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NeuroGenesis is meant to be a feature that helps academic neurologists navigate a wide spectrum of issues that they face in their careers. It may seem to be a bit self-serving, then, for the Editor-in-Chief to take the podium first and focus the initial segments in this series on academic publishing. However, at most academic institutions, both in the USA and internationally, publication remains the coin of the realm. My own view is that the beating heart of academic neurology is teaching, which I think is the sine qua non for our profession. However, teaching must be interpreted broadly. We teach locally in a one-on-one way at the bedside, and in small groups, or in larger lectures. Clearly as we teach in larger settings, the quality of the individual interactions is reduced, but if the teacher is effective, the number of students impacted is increased. The way to reach the largest number of potential learners is by publishing your work. It is remarkable and gratifying to have colleagues you have never met come up to you at a meeting and thank you for writing something that had an important impact on their lives and careers.

In terms of judging academic careers, it is always much easier to quantify the contribution made by publications than that made by local teaching. I would argue that local teaching is at least as important and is the very lifeblood of an academic medical center. But it is still very difficult to measure the quality of local teaching, especially in the one-on-one and small group settings in which we really learn to be clinicians. For this reason, even for those who are expert and superb clinician–teachers, it is much easier to establish your bona fides for promotion if at least a substantial part of your activity is in academic publication.

Of course, for those who engage in research as a major component of their careers, the only way to communicate results effectively is to publish them. Hence in virtually all academic promotions, publications play a major role. It could be argued that perhaps they play too large a role in the evaluation and promotion process, but few would argue that it is an area that a serious academic neurologist could afford to overlook.

In this inaugural series of NeuroGenesis, we will cover 3 important topics in academic publishing. In future entries, I will discuss how to choose where to publish your work, and how to prepare your paper so it has the greatest chance of being accepted. In this issue, I will discuss something near and dear to the heart of all journal editors: the peer review process, and why it is so important for your own intellectual growth and academic career that you participate as a peer reviewer.

Why Peer Review?

Winston Churchill once referred to democracy as “the worst form of government, except all those other forms that have been tried.” Peer review likewise has its faults, but remains the form of evaluation used by almost all high-level journals (and grant review committees). As an editor, I can tell you that this is partly due to a protective reflex among those of us who edit journals. It becomes apparent almost immediately after one takes the reins of an academic journal that the range of submitted papers greatly overwhelms any one person’s own fund of knowledge. Many journals, including Annals, use a board of reviewing editors, which we call Associate Editors, who have more specialized knowledge of different subfields.
The reviewing editors are in a better position than the Editor-in-Chief to choose peer reviewers who will have the expertise to fairly evaluate a submitted manuscript. However, even the reviewing editors rely heavily upon the expert peer reviewers, who generally know far more about the actual field in question than the editors do.

Reviewing editors generally try to pick reviewers whose work they know. Particularly when a paper is in a field in which the reviewing editor has limited experience, it is important to know the expertise, biases, and style of the reviewers to be able to calibrate the remarks they make. Some reviewers, for example, are very reserved; some are quite flamboyant (and occasionally inflammatory) in their remarks; some tend to “like everything,” perhaps in an attempt to increase the visibility of their own subfield or perhaps out of genuine enthusiasm; others want to reject almost everything. The tendency for editors to pick the reviewers they know is an important one for an aspiring young academic to understand. If you want to be chosen to write reviews, the best way to do this is to make yourself known to reviewing editors at various meetings you attend (or if you are lucky enough that some are located near you, in the institution or city where you work). You should meet these people, perhaps send them a reprint of your own best work, if available, and make sure that the editor associates you with the field in which you would like to review.

This raises the question of why you should review papers at all. After all, the work is unpaid and largely unacknowledged. (Annals prints the names of all reviewers once per year, but your work as a reviewer is always completely anonymous and confidential, so only you bask in the warm glow of knowing that you have helped improve an important paper.) The most important reason to review, from my perspective, is to have access to the latest thoughts and ideas in your field. Dick Johnson, when he was Editor-in-Chief of Annals, used to compare his position to that of a wine critic who gets to taste all the new wines as they come in, rather than having to wait for them. As a reviewer, you not only get an early view of what will be published in Annals, but you also get to see the papers that will not be published, and to learn why not. This education can be invaluable.

