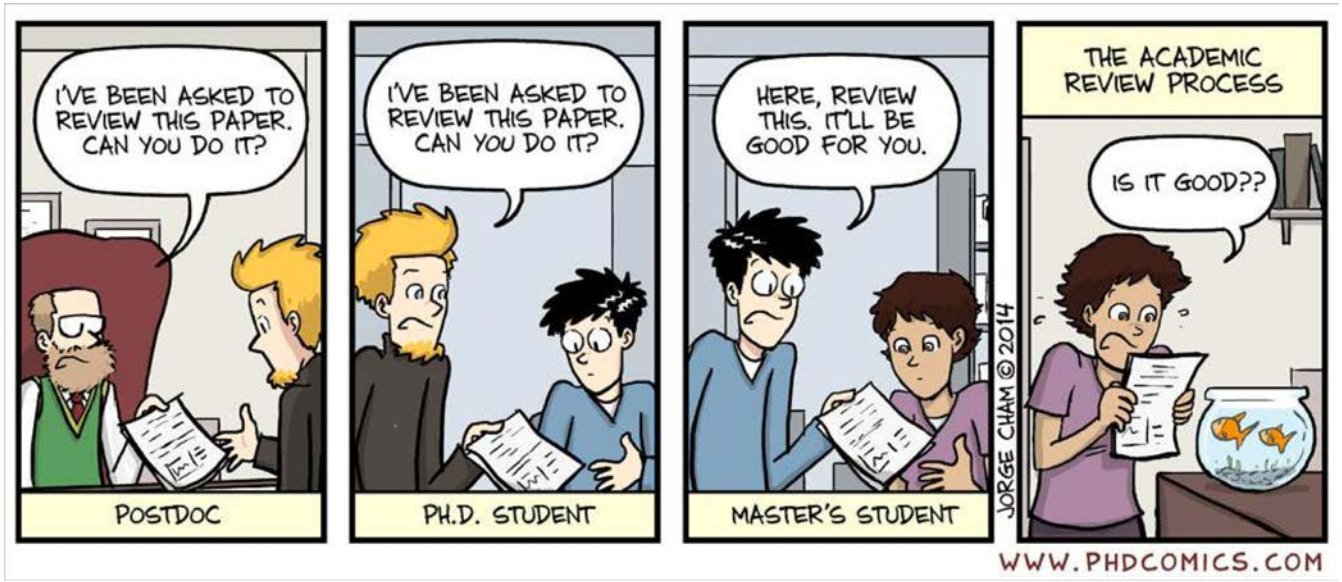
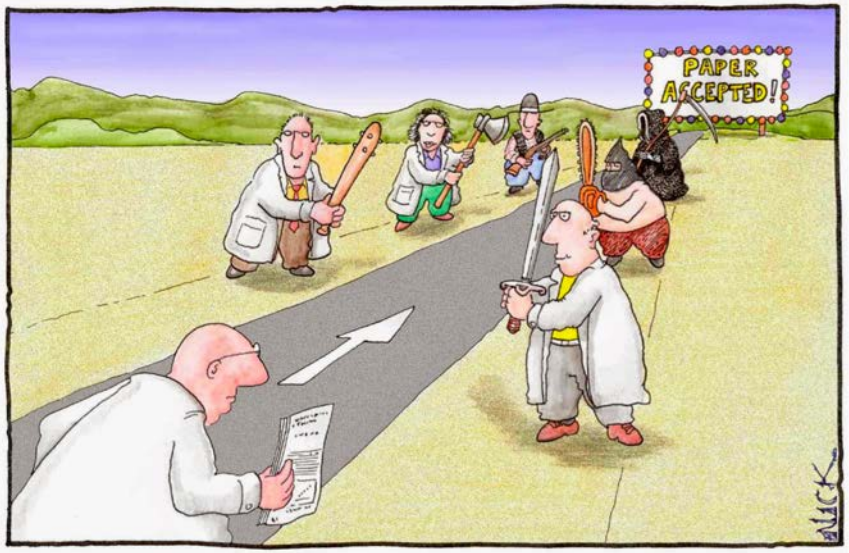
Navigating the Review Process





Most scientists regarded the new streamlined peer-review process as 'quite an improvement.'

