



From technical writer to scientific communicator—and back

By Gary Michael Smith,
Senior Member, Houston Chapter

What is a scientific communicator? I'm not going to go into that here; I covered it in detail in STC's *Dateline Houston* (May 1997) and *The Exchange* (September 1997). What I will convey instead is what, specifically, I did while serving as managing editor for an internationally recognized peer-reviewed scientific journal. I also will discuss why I moved from technical writing to journal management, then back again to provide some insight into the inner workings of scientific communication.

How it all happened

I fell into the journal job by accident. The government contractor with whom I was working as a documentation specialist at the time did not rebid on the contract. Consequently, I balanced the coming decrease in benefits, headcount, and salary with the subsequent increased workload, and decided that after nearly 7 years on this contract it was time for a change.

Scanning the classifieds in the Sunday newspaper I spotted an opening for a medical editor with a local, world-renowned teaching hospital and research facility. I applied, and was told that the position was already filled, which I knew was often the case with newspaper classifieds. What I didn't expect, however, was to be given a better offer.

The staffer informed me that although this position was no longer available, a new "assistant managing editor" position was being created. To make a short story even shorter, the interview went well, the salary was satisfactory,

and I accepted the position. Then the fun began.

Initial dissension

Within days, the managing editor resigned. As I soon realized, it was because of me. She had been in the position for a mere 8 months, but had frequent disagreements with the journal's editor-in-chief concerning journal management, staffing, and sundry other issues. In particular, she wanted more control over staffing of the editorial office. But the editor, an award-winning scientist and guru in his field, wanted his own measure of control. Although he had no experience in journal management, he was used to "running the show" both as a doctor and as an administrator of scientific research.

I had interviewed with him after having already interviewed with the managing editor, and this is where his disagreement with the managing editor arose. She saw no scientific journal management experience on my resume, although the editor had the insight to see that

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Editorial: Evangelism

by Geoff Hart



Because I'm writing this editorial right before Christmas, it's not all that surprising that evangelism is on my mind. Though "evangelism" and "science" aren't two words you commonly see keeping close company in any positive sense, some of the most interesting discoveries in science arose from juxtaposing pairs of seemingly unrelated concepts: identical glacial deposits on adjacent continents plus seafloor ridges led to the theory of continental drift; a thin iridium-rich layer in rock strata plus the extinction of the dinosaurs led to the theory that Earth is one great vulnerable target

for large interplanetary debris. Another accidental collision (between chocolate and peanut butter) led to Reese's peanut butter cups, with the possible extinction of my waistline as a consequence.

So yes, putting together two seemingly unrelated concepts can often lead to surprising synergies. And the synergy I'd like you all to consider as a belated New Year's resolution this year is to see how you can combine those two strange bedfellows, science and evangelism. Start with obvious things: Mention the Scientific Communication SIG to fellow STC members who haven't joined us yet, and see if you can't swell our little flock. Befriend someone at work who'd be willing to volunteer an article for a future issue. Help me keep this cushy job as editor!

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Letter to the editor

I read Ed Hanson's article on Information Mapping with interest [*the Exchange*, v7:3]. The example he gave of the before-and-after treatment was a good demonstration of how IM can make things easier to follow; however, as any good writer knows, black pages (i.e., those pages densely packed with type) are inherently difficult to read. Putting black pages on a computer screen makes them doubly difficult to read.

White space, whether on the screen or on the printed page, is highly beneficial. The chunking of information also allows the Web designer to break copy into screen-size blocks that may present only a single idea per screen. I agree enthusiastically that this approach is sensible and practical. Getting engineers and scientists to buy in is not always easy.

I fought many a battle with engineers over how much copy to put on a slide and how large the type needed to be for ease of reading. Many engineers

want to put a full encyclopedia page on each slide. I always tried to hold them to six key words. However, that is beside the point.

Hanson concludes his interesting and informative article with the statement that IM may not be currently acceptable for scientific journals. I disagree up to a point. Most journals carry either an abstract or a summary or both of each article. A well written summary is the point at which the major points of the article are "chunked" in brief form for the reader. Interested readers can then dig into the article to obtain all the details needed to flesh out the summary statements. In technical reports of any length I would also expect to find an executive summary that does the same thing.

Thanks, Ed, for giving us a timely reminder that comprehensibility is an essential member of the 5-C family. Ω

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“From technical writer...” (continued from page 1)

my technical documentation background offered many of the skills needed to work with authors, reviewers, editors, and publishers. He hired me against her recommendation, resulting in her resignation. Soon, I was asked if I was interested in her position.

The salary was upgraded, as were the responsibilities, and I was on my way to an exciting new career, even though the outgoing editor wished me luck on her way out the door. She ended with a dubious “You’ll need it.”