Other benefits accrue as well. As your reviews gain recognition by editors, they may ask you to review more frequently, and eventually to become a member of an editorial board, an important recognition for academic advancement. When you come up for promotion, your institution may write to the editors of the journals you review for regularly, for an assessment of your place in the field. When you submit your own paper to a journal, it pays to have the confidence of the editors if you have to face a difficult reviewer.

How Should You Write a Review?

Although there are as many reviewing styles as there are reviewers, some approaches stand out as being particularly effective in gaining the attention and agreement of editors. First, you should make sure that you can complete your review within the allotted time. Do not accept a review assignment if you are concerned that you will not have sufficient time to perform it at a high level. A slipshod review that simply reflects whether you liked the paper or recommend publication is of little use and deprives the editors and authors of a meaningful review from someone else.

I would recommend that you take the responsibility of review seriously. It does not necessarily require a tremendous amount of time, but it has to be done systematically. First, make sure you have time to read through the entire manuscript. I like to do this on paper, and use a pen to mark it up as I go. This makes it much easier to write the review when I am done. Sometimes I use a PDF version of the manuscript instead, and attach electronic “sticky notes” to the areas I may want to comment on in my review.

In writing the review, I use the first paragraph to succinctly state what I think are the main things reported in the paper. I emphasize the word “reported” because it does not imply that the report is necessarily valid. That depends upon the quality of the work. I try not to say that the work demonstrates, shows, or (heaven forbid!) proves something, unless I am very sure that it does so.

In the second paragraph, I try to address the importance of the work. I frame the work within its field, in terms of what questions it seeks to ask, and whether this is something that will be important to others in the field. This is critical, because this is what editors are really looking for. They want to know whether the work is important and to whom. I then indicate whether I feel that the authors succeeded in their goal, that is, wrote a convincing paper. If not, I explain why I think they failed to convince me of their main premise. Often this hinges upon the quality of the work, in which case I comment on whether improving the quality of the work might make the paper more valuable.

I then go through my major criticisms of the paper. I usually separate each main criticism into a paragraph, and go through them systematically. After laying out the most important issues, I often have a section titled “Minor Issues,” in which I give a numbered list of other problems with the paper. These can be as small as typographical errors.

Finally, at the end, I give an assessment of the quality of the English. The majority of authors and readers of Annals are from countries in which English is not the
primary language. English is a difficult language, but it is also a language of great precision. If I feel that the text is not written in idiomatic English, I suggest that it be read by a colleague who is a native English speaker before being resubmitted. If the quality of the English gets in the way of understanding the paper, I may suggest that the authors hire an English editor to help them with it.

After preparing my narrative remarks, I then turn to the rest of the review form. Each journal has a series of check boxes that are meant to give a rapid view of whether you think the paper is headed toward publication, by the standards of that journal. One thing I would caution against is using the box for “confidential comments to the editors” to sum up your opinion of its quality and importance, leaving just a punch list of errors to be corrected in the narrative review. The authors really deserve to see your full and honest opinion, and it should be in the narrative review. If it is, you do not have to reiterate it for the editors. Editors are frequently caught in the problem of having the most critical part of the review put into the confidential comments. Should we move this “confidential comment” into the narrative text? If so, does this violate the concept that the box serves as a confidential line of communication to the editors? The box for confidential comments is best used for relaying truly sensitive information to the editors: Does the paper violate principles of human subject protection or animal use? Is there evidence of scientific or intellectual misconduct in the paper? Does it duplicate a manuscript submitted somewhere else? Editors are quite grateful for this information, and have to sort out these issues before a paper can be considered further; it is best if the editors do not attribute such information to a specific source, even an anonymous reviewer.

**Sweetness and Light**

A final word of advice: Once you write a review, try to reread it from the point of view of the author. There is no reason to use harsh language; this undermines the value and impact of a critical review. Try to keep in mind how vulnerable you feel when you are reading a review of your own work. Be kind to the author, even if your final recommendation is not to publish the work. Always try to be constructive. The authors may not be able to thank you for that, but editors will remember, and you will gain their respect.

**Potential Conflicts of Interest**

Nothing to report.