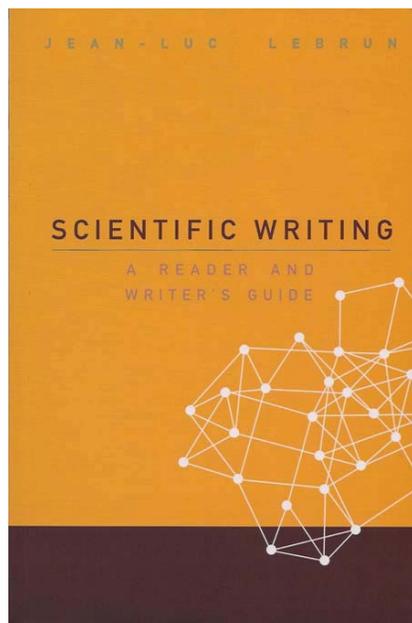


edited by Susan M Shirley



SCIENTIFIC WRITING: A READER AND WRITER'S GUIDE. JEAN-LUC LEBRUN. SINGAPORE: WORLD SCIENTIFIC PUBLISHING; 2008. 210 PAGES. PAPERBACK \$39.00. ISBN-13: 978-981-270-144-2.

When I first read the familiar-sounding title of this book, I asked myself, Does this book offer anything new or different from the dozens of other scientific-writing guides on the market today? Indeed, it does. The author goes beyond the usual themes of grammar and style in *Scientific Writing* to focus on people who read scientific articles. By improving scientific writing, Lebrun aims to reduce the “knowledge gap” between the author of a scientific article and its readers and to reduce the time, energy, and effort it takes to read an article. The readers he addresses might be experts in the same or a related discipline as the author or scientists in other fields of study who read in search of a new technique or approach with application to their own research. Regardless of their experience, Lebrun says, “What readers fear the most when reading a scientific paper is to get stuck or left behind.”

Scientific Writing has two parts. Part I, “The Reading Toolkit”, presents skills that can “minimize the time, memory, and energy needed for reading, while keeping reader attention and motivation high.” Part II, “Paper Structure and Purpose”, describes readers’ expectations of each section of a journal article from the title and abstract to the conclusion. When a writer fails to satisfy their expectations fully, readers become frustrated.

Lebrun suggests remedies to common pitfalls in otherwise technically correct writing that can confuse and fatigue readers and result in misunderstanding. For example, acronyms, pronouns, and synonyms can tax a reader’s short-term memory, which might be as brief as 30 words in reading a technical article. Lebrun shows how specialized uses of grammar, syntax, punctuation, and words to “create and control pull, progression, and expectations” can guide readers. New information often appears at the end of a sentence in scientific writing. Readers need motivation to pull them forward to that new information. Introductory subordinate clauses, particularly ones that begin with words like *although* or *because*, create expectation and suspense that is resolved in the main clause

that follows and that contains the new information. That expectation is the pull or momentum that retains readers’ interest and moves them forward through the text.

In his chapter on controlling reading-energy expenditure, the author defines “total reading energy” as the sum of “syntactic energy” and “semantic energy”. Readers expend more syntactic energy when they encounter unclear or imprecise text and when they encounter mistakes in spelling and grammar. Readers expend more semantic energy when they stumble over unknown terms, lack of context to convey meaning, and abstract sentences. Several tools are offered to help science writers to reduce reading-energy expenditure and thus help readers finish the article with an accurate understanding of its contribution.

The second part of the book examines sections of scientific articles and the role of each section as viewed by the writer and the reader. The author humorously endows each section with an anatomic equivalent to explain its role: the title is the face of the paper, the abstract is the heart, the introduction is the hands, the headings and subheadings are the skeleton, the visuals (figures, diagrams, photos, and tables) are the voice, and the conclusion is the smile. Methods, results, and discussion sections are not covered, because a reader skimming an article to determine whether the whole article is worth reading might skip them.

In the chapters on titles and headings, Lebrun offers suggestions for improving titles and selecting keywords. He demonstrates how specific keywords in a title lose clarity when they are buried in a long phrase that contains a noun and modifiers, and he suggests ways to select keywords to increase the number of times that an article is cited. Evaluating keyword levels (general, intermediate, or specific) and choosing words from different levels can prevent a title from being too general and missed by experts in the field or too specific and beyond the scope of potential readers who might not be experts.

Title keywords, when repeated in headings and subheadings, are familiar words

that help guide readers through the article. Throughout Part II, the author discusses the juxtaposition of the contribution (the new finding in the article) with the background (its context). Diagramming headings and subheadings and categorizing the text that follows each heading as either contribution or background can help in evaluating the balance of an article.