Eloise Marais

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Anonymous Peer Review

Why does peer review exist?

Anonymous Peer Review

- This is by default an anonymous process
- Some journals allow reviewer to give their name, if they'd like). Better to remain anonymous (it's a small community).
- It's your duty and service to science to review the work of your peers (somewhat controversial, as we do this for free, while publishers accumulate tremendous profits, e.g., Elsevier has annual revenues > £6bn: https://www.theguardian.com/science/2017/jun/27/profitable-business-scientific-publishing-bad-for-science)
- Reviewing papers is an important responsibility, but don't let it get in the way of time dedicated to your own research.
- Only accept to review in papers once you've published in the field and limit this to journals in which you've publish. You have knowledge of the scope of the journal and the required structure/format.

The Review Process

- Whole process is protracted (can take 6 months from submission to publication)
- Editor does first pass of paper to check for compatibility to journal and that there are no obvious issues or concerns (including ethical in the case of sensitive data or human/animal subjects)
- Editor then invites reviewers. Some accept; many decline. Should be at least 2 reviewers. Sometimes can be more. I've had 4 before.
- Reviews returned to and collated by the Editor to send on to the corresponding author.
- Who should corresponding author be? Depends on timing before PhD ends (if email terminated after PhD, this might need to be the supervisor).

The Review Process

- Options from Editor based on reviewer comments are generally:
  (1) publish after minor revisions
  (2) major revisions requiring re-review
  (3) reject
  For (1) and (2), you typically have ~1 month to revise and send paper back. You can request more time. This is more-often-than-not granted.

- For (1): Editor decides if revisions are adequate and then accepts the paper.

- For (2): Paper goes back to reviewer(s) for them to judge that major revisions have been addressed. This is quicker than the initial review. If reviewer is still asking for major revisions, best to ask the Editor to arbitrate/mediate

Being a Reviewer

- The reviewer is the **gatekeeper** to the trove of human knowledge. It's up to the reviewer to determine whether the paper makes a contribution to scientific knowledge or is just a rehash of the same research that has been published before (and sometimes by the same group!)

- **Reviewer yardstick: does this work make as it stands make a contribution to scientific knowledge?**

- It's up to the Editor to decide whether to accept or reject a paper. You are advising the Editor on what to do, so provide accurate, clear, and well justified information for the Editor to make an informed decision. Don't get worked up if the Editor doesn't follow your guidance. They will consider reviews by others too.

- Errors in the approach, math, use of tools, reasoning etc. should be identified and if serious should be cause for recommending the paper be rejected. No need to let inaccuracies proliferate in the literature (it's a costly distraction).

- How many papers should you review a year?
  Rule of thumb I try to stick to: 3+x, where x is the number of papers you submit as lead author or supervisor

Being a Reviewer

- You're not a copy editor, so don't fix the grammar/English. If English is an issue, provide a general comment that this needs to be addressed.

- Be discerning about the papers you review (nothing worse than reviewing a poorly written or ill thought through paper!). You will have plenty of opportunities to review others.

- Don't accept to review papers outside your areas of expertise and if you're not familiar with the most up-to-date literature on the topic. Rather politely decline and recommend others. Editor will appreciate the honesty and suggestions.

- At the same time, don't set your standards too high. Don't ask for the authors to rerun the model or do any excessive work that isn't feasible (PhD student or postdoc may have moved on). Authors also need to publish to satisfy funders.

- Remember that you're not a co-author, so don't suggest additional work to improve the paper.

- Also not an opportunity to take revenge on a competitor (i.e. research group doing similar work to you) or prevent/stall their publication.

- **Conflict of interest**: avoid reviewing papers by recent (< 5 years) co-authors.

Format of a Review

- It's your duty to read the paper thoroughly.
- If you don't understand an aspect of the paper, that's the authors fault, not yours. Ask them to clarify
- All complaints/concerns should be clearly substantiated.
- In cases where you suspect the authors might be wrong, ask them to clarify.
- Don't give the impression of being aggressive (authors will interpret it that way). Try give it a light/personal touch, like "The paragraph on ... would be made clearer by ....".

