

# Trust, Quality Assurance and Open Access

## Predatory Journals and the Future of the Scholarly Publication System

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### *The roots of the business model of predatory journals*

By the end of the 1990s at the latest, the neo-liberal paradigm of ‘new public management’ (NPM) had taken hold of science policy in the leading science nations. In this context, economic incentives were introduced in a social system to which they were foreign until then, perhaps with the exception of law, chemistry, medicine and the engineering sciences, which were closer to the economy or monetary remunerations, respectively. The larger part of the academic system, however, followed the logic of self-direction by internal disciplinary acquisition of reputation. With the introduction of performance measures, policymakers hoped to gain control over a system which was inaccessible to most of them with respect to its operational logic. The advantages of simple quantitative measures seemed so convincing that the concerns expressed initially against the radical reduction of such a complex process like the assessment of contributions to the stock of knowledge by the competent peers and the attribution of reputation based on it were ignored.

More fatal than the carelessness, sometimes even arrogance, among politicians was the ease with which the scientific community could be won over as without its eager acceptance of indicator-based performance evaluations, NPM would have failed or could at least have been shaped more intelligently. As a result, science submitted to the logic of ‘externalised performance measurement’ and all its intended but also its unintended dysfunctional

effects. One of the latter is that especially younger scholars are exposed to a competition in which not a wealth of new ideas and innovative thinking are criteria of success but countable products, in particular publications appearing in scholarly journals. These, in turn, are subject to indicators supposedly measuring quality, that is, journal impact factors (JIF).

The world of money, which surrounds the odd world of science and on which science ultimately depends, is not one of solid businessmen (the merchant prince for whom a handshake was a contract) but rather one which is populated by many clever characters who occupy areas that are not legally regulated with their sneaky business ideas. Where it is profitable, they may even cross the borderline of the law of the land or of morality. Earlier, before digitisation, these people issued chain letters, promotional excursions for elderly ladies and sales of oriental rugs. No one would have thought that science, of all things, would become a source of income for shady racketeers, but NPM has made it possible.

Digitisation, which has many positive but also many questionable consequences, has brought science, among other things, the option of electronic publishing open to all authors (open access). From the perspective of many scientists, particularly in the natural sciences, where the turnover of knowledge and thus the pace of publishing is rapid, this option is very attractive. The traditional journals often have high rejection rates and lengthy review processes, and they ask hefty fees. For the young scientist, the rationale is to counter the publication pressure by choosing a journal that publishes their article rapidly and cheaply.

It is exactly this group, defined as demand or a potentially lucrative market, to which both the large publishers and diverse racketeers respond. They offer open access (OA) journals that publish rapidly and without lengthy and risky review processes. The names of these journals are often vacuous, sometimes they sound similar to the names of renowned journals, and their number is growing and hard to trace. The latter refers to all those organisations, funders, university administrations and ministries that have initiated performance measures in the first place. According to Jeffrey Beall – the librarian from Boulder, Colorado, admonisher and guardian over the development of the so-called ‘predatory journals’ – between 2011 and 2016, the number of obscure publishers had risen from 18 to 923, and between 2013 and April 2016, the number of stand-alone journals had increased from 126 to 1 220. He has meanwhile created two additional lists: one is that of ‘hijacked journals’, that is, journals for which a fraudulent website with a stolen identity of a regular journal has been set up. Under this wrong identity, these journals advertise for articles in the OA format, that is, the author pays. The number of these journals has gone up from 30 in 2015 to 101 in 2016. As a result, the number

of published articles has also gone up: from 53 000 in 2010 to 420 000 in 2014. In addition, these new highwaymen of the scholarly publishing system have come up with further finesse. To fake the reputation of their journals, they invent new metrics or mock organisations that compute the JIF, which has been in use for some time. Among them – this is the second list – are such flowery names as the ‘Einstein Institute for Scientific Information’ or the ‘International Society for Research Activity’.<sup>1</sup>

