to the public.

After more than six months of negotiations, it became clear that Elsevier was not willing to meet the UC's demands, said Jeff Mackie-Mason and Ivy Anderson, the system's lead negotiators.

Elsevier made an offer that would combine the costs of accessing paywalled content and publishing open access articles. But the offer came with a hefty price tag, the negotiators said, which the system was not willing to pay.

UC wanted to integrate its fees and reduce its costs. Elsevier wanted to charge publishing fees on top of subscription fees, said Ivy Anderson. “That predicate made it impossible to reach an agreement,” she said. The UC system was paying the company more than [\\$10 million](#) a year for journal access.

In a written statement from Tom Reller, spokesman for the company, Elsevier emphasized the importance of letting authors choose how they want to publish. He said more than 85 percent of authors from the UC system currently choose to publish paywalled research. Authors have plenty of options if they want articles to be available to the public for free, he said.

The publisher said it proposed a “unique model” to UC, which included a “clear path allowing every researcher to choose to publish for free or open access and provides a scaled path to reduce the costs for each campus library.”

“It’s disappointing that the California Digital Library (CDL) has broken off negotiations unilaterally,” the statement said. “But we hope we can bridge this divide with them soon.” UC’s negotiators said the door is open should Elsevier decide to come back with another offer. But they aren’t holding their breath. The system said many other U.S. institutions have shown interest in read-and-publish deals.

Open-access advocates praised the system on social media for taking a stand. UC faculty members also backed the decision. The system’s Faculty Senate, for example, said in a [written statement](#) that taxpayer-funded research should be as “freely and widely available as possible.” Janet Napolitano, UC’s president, said she fully supported efforts by students and faculty and staff members to take down paywalls. “This issue does not just impact UC, but also countless scholars, researchers and scientists around the globe -- and we stand with them in their push for full unfettered access.”

Rick Anderson, associate dean for collections and scholarly communication at the University of Utah, said he was “not shocked” by the system’s decision. “I always wondered if there was going to be a realistic middle ground between what the two parties wanted.”

Rick Anderson, who is an unpaid member of Elsevier’s North American Library Advisory Board, said UC’s cancellation is significant, as it is a very large Elsevier customer. But he is unsure whether the decision will really hurt Elsevier in the long term. “From a political perspective, it certainly undermines any public impression that Elsevier’s big deal is a must-have product for a research institution,” he said.

It remains to be seen, however, how faculty and students will be impacted by the decision, said Rick Anderson. “Will there be an outcry? If not, then the impact on Elsevier’s public image could be significant: it will mean that tens of thousands of academics lost access to the current content of their journals and said, ‘Meh,’” he said, adding, “If there is an outcry, the question will be whether it ends up being significant enough that the system reverses course. I would be surprised if that happened.”

For a company that generates billions of dollars in revenue, the loss of \$10 million per year will not be catastrophic financially. If UC decides to subscribe to some Elsevier journals on an individual basis, or frequently pays for one-time access to journal articles, the system may end up paying a substantial amount to the publisher, at worse value than their old big deal, said Rick Anderson. "I'm sure this development will represent a net loss for the company, but I don't know how big it will be."

UC's academics and students will not lose access to all Elsevier research, stressed Mackie-Mason. The system has perpetual access to many journals' archives up to the end of 2018. Researchers have multiple options if they want to access new Elsevier-published research, he said. Approximately 15 percent of Elsevier journal articles already are open access, and many articles are available as preprints for free. Otherwise, researchers can email authors for copies, request them from interlibrary-loan systems (which can take a day to process) or pay a one-time purchase fee. At the time of going to press, Elsevier had not yet revoked the UC system's journal access.

Not being able to instantly access research may be irritating for some academics, acknowledged Mackie-Mason. "It will cause some friction, but it's not going to be devastating," he said. UC researchers are aware of what the challenges will be, he said, but they have been broadly supportive. "We've been communicating for months, and we've consulted widely, deeply and often."

Barbara Fister, a librarian at Gustavus Adolphus College (who also blogs for Inside Higher Ed) said she was impressed that an American university was able to "take a principled stand" and gain support for the move among its faculty members.

"Elsevier is a major publisher, so students and researchers at UC institutions will feel the impact," said Fister. "It's courageous of them to take this step, knowing that it will be harder to access research in those journals."

