

Editorial Practices, Scientific Impact, and Scientific Quality

Recently, at one of the weekly editors' meetings where we go over the manuscripts that are ready for decision, it was noted that "Reviewers review manuscripts; editors review the reviews." This summary succinctly encapsulates the editorial practices at the *Journal of General Physiology*; it also reinforced earlier suggestions that it might be useful to both authors and reviewers to describe how the *Journal* is edited. We have done so by expanding the description of our editorial policies and practices in the online Information for Authors (<http://www.jgp.org/misc/policies.shtml>).

The mission of the *Journal of General Physiology* is to publish original work of the highest quality that elucidates basic biological, chemical, or physical mechanisms of broad physiological significance. This expectation—that the articles provide mechanistic insight—has served the *Journal* well; it also has been cause for much uncertainty, mostly pertaining to what actually constitutes mechanistic insight? The brief response "You know when you see it" is not particularly helpful because the answer depends on the context—being different in "mature" as compared with "emergent" fields, for example. The editors therefore invest a considerable effort into evaluating whether, or not, a manuscript provides new understanding and mechanistic insight.

An important advantage of publishing in the *Journal of General Physiology* over many other journals therefore is that the editorial evaluations are made by active scientists. The editors take considerable pride in our involvement in *all* stages of the review process—from the initial evaluation of a manuscript, to choosing appropriate reviewers, to evaluating the reviewers' comments, to communicating decisions to authors and responding to the authors' queries about the decisions.

The emphasis on new, mechanistic insight and understanding means that articles published in the *Journal* tend to be long, because such articles often cannot be compressed into the procrustean formats of some "vanity" journals without undue loss of information. The *Journal* has proud tradition of providing a venue where authors are able to convey their work, its significance, and its mechanistic implications, in full.

The emphasis on mechanistic insight and the associated scientific rigor also means that articles published in the *Journal* tend to have a very long shelf-life, a factor not currently considered in the calculus of "impact." The issue of impact is a broad problem and difficult to

resolve. The editorial by Rossner et al. in this issue (see p. 3) examines some of the issues relating to the calculation of journal impact factors, raising a serious scientific question about the quality of the data underlying this problematic but influential construct.

As noted by Rossner et al., it is important for the scientific community to develop appropriate measures for assessing scientific quality. But even if such measures were available, as long as it is more important *where* an article is published than *what* it is about and *how* it contributes to scientific knowledge, we will continue to have problems, as summarized with admirable clarity by Peter A. Lawrence (2003. *Nature*. 422:259–261) and the associated letters by David Colquhoun and others (2003. *Nature*. 423:479–480). A common concern is that (the usually brief) publications in the "vanity" journals somehow count for more than the detailed mechanistic studies that are published in the *Journal*. Yet, most readers of scientific journals are scientists, who serve as members of Committees of Review for promotions and Peer Review panels for grant applications. If their decisions—about the impact of an article or the importance of the contributions of an investigator—are based on inappropriate measures of quality, we can only conclude that "we have met the enemy and it is us."

The goal must be that we evaluate the quality of an article and its long-term impact based our analysis of the article's scientific merit in terms of its contributions to our understanding of its topic. Similarly, we must judge our peers based on the quality of their publications and their aggregate contributions.

The emphasis on quality does not mean that it is unimportant where authors publish their articles. The quality of the scientific review and editorial advice and decision making, and therefore the quality of the published articles, may vary widely among journals. In the end, the important questions become: how much new insight does an article provide; and how does a journal add value to the articles submitted to it? The *Journal of General Physiology* takes pride in its editorial practices, which we submit serve to ensure quality and, indeed, add value to each article we publish.

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For the Editors

The Journal of General Physiology