

Fake Peer Reviews, the Latest Form of Scientific Fraud, Fool Journals

By Josh Fischman

Scientists appear to have figured out a new way to avoid any bad prepublication reviews that dissuade journals from publishing their articles: Write positive reviews themselves, under other people's names.

In incidents involving four scientists—the latest case coming to light two weeks ago—journal editors say authors got to critique their own papers by suggesting reviewers with contact e-mails that actually went to themselves.

The glowing endorsements got the work into *Experimental Parasitology*, *Pharmaceutical Biology*, and several other journals. Fake reviews even got a pair of mathematics articles into journals published by Elsevier, the academic publishing giant, which has a system in place intended to thwart such misconduct. The frauds have produced retractions of about 30 papers to date.

"I find it very shocking," said Laura Schmidt, publisher in charge of mathematics journals at Elsevier. "It's very serious, very manipulative, and very deliberate."

This "has taken a lot of people by surprise," wrote Irene Hames, a member of the Committee on Publication Ethics, in an e-mail to *The Chronicle*. The committee is an international group of science editors that advises journals on ways to handle misconduct. "It should be a wake-up call to any journals that don't have rigorous reviewer selection and screening in place," she wrote.

Blame lies with those journals, she said, that allow authors to nominate their own reviewers and don't check credentials and contacts.

What's worse, said Ivan Oransky, co-publisher of the blog Retraction Watch, which first uncovered this pattern, is that some editors saw red flags but published the papers anyway. Later retractions don't undo the harm created by introducing falsehoods into the scientific literature, he said, noting that some of these papers were published years ago and have been cited by several other researchers.

'Do-It-Yourself' Reviews

Claudiu Supuran, editor in chief of the *Journal of Enzyme Inhibition and Medicinal Chemistry*, became suspicious that one of his authors was engaged in "do-it-yourself" peer review in 2010. Hyung-In Moon, now an assistant professor at Dong-A University, in Busan, South Korea, had submitted a manuscript along with the names of several potential reviewers. Mr. Supuran, then an associate editor at the journal, duly sent the article out for review and became suspicious when good reviews came back in one or two days. "Reviewers never respond that quickly," he said.

So he sent the manuscript to two scientists whom he picked himself. Their reviews suggested revisions but were also positive, so the article was published.

But he was still skeptical of Mr. Moon. The following year, Mr. Moon was still submitting manuscripts and Mr. Supuran, promoted to the top editing job, decided to look harder at the latest one. Mr. Moon "listed names of reviewers and affiliations, like the University of Florida, but he gave a Gmail or Yahoo e-mail address as the contact," Mr. Supuran said. "And once again the positive reviews came back within two days. But this time I called some contacts at the University of Florida, and they said they never heard of Moon's supposed reviewers."



Mr. Supuran then e-mailed Mr. Moon. "It was a very difficult conversation," he said. "I told Moon I really needed to speak to these people directly. First he said he didn't have any other contact information. But I persisted. Then he said that they didn't exist. He also admitted to me that he falsified data in his papers."

Anyone can open a Gmail or similar account under a name that isn't his or her own, as long as that name hasn't been taken by another user. For instance, Haroldvarmus@gmail.com was available last week, but e-mail sent there will not reach Mr. Varmus, the Nobel Prize-winning virologist and director of the National Cancer Institute. Mr. Moon, said Mr. Supuran, must have done something similar and then written the reviews himself.

"I asked him if he realized how serious this was," Mr. Supuran said. "He said yes, he did. I told him I couldn't publish his paper under these circumstances. He then said I was going to destroy his career." (*The Chronicle* attempted to contact Mr. Moon and the other scientists whose papers have been retracted but did not get any responses.)

Mr. Supuran, a professor of pharmaceutical sciences at the University of Florence, alerted the journal publisher, Informa Healthcare, about these problems. He also contacted several other journal editors to warn them about Mr. Moon. Informa began an investigation of articles that Mr. Moon had written.

That was last December. The first retraction notices appeared this past August: "The peer-review process for the above article has been found to have been compromised and inappropriately influenced by the corresponding author, Professor HI Moon." To date, 28 papers have been retracted, with Mr. Moon's agreement. (His papers prompted seven earlier retractions as well, but the reasons for those are vague.)

The medicinal-chemistry journal has now changed its policy to require that every paper have two reviewers not suggested by an author.

'Something Suspicious'

A retraction notice published in July highlighted another case. It recanted a paper published in February in *Experimental Parasitology* by Guang-Zi He, a researcher at the Guiyang College of Traditional Chinese Medicine, in China. The paper identified a potential target for a vaccine against a bacterial infection. Mr. He gave e-mail addresses of several suggested reviewers, but all of the e-mail services were in China, while some of the reviewers were not, which raised editors' eyebrows. That and some other oddities triggered an investigation, which led to the retraction.

An unusual feature of that incident was that the journal is published by Elsevier, which has a database of reviewers. Even if an author suggests a reviewer, editors are supposed to use contact e-mails from that database. Elsevier officials say they do not want to reveal details of how the database may have been accessed or manipulated. They do say that the company discovered a vulnerability in the system and has corrected it.

But not, apparently, before that vulnerability may have been exploited to the advantage of two mathematicians—Akbar Tayebi, of the University of Qom, and Esmaeil Peyghan, of Arak University, both in Iran. Retraction notices for three of their papers, published this year in the *Journal of Geometry and Physics* and the *Journal of Mathematical Analysis and Application*, appeared in mid-September.

"We were alerted by another publisher in May that there was something suspicious about these two authors," said Elsevier's Ms. Schmidt. She looked at the reviewers of their papers for the Elsevier journals "and noticed they had generic e-mail contacts, not institutional e-mails. So I contacted these referees at their institutions. ... They said they were not even aware of the papers."



Then she contacted the authors and told them what she had found. "The authors did not provide any convincing evidence to the contrary," she said. It is possible that someone else planted the false reviews. But the end result was retraction.

Pressure on both authors and journal editors is a major factor in this new type of fraud, observers say. Authors need publications to advance their careers, and as grant money and the job market tighten, some appear willing to lie. "I think this is probably on the rise, but we don't really know the extent," Ms. Schmidt said.

On the journal side, editors are handling more submissions than ever—Mr. Supuran said he and three other editors work on 500 to 600 papers each year, about 20 percent more than when he started—and due diligence can be a casualty. When swamped, said Lance W. Small, a member of the ethics committee and a professor emeritus of mathematics at the University of California at San Diego, "editors may cut corners."