Getting organized

What I first noticed about my new office was the disorganization. It seemed my predecessor had felt the need to do everything herself. Consequently, stacks of unprocessed manuscripts lay everywhere while the two secretaries spent the bulk of their days making paperclip jewelry. Some job reclassifications obviously were in order, especially since these accessories rarely matched their daily ensembles. But any revisions I would make in workflow could not happen for weeks; first, I had to discover how the office operated.

Coming from a background in process analysis and procedure development, I began logging every task performed in the office. Currently, most of these jobs fell on me, but that was soon to change. I determined which tasks were best handled by me and which the clerical staff could take care of. Then I reassigned the work and, in time, reclassified the staff positions through our Human Resources department.

Although I increased the staff’s workload, dissension remained low because I also began a program to increase their *esprit de corps*. First, I changed their titles from secretary to “assistant” and “associate” managing editor, and gave them raises. My budget was being underspent when I took the position, and even with the raises I gave to my staff this surplus continued as a result of my continuous efforts to improve quality and analyze our processes.

With our new responsibilities in place, as well as a detailed operations manual, I focused on reorganizing the office for maximum efficiency. More than just rearranging the furniture, I rearranged attitudes by helping my staff to realize how their roles affected the big picture. It’s easier to get up in the morning when you feel you are making a positive contribution to the dissemination of cutting-edge scientific research. I joined several professional organizations for scientific journal managers, signed my staff up as well, and ensured that they received all the accompanying reading materials.

These organizations included the Council of Science Editors (www.cbe.org), the American Medical Writers Association (www.amwa.org), and the Society of Scholarly Publishers (www.sspnet.org). CSE proved to be the most useful for a managing editor. Originally the “Council of Biology Editors”, CSE addresses issues of scientific journal management and publishing. AMWA predominately serves medical copyeditors, although many journal staffers belong to both. SSP exists “to promote and advance scholarly communications among all sectors of the scholarly publication community through networking, information dissemination and facilitation of new developments in the field.” Another organization for non-U.S. editors is the European Association of Science Editors (www.ease.org.uk).

Once I’d moved into this new field, I joined STC’s Scientific Communication special interest group (SIG). This offered a good forum for scientific communicators, especially those with a background in technical writing. I wrote for *the Exchange* and served for a number of years as the SIG’s liaison for Region 5.

The good: working with authors

Probably the easiest and most pleasant part of the job was working with the authors. Each wanted to see their papers published, and they

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“From technical writer...” (continued from page 3)

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often *needed* to be published to be able to obtain and keep grant money. Being a social creature, I enjoy frequent interaction with my colleagues. But working with those who are changing the face of science as we know it, something that initially appeared intimidating, proved instead to be intriguing. While speaking with these scientists at conferences and professional meetings, I could see their sincere interest and their concentration on what was being said. Think about it—they got to where they were by being analytical and contemplative.

It was a rare occasion when I had any confrontation with an author. Probably the worst case was one in which I served as arbitrator concerning an issue of authorship until I finally had to hand the case over to our publisher’s legal counsel. One author quit her job while documenting research for publication, and the lead author promptly removed her name from the paper. When she got word of this, she contacted me and eventually provided thorough documentation that she had both initiated the research project and conducted research that warranted placement in the list of authors. In the end, the lead author let me add her name to the list of authors.

The bad: working with editors-in-chief

“I found the most difficulty working with the actual journal editors-in-chief.”

I found the most difficulty working with the actual journal editors-in-chief. These folks often were older scientists, and used to having their way, even if it wasn’t the best way. But part of the managing editor’s job is to ensure that the journal’s best interests remain foremost. When reviewers were late with reviews, I queried them *once*. If they could not promise to return the review on time—or did not reply at all—I found another reviewer and sent the manuscript for a “fast turnaround” review.

Working with the journal’s editor and his colleagues was probably the most stressful part of my job. Having discussed the job of managing editor with many colleagues, I gained a

strong grasp of my responsibilities and what was expected of me. But the editor-in-chief always has the last word, and often it wasn’t my word.

Other conflicts arose from my attempts to improve the editorial office’s efficiency. Once, I labeled a set of bins for the editor-in-chief and the two associate editors, and attached these to the wall at the entrance to the editorial meeting room. When it was unnecessary for us to meet, I inserted the manuscript files in the appropriate bin with a message explaining what needed to be done, which avoided interruptions to anyone’s work. Unfortunately, one editor considered this approach unprofessional, and didn’t want to look in a bin for assignments.

I didn’t much like this response, but accepted it because I understood that the editors had well-established habits that weren’t about to change easily. Since this small rebellion didn’t greatly affect our work, it was acceptable. However, other, more pertinent disputes arose over my policy decisions for the editorial office. Although I had developed a detailed annual report and monthly status reports on journal management to the scientific publishing committee (neither had ever been developed for the publisher’s five journals), the editors-in-chief seemed to only wish they had thought of it first.

