

How to Teach Technical Editing

DAVID K. FARKAS

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society for technical communication

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David K. Farkas

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FOR

Jean

Without Whom, Nothing

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PREFACE

EDITING IS ONE OF THE most widely practiced activities in the field of technical communication. Because of its importance, a fairly large body of professional literature on editing has gradually appeared. Very little, however, has been written for the teacher or student of technical editing. An important exception is Wallace Clements and Robert G. Waite's *Guide for Beginning Technical Editors*. Originally produced at the Lawrence Livermore Laboratories in 1979 and now available from the Society for Technical Communication, this excellent (though short) publication emphasizes the editing of mathematics and illustrations, and fully supports these components of an editing course.

With the growth of academic programs in the field of technical communication, more is being written on how to teach technical editing. A comprehensive anthology, *Teaching Technical Editing*, is now being prepared by Professor Carolyn Rude for publication by the Association of Teachers of Technical Writing. Offering not only 18 essays on the teaching of technical editing, but a comprehensive annotated bibliography as well, it will surely make a major contribution. And, there is this monograph as well.

This monograph is addressed most directly to those who teach editing or who are planning to teach editing in academic settings. But it should also prove useful to those who train new editors in the work place — especially if it is read along with some other resources. Of special value is Susan Briles' "Designing a Training Program for a Technical Editing Department" (1982).

Finally, this monograph may be interesting to experienced editors and to other nonacademic professionals in our field. For, not only the pedagogy it contains but many of the

principles upon which the pedagogy is based have not been formulated and set forth in the professional literature. Those without pedagogical interests will be most interested in Chapters 4 - 11. Chapters 1 - 3 deal with other topics that might be covered in an editing course, and Chapter 12 deals with devising, commenting on, and reviewing editing assignments.

The term "editing," of course, designates several very different activities, depending upon the context in which it is used. These activities include managing a newspaper or a part of a newspaper, seeking out and negotiating for new manuscripts to publish, and establishing an uncorrupted text of a historical document. Both the qualifier "technical" and the context — the field of technical communication — that this publication arises from make clear, to a large extent, just what I mean by editing. Nonetheless, I should perhaps offer my best attempt at an expanded formal definition:

Technical editing is a professional communication activity that consists of improving the presentation and content of an author's technical document in order to prepare it for publication or other dissemination. When performed in its full professional dimensions, it requires that:

- the editor make substantive as well as cosmetic changes and take full cognizance of the communication situation that the document is part of
- the editor deal responsibly and yet creatively with the fact that the manuscript has already been written — and written by someone other than the editor

- the editor accept as inherent to the function of professional editing such organizational constraints as limited editing time, the possibility that the editor will be unfamiliar with the document's subject matter, and the need for consistency among documents

Underlying this definition is the idea that technical editing — at least when performed in its full professional dimensions — is a very complex activity that requires highly developed skills and highly sophisticated procedures. This idea underlies not only my definition but the entire monograph as well. Unfortunately, the complexity of editing has not been generally recognized, even by some editors.

The purpose of this monograph is twofold: first, to provide a pedagogy of editing and one that respects the intellectual complexity of its subject; and, second, to help demonstrate — not only to students but to others — how

complex and intellectually challenging editing really is. Put differently, I have tried to demonstrate just how much editing entails beyond “having good grammar” and reading through a manuscript “looking for mistakes.”

The editing function, like every other aspect of technical communication, is undergoing rapid change. I have tried hard, therefore, to make this monograph completely current (as of 1985) and to cautiously anticipate future developments. Also, I have tried to show the underlying conceptual relationship between traditional practices and evolving ones, so that the monograph might, in fact, serve as a bridge into the future.

Finally, I wish to thank M. L. (Mike) White, my colleague at the University of Washington, for some very helpful discussions of editing in general and this project in particular and also Alberta Cox, of NASA's Ames Research Center, for valuable suggestions and for editing the final draft.

A Note on Gender Pronouns

When stylistic considerations permitted, I have used plural (non-gender) pronouns, have paired pronouns (“he and she”; “his and her”; “him and her”), and have simply avoided pronouns. When stylistic considerations dictated a choice between he and she (and this was often), my general practice was to reverse gender stereotypes. Thus, since editing has been considered a “woman’s field,” I used male gender pronouns to refer to the editor. Following

parallel reasoning, I used female gender pronouns when I referred to a manager, an engineer, or the author of a manuscript. Singular references to a student or the instructor were generally handled with paired pronouns.

Whether my procedure was the best way of dealing with this complex problem I am not at all certain.

1: LANGUAGE SKILLS

EDITING IS A LINGUISTIC ACTIVITY, and language is certainly an important aspect of any editing course. But one important issue in planning an editing course is how and in what context language will be discussed. Specifically, will the instructor be able to assume that the students are in full control of the language and teach editing as a sophisticated application of language skills, or will the instructor have to provide instruction in the correct use of the language?

Ideally, of course, the students in an editing course will all possess professional-level language skills. They will know the rules of grammar, punctuation, and usage; they will be accomplished prose stylists; and they will be able to organize written material effectively. With such a class, if the discussion turned to a portion of a manuscript containing a dangling modifier, the instructor would assume that the students could recognize and correct it, and he or she would raise such questions as which way of correcting it was most effective and whether the correction (or "emendation"*) might for any reason require a query. Indeed, the discussion would resemble a conversation among working editors.

* I prefer "emendation" to "correction" or "change." "Change" does not specify that the editor's revision is an improvement. "Correction" specifies that the original was in some sense incorrect, which is often not the case in editing. But by using "emendation," we indicate that the revision is an improvement, though the original may not have been incorrect.

Unfortunately, instructors at most universities cannot count on getting classes filled with students who have professional-level language skills. Some students will, for example, fail to spot dangling modifiers and will create their own dangling modifiers in the process of emending other deficiencies.

The instructor, therefore, may feel the need to devote part of the course to instruction in language skills. If the class's language skills are not too bad, the instructor may choose to incorporate quick reviews of specific points pertaining to grammar, style, and so forth as it becomes apparent that one or more of the students can use such a review. If the class's language skills are more severely deficient, the instructor may have to devote whole class periods to instruction and practice in language skills — class periods that would in large part resemble those of a composition course.

Providing instruction in language skills is an acceptable approach, but only, I believe, to a point. As Judith Jack states: "The primary objective of the (technical editing) course is to teach the analytical and critical skills required for good editing, rather than to conduct an English grammar review" (1983). In fact, if an editing course is largely devoted to instruction in language skills, it is only in part an editing course. Faced with this situation, the instructor might well choose to implement some sort of screening mechanism to ensure that future students have sufficient skills to make a real editing course possible.

2: COMPUTER SKILLS

NOT MANY YEARS AGO, employers were very pleased to find job applicants in the field of technical communication who were familiar with computerized text editing/word processing, and those of us educating future technical communicators at universities were pleased when our programs included training in this skill. Now, employers generally expect or require that even applicants for entry-level jobs as well as students seeking internships be familiar with one or more text editing/word processing programs and be prepared to adjust quickly to the employer's own program.

At the same time, however, ever-growing numbers of students are coming to college owning a microcomputer and making regular use of a text editor/word processor. Furthermore, those students who come to college without computer experience are very often learning to use text editing/word processing programs on their universities' systems very early in their college careers.

The question then arises whether the instructor should include an assignment in computerized editing if most of the students are already familiar with text editing/word processing. The answer, I believe, is that a computerized editing assignment is highly beneficial — if the assignment can be designed to extend significantly the students' understanding of editing. This can be accomplished by designing the assignment so that the students become familiar with the way editing is performed in publications units that use computer networks, learn to use the special resources that large computer systems offer the writer and editor, and confront one of the unresolved problems in computerized (on-line) editing — how to indicate emendations to the originator of the document.

FAMILIARITY WITH EDITING IN A NETWORK ENVIRONMENT

After graduation, many of our students will be working on computer systems in which technical professionals, writers, editors, artists, and production people will all have terminals or computers that are linked to one another. Thus, it is desirable for students to do a computerized editing assignment in which several students work cooperatively on a network system editing a single document. This experience, moreover, is one that very few, if any, of the students will have had before.

Each student in a group of four or five should be assigned a piece of the manuscript, but they will all be responsible for creating a fully unified and consistent document. In order to do so, the students will have to share their individual text files so that each student can see how the other sections will affect his or her own editing decisions. The students can also be told to develop and maintain a collective style sheet for the project. One student might be appointed project manager and would coordinate the activities of the individual editors. At some schools students work on stand-alone microcomputers, but if the students trade diskettes they are, in effect, performing the same assignment. Ideally the computerized editing assignment will be carried out completely on-line, without any paper copies being produced. This causes certain difficulties (discussed below in the final section of this chapter), but these difficulties are probably worth confronting.

