

## GUEST EDITORIAL

### REVIEWING THE REVIEW PROCESS

Although I had written many papers, when I became an associate editor I knew little about the review process. Certainly I knew that papers were sent out for comment, but how reviewers were chosen and whether their word was final was not clear. Now, after five years of experience, I understand the process better. However, from comments I've heard and from many discussions, I believe many do not. I provide here one person's perspective on this sometimes vexing topic.

When I receive a new paper to review, my first priority is to read over the title, abstract, introduction, conclusion, and references. This "first look" gives me a good sense of the subject matter, the authors' view of their work, how well written the paper is, and who else has been active in this field. After this, I usually take a few minutes and write down as many candidates as I can who might be willing to review the paper. My criteria for selection is simple. I try to choose two reviewers who know the field well, assuming I believe they will provide a fair and serious assessment of the paper. For the third reviewer, I like to use someone who will have a more general interest in the paper and thus a broader perspective on its subject. Next I contact the potential reviewers by e-mail or phone to see if they are willing to help. However, for many reasons, it is not uncommon to have to try four or five people in order to find two or three willing to do a review.

Unfortunately, this is seldom the end of the story. A reviewer may change their mind about doing a review or may simply take too long. Sometimes, they may exclude themselves between a first and second review. This is obviously difficult and can create substantial delays. Depending on the nature of the problem, one must either send a reminder, find a new reviewer, or live with fewer reviews.

Completed reviews usually get returned over a period of a couple of weeks to a couple of months. Though frustrating and difficult, some delays are likely inevitable. A thorough and complete review requires a substantial commitment of time and effort. In general, I find that the more difficult, complex, long, or poorly written a paper is, the slower and more demanding is the work of reviewers.

To be fair, the reviewer's task is a complex one. In the midst of their usually busy schedules, a reviewer needs to submit themselves to another's work and pattern of thought. Even if the paper is obscure or difficult, they need to assess whether the topic is interesting, whether the arrangement of material logical, if the discussion is suitably insightful, whether the conclusions are justified, and if the overall contribution is original. If they do their job well, they should delay passing judgment about the importance of a paper until they are sure they understand it. Of course, if every paper were original, creative, lucid, and convincing their job would be easy.

Not surprisingly—particularly because their awareness of the paper's subject is often less complete than the authors'—reviewers sometimes miss the point. They may be locked into conventional thinking about the topic and fail to recognize and appreciate originality. Sometimes they simply don't understand the contribution of the paper. Alternatively, they may not detect incorrect or weak arguments. However, more often than not, I find reviewers do their work well, giving frank, insightful, and constructive comments about where they feel the paper is most convincing and where it falls short.

Yet one should understand that authors may be biased when they view their own work. In fact, Williams (1990) argues forcibly that authors are systematically handicapped in assessing their own work. They are typically too close to their sub-

ject to see their paper as others do or to experience their work vicariously. The assumptions the author makes about audience, their history and motivation, the discussions they have had with others, their awareness of related results, their future plans, as well as their current pressures and ambitions are never intrinsically obvious to reviewers. Experience as both an associate editor and author indicates how easy it is to defend (sometimes with great energy and passion!) the paper you think you wrote, and not the one the reviewer sees. A few years ago an upset author withdrew his paper in disgust at the reviews he had received, claiming his subject was more important and practical than the reviewers implied. He substantiated this claim by providing a detailed list of applications and developments completed after his paper was first submitted. It is unfair to assume reviewers have prophetic insights. Surely the appropriate response in these situations is to improve the paper, not to withdraw it.

Perhaps I can also give a personal comment on this point. Many of the papers we have written have not had an easy ride through the review process. We have sometimes been frustrated that reviewers have missed our points. They sometimes appear determined to misunderstand our insights and distort our claims. We, like many, have sometimes wanted to scream at apparently stubborn, reluctant, and obtuse reviewers. However, if we listen to their concerns, if we try to understand why they were unconvinced and where their thoughts went astray, if we do some of the additional work they suggest, we write better papers. Better in the sense that the final version is more complete, more precise, or more significant. This is not to say that we take all their advice. Yet even here reviewers are often willing to meet an author partway. Other times, an editor may well side with an author about a point of disagreement. The best advice is to listen carefully to reviewers, learn from what is constructive, and then to have the confidence to write the paper that only you can write.

Let me now return to my task as associate editor, for once I have received the required reviews my task is not over. At this stage, I read the paper again while at the same time reading what the reviewers have said about it. I try to assess whether the reviewers have been fair, whether they have justified their opinions, and whether they have raised valid points. At this journal we do our best not only to review papers, but to review the reviewers as well. Finally, I write a single page summary to the editor. This page summarizes the reviewer's opinions about the paper and my opinion about both the paper and the review process. I try to list the key strengths and weaknesses of the paper. Finally, I make my recommendation about the paper: whether it can be accepted, whether it requires further work, or whether it appears to be such a long way from being original and complete that it must be declined. Please be assured that it gives no pleasure to decline a paper. The only satisfaction comes from saving the readers some of the frustrations that the reviewers experienced.

Certainly, there can be misunderstanding and frustration with the review process. This is understandable and sometimes justified, for reviewers are not perfect. Good papers can be wrongly rejected and weak papers are sometimes prematurely accepted. However, if you feel there is a problem with a published paper, please make a contribution to all the readers of the journal—write a careful and diplomatic discussion that points out the difficulties as you see them. By contrast, if as an author you feel a good paper has been rejected, you need to argue your case clearly, openly, and reasonably. Experience

indicates that this kind of approach may very well be successful.

In the end, I believe the review process often works remarkably well. Certainly, it is not easy to suggest a better way of protecting the technical community from errors and confusion while recognizing both originality and technical excellence.

## APPENDIX. REFERENCE

Williams, J. M. (1990). *Style: Toward clarity and grace*. University of Chicago Press, Chicago, Ill.

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