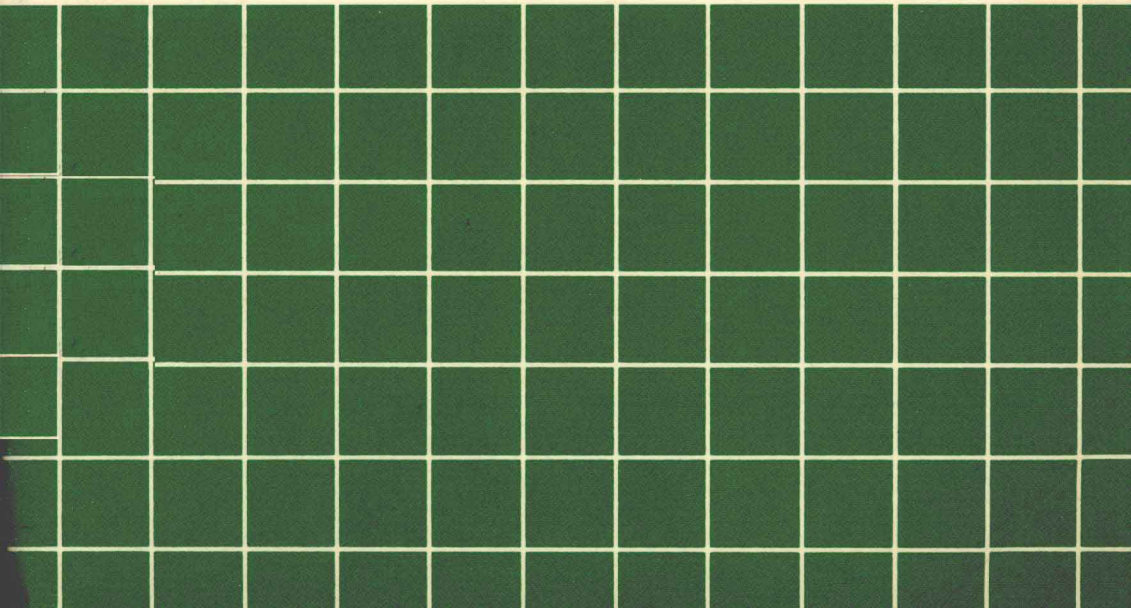
Kenneth W. Houp
Thomas E. Pearsall

REPORTING TECHNICAL INFORMATION

Fifth Edition



Reporting Technical Information

TH EDITION

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Preface

In the 1970s, the teaching of technical writing grew rapidly and steadily. Although exact figures are difficult to obtain, approximations based on the sale of textbooks in the field indicate that the number of students per year taking technical writing has jumped from about 25,000 in 1968 to over a quarter million in 1982. Another indicator is the growth of the Association of Teachers of Technical Writing from a nucleus of ten charter members in 1972 to an organization with over a thousand members. Currently, five summer workshops in technical writing enroll over 150 students a year. Ten years ago such workshops did not even exist. Numerous panel discussions about technical writing are now regular features at national meetings of English teachers. Why has this discipline come so far so fast?

We suggest that one answer lies in the nature of technical writing itself. If there is one thing that all technical writing practitioners and teachers can agree upon, it is that technical writing makes things happen. As Professor Thomas L. Warren puts it, "The purpose of any piece of technical writing is to inform so that the reader can act. . . ."[1] Certainly, there is a sense of both practicality and power in technical writing. Technical writing is practical because it is situational. It addresses itself to a particular purpose and audience. Technical writing is powerful because it makes things happen. Without manuals, plans, and instructions, our machines, factories, and ships would not get built. Without the instructions that come with a computer, it would be a collection of worthless boxes. Old scientific theories fall

before newly published scientific theories. If our energy crisis and economic and environmental problems are one day resolved, it will be because the solutions were set down in technical writing. Students and teachers alike enjoy the power and technical writing's rational practicality.

