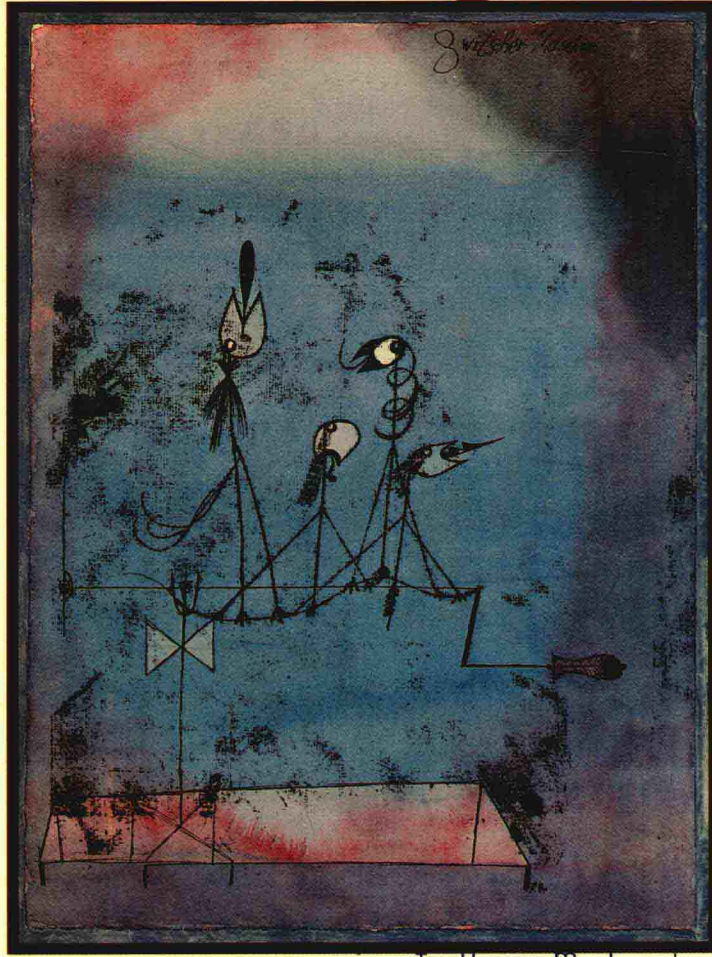


technical writing

lannon



Paul Klee (Zwitscher-Maschine). 1922

painting | Chattering Machine by

seventh edition

Technical Writing

Seventh Edition

John M. Lannon

UNIVERSITY OF MASSACHUSETTS
DARTMOUTH



LONGMAN

An imprint of Addison Wesley Longman, Inc.

New York • Reading, Massachusetts • Menlo Park, California • Harlow, England
Don Mills, Ontario • Sydney • Mexico City • Madrid • Amsterdam

Executive Editor: Anne Elizabeth Smith

Developmental Editor: Thomas Maeglin

Text Design and Project Coordination: Ruttle, Shaw & Wetherill, Inc.

Cover Designer: Mary McDonnell

Cover Illustration: Paul Klee. *Twittering Machine* {Zwitscher-Maschine}. 1922. Watercolor, and pen and ink on oil transfer drawing on paper, mounted on cardboard, 25 1/4 × 19" (63.8 × 48.1 cm).

The Museum of Modern Art, New York. Purchase. Photograph © 1996 The Museum of Modern Art, New York.

Art Studio: Ruttle, Shaw & Wetherill, Inc.

Photo Researcher: Nina Page

Electronic Production Manager: Angel Gonzalez Jr.

Manufacturing Manager: Willie Lane

Electronic Page Makeup: Ruttle Graphics, Inc.

Printer and Binder: R. R. Donnelley & Sons Company

Cover Printer: The Lehigh Press, Inc.

Library of Congress Cataloging-in-Publication Data

Lannon, John M.

Technical Writing / John M. Lannon.—7th ed.

p. cm.

Includes bibliographical references and index.

ISBN 0-673-52472-8

1. Technical Writing.

I. Title.

T11.L24 1996

808'.0666—dc20

96-19525

CIP

Copyright © 1997 by Addison-Wesley Educational Publishers Inc.

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted, in any form or by any means, electronic, mechanical, photocopying, recording, or otherwise, without the prior written permission of the publisher. Printed in the United States.

