Quality in Peer Review

Gerald Frankel, The Ohio State University

CORROSION has marked the previous annual Peer Review Weeks with editorials about different aspects of the peer-review process. The theme of this year's Peer Review Week, which will be September 16–20, 2019, is "Quality in Peer Review."

Readers of *CORROSION* expect to find high-quality papers when they look for help mitigating corrosion or seek to learn new theories and/or develop new insights concerning a range of issues in the field of corrosion. It is the role of the editorial board to ensure that the papers in the journal are suitable for publication, but they need help. Each of the editors has considerable expertise in the field, but they rely on input from peer reviewers to develop a fair assessment and of manuscripts submitted for publication in *CORROSION*.

If you are a reader or an author of literature in the field of corrosion, then it is your duty to participate in the peer-review process. Without the time and effort of reviewers, the whole scientific publication enterprise would break down. As reviewing is an unpaid volunteer task that largely goes unrecognized by employers, it is easy to decline requests to review, especially since it takes time to provide a thorough review. Rest assured that editors are extremely grateful every time a reviewer agrees to help out. Here's a big THANK YOU to those readers of this column who do help out by reviewing papers.

The main role of a reviewer is to determine if a paper is suitable for publication. Some reviewers are extremely hesitant to recommend rejection—after all, the authors put a lot of energy and effort into writing the manuscript and there is usually something of merit in every paper. However, bringing a paper up to the standard required for publication can take a lot of time on the part of the editor and not every paper can ever reach that standard. If it is warranted, please do not hesitate to recommend rejection.

But there's the rub—what exactly is the standard for publication in *CORROSION*? Is it different than for other publications in the field? How do you know if a paper meets that standard?

CORROSION seeks to publish the best papers in the field of corrosion. Such a paper might be based on previous studies, but it adds new information and insight. It clearly describes the relevant previous literature in the field and provides sufficient details of how the work was performed that would allow someone else to reproduce it exactly. The results are analyzed correctly and the discussion is free from errors in logic. The figures are clear representations of the data with properly labeled axes. The abstract and conclusions summarize the work succinctly, because those parts of a paper are all that most readers take notice of. (Note that the conclusions are not a place to bring up further discussion of speculations.) Finally, prior work in the field is clearly cited with references and connections to that work are explicitly drawn.

Most authors know that this list of attributes is what makes a good paper. However, they are sometimes so involved in their own work that they cannot see that their descriptions are unclear or that they made mistakes in the analysis. The fresh perspective that a reviewer brings is helpful in assessing paper quality. I know that my experience in editing and reviewing papers has made me a better author, which is another reason that people should volunteer their time to review papers.

In the end, it is often difficult to decide if a paper needs minor or major revision. Or if the required revisions are so numerous and that the paper should be rejected. A high-quality review is hugely beneficial both to editors, allowing them to understand the problems and make assessments, and to authors, whose work is improved by addressing the concerns raised. Because reviewers often learn by participating in the process, peer review is a win-win-win situation for everyone involved: authors, reviewers, and editors.

I once heard that if you want to make sure to clearly communicate your gratitude to someone, you should thank them three times. I already did it once, so thank you, thank you, for reviewing papers, and for providing high-quality reviews.