TWENTY-TWO

Friendly Review

Even the best scientific writers rarely produce excellent work in a vacuum. No matter how good you become at reader simulation, there's no substitute for the keen eye of an actual reader—one who genuinely doesn't know what you meant to say, and can react to what you've written the way your intended audience ultimately will. While most (if not all) of your papers will undergo formal review after you submit them to a journal (chapter 23), you should expose everything you write to actual readers before you get to the submission stage. This is what I call "friendly review": the stage at which you solicit comments from a friend or colleague who will read your work with an eye to making it better.

Whom Should You Ask to Review?

In selecting a friendly reviewer, you will of course want someone willing to review your work, but also someone able to provide cogent criticism and suggestions that lead you to real improvements. There can be some tension between these two criteria. For example, those closest to you are likely to be most willing to read your work—your labmates, friends from your grad-school cohort, even a spouse or family member. However, these people may not be best placed to provide helpful reviews, because they know you and your work too well. Your ideal friendly reviewer will represent your target audience, and unless your manuscript has an extremely narrow focus, you presumably will want it to be read and appreciated by readers who work with other study systems or in subfields other than your own. Therefore, you might ask for friendly review from someone you've collaborated with on *other* topics, someone in another research group or another department, or someone you've

met at a conference. This is not to say you should neglect writing help from close at hand, though: a good compromise is to seek friendly review first from a close colleague, and then, after a round of revisions, to ask for a second friendly review by someone a bit further afield.

Once you've been through the friendly review stage a few times, you're likely to strike up reviewing relationships with colleagues who provide particularly helpful comments on your work. While it can be tempting to use reviewers who correct your spelling and grammar while saying only good things about the bones of your manuscript, you benefit most from the ones who are genuinely critical and unafraid to raise issues requiring hard work of you as the author. Cultivate these people, thank them graciously and repeatedly, and be quick to help them with their own work in return.

Making the Reviewing Job Easy

When you ask someone to review your writing, you're asking them for a substantial favor, given the incessant demands on everyone to review for journals, granting agencies, and so on. When you approach a potential friendly reviewer, you can entice them to agree and to stick with the job in three ways. First, you can suggest—presuming that it's true—that you think they'll be interested in your manuscript. Second, you can offer to return the favor with a friendly review of their work. Third, you can make the favor as small as possible—by making reviewing easy. After all, you'll want to use a good friendly reviewer again, but you'll encounter reluctance if you made the job needlessly difficult the last time around. At a minimum, you should:

- **Make every reasonable effort to polish your draft before sending it.** Good friendly reviewers are too valuable to discourage by sending them work full of problems you should have spotted yourself. Thus, friendly review should follow thorough self-revision (chapter 21), including careful proofreading for grammar, spelling, and the like. There are two exceptions to this guideline. First, it can sometimes be helpful to seek advice very early in a writing project on a fundamental issue such as the manuscript's overall structure or focus. In such a case, you can approach a friendly reviewer with a specific question:

for instance, "Could you skim this and see whether you think the order of the subsections makes sense? Just ignore everything else, please." Be explicit that you are delivering a manuscript that's fragmentary or unpolished, and that you don't need a thorough read. This shouldn't be a routine step for every manuscript—save it for cases where you have a real puzzler on your hands. Second, some writers negotiate an agreement for mutual friendly review with a peer, or a writing group of peers, in which the favor each writer is asking (early review of a rough draft) will be paid back in kind. Such an arrangement may be particularly useful to you if you struggle with structural issues such as sequencing material or packaging results into a clear story.

