Open-access Journals – A Scientific Thriller

Dear Readers,
The publishing world is in turmoil. Pressure is increasing from many sides (funding agencies, groups of scientists, etc.) to embrace open-access publications. The idea behind it is that knowledge should be accessible for free, so that everyone can benefit from it without restriction. Some public funding agencies argue that data generated from research funded by taxpayers' money should be open to the public (the funding taxpayers). Universities also encourage publishing in open-access journals, following the philosophy that "open access" means being read and thus cited more frequently. In the end, this increases the researcher's scientific output, thereby also improving the university's international ranking.

Embracing open access would hence seem justified, but the proponents forget that transforming a submitted manuscript into publishable form requires a tremendous amount of work: huge voluntary support by blinded/unbiased qualified reviewers as well as long hours of work by qualified people handling publication layout and design, printing and/or distribution. As in any business, this process has a cost and somehow the price must be paid. For a long time now, we have been saying that for high-quality publications, open access means a reversal of the fee obligation. Instead of paying at the receiving end (the reader), the producers of knowledge (the authors) must pay for their publication, creating an inequality within the research community. Only the wealthy researchers will be able to publish in the open-access world.

Unfortunately, this is only part of the problem. The worst thing is that, beyond the reach of scientific control boards, big business is actually taking advantage of the situation with murky methods that complete destroy the truth in publications. This was recently revealed in an article by John Bohannon entitled "Who's Afraid of Peer Review?" published in Science Magazine.[1] The author was alerted by some colleagues who had complained that they were asked for a publication fee after the paper was accepted by an open-access journal that was allegedly publishing for free. He began to look more closely at the publisher's dissemination of open-access journals and was astonished to discover a multitude of strange business behaviors, such as false postal addresses or e-mail addresses spread all over the globe, almost untraceable international interconnections, as well as poor communication with the editors. He was further alerted by a colleague who had reviewed an article for an open-access journal. The paper was so poor that she "thought it was a joke". Nevertheless, she found it published despite her remonstrations to the editor, a person of unknown affiliation.

Based on this and other frightening facts he discovered, John Bohannon decided to create a fake paper with errors so grave that a competent reviewer should easily detect them, and thus recommend its rejection: "The paper took this form: Molecule X from lichen species Y inhibits the growth of cancer cell Z. To substitute those variables, I created a database of molecules, lichens, and cancer cell lines and wrote a computer program to generate hundreds of unique papers. Other than those differences, the scientific content of each paper is identical."[1] He then created fictitious authors and institutions mainly in the developing world by permuting names and inventing institutions. To camouflage his good English, he had Google translate it into French and then back into English, based on a recommendation of some Harvard molecular biology colleagues, who had mock-reviewed the paper.

Then, these fake manuscripts were submitted at a rate of 10 per week to a multitude of open-access journals. A few publishers requested a fee to be paid up front. Those were excluded from the process, which means that the remaining ones used the standard model: fee for publication after acceptance. If a journal rejected the paper, it was also excluded from further actions. If the paper came back and the journal asked for revisions, the author complied. If it was accepted, the author withdrew the paper with the comment that an "embarrassing mistake" was found.

"By the time the Science paper went to press, 157 of the journals had accepted the paper and 98 had rejected it. Of the remaining 49 journals, 29 seem to be derelict: websites abandoned by their creators. Editors

from the other 20 had e-mailed the fictitious corresponding authors, stating that the paper is still under review; those too were excluded from this analysis. ..... Of the 255 papers that underwent the entire editing process to acceptance or rejection, about 60% of the final decisions occurred with no sign of peer review. ..... Of the 106 journals that discernibly performed a review, 70% ultimately accepted the paper. Most reviews focused exclusively on the paper layout, formatting, and language."[1]

This is catastrophically bad news for the scientific community, since obviously a substantial number of journals claim to use peer review, but in fact they don't. The main function of peer review is quality control, which is the basis of any valuable product. The dubious practices mentioned above also mean a loss of trust in scientific publications. Despite the pressure to publish, scientists should only submit their paper to a journal they know and whose peer-review system they can check for functioning.

For the *Journal of Adhesive Dentistry*, we can assure you that we rigidly perform a strict peer review, with the sole intention to increase the quality of our publications. Every submitted manuscript goes through the hands of two editors, one section editor, and if not rejected outright through at least two reviewers. For the reviewers, the process is blinded in order to maintain as much objectivity as possible. Finally, after acceptance it is read by the language editor, while the final proofreading is done by the editor, who may ask the authors for late corrections, if the reviewers have overlooked some errors. We are well aware that every test yields not only correct results, but can produce false-negative and false-positive results. Our editorial process is no exception to this. However, we try very hard to keep the error rate as low as possible.

Let us finish with a quote by Anders Linde, Editor of the *European Journal of Oral Sciences*: "Nothing is scientifically shown or proven before it has been published in a scientific journal with a peer-review system, so one can critically judge what was done, how it was done and evaluate how solid it is!"

This is why the *Journal of Adhesive Dentistry* will hold to its current format.

Sincerely yours,

JF Roulet and Bart van Meerbeek

Source:

1. Bonannon J. Who's afraid of peer review? www.sciencemag.org, Science, 4 October 2013, Vol. 342, no. 6154, pp. 60-65; DOI: 10.1126/science.342.6154.60.