

PREFACE

What this book is not:

- A primer for Miss Thistlebottom's 8th-grade grammar class
- A textbook on technical writing
- A protracted whine about how engineers don't write good

What this book is:

- An overview of some useful principles—what works and what doesn't—in engineering documentation
- A guide to the whole process of preparing, producing, and distributing engineering documents with state-of-the-art technology
- A reference for problem-solving and decision-making

It's a handbook, conceived and arranged as an analog to other handbooks that engineers use regularly in their work. With a handbook, the user can check basic facts and find the answers to specific questions quickly, easily, and authoritatively. A handbook won't teach an engineer how to build a bridge, but it will provide the necessary data—for instance, about material properties—that a competent bridge builder needs.

If we are to build bridges between our work and those who have an interest in it—organizationally, commercially, contractually—we need to know the properties of the components we will use and how they fit together most effectively. We need to know some basic design principles, and we need to know how to get the product on the street. This involves more than writing.

Writing is only, in the bridge-building task, pouring concrete. A lot of work must happen before and after the bridge surface is laid. More and more, engineers are being asked to take responsibility for these pre- and postwriting duties.

At our computer screens, we can work up outlines, compose text, design formats, add graphics, and build complete books on line. We wear the hats of typist, editor, proofreader, artist, graphic designer, compositor, pasteup person, and—often—printer. We are becoming publishers, self-publishers.

We are being asked not only to do more, but to do it better. We are being asked to pay increased attention to quality, especially in terms of meeting the needs of the customer. Most of us have grown up, professionally, just talking to one another. Our primary communication targets have been those with similar backgrounds and information needs. This is no longer the case; we are now, in many cases, interacting with diverse groups, with in fact society at large.

There's no reason why we can't do all these things. The problem is that we haven't been prepared to do them. The standard engineering curriculum allows little or no time for substantive instruction in writing discourse, and none for document design and production.

We all just do our best. When we have a question, we tend to ask the person in the next cubicle. "Hey, is there a hyphen in shutdown?" Or we don't ask, and take a chance that our choice of word, document structure, and format will communicate effectively.

We often use similar techniques . . . ask-a-buddy or trial-and-error . . . when setting up communications functions on the computer: in connecting the modem and choosing dialing strings, baud rates, bits, and parity. Try COM1; if that doesn't work, try COM2. Punch in parameters that may be right, and see what happens. When we make the wrong choice, we don't even connect, let alone transmit the message. But we can try again.

Sometimes our documentation technique transmits; sometimes it doesn't. The problem in this case is that, when the transmission has failed, we probably won't get an ERROR message and an opportunity to RETRY. The consequences can be serious:

- Users who can't understand the manual will ignore it; the consequence can be a serious accident.
- Managers who can't find their way through reports will pitch them; the consequence may be reduced funding, lack of organizational support, a bad performance review for the writer.
- Customers who don't receive our proposals on time will not be customers any longer.
- Citizens' groups who don't comprehend what we are doing will write to their legislators, and we all know the consequences of that.

We can't afford to fail.

And we don't have to. We have the information, and the intelligence, and the tools to build whatever bridges are required of us. We need

only to see bridge-building as an engineering process, and bring our engineering skills to work on it.

Document preparation is a process, and this book provides a broad look at the process from start to finish. Document preparation is also a series of decision-making events. We make big decisions, for instance: What goes into this document? How long should it be? What should it look like? This book furnishes guidelines for such decisions. And we make little (but still important) decisions, like where to put commas and how to overcome the *he or she* hangup. Thus the book has been organized to provide quick answers in these areas. In between there are questions of usage, formatting, and document production, all of which are covered herein.

This is a book for professionals. It acknowledges the reader's expertise, it assumes the reader's interest, it enhances (rather than creates) the reader's skill base. Examples, diagrams, and definitions are provided, as well as tables of job parameters, like how long these things take and how much they cost and how we can cut schedule and cost requirements.

What this book is, is a handbook.