Big Journals, Small Journals, and the Two Peer Reviews

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Although the fact is not widely recognized, editors of learned journals use peer review of submissions in different ways depending on the requirements of their publication. Peer review is a continuum that has distinctly different ‘end members,’ each with contrasting implications for an academic author. As a general rule, high-profile journals use reviewers’ comments as part of the editorial process to help determine whether a paper should be published; only if the paper is not rejected will the journal expect these comments to help guide revision of the text for publication. In contrast, low-profile journals need material, and primarily use critical reviews and editorial comments to improve the content and presentation of a submission.

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My editorial experience has developed from involvement with various forms of publication. I’ve edited and co-edited books on ‘hot’ research topics in palaeontology for leading publishers. I co-edited the only textbook on Caribbean geology, published by my former department at the University of the West Indies in Jamaica, to keep the price down for local students. I’ve been on the editorial boards of leading journals and have compiled thematic issues for the same. I was formerly book-review editor for a specialist palaeontological journal. I founded and edited (1994–8) the occasional journal Contributions to Geology, UWI, Mona. And, more challenging than any of the above, I have edited two small peer-reviewed journals, Journal of the Geological Society of Jamaica (JGSJ, now renamed Caribbean Journal of Earth Science), from 1989 through 1991, and Scripta Geologica (SG), since 2002.

Peer-reviewed (or refereed) journals are the bread and butter of publication for many academic authors, so it is interesting to note how little attention is paid to peer review by how-to books on scholarly publishing. 1 Definitions are hard to come by. Peer review is ‘review of a manuscript
by peers of the author (scientists working in the same area of specialization), which is about as far as any author is willing to commit him- or herself. Others examine peer review entirely from the point of view of the author of a research paper who receives comments, although they may explain that not ‘all journals employ the same quality thresholds.’

I have not found a how-to book that demystifies peer review and gives any pointers as to how someone new to the process might approach reviewing his or her first paper for a journal; perhaps a chapter on how to referee a research paper might be appropriate in some future volume. And, in particular, there is no real understanding of the various ways that a review might be of use to a research journal, some of which aren’t recognized by specialist tomes on the mechanics of peer review, either, because they focus only on the top journals and disregard the processes of smaller ones.

To focus on the area of scholarly publishing with which I am most familiar, there are perhaps 40,000+ scientific journals around the world, which form a ‘food chain’ from the top to the bottom in any field. Less than one-quarter of these scientific journals are listed in the vaunted Science Citation Index (SCI). The SCI journals are the big guns of peer-reviewed scientific publishing. *Nature* and *Science* sit at the top of the pile, and others scramble to be the leaders in their particular areas of expertise. It is important to be ‘international’ to attain a prominent position. In medicine, for example, there are perhaps five top international generalist journals and thousands of others, mainly specialist (for example, I was recently delighted to discover the euphoniously named *Gut*). There are also the local journals in every field, such as *JGSJ*, which commonly are published by geographically restricted learned societies, while others (including *SG*) are produced by institutions such as museums.

The bigger the journal, the more submissions it will receive, and the more papers it must reject to stay within its page limits. Some papers are rejected immediately—there are tales of *Nature* taking little more than twenty minutes to ‘return’ a paper submitted electronically. Others are fed into the mill that is peer review and are accepted or rejected on the basis of these reviews, at least in part. At the end of the process, more than 80 per cent of submissions to leading journals may be rejected. Thus, the principal purpose of peer review for these journals is to provide a specialist assessment for editor(s) who need to reject many more
papers than they have space to accept. Their own success attracts a constant stream of papers written by authors who want their best research published in the best journals, and a system is therefore needed to pick the best papers. The comments provided by the reviewers are part of this editorial decision-making process, although, of course, acceptance and rejection are decided by the editor, not the reviewer.

What I have never seen explicitly recognized is that the function of the peer reviewer differs between high-profile and low-impact journals. The former receive many more papers than they can publish, and thus need help in separating out the very best papers for publication; the rest will be rejected. Some will disappear at this point, failures left to collect dust in a filing cabinet, but many more will be resubmitted to less prestigious journals, lower in the ‘food chain,’ and will eventually be published somewhere. The above description fits only the journal that receives more than it can publish, and must therefore be selective. What of journals that receive only just enough submissions to be viable?

As already noted, in the leading journals the peer reviewer provides an opinion that influences editorial judgements on what to publish. But consider the requirements of a journal that receives only the bare minimum of papers it needs in order to continue publishing. Rejection is not a preferred option; every paper that is received is wanted, and every one has a high probability of publication, no matter how poorly written or factually loose it may be. Here, the peer reviewer fulfils a different principal requirement, providing quality control of a different sort—mainly that of suggesting ways in which a manuscript can be improved for publication.

The problems of publishing *JGSJ* have been discussed elsewhere.\(^\text{10}\) It publishes papers on all aspects of Caribbean geology, but with a history of sporadic publication and a low profile, it struggles to find contributions. Further, its principal competition, *Caribbean Journal of Science* (published in Puerto Rico), is now a SCI journal and appears regularly three times per year.\(^\text{11}\) The only paper I ever rejected from *JGSJ* was by Donovan et al., but it was published after correction, resubmission, and further review. But it must be remembered that journals in the Earth sciences typically have relatively low rejection rates.\(^\text{12}\)

*Scripta Geologica*, as a museum journal, is in a stronger position than *JGSJ* and welcomes papers that ‘are the result of research projects of the Netherlands Centre for Biodiversity Naturalis, Leiden, or based mainly
or entirely on specimens in the collections of the Museum’ (from the ‘Instructions to Authors,’ which appear in every issue). Regular issues are published at least twice per year and have varied from 111 to 558 pages in length during my editorship; thematic special issues appear every two to three years. In the six years that I have been editor, I have rejected only one paper and had one withdrawn. The former did not refer to specimens from the museum, but this was corrected, and the paper resubmitted and eventually published; the latter went elsewhere because I couldn’t publish it quickly enough. The decision to publish or reject a paper is made when it is submitted. If it fits the criteria stated above, it will be sent for review by two referees and will also receive critical editing from me for content, format, and language. If both reviewers of a paper recommended rejection, I would reject a paper at this point, but this has yet to happen. Almost all, however, require some form of revision; reviewers provide suggestions that help improve a paper, and this is their primary function.

Thus, there are at least two different requirements for peer review for journals. High-profile journals mainly need reviews to inform editors’ decisions to accept or reject. Comments from reviewers will help the authors of accepted papers to prepare them for publication, but that is a secondary function. Authors of rejected papers will also receive review comments, but it is uncertain whether these are commonly considered and incorporated before submission to another journal.13 In contrast, this function of improving submissions is the primary function of peer review for low-profile journals that receive probably some orders of magnitude fewer submissions. What happens in journals in the middle of this continuum I have yet to determine.


NOTES
1. Although my list is not exhaustive, the following are some books that mention ‘peer review’ and/or ‘referees,’ issuing a warning rather than delving too deeply into its mystique, methodology, or ramifications: Maeve O’Connor, Writing


7. Smith, The Trouble with Medical Journals, 6


11. This was true at the time of writing, but since mid-2009, publication of Caribbean Journal of Science has slipped badly as a result of internal problems at the University of Puerto Rico.

12. Lock, A Difficult Balance, 18

13. Ibid., 39–40