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Abstract

In this issue of *Serials Review*, the Balance Point column delves into issues surrounding peer review, paying particular attention to open peer review. Beginning with some discussion of the history and development of peer review, as well as the advantages and disadvantages of traditional peer review, the column addresses open peer review (OPR) processes and the pros and cons of OPR. Topics such as the mechanisms of open peer review, faculty credit for peer review, as well as open peer review in the Library and Information Science (LIS) field are also touched on.

1. Introduction

In this issue of *Serials Review*, the Balance Point column delves into issues surrounding peer review, paying particular attention to Open Peer Review. Beginning with some discussion of the history and development of peer review, as well as the advantages and disadvantages of traditional peer review, the column addresses open peer review (OPR) processes and the pros and cons of OPR. Drawing on the information from literature, as well as an interview with Emily Ford, urban & public affairs librarian at Portland State University, topics such as the mechanisms of open peer review, faculty credit for peer review, as well as open peer review in the Library and Information Science (LIS) field are also touched on.

Peer review can take many forms and have many definitions, but for this column, we will rely on the definition provided by Tony Ross-Hellauer in a 2017 article published in *F1000Research* on the subject of open peer review. “Peer review is the formal quality assurance mechanism whereby scholarly manuscripts (e.g. journal articles, books, grant applications, and conference papers) are made subject to the scrutiny of others, whose feedback and judgements are then used to improve works and make final decisions regarding selection (for publication, grant allocation or speaking time)” (Ross-Hellauer, 2017).

2. History of peer review

The Royal Society of Edinburgh introduced one of the earliest documented forms of peer review in 1731, which in turn influenced the Royal Society of London when it took over the production of *Philosophical Transactions* in 1752. “Materials sent to the Society for publication were now subject to inspection by a select group of members who were knowledgeable in such matters, and

whose recommendation to the editor was influential in the future progress of that manuscript” (Spier, 2002). According to Spier (2002), prior to that point, whether or not submissions were published was largely a matter for the editor to decide.

In the mid-19th century journals typically had much more space than content available, so the role of an editorial board was largely to help solicit content for publication, rather than to review the quality of the content (Spier, 2002). Peer review largely “comprised the editor’s opinion, fortified when necessary by special committees set up by societies to assess incoming manuscripts” (Spier, 2002).

Peer review as defined by Ross-Hellauer did not come into existence until well into the 20th century. Ultimately, it was the growing diversity and specialization of content that made it necessary for journal editors to seek assistance from an outside group of knowledgeable reviewers who could assist in evaluating articles, but this happened at different times for different areas of study and publications (Spier, 2002). The *Journal of the American Medical Association (JAMA)* implemented peer review in the late 1940s, while *Nature* introduced it in 1964 and *The Lancet* did not become peer-reviewed until 1976 (Spier, 2002; Walker & Rocha da Silva, 2015; Shema, 2014).

Traditional peer review hinges on some degree of anonymity, either single or double blind. “Single-blind review, where the reviewers are aware of the authors’ identities, but the authors are not aware of the reviewers’ identities, is the most common. Double-blind peer review is when

neither the authors nor the reviewers are aware of the others' identities" (Shema, 2014). (*Serials Review* uses a double blind process for its peer review.)

Some benefits of traditional (or classical) peer review to the journal, author(s), and the reviewer include:

- The anonymity of the review process is designed to allow reviewers to express critical views and objective criticism freely, without fear of retaliation from authors. (Walker & Rocha da Silva, 2015; Clobridge, 2016)
- Lack of interaction among reviewers prevents high prestige or forceful reviewers from dominating the review process (Walker & Rocha da Silva, 2015). When all the reviewers are anonymous, no single reviewer's opinion can outweigh the opinion of any other reviewer.

3. Issues with the current peer review process

Traditional peer review is a far from perfect system, though. As Hachani (2015) explains, "[P]eer review has been subjected to a wide and quarrelsome body of literature, most of it criticizing its implementation. Among the numerous issues mentioned are inadequacy of reviews, slowness of the process, rejection of innovative results, generally conservative biases, and the secrecy in which reviews have been conducted in a paper-oriented and pre-networked world." Ross-Hellauer's review of the literature surrounding traditional peer review identifies six broad categories of criticism: unreliability & inconsistency; delay & expense; social & publication biases; lack of incentives; and wastefulness (Ross-Hellauer, 2017).

In a 2017 article for *Information Services and Use*, Rachel Burley indicates that “[a] general critique is that peer review is a slow process that includes too much subjective bias. More specifically, the lack of formal training for reviewers is noted. Peer review is also described as burdensome and inefficient for reviewers and authors alike. The debate on research ethics and the reproducibility of research has shown that peer review can be open to abuse and that plagiarism and fraud are not necessarily detected” (Burley, 2017).