Students will more fully grasp the connection between this assignment and their probable future work environ-

ments if they read one or more accounts describing how work is distributed and controlled in a fully computerized publications unit. Very useful in this regard are articles such as Roger Grice's "Using an Online Workbook to Produce Documentation" (1983).

LEARNING THE SPECIAL CAPABILITIES OF LARGE SYSTEMS

A second way of enriching a computerized editing assignment is to introduce students to special resources generally available on large university systems. These resources include spelling checkers, on-line thesauruses, and such writing aids as The Writer's Workbench.TM Such resources will surely become more powerful and more prevalent in the future and will be used routinely by technical communicators. Certain students may have some of these resources on their microcomputers, but large systems will generally have newer and more sophisticated software than individual students will have obtained.

CONFRONTING THE PROBLEM OF EMENDATIONS IN ON-LINE EDITING

By requiring that this assignment be done entirely on-line, the instructor will provide students with a significant learning experience: the students will have to deal with the problems entailed in indicating emendations in on-line editing.

Several important factors are leading us toward the widespread use of on-line editing. These include the general trend toward "the paperless office" and the obvious advantages of being able to telecommunicate edited text between

editor and author. Currently, however, most editing is still being done on hard copy using the traditional symbols; emendations are keyboarded into the computer after the author's review.

The unsolved problem of on-line editing is that the traditional editing marks cannot be used with most computer systems (systems with light pens and bit-mapped screens being among the possible exceptions). Therefore, the author reviewing her edited text or the instructor reviewing and grading an on-line editing assignment is faced with several less-than-ideal solutions. Editors may be permitted to simply replace the original version of the text with the edited version, but in that case the author or instructor passes up the opportunity to compare the edited version with the original or must glance back and forth between one version and the other, a taxing and time-consuming process.

Alternatively, editors may be asked to signify their emendations within the original text by using parenthetical (or even interlinear) comments. An implementation of this type has been described by Jim Morgan (1983). Another alternative is to use some of the special video attributes of computer terminals (highlight mode, strike-through mode, etc.) to indicate insertions, deletions, and perhaps other operations. Still another alternative, which is being investigated by the author, is the use of a full set of editing symbols composed of standard (ASCII) keyboard characters. The problem of on-line editing is examined by the author in "How Will We Edit Electronically Transmitted Text?" (Farkas, 1985).

No one knows as yet how on-line editing will develop. But a computerized editing assignment will acquaint students with this problem and possible solutions to it. At the same time it will enable students to become familiar with working collectively on a network system and with such special resources as spelling checkers, on-line thesauruses, and writing aids such as The Writer's Workbench.TM

3: INTRODUCING STUDENTS TO TYPICAL WORK SETTINGS AND TO PRODUCTION

IT IS IMPORTANT FOR STUDENTS to become acquainted with the settings in which technical editing is typically performed and to learn how publications — once they are written and edited — are physically produced. Production is a topic broad enough to easily warrant a separate course, but if the students will not be getting such a course, the fundamentals of production should probably be included in the editing course.

INTRODUCING STUDENTS TO THE WORK SETTINGS IN WHICH EDITING IS PERFORMED

Students should not view the editing function as something that takes place in a vacuum. They should know who will be giving them a sheaf of papers (or sending them a computer file), whom they will be giving it to, and what will then happen to it.

Some of the best ways to educate students about typical work settings lie outside the scope of class activity. They consist of internships and part-time jobs and interaction with working professionals at STC meetings and other places. Within the scope of a course, however, several things can and should be done, especially if the instructor senses that his or her students have little prior acquaintance with the professional contexts of technical communication.

A tour of a publications department is extremely valuable. Also valuable, and logistically less complex, is a guest lecture by an articulate and enthusiastic technical editor, writer-editor, or publications manager. Technical communi-

cators, I have found, will give their very best effort when asked to take part in an educational endeavor. A good idea is for speakers to bring copies of the documents their departments produce or, better yet, to send them ahead of time so that students can ask questions based on their examination of the documents.

Much can also be learned from the published literature. Many of the articles in *Technical Communication* and many of the papers in the *ITCC Proceedings* describe the organization, activities, and technologies of particular publications departments. Another possibility is to prepare a series of composite descriptions of several types of publications departments. Such composites are especially useful since they can be addressed to a student rather than professional audience. Three of my composites appear as Appendix A. Both articles in the published literature and composites are particularly useful when they serve not only as course readings but as the basis of class discussion.

ASPECTS OF PRODUCTION TO BE TAUGHT IN AN EDITING COURSE*

Whether an editor works in a small or a large publications department, he must know the rudiments of typography

* A rationale and another set of suggestions for covering production in an editing course are presented by Robert Scott Kellner (1982).

and layout. In a large publications department, the editor will at least have to communicate effectively with production professionals, but he may be expected to mark the copy with type specifications and even establish the layout and type specifications. In a small department, the editor may routinely perform the full range of production tasks. Furthermore, with the newer technologies, one communication professional can create a finished document at a terminal, starting with an engineer's rough draft and finishing with camera-ready pages; and the effect of this new capability may be to expand the roles of all technical communicators. But whether the technology is brand new or not and whether the publications department is large or small, the editor should know these fundamental aspects of production:

- The point/pica system of measurement
- The essential differences among type groups and the variations possible within a single family (italics, bold, condensed, etc.)
- The basic principles of copy fitting
- The different ways in which type can be disposed on a page (justified, unjustified, centered, etc.) and their effects on legibility and readability
- The normal conventions of layout, including standard line lengths and column widths, simple principles of balance and harmony, and the standard ways of laying out such text elements as titles and different levels of headings

Editors, of course, also encounter graphics ("art") in the materials they edit and, therefore, must have certain knowledge and skills. To begin with, they must be able to recognize when art is too small, too crowded, too poorly resolved, or too faint to be useful and should, in general, develop for graphs, tables, diagrams, photographs, and

other kinds of art the same sense of the audience and its needs that they have for text. They also need to know how art can be sized and cropped (manually and electronically) and the difference between line art and halftones. Moreover, they need to know how art functions as an aspect of layout — that is, how art is typically placed on a page. In the future, necessary knowledge will include the manipulation of digitized graphics on the computer screen.

The remaining aspect of production that editors must know something about is printing. Students should at least be acquainted with the most commonly used printing technologies, the pre-press operations belonging to each of them, and the ways in which different print technologies can affect the appearance and cost of a publication.

It will not be easy to include all this material in an editing course, and the instructor will have to rely heavily on reading assignments supplemented by a limited amount of class activity. In the case of typography, layout, and art, the class activity might include two or three class periods in which the instructor shows students examples of good and bad uses of these elements and, thereby, at least begins the process through which students develop the kind of visual awareness that will be valuable to them in their careers. In the case of printing technology, the class activity might consist of a tour of a printing plant. If a tour is not possible, the instructor can use some class time to show and explain such pertinent artifacts as dummies, mechanicals, flats, and plates.

Among the most valuable and convenient written resources are the *Pocket Pal* (1983), a clearly written handbook used widely in the printing industry; Arthur T. Turnbull and Russell N. Baird's *The Graphics of Communication* (1980), a textbook which offers comprehensive and highly detailed coverage of production (though from the perspective of journalism); Clements and Waite's *Guide for the Beginning Technical Editor* (1982), which contains a brief but valuable introduction to graphics from the perspective of the editor; and Anthony H. Firman's *An Introduction to Technical Publishing* (1983), which covers production from the standpoint of technical publications.

4: SUBSTANTIVE AND RHETORICAL EDITING

THE SCOPE OF THE EDITOR'S job can vary significantly from editor to editor, organization to organization, and manuscript to manuscript. But in its full professional dimensions, editing is an enormously complex intellectual activity. Moreover, it is when editing is performed at this level that the editor not only makes the greatest contribution to his organization, but enjoys the greatest degree of intellectual challenge and professional satisfaction.

The instructor of an editing course should ensure that the students recognize the full professional dimensions of editing and are prepared to edit in this way. To do so requires, at least, that they be prepared

- to make substantive as well as cosmetic, or "surface," changes and take full cognizance of the communication situation that the document is part of
- to deal responsibly and yet creatively with the fact that the manuscript has already been written — and written by someone other than the editor
- to accept as inherent to the editing function such organizational constraints as limited editing time, the possibility that the editor will be unfamiliar with the document's subject matter, and the need for consistency within and among documents

Subsequent chapters cover means for preparing students to meet the second and third of these requirements. Here I will discuss substantive vs. surface editing and rhetorical vs.

rule-governed editing. Finally, I will indicate some points of comparison between editing and writing that can help make clear to students the intellectual complexity of editing.