ISBN 0-673-52472-8

2345678910—DOC—999897

Is the Style Readable?

- ☐ Each sentence understandable on *first* reading (262)
- ☐ The most information expressed in the fewest words (271)
- ☐ Related ideas combined for fluency (279)
- ☐ Sentences varied in construction and length (281)
- ☐ Each word chosen for exactness, not for camouflage (284)
- ☐ Concrete and specific language (291)
- ☐ No triteness, overstatements, euphemisms, or jargon (286)
- ☐ Tone unbiased and inoffensive (298)
- ☐ Level of formality appropriate to the situation (294)

Are Design, Visuals, and Mechanics Appropriate?

- ☐ An inviting and accessible format: white space, fonts, and so on (355)
- ☐ A design that accommodates audience needs and expectations (359)
- ☐ Adequate, clear, and informative headings (367)
- ☐ Adequate visuals, to clarify, emphasize, or organize (307)
- ☐ Appropriate displays for specific visual purposes (314)
- ☐ All visuals fully incorporated with the text (347)
- ☐ All visuals free of distortion (345)
- ☐ All pages numbered and in order (360)
- ☐ Supplements that accommodate diverse audience needs (376)
- ☐ Correct spelling, punctuation, and grammar (605)

COVER. A mere fancy Klee's "machine" has no practical purpose—in the real world it would produce a meaningless, chirping noise. Another type of noise is produced by information we cannot follow or understand. Skilled communicators transform that information into something we can use.

Preface

TECHNICAL WRITING, seventh edition, is a comprehensive and flexible introduction to technical and professional communication. Designed for classes in which students from a variety of majors are enrolled, the book addresses a wide range of interests. Rhetorical principles are explained, illustrated, and applied to an array of assignments, from brief memos and summaries to formal reports and proposals. To help students develop awareness of audience and accountability, exercises embody the writing demands that are typical throughout college and on the job.

Organization

Following a brief overview of technical writing in Chapter 1, the remaining text has five major sections:

Part I: Writing for Readers in the Workplace treats job-related writing as a problem-solving process. Students learn to think critically about the informative, persuasive, and ethical dimensions of their communications. Also, they learn about adapting to rapidly changing communication technologies, to interpersonal challenges of collaborative writing, and to the various needs and expectations of global audiences.

Part II: Information Retrieval, Analysis, and Synthesis treats research as a deliberate inquiry process. Students learn to formulate significant research questions; to explore primary and secondary sources; to record, evaluate, interpret, and document their findings; and to summarize for economy, accuracy, and emphasis.

Part III: Structural and Style Elements demonstrates strategies for organizing and expressing messages that readers can follow and understand. Students learn to control their material and to develop a style that connects with readers.

Part IV: Graphic and Design Elements treats the rhetorical implications of graphics, page design, and document supplements. Students learn to enhance a document's access, appeal, visual impact, and usability.

Part V: Specific Documents and Applications applies earlier concepts and strategies to the preparation of technical documents and oral presentations. Various letters, memos, reports, and proposals offer a balance of examples from the workplace and from student writing. Each sample document has been chosen so that students can emulate it easily.

Finally, the **appendix** offers a brief handbook of grammar, usage, and mechanics.

The Foundations of Technical Writing

- More than a value-neutral exercise in “information transfer,” workplace communication—whether hand-written, electronically mediated, or face-to-face—is a complex social transaction. Each rhetorical situation places specific interpersonal, ethical, legal, and cultural demands on the writer.
- Writers with no rhetorical awareness overlook the decisions that are crucial for effective writing. Only by defining their rhetorical problem and asking the important questions can writers formulate an effective response to the problem.
- As well as being *communicators*, today’s workplace professionals increasingly are *consumers* of information, who need to be skilled in the methods of inquiry, retrieval, evaluation, and interpretation that comprise the research process.
- Although it follows no single, predictable sequence, the writing process is not a collection of random activities; rather, it is a set of deliberate decisions in problem solving. Beyond emulating this or that model document, students need to understand that effective writing requires critical thinking.
- A technical writing classroom typically contains an assortment of students with varied backgrounds. The textbook, then, should offer explanations that are thorough, examples and models that are broadly intelligible, and goals that are rigorous yet collectively achievable. Moreover, the book should be flexible enough to allow for various course plans.
- As an alternative to reiterating the textbook material, classroom workshops apply textbook principles by focusing on the students’ writing. These workshops call for an accessible, readable, and engaging book to serve as a comprehensive reference.

