

Good reviewers make a good journal

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Followers of modern internet memes will have seen many versions of the ‘Downfall’ meme in which a pivotal scene of rage from the last days of Hitler’s life is given anachronistic subtitles to comment on many contemporary events (<https://knowyourmeme.com/memes/hitlers-downfall-parodies>). *The Telegraph* was even bold enough to nominate their list of the 25 best examples (<https://www.telegraph.co.uk/technology/news/6262709/Hitler-Downfall-parodies-25-worth-watching.html>), but they didn’t list one of key relevance to scientists – ‘Peer Review 1945’ (<https://www.youtube.com/watch?v=-VRBWLpYCPY>), which covers Hitler’s reaction to a bad peer review of a submitted paper. Publication rejection with the associated critical reviews is a fact of life for scientists, even the most successful (Cassey and Blackburn 2004), so many would identify with the sentiments in the parody. Jokes aside, though, peer review remains one of the key characteristics of a successful journal and a key component of editorial process at *Pacific Conservation Biology*.

Why have peer review?

According to Hull (1988, Chapter 9), one of the challenges for early science was to encourage scientists to share their findings so that scientific research could be cumulative. The reward for sharing was recognition via publication, but to stop scientists wasting their time with unreliable publications a form of quality control was required that was provided by asking other experts if submitted work should be published – effectively, peer review. In sum, these steps communicated scientific discoveries, recognised authors, and endorsed quality.

Today, peer review is acknowledged to assist in correcting errors, improving the readability of papers, improving analysis, assisting authors to draw sound conclusions from their data while placing it in the context of other work in a field, develop scientists’ skills through providing and responding to reviews, and identify sound work to form the basis of policy (Garton *et al.* 2005). Rigorous peer review, often accompanied by high rejection rates, is held as an important standard for reputable publication (Bohannon 2013). These positives are accompanied by difficulties and tensions. Reviewers are human beings and may provide reviews coloured by gender bias (Fox and Paine 2019), reputation bias (Tomkins *et al.* 2017), and personal prejudice and rivalry (after all, reviewers may be potential rivals or competitors of authors) (Hull 1988). Reviewers may also take the opportunity to self-promote by asking authors to cite their own work (Chawla 2019). Thus peer review is evolving constantly in an attempt to stay ahead of the problems and continue to deliver benefits.

Options for peer reviewing

Numerous options exist for organising peer review, with variations occurring in when the peer review occurs (at a preprint stage, before publication, or even post publication), the relative roles of editors, reviewers and authors in facilitating reviews and mediating responses, whether or not the reviews are published, and who has the intellectual property rights to reviews (COPE Council 2017). Some of the most common options are outlined below.

Single blind review – This is the most common approach. After editorial checking a paper is sent for review to reviewers chosen by the editor (possibly including reviewers suggested by the authors). The reviewers will know the identity and affiliation of the authors, but the identity of the reviewers is not revealed to the authors unless they choose to sign their reviews.

Double blind review – One criticism of single blind reviews is that reviewers know the authors and their affiliations, which introduces the possibility of bias. If the authors are unknown to the reviewers, there is less opportunity for bias. This is double blind reviewing – the authors’ identities are concealed from the reviewers and the reviewers’ identities are not revealed to the authors. Experience shows that this doesn’t stop reviewers from guessing, while in some cases the authors’ identity is impossible to conceal because of phrases in the paper such as: ‘Our previous work on this species (references) confirms ...’. *Pacific Conservation Biology* uses double blind review.

Triple blind review – This is rare, but attempts to address editorial bias. The handling editor for a particular manuscript is also unaware of the identities of the authors (<https://www.sciencematters.io/help/triple-blindness>), or in some cases the reviewers as well (Watson 2015).

