Pharmacy research and predatory journals: Authors beware

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A 2012 opinion piece of mine in Nature bore the headline, “Predatory Publishers Are Corrupting Open Access.”¹ Now, almost four years later, the headline’s meaning remains true, except that the problem is much larger. The number of questionable and low-quality open-access journals and publishers has grown significantly since the journals first appeared in 2008.² They are interfering with the effective communication of science, victimizing honest researchers, and allowing the publishing of pseudoscientific, effectively polluting the scholarly record with unscientific and unvetted research.

Characteristics of open access. The open-access publishing model was created to make scholarly research freely accessible and ameliorate the problem of price increases for subscriptions to scholarly journals.³ In open access, published articles are freely available to anyone with Internet access, with the publishing costs financed by fees charged to the authors upon the publication of their manuscripts. While the motives behind the implementation of open-access publishing were noble, and there are open-access publishers who are ethical and do not show any characteristics of predatory publishing, there have been many unintended and damaging consequences associated with the misuse of this publishing model.

Predatory publishers and the damage they cause to science are among the most negative effects of scholarly open-access publishing. Part and parcel of the open-access model is a conflict of interest: the more papers a publisher accepts and publishes, the more money it makes. This is in stark contrast to the practice of peer review, which, when done properly, frequently concludes with the rejection of papers, resulting in net expenditures for the publisher (managing the cost of peer review) with no monetary gain.

Low-quality open-access publishers began to appear and issue spam e-mails in 2008. The new publishing model quickly caught on as entrepreneurs soon realized that they could quickly, easily, and cheaply become scholarly open-access publishers: all that was needed was a website and some journal titles. Many nonscientists with no scholarly publishing experience began to launch—and continue to launch—scholarly publishing houses. Some launch fleets of new journals using templates.

The term predatory publisher began to be used in 2010,⁴ and the term has persisted, with scholars referring to the products of such publishers as junk journals, spam journals, and fake journals. The nomenclature is not as important as the negative impact that these low-quality journals have had on science and the scientists they have victimized.

Predatory journals and publishers aim to trick researchers into believing that they are high-quality and legitimate publishers. They give names to their publishing companies that sound legitimate, often pretending to be academies, institutes, and associations. Many are based in South Asia and West Africa but list their headquarters addresses—using the addresses of virtual office companies—in North America or Europe in order to fool potential authors.

Their journal titles often closely match those of respected journals, and some even copy the journal titles. The titles often incorporate terminology that gives the impression of worldwide coverage. This is why so many open-access journals have words such as international, world, and global in their titles. Most researchers are painfully aware of predatory journals through the incessant spam that the publishers distribute. There are companies that sell packages of thousands of e-mail addresses of researchers in given disciplines, and predatory publishers purchase these e-mail addresses, frequently changing the e-mail addresses from which the spam is sent, thus bypassing spam e-mail filters.

The spam e-mails solicit article submissions but also seek editorial board service. To make themselves seem legitimate and appear to associate themselves with respected universities, predatory journals bombard scholars with requests to serve on their editorial boards. Their names, pictures, and affiliations are prominently displayed on the journal websites and serve as advertising to attract manuscripts and the fees that accompany them. Some of these journals add professors to their editorial boards without their permission or knowledge and even ignore requests to remove the names of editorial board members from their websites. Over the past couple of years, some predatory open-access publishers have used medical photographs on their websites to give their operations a sense
of legitimacy. Many researchers have been fooled by the use of such images, often pictures of surgical procedures.

Why they are a problem. Predatory journals victimize both science itself and individual researchers. They victimize science by not respecting the conventions and practices of rigorous peer review, aiming instead to accept as many submissions as possible to generate increased revenue. When analyzing a journal or publisher, the most difficult component to analyze is the peer-review process because it is blinded. Predatory and low-quality journals also blind their peer-review process, exploiting the secretive nature of the process.