New to this Edition

- New material throughout on connecting with global audiences through careful analysis of the specific cultural context for various types of communication.
- In Chapter 4, the importance of *face saving* in any persuasive situation.
- A new Chapter 6, on communicating electronically. Coverage includes Internet resources, E-mail privacy and quality issues, E-mail communication guidelines, paperless documents, hypertext applications in writing and research, computer guidelines for writers.

- Guidelines for reviewing and editing the work of others (Chapter 7).
- A fully revised Chapter 8, on research methods for the information age. Examples of new coverage: achieving adequate depth in research, accessing government records via the Freedom of Information Act, broadening and customizing electronic searches, understanding the essentials and limitations of survey research.
- A fully revised Chapter 9, on critically evaluating and interpreting information. Examples of new coverage: copyright and fair use of printed and electronic information; criteria for evaluating sources, evidence, generalizations, and causal claims; guidelines for reaching accurate conclusions; fallacies inherent in statistical data.
- A new Chapter 10, on documenting research findings. Comprehensive coverage of MLA, APA, and CBE documentation styles; ACW style for documenting unconventional electronic sources (MOOs, FTPs, Telnet sites, and so on); a user-friendly chapter design for easy reference.
- A fully revised Chapter 12, on basic organizing strategies; partitioning and classifying, outlining, paragraphing, and sequencing. Coverage includes outlining and reorganizing on a computer and organizing for cross-cultural audiences.
- A more accessibly designed Chapter 13, on style, with new sections on avoiding excessive informality and offensive usage and on considering cultural differences in the observance of style guidelines.
- A fully revised Chapter 14, focusing on rhetorical considerations in the use of visuals. Examples of new coverage: why and when to use visuals, how to select visuals for a specific purpose and audience, how to compose an art brief, how to use photographs and color, how to explore Web sites for visual resources, how to incorporate visuals with written text.
- New sections in Chapter 15, on page design, the latest desktop publishing technology, and cultural considerations in page design.
- Greater emphasis in Chapter 19 on visual elements of instructions and on usability in online or multimedia documents.
- A fully revised Chapter 20, on workplace letters. Examples of new coverage: telephone and E-mail inquiries, commonly used job-search methods, online employment resources, résumé scanning, an example of a computer-scannable résumé, criteria for evaluating an employment offer.
- In Chapter 22, a new—and successful—proposal for a high-school building project, aimed at a wide readership.
- In Chapter 23, two fully updated analytical reports, chosen to engage a broad range of student interests.
- A fully revised Chapter 24, offering concise, practical advice on oral presentations. Examples of new coverage: avoiding presentation pitfalls, analyzing the listeners and the speaking situation, planning visuals, creating a storyboard, selecting media, preparing readable and understandable

visuals, managing the presentation, managing listener questions, addressing cross-cultural audiences.

- A revised appendix on grammar, usage, and mechanics, redesigned for easy access and cross reference.
- “In Brief” discussions of interpersonal and technology issues that are shaping workplace writing and oral communication. Examples include gender and cultural differences in collaborative work; online research, copyright, and documentation; usability in electronic documents; electronic job hunting.
- More on rhetorical, legal, ethical, and cultural considerations in word choice, definitions, product descriptions, instructions, and other forms of communication.
- New and updated examples throughout.
- A new art program and greater emphasis on visual communication and page design.
- More annotated writing samples, to highlight salient features.
- Expanded exercises in critical thinking and applications suitable for collaborative work. Examples: Chapter 2, exercise 1, Chapter 13, exercise 21; collaborative projects in Chapters 6, 8, 14 (#3), 18 (#3), and 19 (#5).
- A comprehensive educational package including an instructor’s manual with test bank, chapter quizzes, and master sheets for overhead or opaque projection, and *Writer’s Workshop* software (with an online handbook, writing prompts, and a citation formatting tool for documentation in MLA and APA style).