Dissension increased as I began writing numerous articles for the CSE’s periodical and served as guest editor for an issue on using the Internet and email for communication and manuscript submission—a practice vehemently opposed by the editor-in-chief. I even had a response to my letter to the editor published in the *Journal of the American Medical Association* on the topic of authorship. Unfortunately, my editor-in-chief and I did not see eye-to-eye on this issue either; he felt that the researcher—whether an editor-in-chief or a staff scientist—who acquires research funding should be listed

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“From technical writer...” (continued from page 4)

as an author, whereas I’ve always believed that authors should actually conduct research or write some of the paper.

I also felt a lack of recognition of my efforts. Accomplishments such as an annual \$40,000 savings in office expenses went unnoticed, as did prestigious appointments; for example, I served on the program committee of CSE’s annual conference, where I organized an employment clearinghouse, chaired three sessions, and lectured on scientific journal management. Eventually, this lack of recognition and various differences of opinion regarding journal management caused me to leave this position.

A sense of accomplishment

Despite my various disappointments, one positive aspect of managing the editorial office and peer-review process was the ability to streamline procedures, thereby enhancing workflow and the overall peer-review process, and to increase the overall efficiency of the office’s operations. By the time I was finished my improvements, the office was a smoothly greased machine that practically ran itself.

Unfortunately, once the system was in place, the work became monotonous and I could envision the managing editor’s position becoming a part-time or contract job. With the workflow established, the remaining staff could be trained to continue most, if not all, of the work.

Perhaps the best aspect of the whole experience was the information I gained from being a managing editor. I redeveloped the 135-page office guide I’d written for this job into a 212-page textbook on journal management (*The peer-reviewed journal: a comprehensive guide through the editorial process*, Chatgris Press, 2000), complete with electronic copies of the 64 forms, letters, and faxes I’d developed, provided on compact disc. This is one of the only books of its kind, and is now used for periodical management in 12 countries.

The worst part of the job was the lack of opportunity to use my editing and writing skills, since my job focused on administration and enforcement of policies. Medical copy editors and clerical personnel at the publishing house provided all editorial functions for my journal. Other managing editors may actually serve as medical editors, editing scientific manuscripts for style, format, and terminology, as well as compliance with submission guidelines. Once back in the field of technical writing, it was a nice change to be able to rewrite a publication from an engineer or systems analyst’s perspective to make it readable by a less technical audience.

Overall, I appreciated the experience and learned the value of my technical writing background. Often, when looking for jobs, it’s not your titles or responsibilities that stick with interviewers, but rather your skill base. **Ω**

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Editorial (continued from page 2)

If you feel particularly ambitious, go a step further. Contact your local newspaper and persuade them to report more science. Maybe you can earn some extra income doing the reporting! If the newspaper already reports science, encourage the editors to keep up the good work—or take them to task if they blew it. If you’ve got higher ambitions, try the same tricks with local television and radio stations. Lecture your high school’s science class, judge at a science fair, or leave your old issues of *Discover*, *New Scientist*, or *Science News* in hospital waiting rooms and school libraries. Use inspiring quotations from Steven Jay Gould or Richard Feynman as your signature line in

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e-mail discussion groups. Attend a lecture on creation science wearing a gorilla suit and carrying a placard that says “Creation science unfair to pre-humans—apes are people too!”

In short, attract some attention and get the word out that science isn’t just for geeks—that indeed, it’s crucially important for anyone who wants to understand our modern world. It’s surprising how much of a difference just a few eloquent voices can make when they persuade others to listen—those others take up the cause, talk to others still, and the word spreads. On the eve of the new millennium, wouldn’t it be nice to pick a resolution that could change the world for the better? Ω

Gaining respect as an editor—a personal anecdote

By Jean Hollis Weber

Early in my career, I worked in a science laboratory. Part of my job was to edit the scientists’ papers before they were sent to scholarly journals. My boss required everyone else to submit their papers to me for editing, but he never gave any of his own to me. He was, in fact, a very good writer, and also somewhat pedantic about grammar.

One day a few months after I arrived, I was kibbitzing in his secretary’s office and, out of curiosity about his research, I was reading some pages of a manuscript that his secretary was typing. I found an obscure point of grammar—what he had written didn’t agree with the book we were supposed to be following (Fowler’s, I think). I checked the book, saw that I was right (and put a bookmark in the spot), and wrote him a polite note about it, asking whether this was perhaps an oversight on his part. (Never suggest they’re ignorant, only that perhaps this time they accidentally made a mistake; after all, anyone can and everyone does.)

A bit later he came charging into my office, loudly proclaiming that I was an interfering

fool (or some such). I picked up the reference book, opened it to the correct page, and handed it to him. He stomped off with the book, returned a short time later, slammed the book on my desk, and stomped off again. He also changed what he’d written. And every paper he wrote after that came across my desk for editing.

