

ince this column began, only my views, opinions, harangues, and suggestions on technical writing have been emphasized. As wonderful as they are, this month I've broadened the scope to include the opinions and harangues of a gaggle of experts. Recently, I emailed two questions to the Associate Editors of GEOPHYSICS: (1) What are the most common errors, shortcomings, or pitfalls you find in your reviewing and editing? (2) What are the most difficult or most profound errors, shortcomings, or pitfalls you find in your reviewing and editing? I received 12 replies. I think you'll find the variations in answers very enlightening. I certainly did.

Expert 1. (1) English. Maybe more papers are being written by non-English speakers than in other fields, but I can barely read more than half of the papers I get to review. (2) The most profound shortcomings are lack of enough information to be able to reproduce the results or algorithms. This is often not apparent during the editorial process but only shows up when I try to use what is published. I can list at least four examples in the last two years where I have tried to program an algorithm from a published paper only to find that critical details were missing or contradictory. Somehow, we should have a criteria like "could a working algorithm be generated from the information in this paper?"

Expert 2. (1) Incorrect English and incoherent organiza-

cialist read their revisions. Of course, this almost never happens; I can always tell when it does. (2) See my response to (1).

Expert 7. (1) Inappropriate abstracts. It took me a long time to understand what an abstract was supposed to be, and even now I don't write them as well as I would like. My experience is that most authors are even worse. (2) Authors not making clear the principal point(s) why the reader should care about this paper in combination with the inclusion of marginally relevant material. This is particularly important when the paper is very mathematical.

Expert 8. (1) Too much detailed math or algorithms. I tend to agree with (Frank) Levin's commentary. Math is often essential but put only the salient results in the body of the paper and carefully discuss their meaning. How often have you read a long section of technospeak and wondered how it relates to the paper? There is often insufficient bridging and motivating material. I think any subsection of a paper should begin with a short summary of what is to be discussed and why. Another common shortcoming is failure to concisely summarize a paper's most important points. (2) Usually, I have the most trouble with disorganized or grammatically confused writing. Such stuff can be so far from acceptable that the best editing seems to be a complete rewrite.

Expert 9. (1) Papers are sent in too fast after the first draft is written. Authors should learn to avoid the tempta-

body with language proficiency who can help polish the

manuscript. I believe it ... inexcusable when something

deficient comes from a native English speaker at a profes-

sional level. (2) No answer.

Expert 3. (1) Grammar. (2) Grammar.

Expert 4. (1) The world is mostly too complicated to model directly, so we used simplified models based upon a lot of assumptions. Most authors do not explain the assumptions that they've made, justify them, discuss the limitations they impose on the model, or discuss the consequences, if they're violated. The latter is especially needed to warn people about lifting a model from the literature that was developed for a particular purpose, and then using it for another purpose. (2) People misusing

Expert 12. (1) Vague or broad reference, especially using the word "it." For example: "Our method uses only the interval velocity, and it doesn't ..." Writing like this means you have to get to the end of the sentence (or sometimes a few sentences later) to realize to what "it" doesn't refer—the author's method or the interval velocity. I get this very frequently and in a variety of forms. (2) Authors who don't know what their papers are about, so they do a memory-dump presenting readers with a grab bag of loosely related material. Such papers could easily be titled "A potpourri of ... methods" instead of a more descriptive title. Beyond this, I think the error I encounter most often is lack of clarity from lengthy sentences.

Adding my experience, Expert 13. (1) Failure to explicitly define the problem to be solved; failure to write with any element of persuasion; failure to understand the needs, interests, and reading expectations of readers; failure to discuss the benefits of the work; assuming a captive audience. (2) Lack of understanding or adherence to the principles and guidelines of sound technical writing from micro- through macroscale; irrecoverably incorrect grammar and syntax; disjointed or disconnected structure; camouflaged organization and flow; and self-inflated value.

It is very interesting to note that poor English is the most common complaint, but not the only complaint. Many failings can be traced simply to poor writing, which is not a function of the writer's native language. This is very important and very significant to prospective authors whose native language is not English. It is very easy for an author who is not a native English speaker to hide behind the excuse of writing in a foreign language. This does, of course, make writing manuscripts doubly difficult. But, as substantiated by the experts, unfamiliarity with English is not the only reason for failed manuscripts. Many manuscripts, from native English speakers and from nonnative English speakers, are simply poorly written. ■