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## ‘Broken access’ publishing corrodes quality

Funders should award competitive grants directly to journals to underwrite the costs of open access, urges **Adriano Aguzzi**.

I’m passionately in favour of everyone having open access to the results of the scientific research that their taxes pay for. But I think there are deep problems with one of the current modes for delivering it. The author-pays model (which I call broken access) means journals increase their profits when they accept more papers and reject fewer. That makes it all too tempting to subordinate stringent acceptance criteria to the balance sheet. This conflict of interest has allowed the proliferation of predatory journals, which charge authors to publish papers but do not provide the expected services and offer no quality control.

The problem is not addressed, in my view, by the Plan S updates announced in May by a group of mainly European funders and the Bill & Melinda Gates Foundation in Seattle, Washington. Plan S is the push to make the research these agencies fund open access on publication from 1 January 2021. I am concerned the implementation of this honourable goal could cause long-term damage to the integrity of the scientific record.

But I know of a fix, and I have seen it in operation. I propose a model in which journals compete not for libraries’ or authors’ money, but for funds allocated by public-research agencies. The major agencies should call for proposals, similar to research-grant applications. Any publisher could apply with its strategic plans and multi-year budgets; applications would be reviewed by panels of scientists and specialists in scientific publishing.

The number of papers published would then become one of a journal’s qualities that could be assessed rather than the clearest route to economic viability. Other assessable factors could include turnaround times, quality of searchable databases, durability of archiving, procedures to deal with fraud and retractions, innovations in cooperative peer review, and the option of post-publication review. Although the updated Plan S calls for many such factors to be reported openly, it does not provide any clear mechanism to reward their implementation.

I call my proposed approach Public Service Open Access (PSOA). It uncouples the publisher’s revenues from the number of papers published, removing incentives to publish low-quality or bogus science. Crucially, scientists would decide how to allocate resources to journals.

The feasibility of PSOA is already partly proven. The journal that I have directed for the past four years, *Swiss Medical Weekly*, has functioned in this way since 2001. Readers don’t pay for access, authors don’t pay for publication and reviewers are paid 50 Swiss francs (US\$50) for each report. The journal’s costs (roughly 1,900 Swiss francs for each published paper, although automated systems might lower costs in the future) are covered by a consortium of Swiss university and cantonal hospitals, the Swiss Medical Association, the Swiss Academy of Medical Sciences and charities — which have evaluated our model and prioritized it over those of other publishers. Granted, Switzerland is a small, wealthy country and so positioned to be a trailblazer. Although they do not provide the services of journals, the successful preprint servers

arXiv and bioRxiv also follow this funding model.

*Swiss Medical Weekly* and its articles are published under the Creative Commons licence CC BY-NC-ND (commercial use or modifications are not allowed), which is too restrictive for some open-access advocates. (I feel that the CC BY-NC-ND licence is better suited to maintaining the integrity of the published record, but I’m open to arguments otherwise.)

Grant-supported journals are a distinct model from the ‘read-and-publish’ deals being developed by institutions and publishers — libraries pay subscription fees but allow researchers to publish under open-access terms. These deals, which Plan S supports as ‘transformative arrangements’ until the end of 2024 for journals moving to open access, are non-transparent, do not involve granting agencies directly, do not foster innovation in publishing and favour monopolistic publishers.

Grant-funded journals are also distinct from various platforms that exist to provide open access to research published elsewhere. These include SciELO, a portal supported by governments mainly in South America that provides access to work published in hundreds of journals. Another is Wellcome Open Research, which is part preprint server, part peer-review journal. And then there are sites that allow researchers to self-archive their accepted manuscripts on publication by a journal, such as the University of Zurich’s ZORA. But duplicating database contents invites desynchronization and file corruption. I hope that grant-funded journals will be less vulnerable to hacking and more durable than these platforms, but only time will tell.

A possible concern related to PSOA is funders’ potential conflicts of interest (editors feeling pressure to accept work, or funding recipients feeling pressure to submit work to a journal). These are manageable by clear guidance, divisions of labour and, possibly, by combining funders into supranational consortia. Also, the mission of research funders is to promote the best science, whether or not they have funded it.

Alarm is growing among funders that their resources are flowing into dubious dissemination channels. The backers of Plan S think that their top-down directives will improve access to the scientific enterprise. But they are naive, in my view, when it comes to perverse incentives. Predatory journals could not exist if authors did not pay to publish in peer-reviewed journals.

In the past, journals were only economically viable if their value was deemed worth their subscription fees, thereby collimating the publisher’s and the readers’ interest. A mechanism must be restored to align the financial interests of publishers with the research enterprise’s need for high-quality (rather than high-quantity) publications. ■

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