His scientific assistant told me later that I’d done exactly the right thing, and that the boss now respected me and my abilities. He loathed wimps who didn’t stick up for their own professional area of expertise, but just did what they were told, right or wrong.

Of course, a different person might have reacted quite differently. And if I hadn’t had a third party expert to back me up, I might have lost face as well as the argument. Some points of grammar and punctuation are conventions of usage that vary from place to place. In this case, I wasn’t saying “I’m right and you’re wrong”, but rather “you told us to follow Fowler, but you haven’t”. Ω

Jean is the author and publisher of an online newsletter, The Technical Editors’ Eyrice Newsletter. To subscribe, send e-mail to tenews-subscribe@wrevenge.com.au or visit her website (www.wrevenge.com.au).

“Never suggest they’re ignorant, only that perhaps this time they accidentally made a mistake; after all, anyone can and everyone does.”

Plain English in science

By Matthew Stevens

I have had scientists say to me, and I've read it, that they don't have to write in the style we call plain English. They are exempt.

This is, of course, codswallop.

Why should authors worry about plain English in scientific writing? Because they have readers. Unless they are writing solely for themselves, then they must always consider the readers, and it's our job as editors to help them achieve that. It is important to remember that the readership will always include people who are not familiar with the subject area. For a start, even experts in a subject read to learn something new. But more broadly, there are students entering a discipline, researchers in other disciplines, policy makers and interested amateurs. All these people have a right to be able to understand what they need to read.

One of the fundamental features of science is the furtherance of knowledge. Poor writing is an impediment to this. An excellent illustration of this point is a paper by Oswald Avery, Colin MacLeod, and Maclyn McCarty published in 1944 in the *Journal of Experimental Medicine*, which established that DNA was the substance that transmitted genetic information. Although it paved the way for James Watson and Francis Crick's milestone paper in 1953 in *Nature* (171: 737–738) establishing the structure of DNA, it was not widely read or appreciated. Randy Moore has argued that the way it was written was the main reason for this (*Journal of College Science Teaching*, November 1994: 114–121). In comparison with Watson and Crick's paper, it is hesitant, extremely dense, verbose, highly detailed, abstract, impersonal and dull. We've all heard of Watson and Crick. Who has heard of Avery, MacLeod, and McCarty?

The *Journal of Natural Resources and Life Sciences Education* (1993; 22:2, 198–199) expresses this point well:

The author and his or her closest colleagues will be the only people who read a truly murky piece of writing... A truly outstanding piece of writing will be widely read, widely quoted and cited, and will bring great rewards to its writer... The secret of producing an outstanding piece of writing is to always keep the reader in mind. Authors who keep readers in mind convey their information more lucidly than authors who write only for themselves. The scientist who has the attitude, 'Why should I worry about how this is presented; everybody knows what I mean,' is incorrect; everybody does not know.

Unfortunately, much scientific writing obscures the message by using jargon, fancy words, long sentences, flowery prose, convoluted phrases, poor grammar, passive sentence construction, copious abbreviations, unnecessary words, and waffle. As editors, our responsibility to the readers requires us to remove these impediments to clear understanding. Authors will benefit too:

- Ultimately they will save time because journals will ask for fewer corrections.
- They will earn greater respect from their readers if they show that they have taken the trouble to express themselves clearly.
- They will have fewer knockbacks from funding bodies and consequently more funding.
- Their work will be read more widely.
- They will gain a better understanding of their own work. Albert Einstein once said, "If you can't explain it to an eight-year-old, you don't understand it."

As Quintillian, a Roman rhetorician (AD 35–100), wrote, "One should not aim at being possible to understand but at being impossible to misunderstand." Ω

"One of the fundamental features of science is the furtherance of knowledge. Poor writing is an impediment to this."

Join us on STC's Scientific Communication SIG mailing list!

STC runs an Internet-based e-mail discussion group for the Science SIG. It's a quiet, friendly place to turn for help if you've got questions concerning scientific communication. If you'd like to join, point your Web browser to <http://lists.stc.org/cgi-bin/lyris.pl?enter=stcscsig-l>

There's no cost to join, and you can expect a very low volume of mail. Of course, the more people join, the more traffic there'll be, so please join. It's a great way to make the SIG work for you.

Two other mailing lists of interest to Science SIG members:

Copyediting-l: discussions of editing in all its various forms. To subscribe, send the message "subscribe copyediting-l Your name" (with no quotes, and with your actual name instead of "Your name") to Listserv@listserv.indiana.edu

Techwr-l: discussions of the tools and travails of the technical writer. To subscribe, send the message "subscribe techwr-l Your name" (with no quotes, and with your actual name instead of "Your name") to Lyris@lists.raycomm.com

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