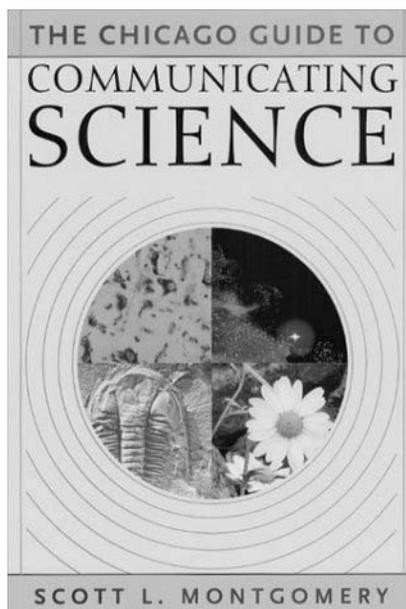


edited by Stephanie Deming and Beth Notzon



THE CHICAGO GUIDE TO COMMUNICATING SCIENCE. SCOTT L MONTGOMERY. CHICAGO: UNIVERSITY OF CHICAGO PRESS; 2003. XI + 228 PAGES. HARDCOVER \$40.00, SOFTCOVER \$15.00. ISBN 0-226-53484-7 (HARDCOVER), 0-226-53485-5 (SOFTCOVER).

The *Chicago Guide to Communicating Science* is written by a scientist for scientists. To understand what kind of book this is, it is first important to understand what it is not. It is not a rulebook. It is not a handbook of grammar or a style manual. This book offers advice to professional scientists on improving their skills in communication—writing first of all.

Author Scott L Montgomery, a consulting geologist and independent scholar, begins by setting out his philosophy and recommended approach, which is centered about the use of models: “Good communicators learn from others, by identifying and studying samples of successful expression in their chosen field.” The next chapter is a historical overview and is followed by a discussion of how scientists might go about choosing, and using, models.

The meat of the book is in Chapters 4 and 5, where Montgomery covers the topics “Writing Well” and “Writing Very Well”. He does this in large part by quoting sentences and paragraphs from published scientific papers, which he dissects to make his points about organization, word choice, transitions, literary style, and so forth. Then he walks the reader through revisions. The excerpts chosen for these exercises are not “awful examples”, in which any change is likely to be an improvement, but credible examples of decent, representative prose.

Later chapters cover the review process and specific types of scientific writing, including research papers, review articles, short communications, commentary, book reviews, and letters. Montgomery discusses in a general way the parts of a scientific paper, but he does not promote the IMRAD (Introduction, Methods, Results, and Discussion) format, pointing out that in many fields—such as geology, mathematics, and physics—that format is seldom followed. He also considers style guides, such as *Scientific Style and Format*,<sup>1</sup> to be “helpful to editors” but of little use to scientist-authors because “standards and conventions vary at every level, among journals within a single field, indeed, even for single periodicals over time.” Instead, he recommends that scientists “take each

journal on its own terms, which means examining closely the articles it publishes and, above all, consulting the ‘instructions to authors’ or ‘suggestions to contributors’ requirements for preparing manuscripts.”

Much science today is written by authors for whom English is a foreign language, and Montgomery offers advice to them as well. In keeping with his approach in other parts of the book, he recommends the use of models: finding examples of good writing in one’s field, making copies and rereading these examples regularly, and practicing writing paragraphs from these examples and similar paragraphs using one’s own or made-up data.

Chapter 9 is devoted to print and presentation graphics; and technical reports, proposals, and other aspects of oral presentation each get a chapter. In Chapter 14, “The Online World”, Montgomery discusses electronic publication and the archiving of preprints, and he does not forget e-mail and newsgroups, pointing out that these, wittingly or unwittingly on the part of their authors, constitute a sort of informal publication. Chapter 15 is on “Dealing with the Press”, and here Montgomery compares the motives and goals of journalists with those of scientists.