Meanwhile organisations have emerged as well, so-called ‘article brokers’, that squeeze in between author and journal. There is, for example, an ‘Association for Scientific and Engineering’ whose Chinese initiators one should thank for not having a good command of the English language. Beall comments:

On its website, it claims to be ‘an international non-profit organization dedicated to advancing science for the benefit of all people,’ but this is a big lie. It’s an unethical firm that preys on scholarly authors desperate to get their work published in indexed journals to advance their careers [...] All the parties benefit, except one. The authors get published in an indexed journal and advance their careers. The article broker charges a fee and generates revenue. The editor receives payments from the article broker for his or her help in getting the papers published. But because the editor or owner of the journal is getting under-the-table payments to facilitate the acceptance and publication of the articles, peer review suffers. There is an incentive to accept and publish as many papers as possible, regardless of their scientific soundness, to make more money.

The victims, of course, are the readers, the consumers of scholarly literature, which includes all researchers. Article brokers are constantly seeking cooperative editors, offering deals some cannot turn down.<sup>2</sup>

This describes comprehensively what holds true for the entire development, from predatory journals to article brokers. It is about the semi-legal but unethical business practices on the Internet enabled by digitisation which – via NPM – have entered science and threaten the fragile fabric of trust and quality control.

The business model taken up by the predatory publishers was originally developed by the large science publishers. They were the first to adapt to

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1 All data under <https://scholarlyoa.com/2016/01/05/bealls-list-of-predatory-publishers-2016/>. Unfortunately, the website of Beall’s list was shut down in January 2017 with no explanation given. Cf. <http://retractionwatch.com/2017/01/17/bealls-list-potential-predatory-publishers-go-dark/>.

2 <https://scholarlyoa.com/2016/03/31/another-article-broker-from-china/>.

the challenge of open access and developed a new variant of the connection between quality decisions and monetary incentives. Gold open access is no threat to the publishing business if they collect so-called ‘article processing charges’ (APCs) from authors instead of subscription fees from libraries. These fees – the amount of which is only limited by the willingness of the authors’ paying home institutions – are the basis of the business model of predatory publishing.

With the introduction of the APC-based gold open access model and its voluntary acceptance by funding organisations in the United States and the European Union, coupled with the mandate for scientists to publish in this format, science policy has manoeuvred itself into a precarious position. Not only are the costs for the public purse incalculable, but the model prepares the ground for a loss of trust in the quality assurance mechanisms that permeate the entire science system. Even if the share of articles in predatory journals of all OA articles paid by authors is still small – estimates vary from 1% (Bjornshaug) to 5–10% (Beall) – the dynamic of the development is reason for concern (Butler 2013: 435). In the meantime, the structure of the market has already changed. Since 2012, those publishers that publish between 10 and 99 journals have the largest market share (Shen & Bjork 2014). Now the small crooks are coming.

Anyone who believes that this is primarily a problem of developing countries and that the suspect publishers have their headquarters there, is in for a surprise. In their study, Shen and Bjork come to the conclusion that the regional distribution of both authors and publishers is very uneven: three quarters of the authors come from Asia and Africa (Shen & Bjork 2015). John Bohannon received a lot of attention with an experiment in which he sent an article with obviously wrong findings to hundreds of OA journals and tested their quality controls – with devastating outcome (Bohannon 2013). In Bohannon’s sample, one third of the journals originated from India. With this, the country has the largest share of OA publishing. Surprisingly, however, he saw the United States in second place (Bohannon 2013: 64–65). On the basis of this experiment, Bohannon (2013) concludes that the corporations that reap the profit have their headquarters in the United States or Europe, even if the editors and the bank accounts of the journals are based in developing countries. ‘Journals published by Elsevier, Wolters, Kluwer, and Sage all accepted my bogus paper’ (Bohannon 2013: 65). Indeed, developing and threshold countries are especially vulnerable insofar as they press their scientists more than the countries in the North to publish internationally. Thus, they are also damaged more severely.

Predatory journals and publishers build on open access and discredit it at the same time even if open access does not automatically lead to such practices

(Berger & Cirasella 2015). The question about what the consequences of predatory journals will be on science, invokes two possible scenarios.

