

Suggested reading

The following are synopses of recent books that should be of interest to readers of the *IBM Systems Journal* and others who are planning to write in the technical fields. Inquiries should be directed to the publishers cited.

Writing in the Technical Fields: A Step-by-Step Guide for Engineers, Scientists, and Technicians, Mike Markel, IEEE Press, Piscataway, New Jersey, 1994. 276 pp. (ISBN 0-87942-283-1). A reading of this book is a good place for a new author to begin in order to practice the art of technical writing in the workplace. The reading experience is like a class with an experienced teacher who expresses a balance of direction, encouragement, wisdom, informality, and good humor. Covered are the "musts" that every author must heed: the writing of better paragraphs and sentences and the choice of the right word. The new author is urged to state in one sentence exactly what he or she wants to say in each piece of writing. The author shows how to do it. Illustrated are the principles of organizing information in several ways through the use of outlines. Two items of gentle admonition are given: Write the draft quickly, and spend your time revising. The new writer is introduced to the use of the computer to improve the writing process and the final result. The creation and integration of graphics via desktop publishing are discussed. Also presented is the topic of page layout and design. Chapters are devoted to specific kinds of writing: letters, memos, minutes, procedures and manuals, formal reports, proposals, progress reports, and completion reports. An appendix summarizes the fundamentals of mechanics of style. Another lists a number of commonly misused words and phrases. Guidelines on English as a second language are given for speakers and writers. The author has written a very comprehensive introduction to technical writing.

How to Write and Publish a Scientific Paper, 4th Edition, Robert A. Day, Oryx Press, Phoenix, Arizona, 1994. 223 pp. (ISBN 0-89774-865-4). The purpose of this book, according to the author's Preface, is to help scientists and students of the sciences in all disciplines prepare manuscripts that will have a high probability of being accepted for publication and of being completely understood when they are published. The author's style is easy-going with occasional touches of humor. The reader is introduced to IMRAD. This mnemonic sums up the author's writing method: Introduction, Methods, Results, and Discussion. IMRAD is based on the following logic: What question (problem) was studied? The answer is the Introduction. How was the problem studied? The answer is the Method. What were the findings? The answer is the Results. What do the findings mean? The answer is the Discussion. (By the way, most of the author's examples are in the field of

biology, which is his field of editorial experience.) There are 24 how-to chapters, each of which summarizes a vast amount of experience. A sampling of the how-to summaries cover the following: titles, listing authors and addresses, abstracts, introduction, materials and methods, results, discussion, acknowledgments, references, tables, editors, proofs, and reprints. There are others, but the scope is clear. There is also a series of chapters on specific writing applications such as the review paper, conference report, book review, thesis, and oral presentation, as well as others. Also discussed are the use and misuse of English, avoidance of jargon, and abbreviations. The author gives a rationale for insisting that all persons who write for publication maintain high standards. "Having spent the proverbial 'more years than I care to remember' working with a great many editors, I am totally convinced that, were it not for the gatekeeper role so valiantly maintained by editors, our scientific journals would soon be reduced to unintelligible gibberish."

How to Write and Publish Engineering Papers and Reports, 3rd Edition, Herbert B. Michaelson, Oryx Press, Phoenix, Arizona, 1990. 221 pp. (ISBN 0-89774-650-3). The author emphasizes high quality in the writing of engineering papers and reports and preaches quality in every phase of writing he discusses. He also makes clear the necessity to publish the results of each engineering project; the project is not complete until the results have been published. These results do not speak for themselves in the form of data collected in notebooks, for example, but must be given voice by the engineer author. Another essential discussed is the matching of the author's objectives with reader interest. To ease the problem of finding a large block of time at the end of a project in which to write a final report or publication, the author introduces a method he calls the "incremental method." Instead of writing when a project is complete, the author encourages writing as the project progresses. This procedure may add value to the project itself, because the act of thinking through each phase may suggest new facets or mistakes while there is still time to do something about them. For this, the fourth edition, the author has added four new chapters: desktop publishing; multiple-author collaboration over a computer network; constructing an internal proposal; and avoiding the pitfalls that haunt indifferent or uninformed authors. This book itself stands as a good example of quality writing and formatting. It is also an excellent example of the effective use of figures, tables, and headings to achieve emphasis and to convey information most effectively. The author's presentation is an example of quality writing for new authors to emulate.

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Effective Writing for Engineers, Managers, Scientists, 2nd Edition, H. J. Tichy with Sylvia Fourdrinier, John Wiley & Sons, Inc., New York, 1988. 580 pp. (ISBN 0-471-80708-7).

This second edition is a greatly expanded and enriched exposition on writing that goes beyond the scope of the original edition. The many examples make interesting as well as instructive reading. The authors are very sympathetic to the plight of the reader facing a blank sheet of paper. They ease the reader away from the curb with a short, helpful chapter on starting and stalling. All authors on the subject of technical writing advise the reader to make revisions. These authors discuss making five separate revisions: for content, for clarity, for correctness, for brevity, and for style. They discuss the characteristics, advantages, and disadvantages of several organizational structures. They describe and illustrate a number of types of outlines. There are 101 pages devoted to types of beginnings. The reader should be able to find one that can be adapted so as to start in just the right way. Much attention is paid to grammar, usage, and punctuation. The reason is not for us to become enthralled by rules, but to ease the reader's understanding. The aim of clarity is for the writer and the printed page to become almost invisible; it is the ideas that should stand out clearly. Later chapters say a great deal about style, structure, variety, and the many devices that make a written work interesting and hold the reader's interest as well as logically navigate the depths and shoals of the subject. Several writing tasks often given minimal consideration are treated here with necessary detail: memorandums, letters, instructions, minutes, news releases, and résumés. Instruction manuals are treated briefly. There are chapters on a number of practical matters that every professional must be aware of—such things as title page, copyright page, acknowledgments, and, of course, supervisors and editors. Ninety pages are devoted to problem words and phrases. As interesting as the authors are, their information is so densely packed that a reader might have difficulty in locating a needed item. Another revision could benefit by extensive reformatting and reindexing. Overall, this book exemplifies and aids in achieving the purpose for which it was written—effective writing for engineers, managers, and scientists.

Writing for Your Peers: The Primary Journal Paper,

Sylvester P. Carter, Praeger Publishers, Division of Greenwood Press, Inc., Westport, Connecticut, 1987. 129 pp. (ISBN 0-275-92229-4). This book by the late author is a beautifully written essay on the writing of original scientific and engineering research for publication in the primary journals of the fields of research. Thus it is neither a how-to-do-it book nor one for the indifferent writer. Of course, everyone appreciates concrete guidance. This is given in three appendices that form a self-critique for the author and a guide to good structure and content. The body of the book is a series of insightful essays on excellence in writing and on publication of quality manuscripts in primary journals. The overall structure consists of the following major headings: The Journal Paper; The Introduction; Theoretical Material; Experimental Material; Openings and Closings; and Taking and Giving Credit. Within each of these topics are many mini-essays. Thus an author when designing figures, for example, might look up material under the headings for *figures* and *figure captions* and read useful discussions on these topics. As one progresses from outline to peer review, a perusal of Sy Carter's thoughts on each stage of the writing process can be a valuable aid in deciding how one wants to go about each particular phase. The book itself stands as an example of excel-

lence in writing. It is a thin volume, which one hopes to see in the fullness of time beside "the little book" by Strunk and White.

George C. Stierhoff
Cross Junction
Virginia

Note—The books discussed are those the Editor thinks might be of interest to our readers. The opinions expressed are those of the reviewer.