#5: UNIVERSITY OF CALIFORNIA - INSTRUCTIONS TO CAMPUSES ON OBTAINING ELSEVIER ARTICLES

Office of Scholarly Communication

University of California Access to Elsevier Articles

UC has been [out of contract](#) with Elsevier since January 2019 and no longer has access to certain content. This will mean some changes to how UC scholars access certain Elsevier journal articles:

- Access to any articles published from 2019 forward will no longer be available via Elsevier's ScienceDirect platform.
- UC will **retain access** via ScienceDirect to older articles from these journals ([download list of journal titles and years](#)).
- UC will **no longer have direct access** via ScienceDirect to older articles from these journals ([download list of journal titles and years](#)). This list only includes Elsevier journals for which UC previously had a subscription.

Many of these articles are available on other platforms. Use [UC e-Links](#) or the quick guide below to check for full text copies.

Quick guide: Access to Elsevier articles

ALTERNATIVE ACCESS TO ELSEVIER ARTICLES



Note: The UC Libraries do not endorse using Sci-Hub for article access.

Find an open access copy

Some authors may have already posted their articles open access (OA), either in the journal, in a repository, on a personal webpage, or on an academic networking website. It is worth checking to see if the article you're seeking is already online and free of charge by searching its title in Google or Google Scholar.

Plug-ins

There are several browser extensions or plug-ins you can install that will search compiled collections of open access articles, as well as search the internet for an open access version of a desired article.

- **Open Access Button (OA Button)**: From the OA Button's website, you can enter an article's URL, DOI (a unique identifier), title, or other information to check for free and legal open access versions. Even better, the OA Button also offers Chrome and Firefox extensions. Once installed, these extensions will automatically search for an open access copy. When an open access copy is not found, the OA Button can contact the author directly.
- **Unpaywall**: You can either directly search Unpaywall's database of millions of open access articles by entering the DOI for an article, or (more easily) install the

[Chrome/Firefox browser extension](#), which will point you to any open access versions of paywalled articles you come across online. Unpaywall is also integrated into [UC e-Links](#).

Online repositories

There are a number of repositories into which authors have deposited (self-archived) copies of their articles. Most repositories are well-indexed, so merely searching for the article should surface an open access copy if one exists.

- [Google Scholar](#)
- [PubMed Central](#)
- [UC's eScholarship](#)
- [OSF Preprints](#) (searches multiple preprint services)
- [arXiv](#)
- [bioRxiv](#)
- [RePEc](#)
- [SSRN](#)

Note: The UC Libraries do not endorse using Sci-Hub for article access.

Request it from the author

Most publishers allow responsible sharing of your own publications. One way to get an article is to contact an author and ask for a PDF of a preprint. The author's name and institution (if available) are usually shown on the preview page of the article. Some authors are open to receiving requests for articles via social networking sites where researchers share their work, such as [Academia.edu](#), [ResearchGate](#), [Mendeley](#), and [HumanitiesCommons](#).

Alternatively, you can make a request to the author via Twitter using the hashtag [#icanhazpdf](#) with a link to the publication you need.

Get it from the library

Interlibrary Loan

You can use the [request service](#) to access interlibrary loan (ILL). Your campus's ILL unit participates in a global resource sharing network whose mission is to support your research. All ten UC campuses have contracted with an article supply service (ReprintsDesk) to enable expedited (albeit expensive) article acquisition and delivery when the need for an article is urgent. ILL staff are available and happy to assist you. Visit your campus library's web page to find ILL contact information.

#6: ANOTHER 'BIG DEAL' BITES THE DUST



Citing unsustainable price increases, leaders at Louisiana State University have decided to walk away from their comprehensive subscription deal with Elsevier.

By Lindsay McKenzie

May 24, 2019



[Louisiana State University](#) will terminate its “big deal” with publisher Elsevier at the end of this year, joining the [growing list](#) of U.S. institutions that have recently decided not to renew their bundled journal subscription deals with the publisher.

LSU is just the latest of several U.S. institutions, including the [University of California system](#), Temple University and [Florida State University](#), to announce its intentions to end its business relationship with Elsevier in the last two years.

“For decades, LSU has subscribed to a package of some 1,800 electronic journal titles from Elsevier,” Stacia Haynie, LSU’s provost, said in [a statement](#) Monday. But “dramatic increases” in subscription costs have made the deal unsustainable, she said.