Teachers and students alike see technical writing courses as being worthwhile because—like tennis and unlike football—they have a high carry-over value beyond the college days. A survey conducted by Professor Richard M. Davis among persons listed in *Engineers of Distinction* led him to the following facts and conclusions:

- The respondents spent an average of 24.35 percent of their time writing.
- The respondents spent 31 percent of their time working with other people's written materials.
- Most of the respondents felt that the ability to write effectively is either very important or of critical importance to them.
- Almost all reported that as their responsibility increased, so did their need to write.
- Almost all felt that the ability to write well had contributed to their advancement.
- In advancing subordinates, almost all considered their writing ability.[2]

Information from other fields, such as agriculture and business, provides similar direct evidence: graduates need to be able to communicate effectively with workers, supervisors, and the general public. Other evidence, more indirect but perhaps even more powerful, supports the need for good writing skills. Everywhere we turn these days, articles and ads proclaim we are entering "The Information Age." Is this merely hyperbole to sell us word processors and communication equipment, or are those of us in the developed countries truly entering an age in which information will be our major product? Evidence seems to indicate that we are, indeed, entering something very like an "information age."

In a recent talk, John Naisbitt, publisher of *Trend Report* and a perceptive observer of changes in society, stated that the developed countries are rapidly shifting "from a mass industrial society to an information society." In Naisbitt's words, "The final impact will be more profound than the 19th century shift from an agricultural to an industrial society." Naisbitt points out that in 1950, 65 percent of the work force of the United States was in industry; now that figure stands at 30 percent. In 1950, the proportion of people in information occupations was 17 percent; today the proportion is over 55 percent. Naisbitt defines information occupations as "those involved in the creating, processing, and distribution of information. . . ."[3]

Much supports Naisbitt's position. For example, the major resource for the entrepreneur in the past has been capital. Now it

may be knowledge and data. Small firms are springing up all around us, many based on some form of microcomputer technology, itself a part of the information explosion. These small firms have as their major resource not money but rather the information in the heads of the young people who founded them. Because information about new technology has become so vital, a lack of information can be as harmful as a lack of machine tools. Recently a computer firm near one of us halted production on one of its new models because the needed user information for it had not yet been produced.

The growth in the numbers of students in our technical writing classes, then, would seem to be a sign of the times. We are filling a need that profound changes in our society are bringing about. As more and more people had technical information that they had to report, technical writing classes began to attract students from many disciplines—agriculture, business administration, economics, forestry, medical technology, pyschology—to join the engineers who once were the primary audience. With this change in the student body came a change in the teaching of technical writing. Once it had heavily depended on teaching from models of existing reports, primarily engineering reports. But the new student body, representing many disciplines with many models to choose from, caused the teachers of technical writing to look beyond the models for the process that produced the models.

We are happy to say that we anticipated this change in our 1972 second edition with our Part 1 "Process of Technical Reporting" and our introduction of audience analysis as part of the process. The models were by no means disregarded. They remained in a section called "Applications." However, in that section in the second edition, and now in this fifth edition, we used applications such as correspondence, instructions, proposals, and feasibility reports that seemed common to all the disciplines present in our classes. We want the readers of this book to understand the process that underlies good report writing, but we also want them to know that there are models that can be useful to them. Writers have always used models, whether the models are sonnets, heroic couplets, three-act plays, or well-constructed feasibility reports.

Our continuing interest in process has led in this edition to a new chapter called "Getting Started" (Chapter 2) that deals with the beginning of the process—that rather terrifying moment when the writer is trying to get from nowhere to somewhere. We show the writer how not only must topic be considered but audience, purpose, and writer's role as well. With these as the building blocks, we take the writer in later chapters through audience analysis, gathering and checking information, organizing, and writing and revising the report. We make it clear many times, through statement and exam-

ples, that the writing process is a back-and-forth process. Although the end result may be a piece of writing with a hierarchy of information that can be read in a linear fashion, the actual process is more like the putting together of a jigsaw puzzle. The parts are fitted together in little chunks here and there until finally, after a good deal of trial and error, a total picture falls into place. In other words, we introduce the reader to the world of the real writer who knows all too well that ideas do not usually come in a well-ordered 1–2–3 fashion.

What, then, will the reader find in this 5th edition?

Part 1, "Process of Technical Reporting," covers the basic process from getting started to organizing, writing, and revising the report. Interspersed with the process chapters are chapters on the report writer's tools such as the library, the rhetorical modes, graphics, and such formal elements of reports as abstracts, introductions, conclusions, tables of content, and headings.

Part 2, "Applications," covers advanced and extended applications of the basic principles. Here we show how to write correspondence, proposals, progress reports, feasibility reports, and the like.

Part 3, "Handbook," provides a ready reference when questions of grammatical usage, punctuation, and mechanics arise.