SUBSTANTIVE VS. SURFACE EDITING

Some editors edit on a highly restricted basis. They do not consider making (or asking for) changes in content that would make the document more useful to the audience. They do not consider changes in tone or emphasis or organization that might make the document more authoritative or persuasive. In some instances, they do not consider clarity part of their responsibility and assume that the author, though she may not know how to write correctly, knows at least how to get her ideas across to others in her field. In short, some editors do not take on responsibility for the document as a whole, but limit themselves to small-scale, cosmetic issues.

This kind of restricted editing certainly improves documents and is difficult enough. Moreover, there are organizations and also specific positions within organizations (especially when the editor is editing another editor or a professional writer) in which surface editing is all that is necessary or that is stipulated by the employer. But in surface editing the editor's contribution is ultimately limited, and if a manuscript actually needs and does not receive substantive editing, the final document will be inadequate.

The editor is giving up the role of serving, in the words of Lola M. Zook, "as the bridge between two people — an author and a reader" (1975).

Our students, then, must be prepared and willing to deal with substantive issues when the communication situation calls for it. As communication specialists, they should have confidence in their ability to serve as the reader's advocate and to make, or at least ask for, substantive changes in the manuscript. They will find that in most instances it is in substantive rather than surface editing that they demonstrate most persuasively the value of the editing function to their employers.

RHETORICAL VS. RULE-GOVERNED EDITING

Some editors are largely rule-governed. They make emendations on the basis of what is "correct" — that is, on the basis of the precepts concerning grammar, usage, style, etc., found in handbooks and other publications. They do not apply handbook rules flexibly, with reference to the communication (or "rhetorical") situation that the particular document is a part of. A rule-governed editor might, for example, apply the principle of brevity and ruthlessly trim "excess" words from a passage without realizing or caring that there were sound rhetorical reasons for a slower pacing of the information. Or, such an editor might mechanically apply the precept that good writing is direct and to the point, when the author had sound rhetorical reasons for only glancing at a particular idea. Like surface editing, rule-governed editing leads to an inferior product and limits the value of the editorial function to the editor's organization.

TEACHING SUBSTANTIVE AND RHETORICAL EDITING

This monograph reflects throughout a substantive and rhetorical approach to editing and the teaching of editing. Here I will describe some specific course readings and activities that will help students understand and practice substantive and rhetorical editing.

To provide students with a strong statement endorsing substantive editing, the instructor can assign Don Bush's "Content Editing: An Opportunity for Growth" (1981). When presenting the principle of rhetorical editing, the instructor can make good use of Mary Fran Buehler's influential article, "Situational Editing: A Rhetorical Approach for the Technical Editor" (1980). Buehler distinguishes between rhetorical editing and rule-governed (or "programmatically") editing, provides a detailed rationale for rhetorical editing, and makes the important point that every kind of writing, including the objective, spare style prevalent in technical communication, is the product of rhetorical choices or assumptions.

In order to get practice in substantive and rhetorical editing, students should be told that they have a broad mandate in emending the manuscripts they are assigned and should be given manuscripts with deficiencies that require substantive and rhetorically based emendations. For example, these deficiencies might include passages that are at the wrong technical level for the audience, that do not serve the intended purpose of the document (or which do so but with faulty emphasis), that are inappropriate in tone or stance, and that contain information or remarks that are politically unwise. Working with these manuscripts, the students will be analyzing, assessing, and improving upon the writer's rhetorical choices.

Along with the ability to edit substantively and rhetorically, editors should be able to *explain* to authors and managers why a document that does not exhibit any obvious errors is in need of serious editing. A good assignment in this regard is to ask students to write a memo explaining why a certain document is rhetorically ineffective and how they propose to edit it. For instance, one might imagine that an engineer has given an editor a manuscript that the engineer intends to send to a research journal. The engineer assumes the manuscript needs only light editing, but the editor realizes that the manuscript has been written more nearly as a company report than as a journal article. This assignment provides students with the opportunity to analyze a document from a rhetorical perspective and to articulate this analysis.

EDITING AND WRITING

To help make the point to students that editing is an intellectually challenging activity, the instructor may choose to point out that in certain respects the editor's job is more difficult than the writer's. This can be shown by comparing what the editor and writer typically know about the manuscript itself, and about the subject matter, and by comparing the author's first-hand experience of the communication situation and freedom to make unconstrained rhetorical choices with the editor's need to infer a great deal about the communication situation from the text and work within the constraints of a manuscript that has already been written.

When an author goes through her manuscript to improve (or "self-edit") it, she has the advantage of intimate acquaintance with the material. Having labored over each sentence and paragraph, the author can draw upon her knowledge of all the communication choices she has already made. The editor, on the other hand, may or may not have the leisure for even one complete reading of the manuscript. And even from a complete reading of the manuscript, the editor cannot create in his mind nearly as detailed a picture of the manuscript as the writer can from having written it. The editor, therefore, makes his emendations without the writer's knowledge of what lies ahead.

An author is generally an expert in the material she

writes about. Editors, however, are routinely called upon to edit material in areas they have little or no knowledge of. They must make clear what is unclear — and must avoid distorting the author's intended meaning — even though the unclear text is apt to be the editor's main source for the information. Often, the editor must use communication expertise to compensate for a lack of subject-matter expertise, for instance by making sophisticated inferences about an author's intended meaning based largely on what the editor has ascertained about the author's habits of mind and characteristic writing errors.

To edit rhetorically, the editor, like the writer, must deal with a broad range of rhetorical considerations, analyzing the document's audience and purpose and recognizing the special circumstances of the communication situation. But the editor generally has much less direct knowledge of the communication situation than does the writer and often must make his inferences about audience, purpose, and the

communication situation from a manuscript that itself may represent the author's incorrect inferences and faulty rhetorical decisions. For instance, the editor may be able to use the sense of the audience he has gained to inform the author that one of her persuasive strategies will not work with that audience or may be able to ascertain, again largely from the text itself, that the author's image of the audience is itself inaccurate or contradictory. Moreover, having recognized such problems, the editor must make the document rhetorically effective (either directly or through recommendations to the author) but do so, to the greatest extent possible, by working within the constraints of the author's decisions and strategies, even though they may not be the best decisions and strategies. Like the carpenter working on a house that has been found to rest crookedly on its foundation, he is supposed to repair the damage with a few deft strokes — not tear the edifice down and start from scratch.

5: MARKING COPY

STUDENTS CANNOT BEGIN TO EDIT until they have learned how to mark copy. Thus, this skill should be taught very early in the course. At the same time the instructor is teaching marking copy, he or she will probably want to at least introduce the students to querying, since querying is another means by which the editor communicates with the author. Also, it is probably desirable for the students to begin querying with their first editing assignments.

When marking copy, the editor is communicating with the typesetter (or other keyboardist) as well as the author, and this aspect of copy marking and its implications must be explained to students. The marks that the editor uses to indicate emendations to the author are, of course, followed by the typesetter. But in addition, the editor often provides the typesetter with further information about format, for instance by marking the type families, sizes, and family variations (boldface, italics, etc.) for text, headings, captions, and other format elements. In many cases authors are not concerned with the design and production of their manuscripts, and so these marks are added after the author has reviewed the editor's emendations.

At times the editor has no responsibility for marking format information for the typesetter. Especially if the format is complex, this job may be assigned to a production editor. Moreover, with the newer technologies, the manuscript can be formatted and prepared for printing right on the computer screen, thus eliminating the typesetter. Marking copy will then be simply a means for the editor to communicate with the author.

TEACHING STRATEGIES

There are several teaching strategies that I recommend in teaching students how to mark copy. The first is to introduce the symbols in stages, perhaps in two successive classes. During the first class the students should practice using the symbols for such basic operations as adding, deleting, transposing, restoring, and changing case. During the second class the students can begin more complex operations such as realigning and moving blocks of text and changing one punctuation mark to another, and they also can learn such subtleties as when to use and how to mark en dashes, em dashes, and hyphens.

The second strategy is to separate the teaching of marking copy from the teaching of proofreading. Although both use largely the same symbols, they use them very differently, and students can easily become confused. It is best, I believe, to teach proofreading and the marks it requires after the students have become secure in their ability to mark copy.

The third strategy is to give students one or two exercises or assignments in which they can concentrate on copy marking before they start marking copy in conjunction with challenging editing work. The students can be given a defective and fully correct version of the same material and can be asked to mark the defective version so that it becomes equivalent to the correct version. If the correct version is a photocopy of typeset material, the exercise can include marking the defective version with

the type families, sizes, and family variations used in the correct version.