Renewing LSU’s current five-year contract, which is due to end in six months’ time, would cost the institution at least \$2 million annually, said Haynie. Instead, the institution will allocate \$1 million to subscribe individually to a smaller number of Elsevier journals on a one-year contract basis.

To access journals LSU no longer subscribes to, the library will offer two options -- an interlibrary loan service that takes about 24 hours and incurs no cost to the library, or an expedited delivery service called [Reprints Desk](#), which takes about two hours and costs the

library a fee. The fee is less than what it would cost to purchase a journal article from the publisher directly, which is typically around \$30, said Stanley Wilder, dean of LSU libraries.

LSU's Faculty Senate approved a resolution recommending the cancellation of the subscription package in April. Though the approval was near unanimous, with just one faculty member voting against it, the [meeting minutes](#) illustrate that several faculty members have concerns about how the process will be managed. Some faculty members questioned how the library would cope with more interlibrary loan requests and complained that a 24-hour wait could feel like "a lifetime" to busy academics. Others asked for details on how the library will decide which journals to subscribe to, and which not.

Wilder said he is prepared to hire more staff to handle interlibrary loan requests. Over the next six months, the library will be working with faculty to assess to which Elsevier journal titles it should continue to subscribe.

Unlike the University of California system and several European countries that also have recently canceled their Elsevier deals, LSU is not trying to make a point about open access, Wilder said. LSU simply doesn't have the leverage to try to change the scholarly publishing landscape, he said.

"LSU is not the UC system. We're not Germany or Hungary trying to break away from the big deal," he said. "LSU is tiny in comparison."

Wilder said the decision not to renew the big deal with Elsevier comes down to cost; the Elsevier deal currently accounts for almost a third of the library's annual \$6 million serials budget.

"We've reached a point where our serial expenditures are just not sustainable," he said. With subscription costs increasing annually by 5 percent, the library has to find an extra \$300,000 in new funding each year.

"I've been asked why I don't just ask for more money, and I've explained that the issue is not that LSU administrators are reluctant to support collections," he said. "This is an unsustainable financial model that has to be brought under control."

Wilder said he purposefully avoided getting into a lengthy negotiation with Elsevier over the bundled subscription.

"We know what to expect out of negotiations -- nobody gets to where they want to go," he said. "I didn't see a way out of our situation through the negotiation of a price reduction."

Tom Reller, vice president of global communication at Elsevier, said the company is willing to offer universities flexible subscription options.

"University strategic objectives change and customers sometimes need to reallocate their funds, so Elsevier provides different options for its customers, including all-access options as well as title-by-title options that provide customers flexibility to choose the most appropriate titles for their collections," he said in an emailed statement. "We value LSU's investment in our services

and look forward to working with them on the options that best meet the balance of their collection needs and costs.”

Though staff at the LSU library have been working hard to keep faculty members informed of potential changes, Wilder said there are still members of the campus that may be unaware of what is happening.

“We’ve been reaching out to all sorts of LSU departments, attending meetings, having lots of conversations, by phone, email and in person,” he said. “But we still assume the vast majority of faculty don’t yet know. It’s just hard to reach people.”

Wilder said increased press coverage of the scholarly publishing landscape over the past year due to several high-profile cancellations has helped to make faculty members more aware of the issues the library is facing. And many faculty members have a very sophisticated understanding of the scholarly publishing landscape as a result and are largely supportive of the decision to end the subscription deal.

“There were plenty of concerns raised, and almost without exception, they were legitimate and reasonable,” he said. “They were also easily answerable.”

#7: AFTER THE ELSEVIER “TIPPING POINT,” RESEARCH LIBRARIES CONSIDER THEIR OPTIONS

THE CHRONICLE OF HIGHER EDUCATION

By Lindsay Ellis

March 26, 2019

Something's got to give, librarians are saying. Their budgets are flat, and prices of bulk journal subscriptions, dubbed "big deals," keep going up.

Research librarians are giving notice: The pressures that led the University of California system to cut the cord with Elsevier aren't foreign to their campuses.

After the UC system announced last month that it would not renew its subscription contract with Elsevier, the journal-publishing giant, librarians are telling their faculty members that something's got to give. Their budgets are flat, and prices of bulk journal subscriptions — dubbed "big deals" — keep going up.