Clobridge points out that “when reviewers are encouraged to be honest, they too often indulge in unnecessarily harsh criticism, much of which is petty and has nothing to do with the science, quality, or merit of a particular manuscript” (Clobridge, 2016). It has been argued that, if reviewers are aware that their identities would be known to the authors whose work they were reviewing, they would take more care to temper their comments and be less likely to offer overly severe criticism.

4. Open peer review

In recent years, initiatives focused on changing and improving peer review processes have led to the development of more open models of peer review. There is no single definition of what open peer review is or what it should look like. “In general terms, open peer review is what it sounds like -- some or all of the process is transparent” (Clobridge, 2016). Clobridge identifies three primary “flavors” of open peer review.

- The peer reviewers’ identities are known.

- The contents of the reviews themselves -- what reviewers wrote -- become public.
- Crowdsourced peer review, in which anyone can comment on a manuscript (before publication) or once it has been published (post-publication review), lends transparency (Clobridge, 2016).

It is important to note, though, that open peer review (OPR) is not a new concept. Hachani (2015) identifies the first experiment in open peer review as the founding of *Current Anthropology* in 1959. Sol Tax, the editor of the journal, included the following language in his reviewing policy:

Readers who are also experts in the area under consideration. They may add material, argue the interpretation, or say nothing. In every case, the author will see the readers comments on the best way to handle each reply; by incorporation in the original (with acknowledgement); by inclusion (with appropriate rejoinder); or however seems best. Thus, in one issue we shall have the core statement, the additional relevant information, the principal argument, and the rebuttal” (Tax, 1959).

Current Anthropology's early experimentation with open peer review was an outlier, though. Other journals did not begin to investigate the implementation of OPR until much later. Two journals in the medical field, the *British Medical Journal (BMJ)* and *JAMA*, both tried open peer review in the late 1990s (Tattersall, 2015).

Emily Ford, urban & public affairs librarian at Portland State University, is a vocal advocate for open peer review. Shortly after graduating from library school, Ford, along with several others, founded the online open access (OA) publication *In the Library with the Lead Pipe* (<http://www.inthelibrarywiththeleadpipe.org/>), developing open peer review processes and procedures for the review of submissions to the publication. Ford indicates that the editorial board at *Lead Pipe* embraced an open ethos from the start. “The professional, but very spirited discussions we had as an editorial board have really helped inform how I view open peer review,” indicates Ford (E. Ford, personal communication, March 30, 2020).

Ford points out that open peer review cannot be defined wholesale. She emphasizes that what open peer review will look like should ultimately be a reflection of what a particular user community needs.

“Communities need to define what their goals are with open peer review. What is peer review for? Why are we performing peer review in general? Is peer review a vetting? Is it gatekeeping? Is it to improve the work? What is the purpose of peer review? Why are we implementing it? Then, let that purpose lead how peer review is implemented” (E. Ford, personal communication, March 30, 2020).

6. Implementation of Open Peer Review

Ross-Hellaur’s 2017 article, “What is open peer review? A systematic review,” identifies 7 OPR traits or schema, listed below.

- **Open identities:** Authors and reviewers are aware of each other’s identity

- **Open reports:** Review reports are published alongside the relevant article.
- **Open participation:** The wider community is able to contribute to the review process.
- **Open interaction:** Direct reciprocal discussion between author(s) and reviewers, and/or between reviewers, is allowed and encouraged.
- **Open pre-review manuscripts:** Manuscripts are made immediately available (e.g., via pre-print servers like arXiv) in advance of any formal peer review procedures.
- **Open final-version commenting:** Review or commenting on final “version of record” publications.
- **Open platforms (“decoupled review”):** Review is facilitated by a different organizational entity than the venue of publication. (Ross-Hellauer, 2017)

Publications and publishers implementing open peer review may choose to use one or more of the traits identified above. For example, PLOS uses a modular, opt-in transparent review model for the journals they publish. “Reviewers choose whether to sign their names to their reviews. If accepted for publication, authors can choose whether to publish the peer review history alongside the final article” (PLOS, n.d.) In this case, PLOS is offering both an open identities model, where the reviewer may choose to sign their name, and an open reports model, where the author may choose to publish the review alongside the article. However, both the reviewer and the author have the choice as to opt-out of the transparent model.

F1000Research, the platform on which Ross-Hellauer’s article (2017) on OPR is published, “operates formally invited peer review after publication, which is fully open and transparent, and

led by the article authors” (*F1000Research*, n.d.). In the case of *F1000Research*’s implementation of open peer review, the platform functions somewhat like a preprint server, where articles are published prior to peer review. The publication uses formally invited peer reviewers, often recommended by the author(s) of the article. However, once a manuscript is posted community members may comment as well. Peer review reports are published alongside the article, including the reviewers’ full names and affiliations and they remain attached to the article if it is indexed. Since articles are published prior to peer review, the peer review process determines whether an article will be indexed (*F1000Research*, n.d.). *F1000Research*’s OPR process uses elements of open identities, open reports, open participation, open interaction, and open pre-review manuscripts, as identified by Ross-Hellauer (2017).