The appendixes include an extended student report, additional guides to library research and computerized information retrieval, and a bibliography of books that can lead the writer to other books about the many subjects we cover in this book.

What other changes have we made for this 5th edition?

- We have unified examples when this seemed to be a change that would aid the learning process. For example, we have created a new, contemporary, and, we hope, lively and realistic example for a report project that runs through both Chapter 2, "Getting Started" and Chapter 5, "Gathering and Checking Information." By using the same example we show how a report can grow from a small idea, barely conceived, to a fully grown body of material ready to be organized and written. In a similar way, we carry one project through Chapters 15, "Proposals," 16, "Progress Reports," and 17, "Feasibility Reports." Again, the reader should be able to see how the report grows from the original concept to the finished product.
- Our Chapter 9, "Achieving a Clear Style," has benefitted greatly from the significant research being carried on by Dr. Janice Redish and her colleagues at the American Institutes for Research in Washington, D.C. Their work has caused us in some matters to modify our views and in others to state previous positions even more strongly. In any case, as such research continues, we can all be a bit more confident about what makes one report more readable than another.
- We have combined two chapters, "Prose Elements" and "Mechanical Elements" into one, Chapter 11, "Formal Elements of Reports." By so doing, we can treat the elements in the order in which they appear in a

report without regard for whether they are a prose element such as an introduction or a mechanical element such as a table of contents. We think the information will be more useful in this form. Also, we have covered more thoroughly than ever the reasons underlying the use of a format. In both Chapter 8, "Organizing Your Report," and Chapter 11, we emphasize the importance of using a format that allows for selective reading of a report.

- We have revised Chapter 15, "Proposals," to make it more useful for the student. We have added examples of student-sized proposals and proposals for reports that should be useful in the classroom.
- Our 4th edition chapter on "Physical Research Reports" is completely updated. Because the changes made should make the chapter useful to writers in the social sciences as well as the physical sciences, we have changed the name of the chapter to "Empirical Research Reports."
- The University of Chicago Press style manual continues to be our guide. Consequently, we have modified slightly our own documentation practices and our instruction on documentation to conform to the 13th edition of this fine book, now called *The Chicago Manual of Style.* Also, we have pulled footnotes out of our chapters and gathered them all together in "Chapter Notes" on pages 527–533. We hope we have accomplished two things with this change: cleaned up the format of our pages and provided many note examples in one place for the student.

In addition, we have made numerous smaller changes. We have refreshed the book with many new examples. We now offer more in-depth explanations of certain writing practices, such as how to construct a report title and how to use tense properly in an empirical research report. Those of you who have used this book over the years know our touchstone, expressed in every preface, that all writing is subject to infinite improvement. We truly believe that statement about our own writing and welcome the opportunity that each new edition offers for improvement. However, in researching for this 5th edition, we came across a short passage that we feel perhaps cannot be improved. Its three short imperatives express the philosophy of this book and we would like to leave them with you:

1. Know your reader
2. Know your objective
3. Be simple, direct, and concise[4]

We acknowledge all the many sources we have drawn upon in writing this 5th edition. Detailed acknowledgments can be found in "Chapter Notes." However, we acknowledge here a number of people who have been particularly helpful. We are grateful to those reviewers who have read earlier editions of this book and this edition in manuscript and provided insights and suggestions for improvement, including Paul Anderson, Miami University; Carol M. Barnum, Southern Technical Institute; Virginia Book, University of Nebraska; C. William Brewer, Texas Tech University; Russell Briggs, Kalama-

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We thank our many friends in the business world and the Society for Technical Communication, in particular, J. Paul Blakely, Oak Ridge National Laboratory; Mary Fran Buehler, Jet Propulsion Laboratory, California Institute of Technology; Karen Bunting, The Trane Company; Gerald Cohen, IBM; James M. Lufkin and Cindy Urman, Honeywell; and Charles R. Pearsall, Deere and Company, who sent us example materials.

Donald J. Barrett, Chief Reference Librarian, United States Air Force Academy, has once again revised Appendix B, "Technical Reference Guides" for us, and Professor James Connolly, University of Minnesota, has again contributed the section on visuals found in Chapter 19, "Oral Reports and Group Conferences." For that we thank them deeply.

Finally we express our love and gratitude to our wives Lois and Anne who are as much a part of this book as we are.

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