- **Allow a reasonable time for the review.** Assume that your reviewer is at least as busy as you, and recognize that your manuscript is quite naturally a lower priority for their career than it is for yours. It's usually reasonable to ask for comments within three to four weeks. If you have a deadline closer than that, it's your problem, not your reviewer's—next time, anticipate deadlines and build time into your writing process. Requests for faster review should be extraordinary, and probably accompanied by an extraordinary inducement. (Chocolate often works well.)
- **Offer the choice of an electronic or paper manuscript.** Some scientists like to read manuscripts on paper and scribble comments in pencil. Humor them! If you offer the manuscript electronically, provide a standard file format, but also one that's easily marked up. (Adobe PDF format, while universally readable, is awkward to edit.) A good choice is to provide a copy in your field's most common word-processing package (Word, LaTeX, or the like) along with another copy in PDF.
- **Double space, and use page and line numbers.** Line numbers are especially helpful, as they let a reviewer refer easily to specific features of the manuscript: "What you say at line 321 seems to contradict your earlier statement at 162." No one enjoys counting by hand to refer to the "fourteenth line of the second paragraph on the seventh page."
- **Ask specific, concrete questions.** You can increase the review's utility without significantly increasing the reviewing burden if you draw the reviewer's attention to a limited number of areas you'd especially like help with. For example, you might mention that you are not sure if a piece of terminology is clear enough, that you are worried about the right level of detail in the Methods, or that you feel the Discussion is overly long and would like advice on what to cut.
- **Provide appropriate, polite reminders.** A single, understated reminder by e-mail after two or three weeks have gone by is perfectly appropriate, as is following up again two weeks after your first reminder. But don't nag—reminders too early or too often come across as demanding. It's best to decorate your reminder with an offer of help—for instance, "I hope you were able to open the file; please let me know if you'd prefer a different format." Finally, if your manuscript gets pushed down your reviewer's priority list by something truly important, be gracious about it.

How to Read a Review

Early in my writing career, I knew I had a lot to learn. I knew I wasn't very good at maintaining momentum to get through first drafts; I knew I had a weakness for complex sentences and digressions; and in my more honest moments, I could have provided a long list of more problem areas. But I was completely unaware that I didn't know how to read a review. In fact, I had no idea that this was something a writer could be good or bad at. So how can you be a good reader of your reviews?

When you receive a review, read it through right away. But then stop, **and do nothing else.** Don't read it again, don't scribble notes on it, don't begin to make revisions, don't vent to a friend about how your reviewer misunderstood you—do nothing. Instead, set the review aside for at least a day or two. Few, if any, of us are capable of reacting calmly and constructively to criticism of our work (however spot-on it may be) on first reading.

Once your reaction has had a chance to season, pull out the review again. Now go through it and divide up the comments into three categories. You'll deal differently with each category in revision. Mark as **category one** comments that have obviously identified clear problems with straightforward solutions—say, grammar mistakes, reordering of sections, or a new title. Mark as **category two** comments that seem to be on

to something, but for which you don't (yet) see an obvious path forward. Perhaps the reviewer read your work from an angle you hadn't thought of, suggested a new analysis that you're not sure you can do, or suggested an alternative statistical test that you aren't sure is appropriate for your data. Finally, mark as **category three** comments to which your reaction is "that idiot didn't get my point at all/didn't bother to read/etc." There will almost always be comments like this, and they will make you angry, but they're important and when considered properly can help you make major improvements to your writing.

Category-one comments are (by definition) easy to deal with, and when you begin to revise, you'll address these right away. Doing so will help ease you back into work on a manuscript that you've likely put aside for a while, and it will reacquaint you with the text so you'll have an easier time with categories two and three.

Category-two comments involve harder thought and more work. They'll typically involve points of science rather than just wording or arrangement, and deciding whether substantive changes are merited (and what those changes should be) may require learning new techniques, reading more literature, or thinking about your work in a different way. Two quite natural reactions can lead you to resist dealing adequately with a category-two comment. First, you may resist change simply because your original analysis or approach seemed right to you when you did it, and still does. You may be correct about this, but you may also be reluctant to move out of a comfort zone or to recognize imperfection in your earlier thinking. You should acknowledge these reactions and therefore set a high bar for convincing yourself to stick with your old approach over your reviewer's suggestion. Second, you may resist a substantive change simply because carrying it out will take a lot of time and labor, and you thought you were finished with the manuscript. Because word-processing software and laser printers can make any draft look just as tidy as a published paper, it can be psychologically difficult to accept that your work actually needs major change. Odds are good, though, that if your friendly reviewer has suggested a substantive change, formal reviewers will do the same—and you might as well tackle the issue now while it doesn't imperil acceptance of a submitted manuscript. When revising to deal with category-two comments, it can often be useful to engage in some discussion with your reviewer, to ask for

clarification or for further suggestions. Don't, however, *argue*—at least, not if you want future reviews from the same person.

