Any jackass can trash a manuscript, but it takes good scholarship to create one (how *MBoC* promotes civil and constructive peer review)

By David G. Drubin

The title of this editorial is a variation on the observation of the late U.S. Congressman and Speaker of the House Sam Rayburn, that "any jackass can kick down a barn, but it takes a good carpenter to build one." These words apply as well to the peer review process as they do to politics. Authors pour their hearts, souls, and creative energies into performing experiments and reporting the results in manuscripts, yet reviewers often seem more intent on kicking down the barn than they are on trying to help the carpenter with its design and construction, or they demand the addition of an entire new wing to the original structure. Because publications are the most important currency for securing employment and research funds, and for a researcher's scientific legacy, peer review issues are critical to all practicing research scientists.

Here I provide guidelines to help reviewers, editors, and authors make the peer review process more constructive and civil, and highlight what *Molecular Biology of the Cell* (*MBoC*) is doing to realize these principles.

HOW PEER REVIEW ALLOWS *MBoC* TO SUCCEED IN ITS MISSION

The peer review process plays a vital role in allowing *MBoC* to succeed in its mission "to enhance scientific communication among cell biologists" and "to serve all cell biologist authors" (Botstein, 1998). The *MBoC* review process ensures that authors meet the highest standards for performing experiments and reporting and interpreting the results. A rigorous review process establishes that articles published in *MBoC* are reliable and credible. No scientist has the perspective required to detect every flaw in the design of his or her own studies or in the interpretation and presentation of the results. Input from one's peers is essential.

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PROBLEMS WITH PEER REVIEW

While the peer review process is generally considered indispensable to scientific communication, almost every scientist has experienced frustration and anguish upon receiving unfair, hypercritical, obstructive, and even mean-spirited manuscript reviews. Conflict of interest is a major concern, because "the persons most qualified to judge the . . . merit of a submitted research paper are precisely those who are that scientist's closest competitors" (Judson, 1994).

TEN RULES FOR REVIEWING A MANUSCRIPT SUBMITTED TO *MBoC*

1. Review a manuscript only if you can do so objectively

Never accept an invitation to review a manuscript unless you can do so without bias, which results when an author is given too little or too much respect or when you have a stake in whether the manuscript is published.

2. Review a manuscript only if you can do so in a timely manner

If you are too busy and cannot review a manuscript in a timely manner, don't do it. *MBoC*, like most other journals, sets guidelines for what is an acceptable time for reviewing a manuscript. (We ask reviewers to complete their reviews within two weeks.)

3. Understand your role

As a reviewer, you are a consultant to the monitoring editor, selected for your expertise. Your job is to evaluate the rigor and originality of the science and the clarity of the writing. On the basis of the advice of two or three reviewers, the monitoring editor decides whether a manuscript should be accepted, returned to the authors for revisions, or rejected.

4. Recognize the authors' efforts and the merits of the work while being clear in identifying faults

Manuscript reviews should start with a positive statement acknowledging the authors' efforts and the merits of what was attempted and accomplished. Importantly, although reviews should always be written in a respectful and civil manner, it is also crucial that reviewers be explicit when identifying problems with a manuscript. If, in attempting to not hurt the authors' feelings, reviewers give the impression that they think that the work is acceptable when they in fact think the opposite, they do a disservice to both the authors and the editor.

5. Be critical, but be constructive

Whenever possible, reviewers should provide constructive advice to authors on how to improve their research and on how to communicate their results more clearly.

6. Be judicious in suggesting additional work

It is obstructive to create work for authors by proposing additional experiments that are tangential to the study and that are not necessary to support the study's main conclusions or to provide sufficient substance to justify manuscript acceptance. As a reviewer, you may

wish to pass some suggestions to the authors that you do not consider essential for the manuscript. In this case, organize your comments into distinct sections, differentiating suggestions that you consider essential from those that could be part of a future study.

7. Leave it to future generations to judge a manuscript's impact

Rarely is it possible to predict a manuscript's future impact. Therefore, reviewers should focus on the questions "Is it new and is it true?" originally articulated by *MBoC*'s founding Editor-In-Chief, David Botstein.

8. Be a champion for your field

Sometimes reviewers write obstructive reviews when someone else attempts to make an important contribution in their field. Remember, "What goes around comes around." Someone who has received unfair reviews on his or her manuscripts is more likely to treat others similarly. Thus, if you want your papers to be reviewed in a just and civil manner, then follow this variant of the Golden Rule: "Review unto others as you would have them review unto you." Start a positive feedback loop by being a champion for your field. In addition to helping to create a civil *esprit de corps* within your field, there are other advantages to being an advocate for papers in your research area. When reviewers promote papers in their field, editors are made aware of the excitement in the field, and more papers are likely to be accepted. Everyone benefits.