The book is rounded out by a bibliography, which includes a fairly complete list of manuals and guides on scientific writing and an index.

Several themes crop up throughout the book. One is that knowing good grammar is not enough and that scientific writing in particular cannot be reduced to a list of rules. Usage, furthermore, is a “slippery subject”: “Authors of technical writing manuals are constantly in riot gear over whether to change ‘prior to’ to ‘before,’ ‘perform’ to ‘do,’ and so forth. Such efforts are largely ineffectual and, worse, irrelevant. In many cases, they represent pet peeves. Indeed, different editors of different journals are likely to have their own, or to abide them to widely differing degrees, so learning them all is a distinct waste of time.”

A second theme is that scientists learn about and judge other scientists’ work by what they, as scientists, write. Therefore,

writing well and, when writing such things as book reviews and critiques, using judgment and constraint are of great importance to a scientist's career.

Finally, and paramount, studying the writing of other scientists is the best way to improve one's own scientific writing. According to Montgomery, many books meant to teach good scientific writing "claim that the literature of science is badly written and desperately in need of emergency care". Montgomery asserts that such claims suggest that scientists cannot rely on their colleagues when it comes to writing and, furthermore, that "nearly all editors are poor at their jobs. Neither of these points is true—nor could they be, unless science were about to disappear from the face of the earth."

Only 228 pages long, this book cannot be called comprehensive, although

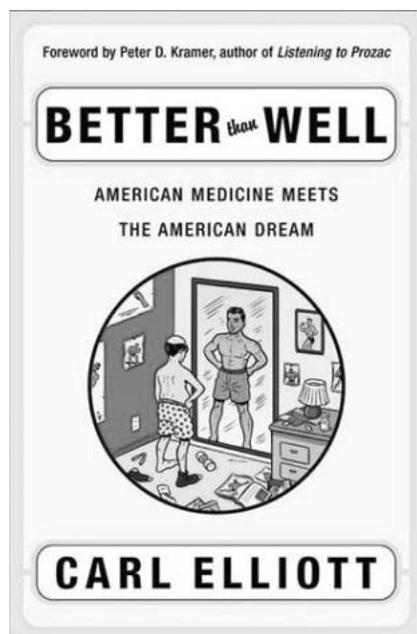
it does touch on most major and many minor modes of scientific communication. It is full, however, of practical advice and realistic and helpful examples, presented with humor and sympathy for the struggling scientist-author. Any scientist looking to improve his or her writing or to gain insights into the different forms of scientific communication would profit from reading this book.

Susan Duhon

## Reference

1. Council of Biology Editors, Style Manual Committee. Scientific style and format: the CBE manual for authors, editors, and publishers. 6th edition. Cambridge: Cambridge University Press; 1994.

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**BETTER THAN WELL: AMERICAN MEDICINE MEETS THE AMERICAN DREAM. CARL ELLIOTT. NEW YORK: W W NORTON & COMPANY; 2003. 320 PAGES. HARDCOVER \$26.95. ISBN 0-393-05201-X.**

If the American dream is self-fulfillment, then the means to achieve it, increasingly, is enhancement technologies. In *Better Than Well: American Medicine Meets the American Dream*, author Carl Elliott states that enhancement technologies "designate a variety of drugs and procedures that are employed by doctors not just to control illness, but also to improve human capacities or characteristics." These technologies include such cosmetic procedures as Botox injections and liposuction, such psychotropic drugs as Prozac, and such medications as Ritalin, treatments that are generally considered beneficial. But the book also discusses controversial alterations that are more difficult for people other than the recipient to understand, such as sex-reassignment surgery and voluntary amputation of limbs.

Elliott's major hypothesis is that people who undergo enhancement procedures or use enhancing drugs are trying to find their "authentic self". He proposes that they feel "like themselves" only after they have undergone the modification. Another reason for enhancements, he believes, is to gain the approval of society at large.

