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Exponential Growth of Higher Education Research and the Challenges for Peer Review

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Higher education research production has increased five-fold in the last twenty years, from 630 articles in 2002 to 3,279 articles in 2022. This growth has been underpinned by an equally astonishing growth in the number of submissions. The largest journals in our field now receive thousands of articles to review every year. What does

Abstract
The higher education research field has grown five-fold in the past twenty years, and higher education journals have become larger and larger. What are the consequences for peer review?

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such a change of scale mean for higher education journals' management and peer review processes?

Greater numbers and complexity pose several intertwined challenges to the professional standards and norms that sustain the peer review process. This article discusses some key trade-offs and possible solutions based on the experience of other fields and insights from research on peer review.

Editorial Process Consistency

One of the well-known issues of peer review is the low level of agreement among peer reviewers: the fate of a manuscript is often determined by the selection of the reviewers, the so-called "luck of the reviewer draw" problem. As some degree of consistency between reviewers' judgment is desirable, it is also desirable that the quality of the peer review process and its timeliness do not vary significantly between different submissions to the same journal. However, while some hundred submissions per year can be handled by a single editor-in-chief with the support of few associate editors, thousands of submissions require many associate editors and often several editors-in-chief. The more editors that are involved, the more difficult it gets to preserve homogeneous editorial standards. Journals should arguably make sure that the rejection rate and the time to publication do not vary systematically from one editor to another.

Special issues potentially pose another challenge to editorial consistency. In the short term, special issues kill two birds with one stone: they attract submissions while not burdening editors with additional workload. However, editors should not completely delegate the management of the review process to guest editors to avoid depleting the journal's reputation over time; they should supervise the peer review process and request independent reviews.

Finding Reviewers

Peer review relies on the principle of volunteering—scientists review others' papers because they somehow enjoy this, on the one hand, and because of a sense of reciprocity and service to their academic community on the other hand. However, the increasing use of performance metrics counting publications and citations discourages activities that are not measured by such metrics. This contributes to why editors struggle to find reviewers. A widening community and larger journals can exacerbate these problems by weakening community principles of voluntarism and reciprocity: the motivation to review is stronger when receiving an invitation from someone whom you know or who may handle your submission in the future in contrast to when it is coming from editors who change every few years.

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There is also evidence that a small proportion of scientists do the lion's share of peer review, and increasing scale creates even more opportunities for freeriding. Perhaps sharing peer review data between journals in the field to monitor peer review acceptance can limit this free-rider problem, but doing so can make peer review a sort of obligation and further nurture an instrumental mindset. Introducing monetary or nonmonetary rewards for reviewers has proven hardly effective in attracting reviewers and potentially harmful for the quality of peer review. Asking authors to suggest reviewers should also be done carefully, because such reviewers systematically rate more positively than editor-selected-reviewers.

Scholars are reluctant to review articles of poor quality or articles that do not match their expertise. Editors should therefore be selective, invite reviewers with parsimony, and personalize such invitations. Publishers can develop new tools to identify potential reviewers by exploiting the increasing availability of data and natural language processing techniques. Being a member of an editorial board should not be a merely honorific role; reviewing should be done frequently and systematically. This would contribute to addressing the paucity of reviewers, nurture a sense of community, and help preserve more homogeneous evaluation standards.

Managing Quantity

While editors should be selective and avoid poor manuscripts reaching reviewers, they should refrain from extreme selectivity. Some fields responded to the massive growth of scientific production with an extremely tough and time-consuming peer review process. Extreme selectivity does not necessarily mean better quality and often leads to the rejection of the most innovative contributions. This phenomenon has been observed in fields like medicine, in which elite journals often reject the most cited articles, and in computer sciences, where conferences with a 10-15 percent acceptance rate have lower impact than conferences with a 15-20 percent acceptance rate.

Monitoring Quality

Reviewers have limited access to primary data. Increasing pressure for publication can push more authors to exploit this information asymmetry. New editorial practices are warranted, such as making the data on which a study is based available to reviewers and possibly to readers. Moreover, the pressure for publication creates a growing market for predatory journals, which are not always easy to spot. Such journals pretend to perform a rigorous peer review process while accepting almost any submission in exchange for an "open-access fee." Transparency in peer review—which entails the publication of peer review reports—can help preserve legitimate outlets by showing the quality of their review process.

Finding Editors

Voluntarism is also important for editors. While managing the peer review process of dozens of articles a year is a sound voluntary effort, managing several hundred hardly qualifies as volunteer work. Excessive workload can make the editor's work unattractive, with the risk that only junior scholars will be willing to do it, only for career purposes and for a short period of time, leading to high turnover and lack of experience. Moreover, there is increasing friction between academic editors pursuing quality and some publishers whose profits are increasingly dependent on open-access fees and who have an interest in increasing the sheer mass of publications. Some publishers have solved this friction by removing scholars from editorial roles and assigning these roles to their own employees. In the future, such a shift on a greater scale might represent the biggest threat to the quality and integrity of peer review in our field. ◢

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