

# “Paging Dr. Fraud”:

## The Fake Publishers That Are Ruining Science

By Alan Burdick

Published on <https://newyorker.com>

March 22, 2017



“ In the fall of 2015, a young scholar named Anna Olga Szust began sending her C.V. and a cover letter to scores of scientific journals, with the hope of being named an editor. Editors play a vital role in the world of science publishing, checking the methodology of authors and managing the peer-review process; they are the thin red line between fact and fakery. At the same time, being appointed a journal editor is one of the many essential rungs in a scientist’s climb toward credibility and tenure.

Szust is—or was, until today—an associate professor at Adam Mickiewicz University, in Poznań, Poland. There’s a photo of her on the school’s Web site: she has short brown hair, is stylishly dressed, and sports a smile that is at best half-hearted. Szust’s scholarly interests range from the history of science and sports to the study of cognition, attractiveness, and motivation. She has delivered a few papers at conferences (“How to conduct research on the development of science”), given a lecture or two, and published a few book chapters, such as “Adult females (*Homo sapiens*) born during the spring season are more physically attractive,” in a compilation titled “Handbook of Attractiveness.” In her cover letter, though, Szust listed no published papers, and no prior experience as a reviewer or an editor.

“She would be a terrible option as an editor,” Katarzyna Pisanski, a researcher in the school of psychology at the University of Sussex, told me. Nonetheless, nearly fifty journals wrote back to Szust, sometimes within a matter of hours, to offer her a post. In a comment piece in this week’s issue of *Nature*, Pisanski writes at length about Szust and exposes her as a fraud—which Pisanski can state definitively because she and three colleagues invented Szust out of whole cloth, to draw attention to the proliferation of fake and disreputable science journals. Indeed, in Polish, the word *oszust* means “a fraud.”

For many years, academia was dominated by a reasonably sane number of established journals; these made money through advertising and by selling subscriptions to libraries, often at breathtaking prices. The rise of the Internet introduced the open-access model—journals such as *Public Library of Science*, or *PLoS*, which are free and widely available. Some of these publications, including *PLoS*, charge the author a fee for the privilege of having her work peer-reviewed and published.

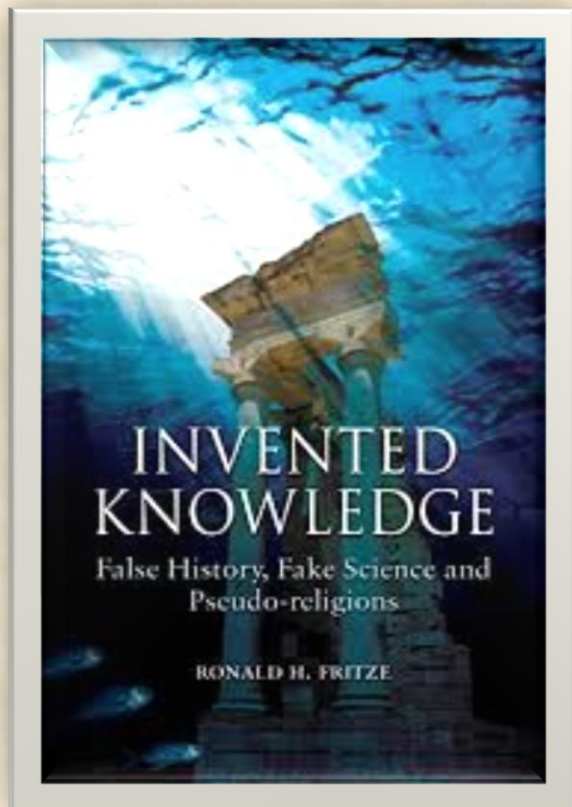
The shift was largely welcomed, but as the number of O.A. journals grew, the potential for abuse became evident. By midway through the decade, researchers were assaulted by spam from journals of questionable legitimacy asking them to submit a paper or to be an editor, even in areas of research where they had no expertise. In exchange for a hefty fee, these journals—with names such as *Journal of Clinical Toxicology* and *Enzyme Engineering*—offered quick peer review, which often meant no review whatsoever. “They were journals I’d never heard of,” Jeffrey Beall, an associate professor and librarian at the University of Colorado, Denver, said. “Often they were based in West Africa or South Asia, with titles close to existing ones, and filled with grammatical errors. Basically, they were just pay-to-publish operations.” The barrier to entry couldn’t be lower, he said. “You just need a Web site and a journal title, and you can be in business in a day.”

Beall coined the phrase “predatory journal” to describe such outlets, and by 2009 he’d started blogging about them and keeping an online list of their names, as a public service to his colleagues. Between 2011 and this year, the number of suspect publishers on his list grew from eighteen to more than eleven hundred, and the number of stand-alone journals has jumped into the thousands. A [Finnish study](#) found that, between 2010 and 2014, the number of articles published by predatory journals grew from fifty-three thousand to almost half a million. Many predatory publishers also now run bogus conferences, often with names similar to existing ones, to dupe researchers into submitting papers for a nonrefundable fee. Last year, the Federal Trade Commission [filed suit](#) against the OMICS Publishing Group and two other companies, which together publish hundreds of open-access journals, for “deceiving academics and researchers about the nature of its publications and hiding publication fees ranging from hundreds to thousands of dollars.”