Category-three comments are the ones that early-career writers mishandle most often. Here you've decided that your reviewer got it wrong, whether from inexperience in your field, superficial or careless reading, or innate stupidity. In fact, most of the time, category-three comments identify areas in which your attempt at crystal-clear writing has failed. If you reread your text with an open mind, you'll usually discover that your reviewer was led astray because you didn't make your point clearly, or you buried it in uninteresting or confusing text. And even if you were right—what of it? It's your job to make your writing clear even for a reader who is in a rush, distracted, careless, or even (gasp) not quite as brilliant as you. So while a category-three comment may annoy you at first, rather than declaring angrily "that's not what I meant at all!," recognize an opportunity to understand what the reader is experiencing in your text. If your reader comes to a conclusion that differs from what you intended, that's something you should want to fix. Taking this perspective sets responsibility for reader misunderstanding where it should almost always be: on you as the writer.

A Special Case: Serial Friendly Review

In some cases, the friendly review process may be more protracted as you send multiple drafts of the same manuscript to the same reviewer. Such serial friendly review occurs most commonly when graduate students send repeated versions of thesis chapters or manuscripts to their supervisors. When you seek serial friendly review, there are a few additional practices that can help maintain the good nature of your reviewer.

Unlike the usual friendly-review case, a serial friendly reviewer will see your revisions—and see them soon enough after commenting that they will likely remember much of what they said. Furthermore, they will often look specifically to see how you dealt with their comments in the new version. You can make this easy for them by offering to provide a brief document outlining the changes you made and how they address the reviewer's concerns. (This "response to reviews" is even more critical

in the context of revising manuscripts following formal review, and is dealt with in detail in chapter 24.) Respond to every substantive comment: if you made a recommended change, say so; and if you did not, then explain what other change you made that solves the problem your reviewer identified. What you should *never* do is ignore a comment. Nothing raises a supervisor's blood pressure more quickly than correcting the same apparent mistake in a third consecutive draft!

Finally, a serial friendly reviewer may well see your *next* manuscript after handling repeated drafts of this one. In this case, you can build mountains of goodwill by refraining in a second manuscript from mistakes corrected during revision of the first. While this sounds obvious, it's not trivial to accomplish, because the very fact that you made the mistake suggests it may be one to which you're prone. Therefore, before sending your friendly reviewer a draft of your next manuscript, you should deliberately review the revisions you made to the last one, and incorporate similar modifications unprompted. Of course, you should do this all the time, but the stakes are particularly high when you risk nettling a reader who's important to you. If it helps, make a handy list of the sins you're wont to perpetrate and use it as checklist that grows with each new review you receive.

Chapter Summary

- All manuscripts should receive "friendly review" before formal submission.
- Ease the burden on your friendly reviewers: send polished drafts formatted for easy reading, and ask concrete questions.
- Reading and responding to reviews requires careful thought. Allow time for your reaction to mellow, and be skeptical of your impulse to believe your reviewers are wrong.
- When a friendly reviewer sees repeated drafts of your work, provide a brief summary of changes with each new draft.

TWENTY-THREE

Formal Review

Once your manuscript is as polished as you (and your friendly reviewers) can make it, your next step is to submit it for potential publication. I'll assume here that you're submitting to a peer-reviewed journal, as that's by far the most important kind of outlet in the natural sciences. (Other kinds of publication are discussed in chapter 26.) The distinguishing feature of peer-reviewed publication is right there in its name: your manuscript will be read and reviewed by your peers (other working scientists). I call this "formal review," because it's an official part of the well-defined procedure by which your submitted manuscript is handled and assessed.

How Formal Review Differs from Friendly Review

Formal review has a lot in common with friendly review (chapter 22), but the two differ in at least three important ways.

First, formal reviewers are drawn from a global pool of experts, and while they'll generally know your field, they needn't know you or your previous work the way friendly reviewers do. This is a good thing, for neither will most of your intended readers. Formal reviewers can do a better job than friendly ones of representing your intended audience, and thus helping you judge your efforts to achieve crystal-clear writing. Second, nearly all journals offer formal reviewers the option of submitting their review anonymously. It's not uncommon for formal reviews to be signed anyway, especially when they come from more senior scientists. Nevertheless, the option of anonymity increases the value of formal review to both journal and author. Anonymity allows a reviewer to