9. Remember that it is not your paper

When reviewing a manuscript, your job is to help make the work more rigorous, complete, and clearly presented. Provided that the work meets the journal's quality standards, the authors should have the final say in how material is presented and interpreted. It is their paper, not yours.

10. Be a good role model

Reviewing manuscripts with your students and postdocs can provide a great teaching opportunity. Be aware, however, that young scientists can be a bit too eager to demonstrate their ability to find a manuscript's faults rather than its strengths. Train them in the principles just outlined. Remember, if one of your students reviews the manuscript, it is up to you to make sure that the comments also accurately reflect *your* opinion, as you are the one submitting the review.

AN AUTHOR'S OPTIONS FOR RESPONDING TO CRITICAL REVIEWS

As an author, you should always strive to publish the best articles possible. It is therefore important that you accept that the review process exists to help you reach this goal. Although receiving criticism can be difficult, authors can turn reviewers' criticisms into something constructive. Ask yourself whether the reviewers have made valid points that you can address to improve your work. If it seems that the reviewers missed important points, ask yourself whether you communicated your findings clearly. Once you have made an honest analysis of your reviews and your manuscript, if you feel that a mistake was made in evaluating your manuscript, then defend your position with a thoughtful rebuttal based on evidence.

THE MONITORING EDITOR'S ROLE IN ENSURING THE INTEGRITY AND CIVILITY OF THE PROCESS

As just discussed for reviewers, a monitoring editor should handle a manuscript only if he or she can do so without bias and in a timely manner. A monitoring editor should also be familiar with the above guidelines for reviewers. Because authors' and potential reviewers' time is precious, it is important that a monitoring editor first decide whether a manuscript is appropriate for the journal based on area, scope, and depth, and that he or she reject an article editorially if its prospect for success is low.

Importantly, once a manuscript is reviewed, it is crucial that a monitoring editor identify which of any additional experiments suggested by the reviewers are required to make the work acceptable and which are not required because they are outside the scope of the study.

Monitoring editors should, whenever possible, give authors a chance to respond to critical reviews. The critiques should be relayed to the author *verbatim*, without any censoring; a monitoring editor should comment on insensitive and/or unprofessional comments in reviews, and should make it clear to the authors and reviewers that such remarks are inappropriate. Alternatively, the editor may first give the reviewer a chance to reword any inappropriate comments before they are forwarded to the author.

HOW *MBoC* PROMOTES CIVIL AND CONSTRUCTIVE PEER REVIEW

MBoC's policies and practices help to ensure a thorough, fair, and constructive peer review process and to facilitate scientific communication. First and foremost, *MBoC's* editorial board comprises working scientists, dedicated volunteers committed to implementing the principles just presented. Before our monitoring editors will send a manuscript to reviewers, these editors decide whether a manuscript fits the scope of the journal. Therefore, reviewers can focus on evaluation of the quality and originality of the work. Although we do not ask reviewers to predict a manuscript's impact, *MBoC* has published its share of citation classics (Botstein, 2010). Anyone surprised by this fact (Anonymous, 2010) is missing the important point: Good science gets noticed wherever it is published.

Importantly, *MBoC* does not have arbitrary limits on space allotted for words, figures, and references, and it places a premium on full documentation. At *MBoC* we believe that space limits seriously impede scientific communication among cell biologists. As Judson (1994) pointed out, the trend at most other journals is "to keep articles short and assertive. Reports are condensed. Discussions and conclusions are simplified. Qualifications and cautions are abbreviated or penciled out. . . The general scientific reader is baffled, even to some degree misled . . . [and] the first outside readers to be affected by these practices are, after all, the referees [who] are being deprived of the means to be confident in their judgments."

Another major impediment to scientific communication is time lost when a worthy manuscript is rejected after a lengthy review that took many weeks or months. Having to repeat the whole submission, review, and revision process from the beginning at a different journal is beyond maddening. For this reason, *MBoC* invites authors to include with their submitted manuscripts reviews and decision letters received from other journals. In such cases we ask authors to include responses to the reviewers' criticisms and to the editor's assessment. Before sending the manuscript to *MBoC*, it is advisable to take advantage of advice in the reviews and to clarify any points that were misunderstood by the previous reviewers and editors. If a manuscript is sound scientifically but was not a good fit at another journal for other reasons, we can often use the reviews to expedite assessment of the manuscript's suitability for publication in *MBoC*.

If authors, reviewers, and editors do their part, civil and constructive scientific discourse will prevail in the peer review process, and scientific communication will be enhanced.

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