Ultimately, how open peer review is implemented by a publication should be a reflection of the goals of the publication and the community it serves. Ford suggests questions that should be considered could include

- What kind of OPR are you looking to facilitate?
- Do you want to allow commenting by the community?
- Do you want the process to be mediated by the editor?
- Does the author see the feedback, or just know the reviewer’s name? (E. Ford, personal communication, March 30, 2020).

7. Pros and Cons of Open Peer Review

The literature around open peer review highlights a number of potential benefits to authors, reviewers, editors, journals, and scholarly communities. Whereas in traditional blind peer review, reviewers and authors are unknown to each other, some implementations of OPR offer opportunities for greater connection and collaboration, not just between author and reviewer, but also between the reviewers themselves. Authors may have the ability to collaborate with their reviewers, and the reviewers may have the opportunity to collaborate with each other. All of which could ultimately serve to enrich and develop the content of the final product.

Reflecting on her own open peer review experiences, Ford notes how robust the feedback can be in open peer review and the fact that authors can engage in conversation (E. Ford, personal communication, March 30, 2020). Even in OPR situations where the author does not engage in conversation with the reviewer, simply knowing the identity of the reviewer can provide useful context for the author, which may make suggestions or comments more meaningful (Clobridge, 2016). Additionally, open peer review potentially introduces a higher level of accountability for the reviewer. “By disclosing reviewer identities, reviewers will be held accountable by journal editors and the scholarly community for the quality, content, and professionalism of their reviews” (Ford, 2013). When their identities are known and the content of their reviews are potentially made public, reviewers are incentivized to perform a review that is not only useful, but to also be kind and thoughtful in the words that they choose when they are reviewing (E. Ford, personal communication, March 30, 2020).

In Ford’s view, one of the significant benefits of open peer review is its potential to level the playing field. Ford explains it this way,

You can have selection bias, and you can have diversity, equity, and inclusion issues. When we utilize open peer review, we are actually making possible a world of publishing and refereeing where we can call to task some of those biases that come through and the power dynamics, whether the power dynamic is between referee and author, editor and author, or editor and referee” (E. Ford, personal communication, March 30, 2020).

Open peer review is not without its critiques. One concern that has been expressed is that removing the anonymity of reviewers could result in some individuals being less willing to serve as reviewers, as junior researchers might be disinclined to perform open peer review on more senior researchers in their field. However, a 2015 study by Nobareny and Booth did not observe any evidence that junior reviewers avoided reviewing or selecting papers by senior researchers, which they operationalized in their study as years of publishing experience (Nobareny & Booth, 2015).

One consistent criticism of traditional peer review revolves around how long the peer review process can take and the sometimes lengthy periods between submission and publication. It should be noted, though, that open peer review may not address these issues. As Ford points out, “Opening up peer review doesn’t change all of the other problems in our publishing ecosystem” (E. Ford, personal communication, March 30, 2020). In fact, open peer review could feasibly create a little bit more work for everyone involved, as opening the conversation process between author and reviewer, while productive, may potentially require more time and effort, rather than less. Ford indicates that for open peer review to function properly it “needs to be implemented

very thoughtfully and mindfully, and the processes need to be as clear as possible so that the expectations of the authors, the expectations of the reviewers, the expectations of the editors - what the roles are and what the time lines are - are extremely clear” (E. Ford, personal communication, March 30, 2020).

Teixeira da Silva notes that a significant barrier to open peer review lies within academia itself -- “how to evolve the academic culture to embrace a publishing model that employs OPR” (Teixeira da Silva, 2019). Overall acceptance of open peer review by the academic community has been slow and very incremental.

8. Credit for Peer Review

Clobridge (2016) points out that an additional benefit of open peer review is that it allows reviewers to get credit for their work. “For tenure-track faculty members or any researchers who are judged in part on their service contributions within their professional communities -- attributable reviews can count toward this work” (Clobridge, 2016) This sentiment is echoed by Ford, who notes, “People who spend a lot of time refereeing might be able to make more transparent their efforts and their scholarly productivity through open peer review - being able to have it count, to see the depth and the support that they are providing to their colleagues” (E. Ford, personal communication, March 30, 2020).

Some platforms, such as *F1000Research* (<https://f1000research.com/>), provide DOIs to referee reports, and ORCID (<https://orcid.org/>) now includes a spot on its profile where users can

include the DOIs for peer review reports. Innovations such as these make it easier for reviewers to identify and link to their peer review work. Publons (<https://publons.com/about/home/>), owned by Clarivate Analytics, offers a free service enabling researchers to create and maintain a personal profile of the works they have authored, edited, and peer-reviewed.

