Trends in Scholarly Publishing

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The Challenges (and Benefits) of Preprints

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Preprints are becoming a more normalised part of the scholarly communication landscape, but there remains considerable misunderstanding about what they are, and how journals can – and should – engage with them. This presentation will provide a brief overview of the preprint environment, and consider the challenges it poses for journals, as well as the opportunities for research communication in its broadest sense.

Preprints are a pre-publication version of an article. Often, they are versions that are submitted to journals for consideration or earlier versions that are made public so that authors can fine-tune their article before it is submitted. Preprints are not peer-reviewed, and the managers of preprint sites normally only check submissions to ensure they are within the scope of the preprint server (e.g. arXiv which was launched in 1992 for the physics community). There is no charge for authors to upload their articles onto preprint sites, and no charge for readers to read and download articles. Other preprint sites include SSRN, which was launched in 1994 for social sciences but now covers all areas, bioRxiv, which was launched in 2013 for the life sciences, and medRxiv, which was launched in 2019 for clinical medical articles.

The relationship between journals and preprint servers has changed a great deal in the last decade, with greater acceptance of the idea of preprints. Some journals refuse submissions that have already been posted on preprint servers, arguing that the research has already been published and therefore is not original work, but this attitude has mostly disappeared. Increasingly, publishers encourage journals to accept articles that have already been posted as a preprint, and several journals now actively encourage authors to put their submissions on a preprint server. Indeed, some journals (e.g., PLOS journals) will post a submission onto bioRxiv on behalf of the authors. There are also some initiatives to combine journals and preprint servers. For example, "In Review" is an initiative whereby the submission system of Springer journals is linked to the preprint server, Research Square. Alongside the preprints on Research Square, there is a status report of the article as it moves through review with the Springer journal. Other journals are working more closely, by providing a reviewing service for preprints. Review Commons is an initiative by the journal EMBO and eLife. Authors who have put their preprint on bioRxiv can apply for review from the journals. The reviews are published alongside the preprint, and after review, the authors can submit their article to one of a group of journals that will use the reviews to make a decision.

The journal F1000Research could be considered a hybrid model which combines a preprint with a journal. It "publishes" articles on submission (like a preprint server) and then undertakes traditional peer review, with the reviews being published alongside the article. Subsequent revisions are linked to the original articles, and articles that have been "Accepted" after review are flagged and indexed.

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There are also overlay journals where the submitted and published article is posted on a preprint server, but the journal lists the article as reviewed and accepted by them – for example, the Open Journal of Astrophysics and the journal Quantum.

There are many advantages of preprints: they allow authors to make their research available quickly, and openly, and avoid the potential delays and bias associated with journal publication. It gives much greater control and potential visibility to the authors. However, there are some disadvantages: some readers don't understand that preprints have not been reviewed and may give them undue credibility; they may add to information overload and promote bad science. They also make blind peer review impossible because the authors have already made themselves and their article public. There remain many issues over preprints that have yet to be resolved, but the last two years have demonstrated their value in avoiding delays and making research publicly available, so they are here to stay.

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