

## BOOK REVIEW

Reviews of *Eloquent science: a practical guide to becoming a better writer, speaker and atmospheric scientist*, by David M. Schultz (2009). Boston, MA: American Meteorological Society. 412 pp. ISBN 978-1-878220-91-2. *Presentation skills for scientists*, by Edward Sanders & Lindsay MacLeod (2010). Cambridge: Cambridge University Press. 68 pp. ISBN 978-0-521-74103-3.

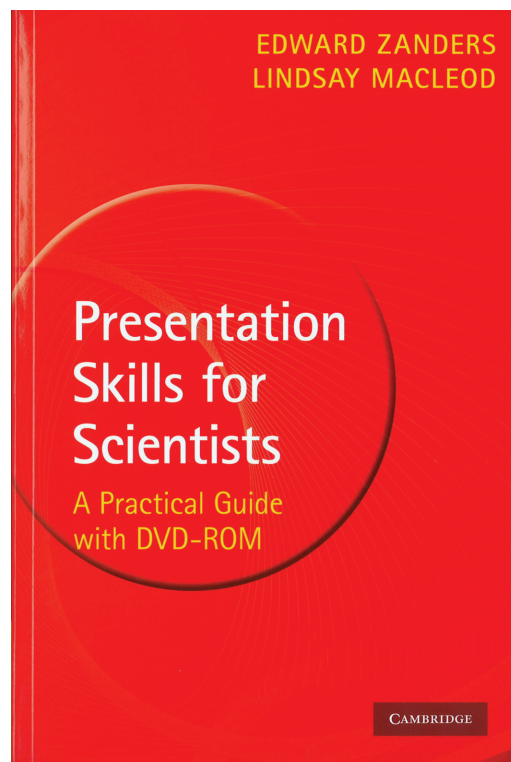
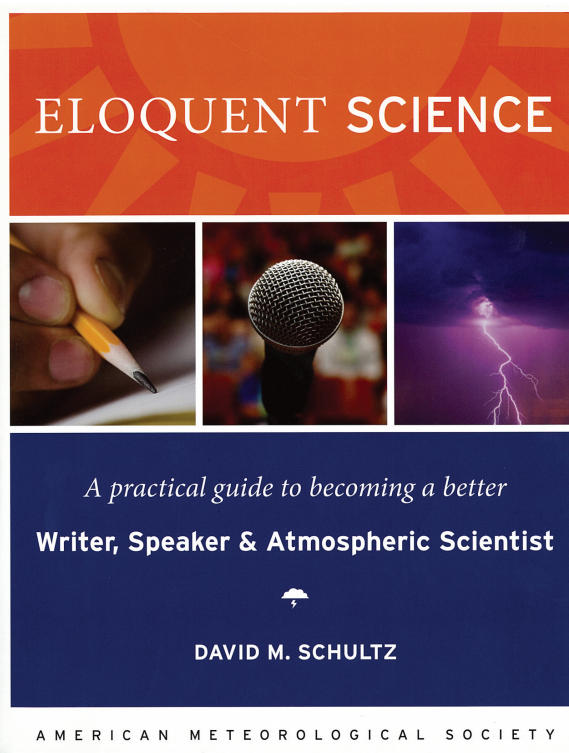
Not an inveterate producer of bad science, mediocre writing or boring presentations, I have nonetheless yet to master all forms of science communication. This review of *Eloquent science* and *Presentation skills for scientists* is written from the point of view of a practicing scientist always interested in building competence rather than any sort of expert on science communication. In fact, at the time of my first reading of *Eloquent science*, I was rewriting a paper that had not, shall we say, passed gracefully through the peer-review process. Schultz's book provided useful guidance that improved the paper at once. While there are plenty of books on communication skills for scientists, there is no doubt many students and professionals would benefit as I have from Schultz's thorough how-to guide to becoming a better communicator of science.

The longer and more comprehensive of the two books reviewed here, *Eloquent science* is exceptional in its focus on the practical aspects of scientific communication in its most common forms. About two-thirds of the book is dedicated to the craft of writing: the structure of a scientific paper; how to make writing accessible; the characteristics of effective words, sentences and paragraphs. The final third deals with scientific presentations including how to deliver a compelling talk or design a potent conference poster. There are also sections that explain how the publishing and peer-review process works, guidance for writing and responding to reviews and communicating with the public and media. The key points of each section are listed in easily referenced sidebars and checklists. The organization of the book is not unlike a shop manual. Need some hints on how to come up with an effective title? There is a chapter for that (and everyone who has considered a 30 word title ending in "part one" should read it).