Some teased possible changes in the subscriptions through which faculty members see groundbreaking research. Others simply sought to fill in professors curious about the implications of California's momentous break with Elsevier. Taken together, the notices signal the growing empowerment of institutions to stand their ground as they look ahead to their own negotiations with the publisher.

Elaine L. Westbrooks, the university librarian at the University of North Carolina at Chapel Hill, last week emailed her campus that "difficult choices" may lie ahead as the university approaches talks with Elsevier.

Calling the UC system's decision "bold," she indicated that she had started meeting with deans, administrators, academic departments, and faculty groups to discuss journal costs and other issues. Renewing the bundles, she wrote, is "unaffordable and unsustainable."

Westbrooks told *The Chronicle* that while she is not prepared to say that her university will follow UC's lead, it must entertain various options. The university is focused on affordability, she said, and budgets are extremely tight.

"This is the tipping point for us," Westbrooks said. After the UC news, she said, "I'm more compelled to disrupt ... We're more empowered to stick to our values."

Oregon State University's Elsevier contract won't expire until the end of 2020, but Faye A. Chadwell, its university librarian, wrote to the campus this month in case people were wondering what would happen after UC's announcement, which she said had "caught the attention" of institutions in the

United States and Canada. She promised in her note to keep faculty members and graduate students aware of “the issues and possible outcomes.”

The University of Virginia library’s director of information policy wrote a post about what UVa researchers should know about the UC decision, including that the high prices of big deals consume large shares of library budgets. The director, Brandon Butler, pledged that the library would consult with deans, administrators, faculty members, and other members of the university community “as we move forward with our own rethinking of big deals.”

“It may just be, if one big institution walks completely away and lives to tell, it feels like a game changer that everyone else could be more courageous about what they want to do,” he told *The Chronicle*.

Budget Challenges

The UC system’s announcement framed its decision to cease negotiating as a push for open-access publishing, a model through which professors or their funding agencies pay to make research freely available to anyone, instead of readers’ paying for access.

But other research libraries across the country, though many express support for open access, say they must reckon with concern for the bottom line.

A 2016 survey by the Association of College and Research Libraries showed that 60 percent of libraries had reported flat budgets for the previous five years, and 19 percent had seen decreased funding. On average, the group said, libraries at institutions that grant doctoral degrees spent about 70 percent of their materials budgets on continuing commitments to subscriptions.

So when subscription costs rise — in UC and Elsevier’s case, from \$9.5 million in 2014 to \$10.6 million in 2018 — libraries feel cornered. (Elsevier representatives have attributed rising costs to greater value, as the breadth of research expands each year.)

“I have a flat budget,” Westbrooks said, “so the inflation is really killing me.”

Librarians have signaled for at least a decade that something must change in big-deal subscription contracts, urging more-affordable pricing models and greater flexibility. And it’s not as if many of those campuses haven’t considered issues of open access and scholarship in the past.

At Oregon State, for example, the university has long had an open-access policy, and the institution had already started thinking about its future negotiations with Elsevier before UC’s announcement, Chadwell said.

Drawing Attention

Still, Butler, the UVa director, characterized UC’s decision as a “climactic point in a movement that’s been building for a long time.”

“It was kind of a marvelous thing to watch,” he said of how UC had communicated with its faculty members throughout the negotiations.

Librarians weren't the only ones watching. The UC news rippled out to faculty and staff members who may not have otherwise been following the open-access debate on their own campuses. Library employees told *The Chronicle* that colleagues around campus had sent them text messages and emails to hear their thoughts on the news.

The announcement came at a good time for a task force at the Massachusetts Institute of Technology, which released a draft set of recommendations on open sharing of MIT publications, data, and other materials shortly after UC broke off negotiations with Elsevier. That draft set out the campus's principles and policy recommendations, and did not focus on budgetary issues.

Chris Bourg, MIT's director of libraries, said California's decision hadn't changed the substance of MIT's recommendations beyond a footnote mentioning the announcement. The news did, however, catch the faculty's attention, she said.

"It is really helpful in terms of galvanizing faculty to pay attention and to really think about how we want to act as a scholarly community," Bourg said.

The publishing landscape has changed quickly since MIT's task force began, in the summer of 2017, as European countries and some American universities retreated from major publishers. The task force's members, Bourg said, have kept abreast of the changing environment.