Acknowledgments

Many of the refinements in this edition were inspired by generous and insightful suggestions from the following reviewers: Mary Beth Bamforth, Wake Technical Community College; Alma Bryant, University of South Florida; Charlie Dawkins, Virginia Polytechnical Institute and State University; Robert Hogge, Weber State University; Gloria Jaffe, University of Central Florida; Jack Jobst, Michigan Technical University; Maxine Turner, Georgia Institute of Technology; JoAnn Kubala, Southwest Texas State University; Sherry Little, San Diego State University; Linda Loehr, Northeastern University; James L. McKenna, San Jacinto College; Mohsen Mirshafiei, California State University, Fullerton; Thomas Murphy, Mansfield University; Mark Rollins, Ohio University, Athens; Beverly Sauer, Carnegie Mellon University; Susan Simon, City College of the City University of New York; Anne Thomas, San Jacinto College; Jeff Wedge, Embry-Riddle University; Kristin Woolever, Northeastern University; Don Zimmerman, Colorado State University.

Dr. George Redman of Benedict College provided valuable advice on matters of content and design.

At the University of Massachusetts, Raymond Dumont was a constant source of help and ideas. For much of the new material on research, I am indebted to librarian Ross LaBaugh. Many other colleagues, graduate students, teaching assistants, and alumni offered countless suggestions. My students gave me feedback and inspiration.

For the many improvements in this edition, I am indebted to exceptional editorial guidance and support. Executive Editor Anne Elizabeth Smith provided the encouragement and the vision that inspired this project. Developmental Editor Tom Maeglin brought the energy and insight that transformed the manuscript from adequate to excellent. Development Director Patricia Rossi endured my many missed deadlines patiently and gracefully. Project Manager Janet Nuciforo gave expert attention to every detail on a virtually endless list. No collection of superlatives would be adequate to express my appreciation for your help and your friendship. Thank you all.

A special thank you to those I love: Chega, Daniel, Sarah, Patrick, and Max.

John M. Lannon

Brief Contents

Contents vii

Preface xv

Acknowledgments xviii

Chapter 1 Introduction to Technical Writing 1

Part I Writing for Readers in the Workplace 11

Chapter 2 Problem Solving in Workplace Writing 12

Chapter 3 Solving the Information Problem 27

Chapter 4 Solving the Persuasion Problem 40

Chapter 5 Solving the Ethics Problem 66

Chapter 6 Communicating Electronically 88

Chapter 7 The Problem-Solving Process Illustrated 104

Part II Information Retrieval, Analysis, and Synthesis 121

Chapter 8 Gathering Information 122

Chapter 9 Recording and Reviewing Research Findings 169

Chapter 10 Documenting Research Findings 190

Chapter 11 Summarizing Information 222

Part III Structural and Style Elements 237

Chapter 12 Organizing for Readers 238

Chapter 13 Revising for Readable Style 260

<i>Part IV</i>	<i>Graphic and Design Elements</i>	305
Chapter 14	Designing Visuals	306
Chapter 15	Designing Pages and Documents	354
Chapter 16	Adding Document Supplements	375
<i>Part V</i>	<i>Specific Documents and Applications</i>	389
Chapter 17	Definitions	390
Chapter 18	Descriptions and Specifications	410
Chapter 19	Procedures and Processes	433
Chapter 20	Letters and Employment Correspondence	466
Chapter 21	Memos and Short Reports	505
Chapter 22	Proposals	521
Chapter 23	Analytical Reports	552
Chapter 24	Oral Presentations	584
<i>Appendix</i>	<i>Review of Grammar, Usage, and Mechanics</i>	604
<i>Works Cited</i>		637
<i>Index</i>		649