In the past decade, punking these journals has become something of a sport among scientists. In 2005, David Mazières, of New York University, and Eddie Kohler, of U.C.L.A., set the standard with a ten-page paper that they routinely sent back to O.A. spammers. Titled “[Get Me Off Your Fucking Mailing List](#),” it consisted entirely of that phrase, repeated over and over. In 2014, Peter Vamplew, of Federation University Australia, submitted the same paper to the *International Journal of Advanced Computer Technology*, where it was quickly accepted. (Vamplew also received a bill for a hundred and fifty dollars.) Last October, Christoph Bartneck, of the University of Canterbury, in New Zealand, responded to an invitation from the [International Conference on Atomic and Nuclear Physics](#)—Bartneck’s specialty is information technology—with a paper he’d written by typing “atomic” and “nuclear” on his iPhone and using auto-complete suggestions to write the rest. (There’s a (<http://www.bartneck.de/2016/10/20/ios-just-got-a-paper-on-nuclear-physics-accepted-at-a-scientific-conference/>) on his Web site.) Three hours after submitting the paper, Bartneck received a message saying that it had been accepted.

One of the more popular spoofing tools is SCIgen, an algorithm created, in 2005, by a group of M.I.T. students that randomly tosses together words “to auto-generate submissions to conferences that you suspect might have very low submission standards,” as well as “to maximize amusement,” according to its Web site. The results typically look something like this:

Thanks to SCIgen, Marge Simpson and Edna Krabappel had their paper “ ‘Fuzzy,’ Homogeneous Configurations” published in the spurious *Journal of Computational Intelligence and Electronic Systems* and *Aperito Journal of NanoScience Technology*. In April of 2010, Cyril Labbé, of Joseph Fourier University, in Grenoble, France, used SCIgen to create more than a hundred papers by Ike Antkare, a make-believe author. Three years later, Labbé reverse-engineered SCIgen to create a tool that would detect papers made with it. He discovered that meaningless SCIgen papers had been published in more than thirty conference proceedings between 2008 and 2013, as well as by Springer, a major scientific publisher, and the Institute of Electrical and Electronic Engineers, based in New York.



**Recommended Literature**

Pisanski and her colleagues—Piotr Sorokowski and Agnieszka Sorokowska, of the University of Wrocław, Poland, and Emanuel Kulczycki, of Adam Mickiewicz University—hatched their study after receiving one too many spam e-mails of their own. “The reality is that all academics deal with this on a daily basis,” Pisanski said. “The problem seems so huge. Our idea was to get people talking about it. It’s a call to action.”

So they concocted Anna O. Szust, a candidate “dismally inadequate for a role as editor,” they write in *Nature*, and sent her application to three hundred and sixty journals. A third went to accredited journals listed on the Journal Citation Reports, published annually by Thomson Reuters; a third went to journals listed on the Directory of Open Access Journals, which, like the J.C.R., requires its journals to follow certain ethical and quality guidelines; and a third went to the Wild West on Beall’s black list. Forty-eight

journals accepted Szust as an editor—forty of them from Beall’s list. One offered to make Szust the editor-in-chief (“if you accept because we would like to honor you”); another, the opportunity to start and name a new journal; another, the option to organize conferences and take forty per cent of the proceeds, with the remaining sixty per cent going to the publisher. Several also required her to become a member—at a cost, in one case, of six hundred and fifty dollars. “I congratulate you and I am sure you to create extraordinary works in the journal,” another journal wrote to Szust. “In any case, I will be honored to incorporate [sic] you, please let me know.”

These are hard times for proven facts. Years of data confirming the reality of climate change are being officially dismissed by the federal government, as are large portions of the scientific agencies that gave rise to them. As predatory journals and conferences continue to spawn, even scientists are having a hard time discerning the real from the fake. “If you don’t have a good editor, then bogus papers or really poor papers get out there; they *are* out there,” Pisanski said. “And that’s really scary.” Others are exploiting the confusion, disseminating worthless research that debunks climate change or purports to show the value of new drugs. “Predatory and low-quality journals are granting the imprimatur of science to basically any idea for which the author is willing to write an article and pay the author fees,” Beall said last year, in an interview with the Scholarly Kitchen blog. “This is polluting the scientific record with junk science, and demarcation has essentially failed. I believe this will worsen in time and the notion of what constitutes valid science and what isn’t will become increasingly vague.” In his conversation with me, Beall said, “The biggest victim is science itself.”

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Universities and colleges typically keep white lists of the journals they deem acceptable for their researchers to publish in, and independent organizations such as the Open Access Scholarly Publishers Association have sprung up to encourage good practices among the O.A. journals. For years, though, Beall provided one of the only listings of the ne’er-do-wells, and in late January he abruptly shut down the site for good, for reasons he preferred not to elaborate on. “There was pressure from my university to stop,” he said. “Universities don’t like negative things; they like happy, smiling people, not a lot of politics. I kind of feared for my job.” He had a few speaking engagements left to fulfill, but otherwise, he said, “I’m not going to continue that research. I’m basically done with it.” When I asked what he’d work on next, Beall said, “Well, I’m still trying to figure that out.”

Anna O. Szust faces a similar limbo. Her page on the social-networking site Academia.edu is still up, but with a disclaimer stating that she is a work of fiction. “She did resign from all of the editorial boards,” Pisanski said. “But, in many cases, that made no difference. Even after we debriefed them about the study, she’s still listed on many of them.” She and her colleagues have since found Szust listed on the editorial boards of journals they never applied to. “I find it kind of funny, the way she’s taken on a life of her own,” Pisanski said. “She’s organizing conferences. Sometimes I have to remind myself that she doesn’t exist.”

*Alan Burdick is the author, most recently, of “Why Time Flies: A Mostly Scientific Investigation.”*



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