Another exercise is to create two severely defective texts, texts that will need heavy and very clear copy marking, and to give one text to one group of students and the other text to the other group. Each student will then mark the text (using a correct text for reference), exchange texts with a student from the other group, try to transcribe a fresh and accurate version of the text he or she has received in the exchange, and note where the other student's copy marking was difficult to follow. When the students get back the texts they have marked, they will find out whether their copy marking is unclear. Furthermore, students become more serious about copy marking once they have been on the *receiving* end of heavily marked copy.

THE QUESTION OF AUDIENCE IN COPY MARKING

Once students have learned to mark copy correctly, the

instructor should insist that they continue to use the traditional marks throughout the course and not lapse into a more informal means of marking emendations. At the same time, however, students must realize that many technical people as well as keyboardists simply do not know and may be unwilling to learn the traditional marks. Thus, in certain cases editors must use a more informal set of marks, those that can be understood intuitively. Otherwise, for example, the editor's triple underline may be taken to mean that the editor definitely wants that word underlined, and the editor's slash through an uppercase letter may be taken to mean that the editor wants the letter itself deleted. The instructor may choose to lead students through a discussion of which symbols are and are not intuitive or devise an exercise in which students mark some material for an author or keyboardist with no familiarity with the traditional symbols. Most important, however, is for the students to realize that editing symbols are a means of communication and not an end in themselves.

6: PRESERVING THE AUTHOR'S MEANING

ONE OF THE DEFINING characteristics of editing is that the editor works on a manuscript that has already been composed by another person. Moreover, in most instances, this person is not only the originator of the document, but bears ultimate responsibility within the organization for the document. At the heart of editing, then, lies a commitment to preserving the author's meaning or, put differently, a commitment to avoiding the distortion of the author's meaning. In any editing course, therefore, the instructor must help students develop the attitudes and skills necessary to fulfill this commitment. In addition, there are times when the author's meaning includes factual errors that the editor is able to correct.

INTENTIONAL DISTORTION

One kind of distortion to which novice editors are especially subject is altering the author's text to accord with the editor's own convictions. A student might, for instance, alter an author's analysis of labor problems in a particular industry if the student has strong objections to the author's sympathetic or unsympathetic portrayal of the activities of the union. Likewise, a student might be tempted to alter portions of an environmental impact statement out of his or her own desire to prevent or to promote the development of a rustic area. This kind of willful distortion represents a deficiency not of skill but of attitude.

The instructor's task is simply to make clear that willfully distorting an author's meaning is a devious form of censor-

ship and violates the author's right to self-expression and the audience's right to receive the author's intended message. Moreover, it is totally unprofessional and will normally lead to the editor's immediate dismissal.

On the other hand, students should know that they most certainly can query an author in regard to prejudiced or offensive remarks, intentional or otherwise, that were included in the manuscript. Often the author will be grateful for such a query and will change the remark; at times the editor may conclude from the experience that he would prefer working somewhere else. In any case, silently altering a manuscript to reflect the editor's own views is immoral and unprofessional.

The other form of intentional distortion is the wholesale revision of the manuscript without regard, or at least much regard, to the author's ideas. First-time editors are often afraid to make major changes. But second- or third-time editors sometimes err in the opposite direction. Timidity changes to confidence and then to cockiness and outright recklessness. Especially if the author is a very weak writer and if the material is not highly technical, the student editor may develop contempt for the author's intellect as well as the author's language skills and may begin to rethink and rewrite — rather than simply edit — passage after passage of the manuscript.

Students — or, at least, those who exhibit this tendency — should be told that the author is probably intellectually and professionally more competent than the editor supposes and that this feeling of contempt is a common reaction among novice editors. More important, the students should

be told that unless the editor asks for and receives a special mandate, his job is to emend the manuscript he has been given, not to write a new one. It may be entirely possible that the editor *could* have written a much better manuscript himself, at least given a few days' research. All editors, I suspect, have had this feeling. But the student should be taught that this perception, true or not, is not really relevant to the job at hand.

UNINTENTIONAL DISTORTION

Almost always, students soon develop a professional attitude toward intentional distortion. Unintentional distortion, however, is far more prevalent and will plague the editor throughout his working life. Here the instructor's problem is not simply to help students acquire the appropriate attitudes. Rather, it is to help them acquire the necessary knowledge and skills to avoid unintentional distortion.

My own practice is to divide unintentional distortion into decoding and encoding errors. Decoding errors, which are the more common of the two, arise when the editor simply misunderstands what the author was trying to say. A researcher, for instance, has written this:

Smith demonstrated, using 96 hour bioassays that *c. fluminea* do not siphon in 5.0 ppm zinc.

The editor, either consciously or unconsciously, concludes that the author's meaning is that Smith used 96 bioassays each lasting an hour. The editor, therefore, replaces the original phrase with this: 96 one-hour bioassays. The editor, however, failed to realize that the author meant an unspecified number of bioassays of a 96-hour duration. Unless the error is caught in the review/querying process, the published manuscript will contain this inaccuracy. Decoding errors are especially likely when the manuscript is very poorly written and when the editor himself does not have much expertise in the subject area.

Encoding errors arise when the editor correctly interprets the author's meaning but creates an emendation that says something other than what the editor thought it was saying or has implications that the editor doesn't recognize. Another researcher has written this:

Toxic chemicals that find their way into the Sahootchee potentially affect millions of people living downstream who obtain their drinking water from the river.

Deciding that "find their way" is a bit wordy, the editor substitutes the shorter verb "filter." The editor, however, does not realize that the new word specifies underground movement of toxic chemicals through the earth and excludes the direct movement of the chemicals through streams, storm sewers, waste pipes, etc. Probably "find their way" should have been left alone, but if an emendation were called for, "enter" is a better choice than "filter."

Encoding errors are especially likely when the editor does not have much expertise in the subject area.

Because of its extreme importance, the topic of distortion should be covered thoroughly in class and should be emphasized when the instructor grades and comments upon editing assignments. Also, when reviewing editing assignments with the class, the instructor might well choose to describe each distortion that occurred in the students' work and to ask the class to categorize it as a decoding or encoding error.

AUTHORIAL REVIEW/QUERYING

The standard safeguard, of course, against distortion is the review of the edited manuscript by the author (or other subject-matter expert) and especially the review of those passages to which the editor calls special attention by means of his queries. Querying, therefore, is a major tool that the editor uses to preserve the author's meaning. As mentioned in the previous chapter, my practice is to introduce the topic of querying early in the course and to ask the students to query as necessary, starting with their first editing assignment. As the course progresses, and especially once we have covered the unit on preserving the author's meaning, I begin using editing assignments which are more technical and less well written and which therefore present a greater possibility of distortion and require more querying. At this point, querying becomes a still more significant component of the course.

When a student's query is unsatisfactory, I respond in one of three ways. The first is to respond in my own voice, adding marginal comments such as the following:

I'm glad that you realized that you need to query here. But your query would probably not elicit the information you need to fix the passage.

or

Will this author understand such a sketchy query? Explain to the author how your emendation will alter the meaning.

The second way is to write in what I suppose the author's *private reaction* to the query might be. For instance, if the student's query was snide or offensive, I might add the hypothetical authorial reaction "Butt out — you insulting crud." (Students will definitely take notice of such a comment.) Likewise, the reaction on a student's fourth consecutive trivial query might be "Did you really have to query me on this? Anyone could have figured this out for himself! I'm going to stop reading all these stupid queries."

The third response is to write in an *actual remark* that an author might herself put in the margin in response to a query: "I think my passage does not need to be elaborated

upon. I am quite sure that Ph.D.'s in biochemistry, my intended audience, will understand this easily."

To enable students to clearly distinguish each of the three types of responses, I use the initials of the author's (pseudonymous) name for the author's responses and, in addition, circle the author's private reactions to distinguish them from her actual messages to the editor. These three responses dramatize the consequences of a poorly formulated query, and the two authorial responses help create a sense of a real author, something that, unfortunately, is largely missing in editing assignments.

Because querying is important (and because all these comments take a lot of time to write), I often share these comments (keeping the student editors anonymous) with the entire class when I conduct the class review of the assignment. It is also advisable when teaching querying to remind students that in the working world querying is often done on the phone or face-to-face.

EDITING WITHOUT QUERIES

At times, editors face situations in which neither the author nor any other subject-matter expert is available to answer queries. In this situation, the editor may well encounter passages which seem to need emending but which the editor cannot emend without the possibility of distortion. Here the editor must weigh the likelihood of the intended

audience failing to understand the passage as it stands against the likelihood of the editor introducing a distortion. Often, it pays to leave the passage alone, since the intended audience can often infer the correct meaning from an ambiguous passage or decipher a garbled passage, even though the editor cannot. The instructor should explain this problem to the class and should consider having the students edit a technically difficult and poorly written manuscript with the stipulation that no querying is possible. Such an assignment presents the greatest challenge to student editors as they learn to preserve the author's meaning.