However, even when one cannot observe peer review directly, there are ways to evaluate it. The sheer number of open-access journals seeking payments from authors has increased competition among them. One of the ways they compete is by promising a fast peer-review process. It is not uncommon to see spam e-mails that promise a submission-to-publishing time of two weeks or less. We can also evaluate the peer-review process by having experts read and comment on published articles, identifying those that are unscientific or that have fatal methodological or statistical flaws. I have documented sham peer review in which nonspecific templates were used to report a successful peer review and declare an article accepted for publication.3

Predatory journals directly victimize researchers, especially those who are tricked into believing that a particular journal is legitimate. Some researchers have responded to spam e-mail solicitations by sending a manuscript, only to see it almost immediately published. The publication is quickly followed by an unexpected invoice from the publisher for author fees. Some publishers using this trick refuse withdrawal requests or offer to withdraw manuscripts only when a fee is paid.

Scholarly publishing is an integral part of the reward system in universities. But because peer review has broken down, the system is failing. Too many universities evaluate scholarly activity by counting a researcher’s publications, but predatory journals are not selective and publish almost any scholarly-appearing submission as long as the fee is paid. This loss of selectivity is destroying the practices of established research cultures. That is to say, in many cases, getting a scholarly article published is no longer an accomplishment, yet established reward systems still count it as one.

Indirect victims of predatory publishers. In addition to those who are directly victimized by predatory publishers, there are indirect victims. As mentioned already, many are annoyed by the incessant spam they receive from clever and competitive predatory journals and publishers. The spam reduces individual productivity and wastes time.

Predatory publishers are also contaminating the research process. Most research projects begin with a check of the existing literature on a topic. When researchers seek to determine what other work has been done on a particular research question, they review the literature, often documenting such reviews and incorporating them into new scholarly articles. But because many scholarly indexes include questionable and low-quality journals, the practice of literature review has changed. Many articles must now undergo greater scrutiny before they can be considered, a process that adds to the time it takes to conduct a professional literature review.

These same indexes, especially the frequently used Google Scholar, are also used by students conducting research projects as part of their studies. Lacking credentials and experience, students have likely used research published in predatory and other weakly vetted journals in their lessons. Perhaps those most victimized are the honest researchers who refuse to publish in predatory journals. In many regions, such as Eastern Europe and the Middle East, using predatory journals to get easy publications to add to one’s curriculum vitae has become commonplace. Honest research and publishing can take much time, but predatory journals hasten the process. At “bean-counting” institutions, complicit researchers who exploit easy publishing in predatory journals fare better than honest researchers who take the high road.

Medical scholarship. Of all the research carried out and published today, perhaps none is more important to humans than research in the biomedical sciences. Basic research, and any research translated into clinical and pharmaceutical practice, is among humans’ most important and enduring endeavors. Therefore, medical publishing, the tool researchers use to share their research findings, must be standard, precise, and clear.

Some conferences use many of the same tricks as those used by predatory journals to attract registrations and the submission of conference papers. Often these conferences are fly-by-night types of operations, organized not by scholarly societies but by individuals or groups of individuals hoping to make a quick and easy profit. Some organize multiple conferences at the same hotel simultaneously and, like predatory publishers, accept most or all submissions in order to maximize revenue. They are also a major source of spam e-mail solicitations. Typically, predatory conferences are held in resort locations and their websites bear large photographs with many palm trees.

A good way to avoid predatory conferences is to determine the top, nonprofit, authentic scholarly societies in one’s field and to focus exclusively on them, ignoring spam e-mails for questionable and unfamiliar conferences altogether. Senior colleagues can help younger researchers identify the best society conferences.

One of the reasons predatory publishers target researchers in the biomedical sciences has to do with grant funding. Predatory publishers and conference organizers know that
many biomedical sciences researchers have grant funding, money that can frequently be used to pay for conference travel and author fees in open-access journals. This funding has led them to focus on this particular field.

**Conclusion.** While there are professional associations for publishers and journal editors, there are no organizations that represent scholarly authors as consumers of scholarly publishing services. However, fees from researchers are increasingly being used to finance the publishing of journals. Sometimes researchers are even asked to pay for other services, such as copyediting.

The system of payments from authors has led to the creation of many predatory journals and conferences. These predatory publishers are corrupting open access, scholarly publishing, and the communication of science.

**Disclosure**
The author has declared no potential conflicts of interest.

**References**