It is hard to summarize neatly the contents of each chapter. Readers might expect each

section to treat an individual enhancement technology and related issues. Instead, Elliott introduces an aspect of identity and then discusses research studies, anecdotes, and other issues in a veritable smorgasbord. One example of Elliott's engrossing yet ambling style is an early chapter vaguely titled "The True Self"; it discusses sex-reassignment surgery, body-building, Cary Grant's use of LSD, and Prozac, as well as historical, philosophical, and literary origins of the definition of the self. A chapter on enhancements for children explores Victorian attitudes toward youth, growth hormone, cochlear implants, Chinese foot-binding, Ritalin for attention-deficit/hyperactivity disorder, Margaret Mead's studies in Bali, and American and German fairy tales. Elliott includes many more examples of enhancements and fascinating digressions (including, improbably, such cultural phenomena as the Mall of America). In some cases, the connection between such diverse topics and enhancement technologies is not clear, but the juxtaposition is always interesting.

Elliott analyzes why the United States, in particular, has seen an explosive growth in enhancements over the last decade (for example, the United States uses 90% of the

world's Ritalin, and breast augmentation and liposuction have increased by 300%-400%). Contributing factors, he believes, are historical (for example, the growth of the suburban middle class), technologic (for example, television and the Internet), religious (focus on the self instead of God and community), medical (for example, "medicalization" of such personality traits as shyness, blurring of the line between enhancement and treatment, and pharmaceutical marketing), and cultural (individualism, self-consciousness, boredom, racial-ethnic and sexist ideals of beauty, and desire to give children a leg up on the competition).

Elliot believes that people are uncomfortable with enhancement technologies because they feel that using them is like cheating at life. Those who desire the improvements invoke the pursuit of the "authentic self" because "it is a way of justifying [enhancement technologies] to yourself, countering the imagined criticism that they represent a kind of phoniness, narcissism, or status-seeking. No, they are none of these, you say; it was only when I got the face-lift, started on steroids, got a sex-change operation, that I really felt like myself." He proposes that unfair and unrealistic social expectations (for example, women must be thin) drive people toward enhancements and that undergoing them merely reinforces those attitudes and the public's desire for self-modification. In extreme cases, body modification is an inexplicable obsession: some people with apotemnophilia (the desire for amputation) are so desperate that they attempt their own operations.

Elliott fails to mention some obvious objections to enhancement technologies. He observes that "American bioethicists generally frame dilemmas in terms of the autonomy of patients." Yet surely one must consider the ethical issue of redistribution

of health-care resources from the medically underserved to the dissatisfied well. There is little discussion of the public's point of view, as opposed to the individual's rights. Should society have to pay for the disability benefits of a voluntary amputee? Does having a procedure for personal enhancement guarantee long-term satisfaction or merely escalate the quest for improvements? Can one truly believe that face-lifts and amputations are "tools for working on the soul"?

Although the book's title suggests a focus on medicine, Elliott is a professor of bioethics and philosophy. He is just as likely to quote Wittgenstein and Kierkegaard as to mention the *Diagnostic and Statistical Manual of Mental Disorders*. He draws on research studies but also finds parallels in Tocqueville's *Democracy in America*, Veblen's *The Theory of the Leisure Class*, his own experience, and numerous novels and films, including *The Wizard of Oz*. The book includes a fairly extensive notes section and a useful index.

*Better Than Well* could have benefited from a more careful editor or a medical editor. Some readers may object to the rambling style, yet others will find the textual pastiche highly readable. It was distressing, however, in a book about medical enhancements, to detect the misspelling of amitriptyline several times as "amytriptaline" and a few other typographic errors.

Nevertheless, this amalgam of medicine, history, philosophy, anthropology, psychology, sociology, and other disciplines is an engrossing exposé of the current obsession with self-improvement. It does not offer any answers, but the questions themselves are important and the discussion is fascinating.

**Laura J Ninger**

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