SPOTTING AND QUERYING FACTUAL ERRORS

Sometimes the author's intended meaning includes factual errors. Although the author generally bears primary responsibility for the accuracy of a manuscript, the editor can perform excellent service by spotting and querying any likely errors that he finds. The editor is, of course, better equipped to catch errors if he has a technical background in the relevant subject area, but often simple common sense and alertness will suffice. Students, therefore, should be encouraged to look for possible errors, and the instructor might consider holding the students responsible for spotting and querying any fairly evident errors in their editing assignments.

7: SWEEP STRATEGIES

A "SWEEP" OR "PASS" CAN be defined as an editor's mental involvement in and physical movement through all or part of a manuscript. The involvement must be mental, because the merely physical process of thumbing (or scrolling) through a manuscript to find the place in the manuscript where one wants to begin editing does not constitute a sweep. The involvement must be physical, because merely contemplating a series of pages without physically thumbing (or scrolling) from one to the next does not constitute a sweep. Some sweeps are performed in order for the editor to become more familiar with the manuscript. Others, in order for the editor to do the actual emending. Still others, for both purposes together. By definition, every editing job must consist of at least one sweep. In practice, most editing jobs take several.

The editor's decisions about the number of sweeps that he will make and the purpose of each sweep significantly affect the efficiency with which he edits and the quality of the editing job. The sophisticated editor, therefore, does not use one sweep strategy over and over again, but responds flexibly to each manuscript and the conditions under which each editing job is performed. When first receiving the manuscript, he will have some idea about his likely sweep strategy, at least in regard to sweeping for familiarity. As he gains familiarity, he will develop a better idea of the emendation sweeps he expects to use. As he performs the emendation sweeps, what he finds in the manuscript, as well as changing external circumstances (such as a change in the deadline), may require the editor to modify his sweep strategy. Clearly, sweep strategy is a

complex as well as an important aspect of editing and comprises an important topic in an editing course.

This topic, in my judgment, cannot be taught early in the course, but becomes meaningful only when students have done a few editing assignments and have acquired some experience with different kinds of sweeps and with decisions about sweeps. An excellent time to begin a unit on sweep strategy is just after the students have completed one of their editing assignments. The students will have a fresh recollection of the sweeps they employed and the consequences, good and bad, of their choices. Also, since they have been working with the same manuscript, they can communicate specifically and clearly to one another about their sweep strategies.

STUDENTS DESCRIBE THEIR SWEEPS

A good way to begin is to ask the class members to describe collectively all the different kinds of sweeps they have used, both in the editing assignment they just completed and in previous editing assignments. The number will be considerable, but the following will almost certainly be mentioned:

- an initial sweep in which the editor reads through the entire manuscript to gain familiarity with its content and presentation
- further familiarity sweeps in which the editor rereads or

skims the entire manuscript or rereads or skims certain sections

- a sweep in which the editor reads, but also makes preliminary notes or marks about future emendations
- an intense, comprehensive (“fix everything”) emendation sweep
- a series of emendations sweeps each devoted to one problem or a few specific kinds of problems
- a sweep in which the editor goes back to correct certain emendations which were done incorrectly
- a final, “once-over” sweep through the entire manuscript in which the editor rechecks the emendations and queries

STUDENTS DESCRIBE COMPLETE SWEEP STRATEGIES

Once students have gotten a sense of the many kinds of sweeps that editors use, it is appropriate for them to consider the complete set of sweeps an editor uses to edit a particular manuscript. Here, again, a good way to begin is to ask the students to describe what they have done.

The editing student should be able to reconstruct the strategy he or she first devised (or in a few cases the utter lack of a strategy), the ways in which this initial strategy was revised during the editing process, and the student’s assessment of the degree to which his or her strategy contributed to a successful (or an unsuccessful) editing experience.

Students can conveniently describe their sweep strategies by using the “band diagrams” shown as Figures 7-1 and 7-2. The successive sweeps are represented as a series of horizontal bands, each labeled with a description of the nature of that sweep. Partial sweeps, backward sweeps, and intermittent sweeps (jumps from place to place) can all be represented.

It is worthwhile to provide for the students’ simultaneous comparison of all the band diagrams. This can be done easily by having the students prepare band diagrams (at home or in class) on large sheets of sketchbook or easel paper and then by taping them up on the classroom walls.

Among the points that may come out of a discussion of sweep strategies (with or without the use of the band diagrams) are these:

- There is no single correct sweep strategy for any particular manuscript and situation. But there are various efficient and inefficient sweep strategies for any editing project.
- The sweep strategy the editor devises and the revisions of the sweep strategy he may need to make depend on

ABC Manuscript

100-page ms.

Read through entire manuscript for familiarity. Made a few notes in margins. Found grammatical errors, problems with style and mechanics, but no large-scale problems.		4 hr
Made comprehensive editing sweep. But at a few places my emendations were only tentative.		12 hr
Partial Sweep	Reedited sections in which my emendations were tentative: Chapter 2 (pp. 24-29), Chapter 6 (all), and the Bibliography.	1.5 hr
Partial Sweep	During last sweep found two figures with same number. Had to renumber figures to end.	0.5 hr
Made one final sweep to recheck my more complex emendations and queries.		2 hr
Comments: I was given lots of time for this manuscript. I was told to do a high-quality job.		

Figure 7-1. Band diagram representing the sweeps used in editing a “hardcopy” manuscript with ample editing time.

XYZ Manuscript				
i-viii, 1-4		5-27	28-30	36-page ms. 31-36
Careful familiarization sweep of intro and table of contents	Skimmed for familiarity	See below*	Skimmed for familiarity	1 hr
Comprehensive editing sweep	Comprehensive editing sweep	Skipped over — already edited	Comprehensive editing sweep	2 hr
Used search-and-replace feature on text editor to change Federal to federal when appropriate.				5 min
Comments: On-line editing with tight deadline. Ms. in decent shape except for one badly organized section.		* Noticed severe organizational problem; stopped to reorganize and did all necessary editing here.		

Figure 7-2. Band diagram representing the sweeps used in an on-line editing job under severe time constraints.

many factors, including the length and content of the document, its condition, the level of edit chosen, the available time, and the habits and preferences of the individual editor.

- Although familiarization takes up valuable time, greater familiarity tends to prevent emendation errors that would either lower the quality of the editing job or require more editing time later on. Also, greater familiarity enables the editor to edit at a more substantive level.
- A series of emendation sweeps devoted to specific kinds of problems adds quality but requires more time than a single comprehensive sweep.
- It is often desirable to deal with organization and other large-scale problems first and then go back and do further sweeps for style, mechanics, and other more specific and localized problems. On the other hand, it may be desirable to perform sweeps for smaller, discrete problems and at the same time to learn enough about the manuscript to make the large-scale emendations more confidently and effectively.

The class discussion of sweep strategy should not only provide students with specific knowledge about sweep

strategy but, more important, encourage them to develop the habit of devising their sweep strategies carefully and flexibly.

THE FUTURE: INTEGRATING MANUAL AND MACHINE SWEEPS

Already a considerable amount of editing is done on the computer screen, and the amount is very likely to increase. Consequently, the instructor may want to discuss how sweep strategy in on-line editing differs from editing on paper — the most notable difference probably being that in on-line editing the editor can use the search and replace feature to locate and emend words (or other character strings) without effort. But the differences between paper and on-line editing and the amount of on-line editing performed will almost certainly increase in the future as we move beyond spelling checkers and relatively primitive grammar checkers to more sophisticated tools for writers and editors. Eventually, the editor will be asking the computer to do certain kinds of sweeps and doing others himself, and so very new and interesting issues and procedures concerning sweep strategy will arise.

8: TIME CONSTRAINTS AND LEVELS OF EDIT

TECHNICAL EDITING IS INHERENTLY an organizational activity, and the editor must treat organizational constraints as part of the job rather than as extraneous factors that interfere with the true work of the editor. Among the most significant constraints imposed by the organizational context are time constraints and editing according to a level-of-edit system.