Format of a Review

- Approach: Read the paper, jot down some comments, walk away for a day or 2 (if you can afford the time), then come back to it to write the review.

- Review format:

  (1) start with a **brief summary paragraph** stating what the authors did. This shows the Editor you got the gist of the paper. At the end of the paragraph give your recommendation (e.g. “the content of the paper is well suited to ... after minor revisions provided below have been addressed”)

  (2) Next provide general comments about the paper, e.g. to provide a discussion of the uncertainties in specific model parameters.

  (3) Lastly, more specific comments that are low-energy to address. Could be that a symbol isn’t described, an acronym should be defined and isn’t, a section title needs rewording for clarity etc.).

- Sometimes journals ask specific questions or request a specific format – go with that as default, but consider using the one I’ve suggested when there are no guidelines from the journal.

Reviewing Proposals vs Papers

- Many aspects are similar: still requires you are expert in the research area and that you are up-to-date on the literature
- It's your duty to know the eligibility and other details of the call
- Funding agencies typically provide guidelines or benchmarks to reviewers
- Aspects to consider that aren't pertinent to a publication:

  Are these the right people to do the work?

  Is the work feasible?

  Does the proposed work meet the needs/expectations of the call?

  Are the methods clearly defined and well thought through?

  Is the budget justified?

  Have they thought of contingency plans if a risky aspect of the project doesn't work?

On the Receiving End of Reviews

- When writing your paper, think like a reviewer. Some guiding questions might be:
  What could be viewed negatively or as a weakness in my work?

  What is it in the literature that I've neglected to include in my Introduction or when discussing the results of my work?

  Have I appropriately cited the work that has come before mine?

  Is the format correct (does it adhere to the journal specifications)?

  Have I identified and accurately cited the sources of all the data I've used?

- Before submitting paper send to co-authors and give them at least 2 weeks to comment. This ensures that others can mitigate unintended errors and typos and identify obscurities.

- Incorporate comments from co-authors where these are reasonable and submit the paper.

On the Receiving End of Reviews

- Don’t waste time guessing who the reviewer is. Pointless!

- The review process takes a long time. Don’t pester the Editor for a status update on your paper. Check the status on the submission portal. All good journals have this.

- Criticism from an anonymous reviewer is hard to take. Read the reviewer comments and walk away. Come back to it again the next day when the emotions and annoyance have settled. You will find you’re far more willing to accept the reviews the next day and in a better position to understand what they’re asking for.

- If the reviewer is wrong in their comment, consider that it could be because the information isn’t clear. Try rewrite it to clarify the potential confusion. If the reviewer is confused a first-time reader not in this research area is guaranteed to be confused too.

On the Receiving End of Reviews

- Give an itemized response to reviewer comments so that it's easy for the Editor and reviewers to follow and that demonstrates you took the review seriously.

- Keep responses to reviewer comments brief. The main response should be in the paper (similar to the way you respond to my comments). Avoid having a private dialogue or dual with the reviewer. It gets you nowhere.

- Respond to the comments in the text of the paper. Keep direct responses to review comments to a minimum and state where it's addressed in the manuscript: "We now clarify in lines xx-yy that ...". "We have addressed this in lines xx-yy by stating that ..."

On the Receiving End of Reviews

- If a reviewer is obviously hostile and wrong, best approach is to appeal to the Editor (they are arbitrator for these situations).

- If you have a reviewer that won't back down and you can't get the Editor on your side, thank the Editor for their time and move on to another journal. Not likely to get the same reviewer/Editor combo twice.

- Don't be discouraged by negative reviews. Be comforted that reviewers are going to be most critical toward papers they perceive as important and that are close to their area of expertise.

Resources

See how others write reviews by looking at comments posted publicly for ACPD, AMTD and others by Copernicus publishers.

Spoof paper sent out to test integrity of peer review:
http://science.sciencemag.org/content/sci/342/6154/60.full.pdf

Peer-review of datasets:
https://journals.ametsoc.org/doi/10.1175/BAMS-D-13-00083.1

Plan S (open access science publishing initiative):
https://www.coalition-s.org/
https://www.scienceeurope.org/wp-content/uploads/2018/09/Plan_S.pdf