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The Art of Reviewing Manuscripts

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Authors

Alexandrova, Anastassia N
Hartland, Gregory V

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Peer reviewed

The art of reviewing papers

You have been recruited to review a paper, and that which means that the Editor trusts your expertise in for providing valuable feedback, and seeks your suggestions that could to help the author improve the manuscript. With this duty, comes a great responsibility for the quality of science that gets published, and for the health of the scientific community depends on the peer review system.

Good reviews help improving your paper papers. Indeed, a review that is deep, thoughtful, constructive, and additionally written with respect and kindness, is a gift. So how can it be that authors often dread opening the received reviews of their papers? This Viewpoint is written to help making peer reviewing a constructive workspace for in that improves our proving science.

First, about the length, the depth, and the substance:

A helpful review should assess the place that the manuscript occupies in the current scientific literature, and the non-incremental character of the findings.

A Reviewer should also think about whether the paper belongs to in the given journal and would be appreciated by its typical audience. This pertains not only to the subject of the manuscript, but also the research approach and the language used in the manuscript.

The largest and most valuable part of a review is the evaluation of the reported new findings. This includes assessing the accuracy of the experimental procedures and, theoretical calculations or derivations. Did the authors correctly reported error estimates for the measurements? A review should also point out any inconsistencies in the reported results

and analysis. ~~At this stage, the best~~ If there are problems with the data and analysis, a good review ~~would not only bash the inconsistencies and discredit the findings, but~~ should also provide helpful technical suggestions for ~~how certain aspects could~~ how this can be ~~checked for correctness or improved and substantiated~~ improved. You may also suggest expanding some parts of the study to increase the impact of the paper.

Published results should be reproducible. ~~Please~~ Reviewers should comment on whether or not enough ~~detail~~ information is provided for the experimental and/or computational procedures, and whether the supporting information contains enough detail and data. Sometimes, it is best to deposit large amounts of data ~~to~~ into a repository rather than the SI, making it available to the community. ~~Do~~ Please take a moment to assess if that is done ~~carefully~~ correctly.

~~Make~~ Reviewers should also check ~~sure that whether the~~ citations are appropriate and up-to-date. Please point out excessive citations of authors' own past works. Do suggest additional citations of key literature if those are missing. ~~Please~~ However, do not utilize this opportunity to ~~unjustly~~ increase your own citation index. The Editor might advise the authors to not follow your suggestion of this sort, if it is inappropriate. Missing key citations might mean that the authors are unaware of important work in the field, which can affect their interpretation of their data. ~~and that might affect the quality of~~ A thorough review of the literature is also important for ~~d-explaining the~~ novelty of ~~their the work~~ results reported in the manuscript. ~~Hence, missing key citations can be alarming.~~

Finally, please comment on the language and typos, if that is warranted.

It cannot be stressed enough that all your comments should be polite and constructive.

How long should a review be? There is no one right answer, but more detailed reviews are more likely to be helpful ~~in~~ for improving the paper. Such reviews additionally are ~~more~~

respectful, as they ~~clearly indicate~~show that the reviewer has read the manuscript carefully and put thought into writing a meaningful review. If you recommend a rejection, then ~~also,~~ ~~more~~ detailed arguments are appreciated. A short recommendation does not help much, ~~not~~ either for the authors, ~~nor~~ the editors. A review that is not detailed enough can be rescinded, or the reviewer may not be recruited again to review the revised version of the manuscript. ~~Similarly, dismissive or rude reviewers can be disqualified from further helping with the paper.~~

And finally, about that fear of opening the reviews. ~~“Why fear?” is a rhetorical question for many.~~ “Write it as if you would say it to the person’s face” – a precious advice one of us once received from a greatly respected postdoctoral advisor. Peer review is not a space for bullying protected by the reviewer’s anonymity. Bringing a point across in a scientific discussion should be done without using aggressive and undermining wording. An aggressive review ~~would~~will carry less weight with the editor. When the discussion gets emotionally charged, science suffers, because everybody’s ability to respond rationally and focus on the ~~science~~ real issues gets diminished. In addition, many women, under-represented minorities, and otherwise vulnerable categories of researchers are ~~most~~ sensitive to the aggressive language. Thus, consider how you voice your critique, and make sure the review ~~does not traumatize~~is appropriate. We, the editors, strongly believe that an inclusive space is the one based on civility. ~~Similarly, dismissive or rude reviewers may also be rescinded by the editors. A review can be rescinded by the editor, on the basis of an overly aggressive tone.~~

~~One more aspect~~Another aspect that is of importance, for which we would like to quote a reviewer that recently reviewed a paper in J. Phys. Chem. C: “As a scientific community, we should be mindful of avoiding dogmatic atmosphere in which the younger generations are not free to question well-established ideas.” We ~~truly~~fully agree with this statement. We ask our

reviewers to spend time with the paper they are reviewing and avoid quick judgement based on the ~~names-reputation~~ of the authors (~~both big, and~~either as leaders or less known). True innovation may come from ~~novice-junior~~ researchers, or those who crossed interdisciplinary boundaries. Certain schools of thought are bread within large groups that produced many active and successful researchers in the field. This does not mean that ~~there-the~~ established way of thinking practiced by ~~this-largeee~~ group is always correct. Please stay open-minded, as a reviewer. We do not want a stagnation of scientific ideas. Likewise, quick judgement on the basis of the country of origin of the paper, or the gender of the authors should be ~~absolutely~~ avoided.

Sometimes conflicts of interest and strong disagreements arise. If you have a conflict of interest in either a positive or negative way with an author, or you have a bias against their way of thinking, then it would be best let the editor know, and decline to review the paper.

We would like to end with an inspirational comment from a grateful author: “In the review process we received the report of one reviewer, which was very positive and written in a friendly, cooperative style, which we appreciated a lot. Below we engage in the discussion of the comments of the reviewer and thank him/her for the time invested.” – that summarizes the qualities of a review well-written. Be professional, open-minded, mindful, and kind. ~~R~~Well crafted reviewers are important engines in moving ~~quality~~ science forward.

Anastassia N. Alexandrova, Senior Editor, *The Journal of Physical Chemistry A/B/C*,
University of California, Los Angeles, California, 90095, United States

ORCID: <https://orcid.org/0000-0002-3003-1911>

Philippe Sautet, Senior Editor, *ACS Catalysis*, *University of California, Los Angeles,*
California, 90095, United States

ORCID:

Gregory V. Hartland, Deputy Editor, *The Journal of Physical Chemistry C*, *University of*
Notre Dame, Notre Dame, Indiana 46556, United States,

ORCID: <http://orcid.org/0000-0002-8650-6891>