TIME CONSTRAINTS

Students, especially good ones, are accustomed from years of schooling to preparing their writing assignments meticulously; they polish their drafts repeatedly until they have produced their best possible written product. But when a student takes his first editing job, he will probably be directed on many occasions to edit quickly and, hence, at a level of quality that in at least some respects falls below what he learned to achieve in school. This demand may be the result of a deadline: "This proposal should be as smooth as possible, but it *must* go out by 2:00 this afternoon." Or it can be the result of an organizational decision that some documents only warrant a certain amount of attention: "Make this a 'quickie.' Just do it so the field reps can understand it." New editors are often startled and bewildered in these situations and may have great difficulty making the adjustment. Part of the instructor's job, then, is to prepare students for editing under severe time constraints.

Perhaps the first lesson students must learn is that there is nothing dishonorable or unprofessional about not giving a manuscript the most thorough and painstaking possible edit, but that performing the best and most appropriate editing job within a specified amount of time is a challenge and a test of the editor's talent. In this regard, there is much value in Lola Zook's phrase "the easy goal . . . of perfection" (1975). Also, David E. Vaughn offers some sound comments on the relationship between editing speed and quality and relates speed, quality, and manuscript length through graphic means in his highly interesting paper, "A Logical Approach to Editing Proposals, Reports, and Manuals" (1975).

The next lesson is learning how to use limited editing time to the best possible advantage. As Zook notes, we don't want our students to squander most of the available time tinkering with the first half of a manuscript and then to leave serious errors in the second half. Students should learn, therefore, that when there is insufficient time to fix everything, certain kinds of emendations must take priority over others, either because they represent greater improvements than other emendations or because they require a smaller investment of editing time. A useful means of showing students these relationships is presented in Table 8-1.

Clearly, Class A emendations should receive the highest priority because they are major improvements and yet require only a little time. On the other hand, Class D emendations are clearly a bad investment of time and should receive the lowest priority. There is some question in choosing between Classes B and C. I personally believe

	Small Investment of Time	Large Investment of Time
Major Improvement	Class A <i>Example:</i> Correcting a misleading pronoun reference prevents a passage from misleading the reader.	Class B <i>Example:</i> Reworking a garbled paragraph prevents the paragraph from being totally unclear to the reader.
Minor Improvement	Class C <i>Example:</i> Shortening a wordy clause to make a sentence more forceful.	Class D <i>Example:</i> Replacing the merely functional sentences the author has used as transitions between sections with more sophisticated and dramatic sentences.

Table 8-1. Relationships between the investment of time and the degree of improvement in editing.

that (under most circumstances at least) making major improvements (particularly improvements in clarity) should be given priority over a larger number of smaller improvements (particularly cosmetic ones). But there are certainly situations in which experienced editors choose to give a manuscript "polish" by making all the smaller, cosmetic changes, even though they pass over some larger and deeper-level problems.

There are several exercises and assignments that may be effectively employed to teach students how to deal with time constraints. One is simply to have students edit a manuscript within a severely limited amount of time. Another is to have students reexamine a manuscript they have edited "to perfection" and place a check mark above the emendations that they would want to make and believe they could make if they had been required to edit the manuscript in, say, two-thirds the time they actually took. This exercise enables students to consider carefully how they should edit under time constraints rather than to actually edit under time constraints. A third exercise is to have students examine a manuscript, edited under time constraints, in which very poor decisions were made. The students can analyze and critique this editor's decisions.

LEVEL-OF-EDIT SYSTEMS

More and more organizations are establishing level-of-edit systems — systematic guidelines stipulating the kinds of changes editors are to make under a given set of circumstances. Students, then, should be familiar with the level-of-edit concept, should have practice editing in accordance with one or more of the level-of-edit systems, and should

be able to analyze the assumptions that lie behind particular systems.

Probably the best-known level-of-edit system is that established at the Jet Propulsion Laboratory and described by Robert Van Buren and Mary Fran Buehler in *The Levels of Edit* (1980) and summarized by Buehler in "Controlled Flexibility in Technical Editing: The Levels-of-Edit Concept" (1977). *The Levels of Edit* makes a valuable reading assignment, especially since it presents and explains the rationale for a highly sophisticated level-of-edit system, shows the large number of policy and production considerations that can go into a level-of-edit system, and gives a good picture of how editing is conducted at one major research center.

Many other level-of-edit systems have been described in the technical communication literature, particularly in issues of the *Editorial Eye* (1981). A very interesting, though in places idiosyncratic, system is that of Brian Jarman (1980). Jarman assumes that a fixed amount of time is available for each crash editing job. He then determines, using his own records, the percentage this amount of time represents of the time he would require to edit the manuscript to perfection. Given this percentage, he edits from a set of guidelines that tell him what kinds of changes he can and cannot make in order to finish the job at the deadline.

In addition to gaining an acquaintance with the level-of-edit concept, students, on at least one occasion, should practice editing at a particular level of edit specified by one of the level-of-edit systems. In order to help students develop the discipline that this requires, the instructor should deduct points from the students' grades if they make any emendations not specified at that level of edit.

Although entry-level editors merely follow their organizations' level-of-edit systems, our students will

presumably advance to positions in which they manage other editors and establish communication policies for their organizations. Consequently, the instructor might want to give students an opportunity to develop a level-of-edit system that would meet the needs of a particular organization. This can be done conveniently by means of a case study describing the organization, the documents it prepares, the users of these documents, how the documents are used, indications of problems the organization has had with its documents, and the staffing of its publications department. Furthermore, it might be feasible to arrange for the students to devise, probably as a group project, a level-of-edit system for an actual organization.

If the instructor does not want to devote to the level-of-edit concept the time necessary to devise a full system, he or she can lead students through a class discussion in which they analyze a particular level-of-edit system or compare more than one. The students should be able to uncover various assumptions an organization has made about communication, the users of its documents, its technical publications staff, and so forth, by analyzing the organization's level-of-edit system. Together, an understanding of time constraints and levels of edit do much to bridge the gap between writing as it is practiced in the world of the student and as it is practiced in the professional world.

9: HOUSE STYLE

GRAMMAR HANDBOOKS SET FORTH THE generally accepted “rules” regarding many aspects of language and writing. There are, however, many issues concerning which there is no standard practice. In some cases this is because authorities are divided. In others, it is because no authoritative statements have been made. In still others, it is because the standard practice differs across fields of study. Some practices, especially those regarding format, differ even from organization to organization.

Many organizations definitely prefer certain practices over others and therefore establish a “house style” stipulating them. In addition, by stipulating one practice, these organizations achieve another important objective: they sharply reduce the amount of inconsistency in their publications.

House style can exist simply as a matter of tradition within an organization or as a requirement that new documents be patterned after previously published ones. Generally, however, organizations either devise their own style manuals or adopt those already in existence. The task of ensuring that documents adhere to house style requires care and discipline and falls partly to the writer but largely to the editor. House style, therefore, is a topic worth addressing in an editing course.

Many of the students entering an editing course will not have much of an idea of house style. They will certainly recognize that there are definite “rules” regarding many writing practices, that opinion is uncertain or divided regarding many other practices, and that in such cases two or more alternatives are often considered acceptable. But in many instances students will have a relaxed attitude toward these “optional” issues. For instance, they themselves may follow no particular practice (from document to document or even within a single document) regarding

such matters as hyphenation after prefixes, the integration of mathematics into text, and the use of the series comma. Moreover, they will be less attuned to the choices that were made about such “optional” matters by the authors of the manuscripts they edit. These students, consequently, will have to adjust to the extra degree of discipline entailed in following a house style.

The best way to accustom students to following house style is to have students perform at least one of their editing assignments in accordance with a style manual. Their success in adhering to house style should, of course, receive adequate emphasis in the grading and evaluation of the assignment.

The instructor may also find it useful to devise an exercise consisting of a manuscript in which the only deficiencies are failures to follow a specified style manual. Because the students will be focusing only on the issue of house style, the manuscript used can be considerably longer than those the students could be asked to edit for a wide range of problems. Also, the violations of house style can be relatively subtle ones. For instance, the manuscript might contain figures in which the final line of each caption was centered — while the style manual stipulates that the final lines of captions be set flush left. The students will have to attend carefully both to the style manual and to possible deviations from it in the manuscript.

This exercise makes a good in-class activity and works especially well when students work in groups. When the students work on the manuscript as an in-class exercise, they do not need to actually write in their emendations; consequently, if the instructor has devised a long manuscript, he or she can conserve resources by collecting the copies for subsequent use.

10: CONSISTENCY*

VERY OFTEN AN EDITOR WILL have no house style to follow when dealing with an issue about which there is no standard practice. Many organizations simply have no house style, and there are situations (such as single documents unrelated to any other) in which house style is not applicable — that is, not a reason for making particular choices. Most important, no organization's house style, no matter how thick the style manual that embodies it, can cover all the issues; every manuscript poses its own unusual and unique choices.