The purposes of abstracts, introductions, and conclusions and how they differ from each other are explained in later chapters. Although this subject is often covered in scientific-writing guides, Lebrun's explanations are well developed and focus on what readers expect to gain from each section instead of what the writer should include in each section.

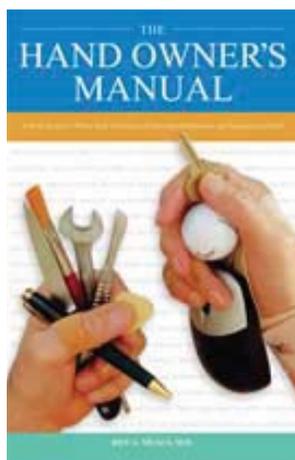
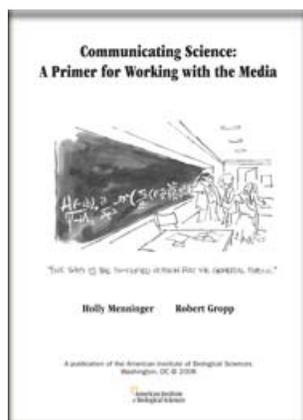
Scientific Writing is a fresh look at the scientific article for writers whose success might depend on their readers. The author illustrates his points with ample short

stories, examples, quizzes, and diagrams. Instead of an alphabetic index, topics are indexed under such headings as "Author behaviour", "Reader behaviour", "Clear", "Convincing", and "Uninterrupted and fluid". This book is a good resource for writers, both beginning and experienced, and for teachers of scientific writing and editing. The methods for evaluating the structure, movement, and continuity of a paper from the perspective of the reader are valuable for writers, peer reviewers, and editors. And last but not least, this book might help editors avoid unintentionally creating obstacles for readers through common editing practices.

Susan M Shirley

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Book Notes



COMMUNICATING SCIENCE: A PRIMER FOR WORKING WITH THE MEDIA. HOLLY MENNINGER AND ROBERT GROPP. WASHINGTON, DC: AMERICAN INSTITUTE OF BIOLOGICAL SCIENCES; 2008. 54 PAGES. PAPERBACK \$12.95. ISBN-13: 978-0-936829-03-6.

Over the decades, a variety of scientific associations and others have issued brief guides to working with the popular media. The current guide presents many of the same basic points as earlier such works but includes some distinctive content. It begins by stating reasons to talk with journalists, offers insights into how the mass media function, suggests ways to engage in media outreach, presents advice for being interviewed, and identifies pitfalls to avoid. Some of the relatively new guidance regards communication technologies; for example, the authors recommend maintaining an up-to-date Web site about one's research, and they state that for telephone interviews one should "participate from a land-line telephone rather than a cordless or cell phone." Other distinctive features of the book include sidebars in which scientists comment on topics that the book addresses, a log for recording and reflecting on media contacts, and a section for listing potential media contacts. Perhaps especially helpful is a list of items to consider before an interview: the overarching message to convey, two or three key ideas that support the message, possible transitions between the ideas, acronyms or scientific terms needing definition or explanation, useful analogies, "possible props, organisms, or images to use", and "anticipated difficult questions (and answers)". Science editors working with authors of potentially newsworthy publications may find it useful to share this brief book or some of the guidance in it.

Barbara Gastel

THE HAND OWNER'S MANUAL: A HAND SURGEON'S THIRTY-YEAR COLLECTION OF IMPORTANT INFORMATION AND FASCINATING FACTS. ROY A MEALS. COLLEGE STATION, TX: VIRTUALBOOKWORM.COM; 2008. 211 PAGES. PAPERBACK \$14.95. ISBN-13: 978-1-60264-266-9.

Enthusiasm, the literature indicates, tends to characterize highly regarded teachers, regardless of subject matter or style. Such enthusiasm also characterizes this book by hand surgeon Roy A Meals, long a deputy editor of the *Journal of Hand Surgery*. Meals clearly is enamored of hands and takes great joy in sharing much of what he has learned over the years about their medical and other aspects. His care for the subject is apparent in the attention that he devotes to presenting his subject accessibly. It also is clear from his inclusion of many and varied illustrations—both whimsical and semitechnical drawings by his son, photos of artwork portraying hands, reproductions of postage stamps containing depictions of hands, and more. For many of us, probably the most useful sections of the book are those on protecting one's hands during various activities. Among other topics addressed are the evolution and embryology of the hand, common hand disorders, use of hands to speak sign language and read Braille, hand-reconstruction surgery, portrayal of hands on coins and bank notes, and hands in popular culture. The book even includes a 600-word tale in which Meals incorporates some 81 hand-related expressions—a feat likely to elicit groans of admiration from fans of word play. As an editor, I have long valued my hands. Having read this book, I have a new appreciation of the subject.

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