As for many scientists public speaking is my biggest challenge. Even within the relative collegiality of a

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scientific workshop I am aware of my jittery nerves in the hours and days leading up to an oral presentation. Anxiety can affect even the most experienced scientists though, and the way to minimize it is to take the time to learn the best practices and to be well prepared for the moment. *Presentation skills for scientists* provides basic instructions for preparing and delivering a talk in a concise 68 pages plus an accompanying DVD of examples and skill-building exercises. *Eloquent science* also delivers the fundamentals of oral presentation that everyone should understand: how to use presentation software like PowerPoint effectively, how to engage and provoke an audience and some simple do and don't advice. Do stay within the prescribed time limit. Don't show irrelevant graphics during a talk. Banish the obvious and all too common "Outline of My Talk" slide in favour of conveying the motivation, purpose or goals of the presentation or some unexpected finding. Although the section on oral presentation in *Eloquent science* is essentially the same length as *Presentation skills for scientists*, the former provides the more nuanced treatment of the subject. The DVD supplied with *Presentation skills for scientists* is helpful for the beginner (the bad speaker examples are entertaining if almost too excruciating to watch) but it seems rather old fashioned compared to the companion website for *Eloquent science* (<http://eloquent-science.com>). And Schultz provides one recommendation in this section I really like: oral presentations can be more engaging, provocative and controversial than might be acceptable in a journal format. As Kerry Emanuel writes in a sidebar: "I try to provoke my audience, mostly by going out on limbs that I would never do in writing a professional paper" (p. 262). If this approach is rather rare in reality, it is probably because it requires a certain passion and audacity that may not come naturally to most of us. But Schultz shows there is room to aspire to something more compelling.

Conference posters are also an important topic, particularly for scientists at earlier stages of their careers. This section of *Eloquent science* was the only one that was unsatisfying in the book, though this is not entirely the fault of the author. While poster sessions are supposed to have become a vital part of scientific conferences, they often seem to fall short. This is, first, because the poster format is not suited to the type of content often imposed upon it and, second, poster sessions could be better planned by conference organizers. Schultz recognizes these issues in his plea: "I am convinced that we can change poster sessions to make them the highlight of the conference. Conference organizers would then treat the presentations in the poster session with respect rather than as second-class citizens" (p. 314). Yet, and unlike the rest of

the book, the recommendations and examples do not offer much to advance this ideal. There must be some helpful rules of thumb for poster design, like the 12-slide – 12-minute rule for oral presentations. A sidebar by a graphic designer would be useful too, since many scientists are unfamiliar with the techniques of effective visual communication (including, it seems, with the fact that Comic Sans may be the most hated typeface in the world). These days most scientists have the computer software for creating their own graphics, but this doesn't mean they know how to design good graphs, maps and illustrations.

An emerging subject not addressed in *Eloquent science* is how to communicate well online. Non-traditional online media are increasingly driving public discourse today and in ways that are often challenging to scientists personally and to the scientific enterprise as a trusted broker. The public debate on climate change is the obvious case in point. How to contend with the emerging norms and ethics (or lack thereof) of the online world and still practice and communicate science effectively is a troublesome issue. I think the snarky back-and-forth generally found in online comments is distasteful, but convincing arguments have been made for engagement on every level in this postmodern environment (see, for example, Verosub 2010). Schultz's recommendations on this topic would be a welcome addition to the next edition of *Eloquent science* or on the companion website.

If you need help with the basics of oral presentation then *Presentation skills for scientists* will provide that. However, if you require a deeper reference covering a range of communication issues, then I recommend Schultz's *Eloquent science*. This is an excellent book that deserves a place on the handiest shelf along with the best standard references. But beyond the workaday nuts-and-bolts guidance on how to write and speak effectively is an important message. It can be seen throughout in the active words Schultz uses to describe the attributes of good communication—connect, engage, provoke, entertain. He lays out the problem in the introduction: "The hunt for new knowledge excites us ... But, when we speak or write, we fail to convey our enthusiasm and to personalize our science within a proper context. Purging our personalities from our work sterilizes it. We scientists individually need to find our voices, our creativity, and our originality" (p. xxvii). What he is saying is that a dispassionate analysis does not require a passionless presentation. I agree.

## Reference

Verosub K.L. 2010. Climate science in a postmodern world. *Eos, Transactions of the American Geophysical Union* 91, 291.