When an editor is making his own choices, he must adhere to them consistently throughout the manuscript, treating each element in accordance with his previous decisions. Also, the choices that create consistency among a group of elements should be the best ones possible. Achieving consistency and achieving the best kinds (or "patterns") of consistency among groups of related elements is an activity that takes up a significant portion of an editor's time and thus requires attention in an editing course. In addition, one of the means by which editors achieve consistency in manuscripts — the use of the editor's style sheet — should be covered in the course.

Just as most students are not accustomed to rigorously following house style, they are generally not accustomed to treating recurring elements consistently — at least not with the rigor required in professional editing. For instance, in a document containing several trademark notations, some students may not notice that the letters "TM" are in some instances circled and in some instances not. Likewise, some students may not notice that an author has used no pattern or criteria when choosing between spelling out the name of a state or using the postal abbreviation.

The instructor might choose to begin by explaining the communications rationale for consistency and by using sample passages to put the students in the place of a reader who encounters inconsistencies in a manuscript. They will see that there are at least two negative consequences: first, inconsistencies will often distract the reader and thus impair the reading process; second, they will often cause the reader to lower her assessment of the professionalism of the document, the people who wrote and edited it, and the organization it belongs to. Furthermore, students will see that consequences can be more serious than this. If, for instance, a writer uses two different abbreviations for one technical term, the reader may well assume that two different terms are being referred to.

The instructor may find it beneficial to offer students a quotation or two from authorities such as Apple Computer's Jonathan Price (1984). Price discusses the kinds of inconsistency and their effects and concludes that "After a while, inconsistency can drive even the most dedicated reader crazy" (p. 225).

GOOD AND BAD PATTERNS OF CONSISTENCY

When making decisions about consistency, the editor (or writer) is actually establishing patterns among groups of elements. Very often the pattern is simply one of uniformity

* Portions of this chapter are adapted from my study, "The Concept of Consistency in Writing and Editing" (Farkas, 1985).

— treating a series of elements in the same way. But at times the pattern can be based on some more complex principle — treating a group of related elements in a way that is coherent but not uniform. An editor, for instance, might punctuate list items not in a uniform way, but according to a pattern based on the syntax of the items making up each list. Devising the best possible pattern requires careful judgment. Three of the important criteria that editors use to devise the best possible pattern are that the pattern should be evident, functional, and worthwhile.

An editor, for instance, once chose to represent most of his figure references in the form “Figure” but chose “fig.” for references to figures that had already been referred to. But this distinction was not *evident* to the intended audience, and the figure references were perceived as inconsistent.

A pattern of consistency may be fully evident but not *functional*. The name-date system of documentation allows the author to choose between two kinds of in-text citations: placing the author’s last name and the date of publication in parentheses or just placing the date in parentheses. This choice permits the author more stylistic freedom and has other benefits as well. If a novice editor permitted only one of the forms to remain in a manuscript, the pattern of consistency being established would be evident but certainly not functional.

Finally, a pattern of consistency may be evident and functional, but establishing it may not be *worthwhile*. If an author has established a pattern of consistency and has followed it meticulously, the editor — unless constrained by house style — should ask if it is worthwhile to change each of those elements to achieve a pattern of consistency that is only slightly better than the author’s. Changing each element takes time and opens up the possibility of introducing new inconsistencies. The editor might well choose to leave the old pattern in place.

To gain experience in achieving appropriate patterns of consistency, the students should edit at least one manuscript in which the consistency problems are significant. Moreover, the instructor may wish to devise an exercise, paralleling the exercise described in Chapter 9 (“House Style”), in which the only deficiencies in the manuscript are those of

consistency. Again, the manuscript used in such an exercise can be longer than those regularly assigned, and the consistency issues can be subtle ones.

THE EDITOR’S STYLE SHEET

When an editor makes decisions about which there is no standard practice, he must keep track of those decisions. Otherwise, he will probably introduce inconsistencies into the manuscript when the same elements occur again. Editors, therefore, regularly record such decisions on an editor’s style sheet. Even when editors are adhering to a practice prescribed in a style manual, they often record what they have done on a style sheet for handy reference.

It is highly desirable, therefore, for the instructor to explain the role of an editor’s style sheet, to show students how to organize and maintain a style sheet, and to require that they use a style sheet regularly. It is also useful for students to examine a professionally maintained style sheet — especially if it was prepared for a manuscript they have just edited. Some editors organize style sheets by category (a section on capitalization, on spelling, on hyphenation, etc.), while others follow an alphabetical scheme (grouping all items, regardless of category, under sequences of letters: A-C, D-F, etc.). Students, therefore, should have a chance to examine and perhaps try both kinds.

If the assignments given in an editing course are short (fewer than, say, 10 pages), a style sheet may not really be necessary. Decisions about hyphenation, capitalization, and so forth may be few enough that the student can simply remember them rather than record them on a style sheet. Also, the penalty for having to skim back through a short manuscript to find out how a particular consistency issue was resolved is not great. In the case of short manuscripts, the instructor, I believe, should openly acknowledge that the style sheet may not really be necessary or even worthwhile — except as a learning experience, as preparation for the time when students will be editing long documents and editing documents jointly with other editors.

11: ESTIMATING EDITING TIME AND SPECIFYING A SYSTEM OF PAYMENT

EMPLOYERS EXPECT AN EDITOR TO be able to gauge how much time he will need to complete a particular editing assignment. In addition, the ability to specify an appropriate system of payment (whether it is an hourly rate, a fee, a range, etc.) is often a good skill to bring to an employer, since many publications departments charge client departments for the editing (and other publications work) they do and, in fact, often acquire (or fail to acquire) work on the basis of the system of payment they propose to a client department.

These skills are still more important to the freelancer. A bad estimate of time can result in losing a job or doing it for too little money. Even if the time is estimated accurately, a badly calculated system of payment can also cause the editor to lose the job or else wish he had lost it.

Estimating time and specifying a system of payment, therefore, are highly worthwhile topics in an editing course. Moreover, they are especially valuable as a conclusion to the course. For one thing, these topics are closely tied to sweep strategy and level of edit and thus constitute something of a course review. But more important, when covered at the end of the course, these topics create a kind of bridge from school work to the possibility of freelance editing, an activity which both gives students a more professional attitude and extends their education in editing beyond the duration of the course.

ESTIMATING EDITING TIME

Students, I have found, tend to estimate editing time very

inaccurately unless they are given guidance. They very often use a mechanical process of extrapolation (if the first 5 pages took 1 hour, the entire 50 pages will take 10 hours). They fail to recognize that the latter portion of a manuscript generally can be edited in significantly less time than the earlier portion, since the editor will have become familiar with the subject matter through the editing process and since many time-consuming decisions are made early on in the editing of the manuscript and need only be applied consistently in the latter portions.

The instructor should explain that in order to estimate accurately the students will have to perform some sort of a familiarization sweep of the manuscript, though probably not a careful examination of all of it. But whereas they previously performed the familiarization sweep to prepare themselves to edit effectively and to devise a sweep strategy, the function of the familiarization sweep is now being expanded to include making an accurate time estimate. Now they will be estimating the approximate time they will spend on each sweep they expect to make (as well as allowing time for some unanticipated sweeps) and will thereby come up with an estimate of the entire job.

To assist the students in estimating accurately, the instructor can indicate, perhaps as I have done below, some of the considerations to be kept in mind.

Difficulty of the Material — how hard will it be to read and understand the material well enough to edit it effectively?

Need for Research — is the manuscript complete and is the information accurate? On occasion, editors must do their

own research to check facts that seem inaccurate or to obtain information that is missing or indecipherable in the manuscript. References, in particular, often need to be checked.

Need for Querying — will the editor have to query the author on numerous occasions to obtain information and to determine what the author was trying to say? Will the queries be written ones or will they be communicated by voice?

Organization — to what extent will it be necessary to move blocks of poorly organized text from one place to another? This is one of the most time-consuming tasks in editing.

Prose Style and Frequency of Errors — how much line-by-line editing will the manuscript require? If the author has written in an unacceptable style or if she has constantly made errors (or both), the editor may have to make changes in every sentence.

House Style — is the editor free to make his own choices concerning issues in which there are no standard practices or will the editor have to consult a style manual (or some other document)? If the latter, is the style manual familiar to the editor? Unless the editor is familiar with the style manual, adhering to it will require extra time.

Production Responsibilities — how much production work is included in the job? Is the editor, for instance, expected to specify type families, family variations, and sizes for the printer, or to size photographs?

The Efficiency of the Editor — how much time relative to the speed of other editors will this editor require?