Open review – Here, reviewers know the identity of the authors but must also sign their reviews so their identity is revealed to the authors. This can help in taming intemperate comments from reviewers, but there is a risk that some reviewers will be less than frank and honest for fear of reprisals or ill-will from authors (Watson 2015). Another meaning of ‘open review’ is that the reviews are published alongside the accepted paper, sometimes with associated editorial correspondence and the authors’ response to the reviews. Advocates argue that making reviews public should improve comments, archive the relevant scholarship, and open the ‘black box’ of reviewing for transparency, research and education (Polka *et al.* 2018).

What makes a good review?

There are really two steps here – the professional considerations involved in accepting a reviewing assignment, and the process

of reviewing itself. With regard to the first, it's important to only accept reviews if you feel competent in the subject, to declare any potential conflicts of interest to the editor, to maintain contact with the editor if you experience delays in completing your review and to keep the entire process confidential (accepting a review and then asking a colleague or a postdoc to review is unacceptable) (COPE Council 2017). When it comes to the second, Caligiuri and Thomas (2013) completed an empirical study based on (i) feedback from handling editors, and (ii) a content analysis of highly ranked reviews. Based on the guidelines they produced, editors appreciate advice on:

The potential contribution – What will this paper contribute to the field? Does it solve a problem, review a sprawling literature, propose a new technique or analysis, or describe a new phenomenon? Expounding on this point assists the editor in assessing the significance and suitability of the paper for the journal.

Strengths and weaknesses of the paper – It's easy to overlook the first and dive for the second. If some things are done very well, please say so. Even if you are recommending rejection, there may still be something of merit to point out. When documenting weaknesses, also include any key aspects that have been missed. You may wish to flag this as work that is essential to understand the manuscript in its current form, or as further work that could extend the paper but is not essential to its conclusions.

Could you cover the whole paper? – There may be a section of the paper that you do not feel qualified to assess. For example, you might be unfamiliar with a chemical or statistical analysis despite your confidence in assessing other parts of the paper. Indicating the sections that you could not assess is helpful to the editor in ensuring that feedback is received on what you have overlooked.

Presentation – If language, structure, or figure quality concerns you, identify the problems with details.

Be polite and helpful – Alas, I cannot track the source but I have a memory of reading that one diplomat described Czar Alexander I of Russia as so unfailingly courteous, well mannered and polite that even if he kicked your backside you felt you had to thank him. My only defence against the lack of scholarship in failing to source the anecdote is that the skill described is essential to good reviewing. As Hull (1988, p. 325) put it: 'Authors are at their most vulnerable during the refereeing process. They must turn over their brainchild to one or more anonymous referees to be judged. Even careful, judicious rejection is painful enough without enduring snide remarks made under the cover of confidentiality.'

Be clear and well structured – Ensure that your comments are easy to read and follow a logical structure. If you have concerns that you feel are not negotiable and must be addressed before publication, make this clear. If you have suggestions that the authors may accept or decline at their own discretion, make that clear too.

The reviewer debt

As authors, every time one of our papers goes for review at least one (more commonly two, or possibly three) reviewers give their time to assess the paper and provide feedback on its suitability for publication. This creates a reviewer debt, which for papers submitted in any year can be calculated as (number of

papers submitted \times 2)/(number of authors on those papers) (Calver 2014). We are all busy and requests to review often seem to arrive at the most inconvenient times, but if authors do not fulfil their own responsibilities as reviewers then they are taking a free ride.

Feedback and recognition

Good reviews take time, so reviewers may feel frustrated with limited recognition for their work. That situation is changing. In a small but growing number of journals there is an option for reviews to be published, which is one form of giving credit. Another may come through initiatives such as Publons, a free online platform that records, verifies, and showcase reviewers' contributions as well as offering other services (<https://publons.com/about/home/>). CSIRO Publishing has partnered with Publons to facilitate this process for reviewers at *Pacific Conservation Biology* and other CSIRO journals.

Thanks to *Pacific Conservation Biology* reviewers

Everyone who reviews for *Pacific Conservation Biology* contributes to the quality of the work published and to the value and success of the journal. Reviewers also assist all authors, including those whose papers are declined, in improving their science and its communication. Thank you on behalf of the editorial team.

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