

Letter to a Young Scientist

By: Lee Meserve, PhD

Dear Recently Minted Colleague:

As a person who has “worked” at the same academic location for 43 years, let me offer you a hearty welcome to a profession that provides a collection of all of the emotions available to human kind. What follows is a remembrance of those years, and some things you might want to consider if you are recently hired or considering a career in academics. The old ABC Wide World of Sports lead-in “the thrill of victory and the agony of defeat” only scratches the surface of what awaits you, but let’s begin by addressing these two ends of the spectrum in reverse order.

The agony of defeat. If you have already written those first few grant proposals and articles to submit for publication in research journals, then you may be facing your first taste of defeat. Even if you have reached the point of actual submission, and you received exquisite mentoring with regard to how to craft these pieces, into which you have poured your heart and soul, not to mention a considerable number of hours, the initial responses are likely to be the following: not accepted; rejected; inappropriate for this funding source/journal; needs additional development; revise according to the reviewer comments and resubmit. An initial response to any of these is likely to be “How dare these people! Did they even read my pearls of wisdom? Were the reviewers in some sort of altered state when they read the proposal/manuscript or did they even read it?”

How well I remember all of these emotions from when I first starting submitting papers and proposals. However, a sage colleague pointed out to me that thickening of the emotional skin was vital to survival in the area of reaction to scientific peer review. One’s initial response should be deferred beyond the one to eight word summary statement, because the more detailed evaluations provided by reviewers, editorial staff members, study section heads and the like resemble pieces of gold that can be used to your benefit. Despite initial appearances, the evaluators are not the spawn of Satan. They are the gatekeepers to their journal/foundation/funding agency. But in their detailed comments, they have provided you with directions to navigate their entry maze.

Consider three of the summary statements above.

1. “Inappropriate for this funding source/journal.” The evaluators will likely suggest sources/journals that would be appropriate, if not by name, at least by description. Take these comments to heart and refocus your submissions.
2. “Needs additional development.” Depending on the extent of development described in the detailed portion of the review, this can be a positive response. You can decide whether you can develop the proposal/manuscript discussion to the point of satisfying the evaluators on resubmission, or if other sites would be more welcoming to a submission.
3. “Revise according to the reviewer comments and resubmit.” This is actually a positive response! It is only one step short of “Minor revisions required before acceptance.” Read the reviewers comments carefully and decide whether you can explain logically why directly addressing one of them is not required (and can be explained to them), or if you can rationally revise your submission as the evaluators have suggested.

I offer some rules of thumb that will likely result in more favorable responses to your submissions. Don’t go for the homerun the first time up to the plate. That \$1 million program establishment grant from a federal source, or the lead article in *Nature*, might be overly optimistic. Perhaps a \$10K startup from a local source, and a paper in the *Ohio Journal of Science* (which is peer-reviewed, and from which papers are read and cited) might be a better starting point.

The thrill of victory. Your RO3 startup from NIH/ New Investigator funding from NSF/small grant from a regional foundation was funded! Now (if you are in an academic institution) besides teaching the non-majors introductory courses, you can begin recruiting graduate research assistants and get on with generating a cadre of individuals to mentor and work with you. Those three remaining least publishable units (LPUs) from your dissertation all received the “revise according to the reviewer comments and resubmit” verdict, but you persevered and all three of them were accepted by your peer reviewers for publication! You are well on your way to generating the resume that will qualify you for promotion to the next academic rank and for

conferral of tenure. So what happens now?

At an academic institution, your progress, performance, promotion, and tenure are likely to be based on three areas of evaluation, research, teaching, and service. Depending on the institution and depending on your own personal preference, the percent effort in each of these areas (to sum to 100 percent) may vary. If you are a science person 24/7/365 (and 366 in leap years), working at a location that expects you to allot 60 percent of your time to teaching and 20 percent to service is unlikely to fit your goals and objectives. Similarly, if you really enjoy imparting information in the classroom and lab and preparing 17- to 22-year-old undergraduates and (roughly) under 30-year-old graduate students for the next step in their lives, an 80 percent research expectation may not fit your personality or ideals.

So, I recommend to you that on your job search, you ask the questions that will give you answers about how you will fit in the place where you are interviewing. Toward the end of my doctoral program when I was a teaching assistant and in the visiting assistant professor position that I filled for a year before coming to my long term home, I found teaching to be very rewarding, so I did not apply to or interview at research intensive institutions, but small four year universities with graduate programs. Don't get me wrong, I have published on average a peer reviewed article a year, and have given presentations, along with my graduate and undergraduate advisees, at local, regional, national, and international research meetings. So those two efforts are not mutually exclusive, and the relative effort can be modulated to suit, if the correct site of employment is chosen. In my professional life, I have always felt that every area of involvement is, in some way teaching.

So what about service? This is an area that many academics find to be sheer drudgery and others find quite fulfilling! However, service provides us each with the means to pay forward to our profession and institution. Find service areas within your sphere about which you are passionate. For example, my doctoral advisor was a strong supporter of state academies of science, and encouraged all of his graduate students to join both New Jersey and Pennsylvania Academies of Science. In 1973, I joined the Ohio Academy of Science, and some research from my lab group has been presented at the annual meeting including spring 2016. Because of my interest in and commitment to the Ohio Academy, I volunteered as abstract volume editor and as editor of the journal you are now reading. I am also a Past President of the OAS.

I have also served on the editorial board of four additional peer reviewed journals. I have been a member and chair of the Membership Committee for my national research organization. On my own campus, I served a seven-year-term on the University Budget Committee, have chaired my departmental Curriculum Committee, and have advised pre-health professions undergraduates for more than 30 years. These enumerations are not in an effort to say what a good guy I am, but to point out that there are many other worthwhile slots to fill over and above teaching and research. And I find a bit of time to play a little golf (poorly!), support my wife the artist (enamel on copper renditions), and go to little theater productions.

Welcome to the profession young scientist. It is probably unlikely that you will remain at one location for 43 years, but know that that is possible, and this possibility is enormously rewarding.

Lee Meserve is a Distinguished Teaching Professor at Bowling Green State University. On the faculty since 1973, he is an award-winning teacher in the Biological Sciences Department and has an extensive research and publication record. He is a Life Member of the Ohio Academy of Science and is a career-long supporter of the academy, serving as both its president and as the editor of this journal.