Contents

<i>Preface</i>	xv
<i>Acknowledgments</i>	xviii
Chapter 1 Introduction to Technical Writing	1
Technical Writing Serves Practical Needs	2
<i>Technical documents are reader oriented</i>	2
<i>Technical documents strive for efficiency</i>	3
Writing Is Part of Most Careers	4
The Information Age Requires Excellent Writing Skills	6
<i>In Brief: Writing Reaches a Global Audience</i>	7
Exercises	8
Collaborative Project	9
Part I Writing for Readers in the Workplace	11
Chapter 2 Problem Solving in Workplace Writing	12
Technical Writers Face Interrelated Problems	13
Problem Solving Requires Critical Thinking	16
Critical Thinking Is Enhanced by Collaboration	17
Guidelines for Writing Collaboratively	21
<i>In Brief: Gender and Cultural Differences In Collaborative Groups</i>	23
Exercises	24
Collaborative Project	25
Chapter 3 Solving the Information Problem	27
Assess Readers' Information Needs	28
Identify Levels of Technicality	29
<i>The highly technical document</i>	29
<i>The semitechnical document</i>	30
<i>The nontechnical document</i>	31
<i>Primary and secondary readers</i>	32
Develop an Audience and Use Profile	34
<i>Reader characteristics</i>	34
<i>Purpose of the document</i>	34
<i>Readers' technical background</i>	36
<i>Readers' cultural background</i>	36
<i>Readers' knowledge of the subject</i>	36
<i>Appropriate details and format</i>	37
<i>Due date</i>	37
Brainstorm for a Useful Message	37
Exercises	38
Collaborative Project	38
Chapter 4 Solving the Persuasion Problem	40
Assess the Political Realities	41
Expect Reader Resistance	43
Know How to Connect with Readers	44

Ask for a Specific Decision	47
Never Ask for Too Much	47
Recognize All Constraints	48
Organizational constraints	48
Legal constraints	50
Ethical constraints	50
Time constraints	50
Social and psychological constraints	51
Support Your Claims Convincingly	51
Offer convincing evidence	52
Appeal to common goals and values	54
Consider the Cultural Context	54
In Brief: Questions for Analyzing	
Cross-Cultural Audiences	56
Observe Persuasion Guidelines	57
A Checklist for Cross-Cultural	
Documents	61
Exercises	61
Collaborative Projects	62

Chapter 5 Solving the Ethics Problem 66

Recognize Unethical	
Communication	67
Expect Social Pressure to Produce	
Unethical Communication	69
Never Confuse Teamwork with	
Groupthink	73
Rely on Critical Thinking for Ethical	
Decisions	74
The fallacy of “doing one’s thing”	75
The fallacy of “one rule fits all”	75
Reasonable criteria for ethical	
judgment	75
Ethical dilemmas	77
Anticipate Some Hard Choices	77
Never Depend Only on Legal	
Guidelines	78
Understand the Potential for	
Communication Abuse	80
Suppressing knowledge the public	
deserves	81
Exaggerating claims about	
technology	81
Stealing or divulging proprietary	
information	81

Mismanaging electronic information	82
Withholding information people need to	
do their jobs	82
Exploiting cultural differences	82
Know Your Communication	
Guidelines	82
Decide Where and How to Draw the	
Line	83
An Ethics Checklist for	
Communicators	85
Exercises	86
Collaborative Project	86

Chapter 6 Communicating Electronically 88

Exploring the Internet	89
In Brief: The Evolution of Electronic	
Communication	90
Using Electronic Mail	92
E-mail benefits	92
E-mail privacy issues	93
E-mail quality issues	94
E-mail guidelines	95
Telecommuting	96
In Brief: The Future of	
Telecommuting	97
Word Processing and Desktop	
Publishing	98
Creating Paperless Documents	98
Online documentation	98
Hypertext	99
Computer Guidelines for Writers	101
Collaborative Exercise	103

Chapter 7 The Problem-Solving Process Illustrated 104

Critical Thinking in the Writing	
Process	105
A Sample Writing Situation	107
Working with the information	108
Planning the document	109
Drafting the document	111
Revising the document	112
Your Own Writing Situation	114
Guidelines for Reviewing and Editing	
the Work of Others	114

Exercises	118
Collaborative Project	118

Part II Information Retrieval, Analysis, and Synthesis 121

Chapter 8 Gathering Information 122

Thinking Critically About the Research Process	123
--	-----

Asking the right questions	124
Focusing on essential views	125
Achieving adequate depth in your search	127

Evaluating your findings	128
Interpreting your findings	128

Searching the Literature	129
--------------------------	-----

The card catalog	131
Guides to literature	133
Reference works	133
Indexes	137
Abstracts	140

Access tools for government publications	140
--	-----

Microforms	142
------------	-----

Using Electronic Information Services	142
---------------------------------------	-----