*Dystopia of the scholarly publication system*

In principle, predatory journals abrogate the central control mechanism of science which, at the same time, constitutes trust without which knowledge production cannot grow or can grow only very slowly. When, in highly specialised research fields, it is generally no longer known who is very good and who is not so good, the internal, implicit attribution of reputation becomes impossible. In the better case, other criteria, such as profitability or political acceptability, take the place of substantive assessments of research contributions. The increasing economisation of science, which replaces intrinsic motivation by external monetary incentives, first of all leads to the neglect of economically uninteresting fields, such as the humanities (Lill 2016). A further consequence could be the erosion of research ethics or norms of good scientific practice because of ‘goal displacement’ (Osterloh & Frey 2000). Even though a causal link can hardly be proved, it is conspicuous that the sensitivity about fraud in science has led to regulatory efforts worldwide that react to an increased incidence of scientific malpractice. If the operators of predatory journals can procreate unhindered, driven by the political pressure on scientists to publish plenty and fast, the disorientation that already makes it difficult to distinguish unequivocally between regular but lower-quality journals and predatory journals will increase (Berger & Cirasella 2015). Bad research replaces good research because the reliance on and citation of the work of good researchers is no longer directed by quality control. The cost of replication will increase, a fact indicated already by the growing number of retractions (Van Noorden 2011).

If one extrapolates this development even further, grave consequences for the position of science in society can be imagined, that is, for the authority of science as the ultimate instance of the production of certified knowledge. If this position is lost, there is the concern that science will come under the influence of ideology. Both the religiously motivated radicalisation in recent years and the mobilisation of questionable beliefs via the social media (for example, the anti-vaccination campaign) are warning signs. In the end, society abdicates the very institution that it has created against the horrors of the religious wars of the 17<sup>th</sup> century.

*Utopia of the scholarly publication system*

Most likely, it will not turn out to be quite so bad. At first, the system reacts by trying to protect itself through controls. The Directory of Open Access Journals (DOAJ) was established in order to guard against the ‘blacklisting’ of OA journals. However, in reaction to Bohannon’s experiment, the DOAJ had to

slash 114 journals from its 'white list' and sharpen its criteria of admission. A similar strategy is pursued by the Open Access Scholarly Publishers Association (OASPA). Its members have to commit to a code of conduct, but even here, mistakes happen (Berger & Cirasella 2015: 134). Controls can lead to absurd consequences. The South African Department of Education originally paid generous financial rewards to universities and research institutions for publications under their respective addresses in order to promote the international visibility of its researchers – and to boost their productivity. Now it sees its budget threatened by the fraudulent practices of predatory journals. The universities – implementing the department's policy – ask authors to reveal the names of their reviewers, and if that should be impossible, at least those of their home organisations, supposedly to document the solidity of the peer-review process. This institution should have known that, by doing so, it asks the editors of scholarly journals to violate the rules of good scientific practice.

If this example suggests that the development will progress in the direction of an ever-increasing elaborate bureaucratisation, one can think of a utopian scenario, which leads to a more intelligent use of digitisation. A first step for science and science policy is to abandon the JIF and all other performance indicators that are based on the quantity of publications. In view of their methodological deficiencies, this step is long overdue anyhow and is demanded by international science organisations (International Medical University and the San Francisco Declaration). Such a step would effectively spoil the business model of predatory journals and their publishers.

Even more utopian is the suggestion to create a platform that contains all aspects of an open peer-review system that would be accessible to all scientists. They would, however, all need to have an account to be identifiable. 'Peer reviews, metrics and ratings would then be able to expose fraudulent behaviour by editors, who could eventually be excluded from the platform' (Wehrmeijer 2014: 79). Such a platform could be supported by a consortium of universities and would, in principle, make journals superfluous. It is also imaginable that such formats would take the place of publicly financed libraries, perhaps administered by them, as subsidiaries of science that is committed to the common weal and is itself a public good. In such a system, predatory journals and their publishers would have no place.

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