9. Open Peer Review in Library & Information Science

Ford's (2016) study, "Opening Review in LIS Journals: A Status Report," surveyed LIS journal editors regarding peer review and reported on attitudes and conversations regarding OPR. At that time, only one publication (representing 2% of the respondents to Ford's survey) utilized open peer review (Ford, 2016). Since the publication of Ford's initial study, there has been more experimentation with OPR in the LIS field.

As mentioned previously, *In the Library with the Lead Pipe* uses an entirely open peer review process. Each article has at least one internal reviewer and one external reviewer, and a Publishing Editor coordinates the overall peer-review process to ensure that it is of adequate standard (*In the Library with the Lead Pipe*, n.d.). The *Journal of Radical Librarianship*, an open access publication, offers both traditional and open peer review, and the decision as to which method is used lies with the author(s) and the reviewers. "For each submission, the author(s) and both reviewers state whether or not they agree to open peer review. If all three parties agree, then open peer review is conducted; if any one party disagrees, then a standard anonymous review is carried out (*Journal of Radical Librarianship*, n.d.). The co-editors of *Collaborative Librarianship*, also an open access journal, announced in 2018 that, in an effort to

promote more openness, the journal would move from double-blind review to a single-blind review process. While the authors will not know the names of the reviewers, the reviewers will know the names of the authors. The co-editors explained, “We recognize this is an incremental change. At a time when there is a greater call for more open publishing processes in academia, there may be bolder and bigger steps to be taken in the future” (Emery & Levine-Clark, 2018).

College & Research Libraries (CR&L), which has been open access since 2011, recently conducted an experiment in developmental open peer review, wherein the peer reviewers were not only known to the authors of the article but played an active role in providing the authors direction and guiding the outcome of the final paper. In the *CR&L* OPR pilot, the article authors submitted their draft to their reviewers, the reviewers sent the authors their feedback, and then all four met via Zoom to discuss the article. Says Ford, who served as one of the peer reviewers for the *CR&L* paper, “Direct communication between reviewers and authors enables discourse, a genuine back and forth exchange of ideas, a real-time conversation” (Kaspar, 2018).

The authors of the *CR&L* article indicate that OPR was a transformative experience for them. They explain, “A typical criticism of OPR is that it breeds bias, and perhaps in some contexts it might, but it also flattens hierarchies and builds authorial voice and confidence. Moreover, when responsibilities, roles, and timelines are clearly defined, OPR is transparent and still constructive and rigorous” (Kaspar, 2018).

Code4Lib Journal uses an open editorial review process, a form of open peer review.

Submissions are sent to the entire Editorial Committee for review. Should a submission be

provisionally accepted by the committee, an assigned editor works with the author(s) to help get the submission ready for publication. After revisions are completed, the Editorial Committee takes another vote as to whether the submission warrants inclusion in an issue. (*Code4Lib Journal*, n.d.) Throughout this entire process, the author(s)' and Editorial Committee members' identities are known to each other.

Other LIS publications experimenting with open peer review processes include the *Journal of Librarianship and Scholarly Communication* and ACRL's monographic series *Publications in Librarianship* (E. Ford, personal communication, March 30, 2020).

It is not a coincidence that many of the LIS journals experimenting with open peer review and actively moving to make their review processes more transparent are also open access publications. Ford (2016) noted a "correlation between OA journals and those whose editors are willing to consider opening the review process." As Ford explains, "Even though you can have open peer review in a journal that is totally pay walled, I think that the ethos of open peer review and open access go hand in hand" (E. Ford, personal communication, March 30, 2020). Journals do not have to be open access to implement open peer review, but open peer review and open access stem from the same open values.

10. Conclusion

In this Balance Point column, we have looked at the history and development of peer review, delved into open peer review processes, and discussed the advantages and disadvantages of both

traditional peer review and OPR. It is clear from the literature that there is no single answer to what open peer review is or how it should be implemented.

When implemented carefully and thoughtfully, open peer review has the potential to generate conversations between authors and reviewers, provide authors with context for reviewer comments, and ultimately improve the final product. As user communities and publications investigate open peer review processes; they should think critically about the purpose for which OPR is being implemented, and then build and format their peer review policies around that purpose.

To be clear, open peer review is not a panacea for all of the problems in scholarly publishing, but OPR can serve as a mechanism to reduce bias and promote diverse voices. As Emily Ford advocates, “I’d like for us as critical librarians to always consider the power and oppression that can be inherent in academic publishing and to approach open peer review as a way to try to bring a little bit more equity into the academy. Open peer review is one of the mechanisms we have to try and make our scholarly dissemination systems more just” (E. Ford, personal communication, March 30, 2020).

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