## Journals 2.0: a roadmap to reinvent scientific publishing

This vision describes a radically different publishing model that would ***reinvent the concept of a scientific journal into a live and open forum of scientific debate and analysis***. This model centers on a full integration of the preprint ecosystem into the journal interface. The journal would only accept submission of articles that have been posted as preprints. All evaluations and commissioned reviews of submitted articles would be published as soon as received on the journal website and linked to the preprint version. Editors would operate as always sifting through submitted papers and seeking external reviewers when necessary. But they will also consider author-led and community crowdsourced reviews, which would be appended to the preprint. As the reviews accumulate and revisions are submitted, the journal editors would initiate a consultation process, and when satisfied with a given version promote it to a formal article. ***The editor's role becomes more akin to moderator than gatekeeper.*** The process doesn't have to be static. As the community further comments on the article and follow-up studies are published, editors may decide to commission synthetic review or commentary articles to address emerging issues. I would also envision that the paper is linked to related articles in a "knowledge network" database, and that article tags are revised to reflect new knowledge, e.g. "independently validated". The journal would therefore become less of a static repository of scientific articles, and more of a moderated forum of scientific discussion.

To implement this vision of journals 2.0, the following roadmap would need to be implemented:

1. **Funding bodies to mandate preprints for their grantees.** To accelerate adoption of preprints by the life sciences community, funders should embrace their open science manifesto and mandate preprints. Such backing is essential to accelerate the community transition into the digital age and ensure the success of this model.
2. **Integrate the preprint ecosystem into the journal.** Given that bioRxiv has emerged as the leading platform in biology, and a multitude of preprint servers may add confusion and weaken the preprint movement. I would expect journals to strengthen their relationship with bioRxiv . Journals would establish web pages devoted to "Submitted Articles" and linking to the preprints.
3. **Every submitted article receives at least an editorial evaluation.** Editors evaluate all submissions and post their decision letter and comments on the website independently of whether they send the article for external review. Appeals are also posted on the web site. I expect full transparency to regain the confidence of the scientific community in the vetting process.
4. **Live peer review according to a hybrid model of editor-, author-, and community-led reviewing.** All review reports are posted as they are received by the journal. Authors can respond, or upload revised articles, at any time. The process is dynamic, and there is less of an urgency to formally publish papers given that the articles and reviews are public for everyone to read.
5. **Formal publication of articles.** As reviews, responses and revisions are posted, the editors would initiate a consultation about whether the paper has reached an acceptable threshold for formal publication in the journal. I foresee a system where articles are assigned to particular categories or stamped with tags. I think such system would help to transition the role of the editor from gatekeeper to moderator of an open evaluation platform of the submitted articles.

**Publish and Filter, not Filter and Publish.** We need to fully transition scientific publishing into the digital age, reduce associated costs, and address well-documented chronic problems. Preprints have at last emerged as an important form of author-led academic publishing in the life sciences. ***Journals need to reinvent themselves to adapt to this rapidly-changing publishing landscape.*** We first need to disseminate new research findings as early as possible and then, and only then, curate the literature. The model I propose is based on banishing *pre-publication* peer-review and providing a fully transparent evaluation process. Editors will moderate the literature, not just through commissioned reviewers, but also in consultation with the community at large. This model would deliver badly needed accountability and increase scrutiny of the published literature. Science and society would only benefit.

*For a more general perspective on this vision, please refer to my blog post: Wither pre-publication peer review to reinvent scientific publishing.*

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