



EDITORIAL

Opening science: The rebirth of a scholarly journal

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an open access  journal



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Journal of Informetrics (JOI) was created in 2006 to serve the dynamic, interdisciplinary, and rapidly growing field of informetrics (Egghe, 2005, 2006a, 2006b, 2015). Leo Egghe, the founding Editor-in-Chief of JOI, attributed this growth to the increasing attraction of “scientists from fields such as mathematics, physics and computer sciences, thereby considerably increasing the number of researchers engaged in informetrics” (Egghe, 2006b, p. 4) as well as “the vast increase of the ways in which electronic information is created, distributed and used” (Egghe, 2006b, p. 3). Almost fifteen years later, the developments that Egghe observed have transformed not only the field of informetrics, but the entire scholarly dissemination ecosystem.

In 2006, green open access publishing was marginal outside of a few discrete disciplines, such as physics and mathematics, and gold and hybrid journals were still in their infancy (Piwowar et al., 2018). Scholarly publishing was just on the verge of moving from a more distributed, society-based ecosystem to one that was heavily consolidated in a few for-profit publishers (Larivière, Haustein, & Mongeon, 2015); it is no surprise that Elsevier was a natural partner for the establishment of JOI. Major publishers were heralding their ‘big deals’ to libraries and the negative financial and intellectual consequences of these deals had not yet reached a tipping point. By 2019, however, the misalignment in values between the scholarly community and large profit-driven publishers could no longer be ignored. This led to the collective resignation of the editorial board of JOI and the founding of Quantitative Science Studies (QSS).

The financial model of Elsevier has become untenable for the scientific community and, we argue, in violation of the scientific ethos. Its excessive subscription fees have caused journal cancellations across the globe—from California to Germany (SPARC, 2020)—and Elsevier’s article processing charges (APCs) for open access publishing (currently USD 2000 at JOI) do not represent a fair value for the cost. Publishing with Elsevier inevitably places major limits on scholarship: The expense of the subscription model places a restriction on who can be a *reader* of science, the expense of APCs restricts who can be an *author*. These restrictions on access are harmful to science and society.

Our field depends on high-quality scientific metadata. To make our science more robust and reproducible, these data must be as open as possible. Therefore, our editorial board was deeply concerned with the refusal of Elsevier to participate in the Initiative for Open Citations (I4OC). Launched in April 2017, I4OC promotes the open availability of citation data, which is a core source of information for scientometric analysis. Elsevier is the largest contributor of citation data, representing about a third of all references in Crossref (Tennant, 2018). While almost all other large publishers have joined I4OC, Elsevier argues that, given its

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investments in citation extraction technology and the value it adds, it cannot make citation data available for free (Reller, 2019).

The community's perspective on this is unambiguous: Hundreds of scientometricians have signed a letter urging scholarly publishers to support I4OC (ISSI, 2017). Scientometrics has historically been constrained by limitations in data access, and by preventing access to the field's primary data, Elsevier is acting against the interests of the field and science at large. We understand that Elsevier has shareholders that expect the company to maximize its profits. Profit maximization does not inherently prevent acting in the good of science. However, by refusing to open its citation data, Elsevier has chosen to protect the interests of its shareholders while disregarding the interests of other stakeholders, in particular the scholarly community. In doing so, Elsevier fails to take its scientific and social responsibility seriously.

The ultimate responsibility for a scholarly journal should fall with the scientific community, who serve as the gatekeepers, producers, and consumers of scientific content. While JOI prospered under Elsevier's ownership, our community had only limited autonomy in managing the journal and deciding about its future direction. Editors were appointed by Elsevier, not by the community, and we increasingly experienced Elsevier's desire to impose one-size-fits-all solutions on its journals. For example, Elsevier mandated the use of their own manuscript submission system, which performed much worse than comparable systems and created additional burdens for authors, reviewers, and the editorial board. Science is a self-governing system; to function robustly, the scientific community must be given license to select and evaluate gatekeepers and to minimize burden on those engaging in service.

Therefore, in a manner similar to the flip of the Elsevier journal *Lingua* into *Glossa* (Rooryck, 2016)—as well as other journals whose flips have been less publicized¹—we decided that these issues were important enough to terminate our relationship with Elsevier. Together with the International Society for Scientometrics and Informetrics (ISSI), the editorial board worked to find a new home for our journal. We approached several publishers and publishing platforms, and MIT Press provided us with attractive conditions under which we believe the journal will thrive.

As an open access journal, QSS will be freely available for readers worldwide. With an APC of USD 800 (or USD 600 for ISSI members), QSS is more affordable for authors to publish in than many other journals. Thanks to a collaboration with the Fair Open Access Alliance (FOAA), in the first three years of the journal, APCs will be covered by the Technische Informationsbibliothek (TIB) – Leibniz Information Centre for Science and Technology with support from the Communication, Information, Media Centre (KIM) of the University of Konstanz. We will continue to seek opportunities to make publication open to all authors. Furthermore, QSS is fully committed to making all metadata of the papers it publishes—not just citation data but also affiliation data, abstracts, and so on—openly available in Crossref. This will contribute to reproducibility and robustness in our field. Finally, since QSS is owned by the scholarly community through the ISSI, the community will make decisions about the future direction of the journal. Important decisions, such as the appointment of new editors, will be made by the community, not by the publisher.

Fifteen years ago, Leo Egghe noted the increasing diversity in the field of informetrics. Many of the new entrants have now assembled under a host of different names: We hope that those who identify under labels such as scientometrics, science of science (Fortunato et al., 2018),

¹ See the list of journal's 'declarations of independence' at http://oad.simmons.edu/oadwiki/Journal_declarations_of_independence.

and metascience (Ioannidis, Fanelli, Dunne, & Goodman, 2015) will all find a home in QSS. We also recognize the diverse range of disciplines for whom science is an object of study: We welcome historians of science, philosophers of science, and sociologists of science to our journal. While we bear the moniker of *quantitative*, we are inclusive of a breadth of epistemological perspectives. Quantitative science studies cannot operate in isolation: Robust empirical work requires the integration of theories and insights from all metasciences.

The flip from JOI to QSS is neither the first nor the last of its kind. There is a tremendous Zeitgeist towards openness as the scientific community reasserts its role in the responsible governance of the scientific record. We welcome discussion with other editorial boards and professional societies as they grapple with these transformations. Publishers can also serve as positive actors in this new environment: by adopting inclusive practices in publishing, providing adequate quality, and respecting the community's autonomy. We hope that this flip not only benefits our own community, but serves as a catalyst for positive change across the scholarly communication ecosystem.

The JOI/QSS flip has benefited from the help of many. First and foremost, we would like to thank the members of our editorial board, who collectively embarked on this adventure. Despite the uncertainty associated with the flip, they supported it unanimously and further demonstrated their support by both reviewing for and submitting to QSS. We also wish to thank the staff of MIT Press for their tremendous work in launching QSS. In particular, we are grateful to Amy Brand, Director of MIT Press, and Nick Lindsay, Director of Journals and Open Access at MIT Press, who have been incredibly supportive. Finally, we wish to thank Johan Rooryck, Editor-in-Chief of *Glossa* and President of the FOAA, and Saskia de Vries, Project Leader at the FOAA, for their inspiration and assistance, as well as Marco Tullney, Head of Publishing Services at the TIB, for organizing generous financial support for QSS.

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