To Bourg, "there's no doubt" that the prices of bulk subscriptions are unhealthy for libraries, and she wrote in an email that containing subscription costs is "absolutely a big concern." But she said the university's goals are broader. Business models for libraries should support a goal to disseminate knowledge and data more widely, she said, "not the other way around."

#8: SIX THINGS UVA RESEARCHERS NEED TO KNOW



Posted on [March 7, 2019](#)

By [Brandon Butler](#), Director of Information Policy for the UVA Library. Follow [The Taper](#), Brandon's blog, for more on the Big Deal and other copyright and information policy issues.

Last week the University of California system (the UC) made a [remarkable announcement](#): they are not renewing their “Big Deal” subscription with Elsevier journals. Elsevier will cut off all UC campuses’ access to post-2018 articles any day now. (Past subscriptions included perpetual access rights, so most articles published before 2019 will still be available to UC researchers.)

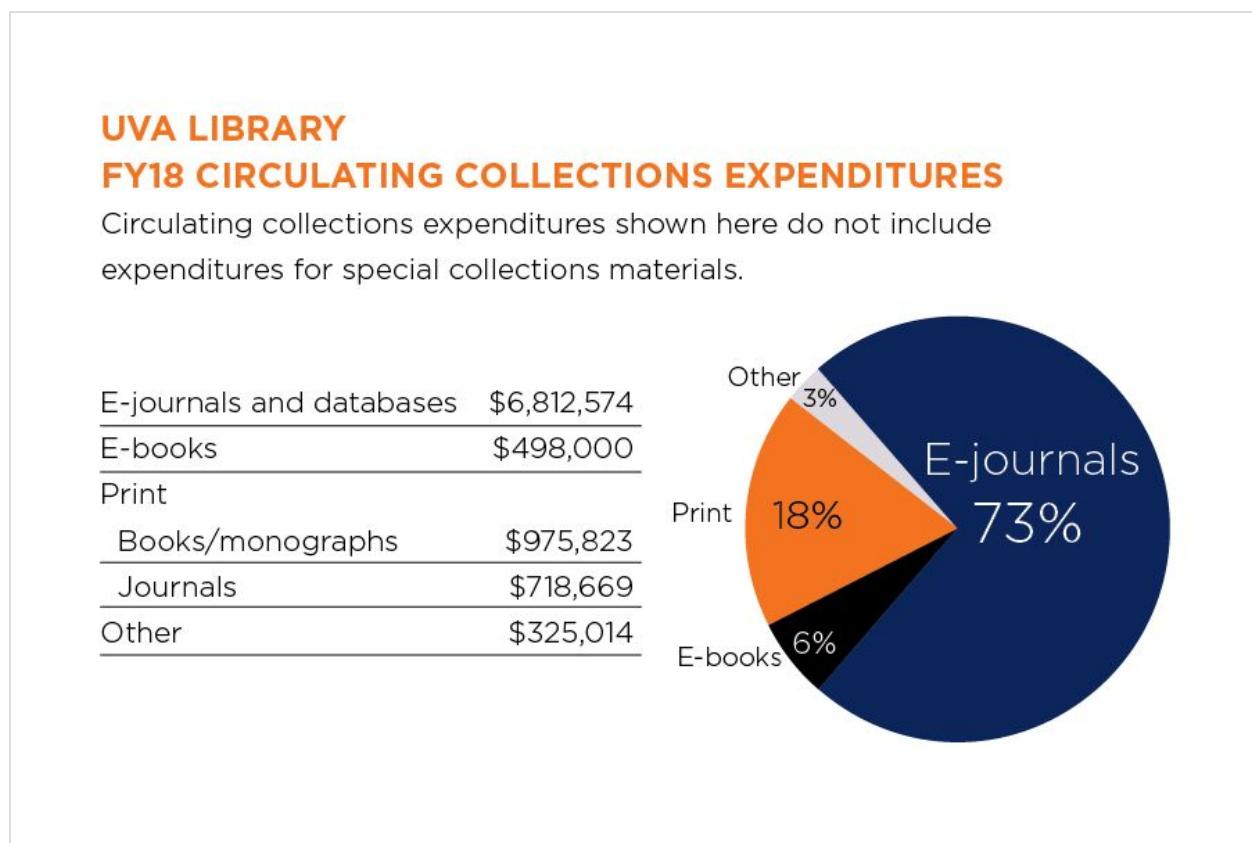
Here are six things UVA researchers need to know about the UC’s decision:

1. **Big Deals are journal bundles sold by a few major vendors (Elsevier, SpringerNature, Wiley et al.), and their prices have metastasized, dramatically affecting library collections.**

A lot of press coverage has emphasized the UC’s demands around open access (more on that below), but it’s fairly clear from their [public statements](#) that what really broke the negotiations was their equally strong insistence on *containing the runaway cost* of the “Big Deal.” Like big cable TV bundles, journal Big Deals were first sold to libraries decades ago as a way of getting access to more content for less money. But the value proposition has not held up. Over the last two decades, costs for journals have far [outpaced both inflation and library budgets](#), and that explosive growth has [crowded out](#) other resources. Mergers and acquisitions have resulted in a [few oligopolies who dominate](#) elite scholarly publishing; library collections investments now go disproportionately to this handful of massive firms, with Elsevier in the lead.

2. Big Deal prices are artificially high, while their value is decreasing.

Vendor **profit margins are astronomical** – 35% and up for the main Big Deal purveyors. Elsevier's profit margins exceed those of both Apple and Google. Vendor profits at this level can only reflect monopoly power grounded in copyright and prestige, not real value added by the vendor. **A landmark study comparing prices** charged by for-profit vs. non-profit vendors found for-profits charge substantially more, even adjusted for citation rates and other proxies for “quality.” And, again like big cable TV bundles, journal bundles are chock full of filler content almost nobody reads, but that the vendor touts as evidence of value. (Look at the **data we've recently published** showing how much of our Big Deal content is consulted less than once a month, and the startling number of titles that are never read at all.) In reality, bloated Big Deals are **providing less value** today, charging more and more for the same fraction of literature we use and hiding costs behind mountains of unread and rarely-read content.



3. Like all libraries, UC is sick and tired of paying three times for journal literature, only to see faculty work locked behind paywalls.

UC was concerned about cost, but they also walked away because Elsevier would not accept a “transformative” deal that would have made future UC faculty research openly available to the world rather than locked behind paywalls. That proposal is an attempt to escape the dominant publishing paradigm, under which universities pay at least three times

for journal articles, only to see that knowledge locked away and monetized. First, universities pay faculty who conduct research and write articles as part of their employment, a major subsidy to vendors, who do not pay their authors for the articles they publish. Second, faculty also edit and do peer review as part of their university duties, again without compensation from vendors. Finally, universities must pay vendors to buy access to the final articles, which were created, edited, and curated by our own faculty.

Indeed, if we assume that each article Elsevier publishes accounts for an equal portion of its profitability, the profit attributable to UVA-authored articles last year was ~\$2 million, roughly equal to what we pay for access to Elsevier journals. Given the high quality of UVA scholarship, and the additional free work contributed by UVA editors and peer reviewers, this estimate of UVA value donated to Elsevier is probably much too low. [No other enterprise](#) could be run this way.

And the paywall system hurts faculty as well as their home institutions. Faculty experience [reduced reach and impact](#) when their articles are paywalled, and they can't even share their own work online without fear of [publisher takedowns](#).

4. The UCs tried to fix the vendors because the prestige economy is so broken.

Perhaps the most conservative thing about the UC's proposal was that it would have made UC faculty work open access without disrupting the existing system of journal prestige. More than any other factor, promotion and tenure processes that outsource evaluation to journals ensure a steady flow of free content to Elsevier and other Big Deal vendors. The primary reason faculty give away their valuable copyrights (and their valuable time) to for-profit journal vendors like Elsevier is that the academy has vested particular journal titles with prestige by making placement in those outlets an important credential, implicitly (or in some cases explicitly) required for promotion and tenure. It doesn't have to be this way. Over 1,000 institutions and nearly 14,000 individuals have signed the [San Francisco Declaration on Research Assessment](#), which offers an alternative vision for evaluating research, one that disrupts the cycle of prestige that keeps research flowing into vendors' hands. The National Academies of Science is also [investigating](#) ways to create better alignment between incentives and open practices. Individual scholars have also proposed compelling alternatives to the status quo; a local example is the "Scientific Utopia" ([Part I](#), [Part II](#)) proposals co-authored by [Brian Nosek](#) and [Jeff Spies](#).