Compact disks and diskettes	143
Online databases	144

Retrieval services for home and office	148
--	-----

Benefits and limitations of automated searches	148
--	-----

In Brief: A Sampling of Information Resources on the Internet	149
---	-----

Conducting Interviews	150
-----------------------	-----

Identify your purpose	152
Contact the respondent	152
Prepare for the interview	152
Observe interview guidelines	153

Administering Surveys and Questionnaires	155
--	-----

Define the survey's purpose	155
Define the target population	156
Identify the sample group	156
Define the survey method	156

In Brief: Interview with a Cybrarian	157
Develop the questionnaire	159

Ensure validity and reliability	161
---------------------------------	-----

A sample questionnaire	162
------------------------	-----

Exploring Other Primary Sources	162
---------------------------------	-----

Inquiry letters or calls	162
--------------------------	-----

Organizational records and publications	165
---	-----

Personal observation and experiment	165
-------------------------------------	-----

Analysis of samples	165
---------------------	-----

Exercises	166
-----------	-----

Collaborative Projects	167
------------------------	-----

Chapter 9 Recording and Reviewing Research Findings 169

Recording the Findings	170
Taking notes	170

Quoting the work of others	171
----------------------------	-----

Paraphrasing the work of others	172
---------------------------------	-----

Evaluating and Interpreting Information	173
---	-----

Evaluating the sources	174
------------------------	-----

In Brief: Copyright Protection and Fair Use of Printed Information	175
--	-----

In Brief: Copyright Protection and Fair Use of Electronic Information	176
---	-----

Evaluating the evidence	177
-------------------------	-----

Interpreting the evidence	178
---------------------------	-----

Avoiding errors in reasoning	180
------------------------------	-----

Reassessing the Entire Process	187
--------------------------------	-----

Checklist for the Research Process	187
------------------------------------	-----

Exercises	188
-----------	-----

Collaborative Projects	188
------------------------	-----

Chapter 10 Documenting Research Findings 190

Why You Should Document	191
-------------------------	-----

What You Should Document	191
--------------------------	-----

How You Should Document	192
-------------------------	-----

MLA Documentation Style	193
-------------------------	-----

MLA parenthetical references	193
------------------------------	-----

MLA works cited entries	194
-------------------------	-----

MLA sample works cited pages	202
------------------------------	-----

ACW documentation for unconventional electronic sources	202
---	-----

APA Documentation Style	208
<i>APA parenthetical references</i>	208
<i>APA reference list entries</i>	209
<i>APA sample list of references</i>	216
CBE Numerical Documentation	216
<i>CBE numbered citations</i>	216
<i>CBE reference list entries</i>	217
Exercise	221

Chapter 11 Summarizing Information	222
Purpose of Summaries	223
Elements of a Summary	224
Critical Thinking in the Summary	
Process	225
A Sample Situation	225
Forms of Summarized	
Information	230
<i>The closing summary</i>	231
<i>The informative abstract</i>	231
<i>The descriptive abstract</i>	231
Placement of Summarized	
Information	232
Revision Checklist for Summaries	232
Exercises	233
Collaborative Project	236

Part III Structural and Style **Elements 237**

Chapter 12 Organizing for Readers	238
Partitioning and Classifying	239
Outlining	242
<i>A document's basic shape</i>	242
<i>The formal outline</i>	244
<i>The importance of being messy</i>	246
<i>Outlining and reorganizing on a</i>	
<i>computer</i>	246
<i>Organizing for cross-cultural</i>	
<i>audiences</i>	246
<i>The report design worksheet</i>	247
Paragraphing	250
<i>The standard paragraph</i>	250
<i>The topic sentence</i>	251
<i>Paragraph unity</i>	252
<i>Paragraph coherence</i>	252
<i>Paragraph length</i>	253

Sequencing	254
<i>Spatial sequence</i>	254
<i>Chronological sequence</i>	255
<i>Effect-to-cause sequence</i>	255
<i>Cause-to-effect sequence</i>	255
<i>Emphatic sequence</i>	256
<i>Problem-causes-solution sequence</i>	256
<i>Comparison-contrast sequence</i>	256
Exercises	258
Collaborative Projects	258

