THE CREDIBILITY OF SCIENTIFIC WRITING: AN APPEAL FOR RESPONSIBILITY

Christian Chopin[1]

1811-5209/18/0079-$0.00 DOI: 10.2138/gselements.14.2.79

The world of scientific publishing is evolving rapidly. Alongside the usual "big sharks"—the monopolistic publishing houses that have been dominating the market and pressurizing institutional subscribers for decades—there are a wealth of new, online players emerging under the banner of "Open Access". Open access journals are web-based scientific journals that are free to read by anyone but require authors to pay a fee for publishing their paper. These open access journals are a true challenge, not only for journals published by non-profit, learned, societies, but also for scientific publishing in general.

At first glance, open access journals come over well. Short handling times are attractive and impact factors are good because of the open access on the internet. However, these advantages may also mask the dealings of a predatory publisher. Scientists are being aggressively chased, often on a daily basis, by open access publishers who invite us to submit a paper with reduced or rescinded publication fees, or to convene a special issue on a subject of our choice, or even to act as a journal board member. Of course, we can accept these offers in good faith and offer our meticulous services. But we must be aware that, by so lending respectability, we are encouraging a perverse system that takes advantage of the open access concept and that has created a money-making scheme that primarily prospers share-holders who have minimal interest in the advancement of science. Moreover, and more importantly, this system contains the malicious seeds that could lead to discrediting scientific publishing as a whole. Indeed, our high-profile papers and names can be used as window-dressing for respectability to show-case a journal and attract lesser-profile authors who need do little more than pay a fee to be published, irrespective of quality. There have already been a number of stings for certain open access online journals in the form of glaringly fake submissions that, nevertheless, did get published (e.g. one spoof article on "midichlorians", the source of the Force in the *Star Wars* films, was published in three separate open access biology journals: http://blogs.discovermagazine.com/neuroskeptic/2017/07/22/predatory-journals-star-wars-sting/).

The issue at stake is no less than the integrity and credibility of scientific writing, a matter that is of increasing concern in the emerging era of "fake-news". The reputation of scientific writing rests on the process of rigorous evaluation by peers. This reputation is our treasure. We should not lend it to dubious companies whose prosperity may be linked to the weakness, or total lack, of content validation.

I have heard the objection that we have already lent or compromised our reputation with the "big sharks" and their journals. However, in a subscription-funded model, the situation is different. When buying (expensive!) subscriptions, the subscriber expects value for money. And that value comes from having fully validated content. With this funding model, publishers have a financial incentive to ensure validated content to the subscriber because subscriptions cover the costs of publishing content. What guarantee of quality do we have for author-funded material offered on the web by open access publishers, whether predatory or not? We don't. With this funding model, publishers have minimal financial incentive to have fully validated content because authors have already paid for the content to be published. With such publishers,

the suspicion that the balance between profit and rigorous evaluation may be biased towards profit is obvious. As a result, the credibility of "scientific content" in that particular journal is undermined, which in turn undermines the integrity of any scientific writing in our connected world.

This is not an indictment on open access as such. On the contrary, it is an appeal for investing our treasure in publications that are *not* profit-based, and this is all the more important if open access is considered. This is also why the role and moral responsibility of learned societies as scientific publishers are more important than ever. With them, the scientific community has direct control over the editorial boards, the evaluation policies, and the peer-review validations that are so crucial for any scientific publication. An additional bonus for publishing in a learned society journal is that any profits that may arise will serve the scientific community rather than non-scientific owners and share-holders. Most of our publishing societies are currently evaluating their publishing strategies and models, and some may consider an increased role for open access publications in their journals.

In any event, authors and colleagues are urged to take on a responsible stance when it comes specifically to profit-oriented open access publishers: we should neither lend nor compromise our reputation with them!

Isotopx
Next Generation Excellence in Mass Spectrometry
Find out why so many scientists choose Isotopx for their TIMS and Noble Gas MS solutions, including older NGMS upgrades. Contact us to hear about our new ATONA amplifiers.

www.isotopx.com
info@isotopx.com

1 Coordinating editor of the *European Journal of Mineralogy*
École normale supérieure – CNRS
Paris, France
E-mail: chopin@biotite.ens.fr