5. The UC's walkaway is just the latest (and largest) in a trend of recent Big Deal breakups.

As you can see on the [SPARC Big Deal Cancellation Tracker](#), UC is as much a continuation or culmination of a trend as a trend-setter. Domestically, [Florida State University](#) is a recent high-profile example of an institution rebelling against the Big Deal. While they didn't walk away, they did cut their spending in half, and used the savings (more than \$1 million) to acquire much of the backlog of material that faculty had specifically requested in recent years, but that Big Deal prices had crowded out of the collection. In other countries, where negotiations often take place at the national level, walkaways are

even more common. [**Germany**](#) and [**Sweden**](#) both walked away from Elsevier last summer. A consortium of 250 research institutions in [**France cancelled their Big Deal**](#) with Springer last year and repurposed that money to invest in open access. More cancellations and break-ups are sure to come.

6. Better communication is key to confronting bad deals.

Researchers don't pay directly for journal access, so you don't necessarily know its cost, the financial models that support it, or the tradeoffs and sacrifices involved in acquiring it. Libraries don't always know enough about how resources are used, which ones are most valued, and (most importantly) which trade-offs would be acceptable to researchers. The Library has [**begun these conversations**](#) with Deans, the Provost's office, and the Faculty Senate, and we look forward to talking to more members of the University community as we move forward with our own rethinking of Big Deals. We've also started [**disclosing**](#) some of the data we have on the cost and use of our collections. Watch these pages for more such disclosures in coming months.

#9. A LIBRARIAN'S DEFENSE OF DESPAIR

THE CHRONICLE OF HIGHER EDUCATION



The Conversation

Opinion and ideas.

March 6, 2015 by [Bryn Geffert](#)

So an executive falls asleep on his private, three-engine jet. He awakens to a loud noise. Peering down is his pilot, a bright-yellow package clasped to his chest. Yelling to be heard over the cacophony of multiple alarms, the pilot reports that engine No. 1 is belching smoke, engine No. 2 is in flames, and engine No. 3 has fallen from the wing. Pointing out the window, through which the onrushing ground appears at a 30-degree angle, the pilot offers to sell the executive the yellow package for \$2-million.

“What’s in it?” asks the executive. “A parachute,” the pilot replies. “Does it work?” asks the executive. “I’m not sure,” says the pilot, “it’s a new model.” “Sorry,” the executive replies, “but I didn’t get where I am today by taking risks on untested products. Plus, how can I continue making payments on this jet if I squander \$2-million on a parachute?”

The executive’s argument differs little from those that librarians sometimes make when asked to support open-access publishing ventures. How can we possibly support new models of publishing when we struggle with less success each year to maintain existing commitments to serials agents, book jobbers, and database packagers? How can we justify new compacts when we can’t even pay the bills for current obligations?

I work at a well-established and relatively wealthy liberal-arts college with an extraordinary commitment to its library. We spend more money per student and per faculty member on library collections than all but five other liberal-arts colleges in the United States. And yet my library claims poverty with some regularity and justification. We spend in the neighborhood of \$2-million each year on collections, but we cannot afford the journals our faculty members demand and the books our students need. Collection development has become, in essence, collection degeneration, a process of relentless cuts.

Three years ago, faced with looming deficits despite budget increases, we walked to the edge of our most expensive package—Elsevier’s \$295,000-a-year ScienceDirect, the package that, at least in the company’s estimation, no serious institution can live without. We took a deep breath and canceled our contract. In effect, we closed our eyes and jumped.

The jump was as exhilarating as it was terrifying. It constituted our first face-to-the-wind acknowledgement that we cannot afford what we need, that our commitment to purchasing necessities is

doomed. One of the best-endowed institutions of higher education in the United States, we conceded, cannot buy its way out of its predicament. My library seeks budget increases each year from a sympathetic administration, while knowing that whatever increase we receive may slightly slow but won't stop our descent. The ground is rushing up to meet us. Colleges with smaller budgets will face the impact sooner than we will, but we're all on the same hopeless—hence bracingly clarifying—trajectory.

The cause of this collective free fall—a broken system of scholarly publishing—is by now well known. What bears mentioning, however, is the potential liberation that comes from recognizing the impossibility of buying ourselves free—the freedom of despair, if you like.