Chapter 13 Revising for Readable Style	260
Revising for Clarity	262
<i>Avoid ambiguous phrasing</i>	262
<i>Avoid ambiguous pronoun</i>	
<i>references</i>	262
<i>Avoid ambiguous punctuation</i>	263
<i>Avoid telegraphic writing</i>	263
<i>Avoid ambiguous modifiers</i>	264
<i>Unstack modifying nouns</i>	265
<i>Arrange words for coherence and</i>	
<i>emphasis</i>	265
<i>Use active voice often</i>	266
<i>Use passive voice selectively</i>	269
<i>Avoid overstuffed sentences</i>	270
Revising for Conciseness	271
<i>Avoid needless phrases</i>	272
<i>Eliminate redundancy</i>	272
<i>Avoid needless repetition</i>	272
<i>Avoid There sentence openers</i>	273
<i>Avoid some It sentence openers</i>	273
<i>Delete needless prefaces</i>	274
<i>Avoid weak verbs</i>	274
<i>Delete needless To Be constructions</i>	275
<i>Avoid excessive prepositions</i>	275
<i>Fight noun addiction</i>	276
<i>Make negatives positive</i>	277
<i>Clean out clutter words</i>	278
<i>Delete needless qualifiers</i>	278
Revising for Fluency	279
<i>Combine related ideas</i>	279
<i>Vary sentence construction and</i>	
<i>length</i>	281
<i>Use short sentences for special</i>	
<i>emphasis</i>	281

Finding the Exact Words	284
<i>Use simple and familiar words</i>	284
<i>Avoid useless jargon</i>	286
<i>Use acronyms selectively</i>	287
<i>Avoid triteness</i>	288
<i>Avoid misleading euphemisms</i>	288
<i>Avoid overstatement</i>	289
<i>Avoid unsupported generalizations</i>	289
<i>Avoid imprecise words</i>	290
<i>Be specific and concrete</i>	291
<i>Use analogies to sharpen the image</i>	293
Adjusting Your Tone	294
<i>Use an occasional contraction</i>	296
<i>Address readers directly</i>	296
<i>Use I and We when appropriate</i>	297
<i>Prefer the active voice</i>	297
<i>Emphasize the positive</i>	298
<i>Avoid an overly informal tone</i>	298
<i>Avoid bias</i>	298
<i>Avoid sexist usage</i>	300
<i>Avoid offensive usages of all types</i>	301
Considering the Cultural Context	303
Avoiding Reliance on Automated Tools	303

Part IV Graphic and Design Elements 305

Chapter 14 Designing Visuals 306

Why Visuals Are Essential	307
When to Use a Visual	310
What Types of Visuals to Consider	311
How to Select Visuals for Your Purpose and Audience	313
Tables	314
Graphs	316
<i>Bar graphs</i>	318
<i>Line graphs</i>	323
Charts	326
<i>Pie charts</i>	327
<i>Organization charts</i>	329
<i>Flowcharts</i>	329
<i>Tree charts</i>	329
<i>Gantt charts</i>	330
<i>Pictograms</i>	330
Graphic Illustrations	331

<i>Diagrams</i>	332
<i>Maps</i>	335
<i>Photographs</i>	335
Computer Graphics	338
<i>Selecting design options</i>	339
<i>Using clip art</i>	339
<i>Using color</i>	340
<i>Using Web sites for graphics support</i>	344
How to Avoid Visual Distortion	345
<i>Present the real picture</i>	345
<i>Present the complete picture</i>	345
<i>Never mistake distortion for emphasis</i>	346
How to Incorporate Visuals with the Text	347
Exercises	349
Revision Checklist for Visuals	350
Collaborative Projects	353

Chapter 15 Designing Pages and Documents 354

Page Design in Workplace Writing	355
Desktop Publishing	358
Page-Design Guidelines	359
<i>Shaping the page</i>	359
<i>Styling the words and letters</i>	364
<i>Highlighting for emphasis</i>	366
<i>Using headings for access and orientation</i>	367
Audience Considerations in Page Design	372
Revision Checklist for Page Design	373
Exercises	373
Collaborative Project	374

Chapter 16 Adding Document Supplements 375

Purpose of Supplements	376
Cover	376
Title Page	377
Letter of Transmittal	377
Table of Contents	380
List of Tables and Figures	382
Informative Abstract	382