The question before us all, then, is not whether we should continue to pay those responsible for our predicament everything they demand for whatever we need. We cannot. No library budget can keep pace with rising prices for essentials.

The question is whether we should spend all available resources to purchase an ever-decreasing fraction of what the current system demands. In just six years, despite budget increases, my library's purchasing power has fallen by 22 percent. Should we spend our entire acquisitions budget on 78 percent of what we could afford six years ago? Should we spend the same 100 percent on what we know will purchase only 73 percent next year, and 68 percent the year after? Should we empty the kitty each year in pursuit of smaller and smaller returns?

Or should we embrace despair as an unshackling force that frees us to try new things? Might despair provide the excuse we need to spend money on ventures that—however risky—are less certain to fail than the system that bedevils us now? Perhaps it is precisely because resources are diminishing that we must spend those diminished resources on new initiatives. Hopelessness provides the impetus we need to make impossible choices.

Where despair takes each institution will and probably should vary by campus. I'm proud that my college [has established an open-access press](#) under the auspices of the library. And I'm delighted to see librarians in consortia exploring [large-scale, collaborative schemes](#). Other institutions, I hope, will concoct and support more- and less-exciting experiments. A diversity of initiatives is all for the good.

What is important, however, is that we all devote resources to nudging the trajectory. We know where that trajectory points now. Better to spend remnants on reform than on accelerating the course of a broken status quo.

One more bad analogy: Perhaps we librarians should think of ourselves as coal-plant engineers contemplating whether to spend money on untested wind or tidal turbines—that is, whether to make an uncertain yet good-faith effort against global warming. Will we repurpose funds for experiments? Or will we demur, arguing that we can't possibly afford to act, since how can we ever survive rising temperatures if we don't burn more coal to run our air conditioners?

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#10: INSTITUTIONS CANCELLING “BIG DEAL” PACKAGES



(AS TRACKED BY SPARC)

ELSEVIER

- Electronic Information Service National Programme (EIS)
- Florida State University
- Louisiana State University
- Max Planck Society
- Temple University
- Unit (Norwegian Directorate for ICT and Joint Services in Higher Education & Research)
- University of California System
- Abdus Salam International Centre for Theoretical Physics (ICTP)
- Bibsam Consortium (85 higher education and research institutions in Sweden)
- Consortium on Core Electronic Resources in Taiwan (CONCERT)
- National Council for Science, Technology and Technological Innovation of Peru (CONCYTEC)
- Middle Tennessee State University
- Projekt DEAL (consortium of university libraries and research institutes in Germany)
- University of Alabama at Birmingham
- Lafayette College
- University of Oregon
- West Virginia University
- New Mexico State University
- University of Oklahoma-Norman
- Southern Illinois University

SPRINGER NATURE

- West Virginia University
- New Mexico State University
- Université de Lorraine
- Université de Strasbourg
- Kansas State University
- Creighton University
- University of Kansas
- Caltech
- Florida State University
- Le Consortium Couperin (250 universities and research organizations in France)

- Université de Montréal
- University of Wisconsin-Milwaukee
- Mississippi State University

TAYLOR & FRANCIS

- University of Calgary
- Université de Montréal
- FinELib (consortium of academic libraries in Finland)
- University of Maryland
- George Mason University
- University of California System
- SUNY Buffalo

WILEY

- University of Oklahoma-Norman
- Southern Illinois University
- University of Wisconsin-Milwaukee
- Mississippi State University
- Creighton University
- University of North Carolina Chapel Hill
- West Virginia University
- California State University System
- Illinois Wesleyan University
- East Tennessee State University
- Amherst College
- Medical University of South Carolina
- University of Oregon

Royal Society of Chemistry

- University of Massachusetts

#11: OTHER READINGS

- Horava, Tony. “[What Is the State of the Big Deal?](#)” *Technicalities* 38 No. 6 (November/December 2018).
- Schonfeld, Roger. “[Is the Value of the Big Deal in Decline?](#)” *Scholarly Kitchen* (March 7, 2019).
- Sheu, Fei et. al. “[Is It Such a Big Deal? On the Cost of Journal Use in the Digital Era.](#)” *College and Research Libraries* (September 2018).
- Olsson, Lisa, “[Consequences of Sweden Cancelling Elsevier](#),” National Library of Sweden (June 26, 2019).