In order for students to factor into their estimates their own degree of efficiency, they will need a record (written or, at least, mental) of the time they required for previous editing jobs and, ideally, a record of their previous estimates and how accurate they turned out to be. Therefore, at the start of the course I suggest that the students begin estimating the time they will need for each assignment and recording the time actually required. This effort, I tell them, may not be of great immediate value to them since their first estimates will probably not be accurate and since their editing speed will be increasing considerably with each of their assignments. But I point out that recording this information is of some immediate value and is a good habit to develop. Also, I tell them how to record their editing time very conveniently, without any time-consuming calculations: they can simply take an unused electric clock, set it at 12:00, and pull the plug between intervals of editing work. For the last assignment, I require both an estimate and a statement of the time they actually required, and make the point that if they continue to record this information, they will eventually greatly improve their ability to estimate editing time.

SPECIFYING A SYSTEM OF PAYMENT

Once students can estimate editing time, the instructor can explain to them the arrangements that editors use most frequently to specify a system of payment for their editing work. The outlines of such a discussion might be something like the following.

Probably the simplest arrangement is an hourly rate, based presumably on the going rate, but with allowance for such factors as the editor's productivity and the quality of his work. Clients, however, are often reluctant to agree to a simple hourly rate, since the actual payment remains undetermined. Often, therefore, clients ask editors to stipulate instead a total dollar figure. The editor, then, will determine a fee, basing it on several factors, especially the hourly rate he wants to receive and an estimate of the hours that the work will require. To protect his economic interests, the editor will estimate the job very carefully, making sure he is not underestimating the time. At times, the client will let the editor use a simple hourly rate, with the proviso that the editor will not exceed a certain maximum figure. If that figure is comfortably high, the editor can proceed without expending time on a very careful time estimate. Sometimes a minimum as well as maximum will be stipulated, so that the editor's final fee will fall within a range. Finally, the client and editor, especially if the job is large, may agree that the editor will edit a section of the manuscript (using whatever system of payment that seems most appropriate) and then will negotiate a system of payment for the entire job. This allows the editor to make a more accurate estimate of the entire job and allows the client to see the quality of the editing before committing to the entire job.

The instructor may want to cover this topic more thoroughly; and if so, he or she might include a guest lecture by an active freelancer and some reading assignments on systems of payment, especially some of the short pieces on this subject that appear frequently in *The Editorial Eye*.

A ROLE-PLAYING ASSIGNMENT

Role-playing provides the basis for a valuable and lively assignment in which students practice estimating a manuscript, specifying a system of payment, and negotiating with an author. This assignment also gives students a chance to estimate time for a manuscript much longer than any that they are likely to actually edit during the course.

The assignment begins with an in-class activity. The instructor conducts an imaginary long-distance phone call with a student in which the instructor role-plays the author of a manuscript the class has already edited. The author, it seems, was pleased with the student's editing job and is interested in having the student edit the 300-page book that the author has just written. The book, explains the author, is similar to the shorter document in subject matter, level of technicality, and quality of

writing. Will the student, therefore — using the shorter document as a sample — call back in two days with a dollar figure for editing the book?

As an assignment for the next class period, the students are to prepare themselves for this phone call. They must reexamine the earlier editing assignment and use it as the basis of the fee they will propose to the author. They may also work out another system of payment to offer the author as an alternative to a fixed fee. Students should also be reminded that in specifying their fee and, possibly, an alternative system of payment and discussing these with the author, they will probably want to take some account of incidental expenses such as charges for telephone conferences with the author and for the expense of photocopying and mailing the completed manuscript.

During the next class period, I ask the students to discuss their time estimates and systems of payment as well

as how they plan to discuss these matters with the author. Then, once again taking on the role of the author, I will ask a few students to role-play this return call. These calls will generate lively class discussion.

This assignment can also include discussion of some of the other financial arrangements the author might have proposed, such as this one: "I have \$1,200 in my budget for editing. What kind of editing job will you do for that sum?"

In all phases of this assignment, class discussion will probably turn from time to time to the subject of freelancing and the experiences of the students who have freelanced and have therefore made financial arrangements with their clients. I encourage this discussion and make sure that it includes such topics as the local situation for freelancers, ways of finding freelance work, and the educational and professional value of doing freelance work.

12: DEVISING, PLACING COMMENTS ON, AND CONDUCTING A CLASS REVIEW OF EDITING ASSIGNMENTS

MANY OF THE CHAPTERS IN THIS monograph include comments or at least imply some ideas about devising, placing comments on, and conducting a class review of editing assignments. Here I wish to offer some thoughts on these activities, not as they pertain to particular chapter topics, but as they pertain to an editing course as a whole.

DEVISING ASSIGNMENTS

Most assignments in an editing course will consist of manuscripts to be edited. The instructor must therefore find suitable manuscripts, drawing both upon his or her own editing work, or the work of other editors, or both.

The instructor should provide students with a broad range of editing experiences. Students, for example, should have the opportunity to perform light editing, moderate editing, and heavy editing. They should also perform editing on manuscripts in which unintentional distortion is a major danger and, at least once, with the constraint that no querying is possible. Also, sometime during the term, each student should edit, not to perfection, but at a specified level of edit or on a crash basis. Furthermore, students should have the opportunity to edit to a style manual and without reference to a style manual, should deal with at least one manuscript in which consistency is a major problem, and should edit at least one manuscript on the computer screen.

If the instructor is going to provide a broad range of

editing experiences without assigning a very large number of manuscripts, he or she will have to plan carefully. The instructor will have to find manuscripts that provide several of these experiences at once — for instance, a manuscript that requires heavy editing and that must be edited to a style manual. A variation on this procedure is to ask students to submit two versions of the same editing assignment — for instance, a version in which the student queries freely and one in which querying is not permitted. The instructor will also have to select manuscripts that provide combinations of experiences that are appropriate to the juncture of the course in which each manuscript is assigned.

Finding the right combinations can prove difficult, even if the instructor has a file drawer full of edited material. If the instructor feels the need to use different assignments from one term to the next, the problem is more difficult still. The instructor of an editing course may therefore have to make frequent calls to technical communicators in the community to ask for manuscripts to use as course assignments.

But even if the instructor is not pleased with the prospect of hunting down suitable manuscripts, he or she should not, I believe, heavily “doctor” manuscripts in order to create the kinds of deficiencies that are appropriate for a particular assignment. A manuscript that has been heavily doctored to meet the requirements of an assignment will almost certainly be a totally synthetic artifact — behind it there will lie no real writer with an actual set of writing habits and strategies. Doctored manuscripts, therefore, make the editing experience less real and make it difficult

for students to learn a valuable editing skill: analyzing the writer and the circumstances of composition and using this information, where necessary, to make inferences about the writer's intended meaning.

Of course not every assignment in an editing course has to consist of a manuscript to be edited. The instructor can assign a term paper on a topic relevant to editing. It is also interesting to assign a paper in which students discuss how they would edit a certain manuscript or critique an editing job or compare how two editors (presumably with different training and habits) edited the same manuscript. A valuable resource in this regard is *One Book/Five Ways: The Publishing Procedures of Five University Presses* (1978). This fascinating volume documents a project in which five university presses simulated the process of publishing a single manuscript, and it includes one particular chapter of the manuscript edited by five different editors.

It is also possible to combine a term paper and an editing assignment in which one student edits another's writing. I assign and collect a term paper (written on a common topic), but also pair the students and have the pairs exchange with one another photocopies of their term papers. Each student, then, edits the other's work and the pair also meets for a conference during which each student assumes, in turn, both the role of the editor and the role of the author. As editor, the student explains the reasons for the emendations made on the other student's term paper and makes any queries that are necessary for completing the job. As author, the student comments on the editor's emendations and responds to queries. Each student then submits his or her editing of the other student's work along with a two-page memo describing and assessing the conference and explaining any significant issues which the two students still disagree upon.

I retain my copies of the term papers until I receive the editing assignments and so I can use my comments on each student's term paper in assessing the student who has edited that term paper. I then discuss the term paper and the editing assignments together.

This assignment has several benefits. It provides at least one editing experience in which the students have ample subject-matter knowledge, since they have themselves just researched and written on the same topic. In addition, it gives the students a chance to hold a real conference and to present real queries to a real author. Finally, it gives them the experience of being an author whose work is subjected to editing.

PLACING COMMENTS ON EDITING ASSIGNMENTS

Placing comments on student editing assignments is a complex and time-consuming enterprise. For one thing, there are many kinds of situations to look for and respond

to in editing assignments. For another, the instructor must choose how to respond — perhaps with a comment to the student, perhaps simply by emending a faulty passage, perhaps with both. There are procedures for streamlining the process of commenting on student assignments, but commenting effectively will remain one of the instructor's major tasks and major challenges.

There are indeed numerous situations that the instructor must take note of and respond to. It is necessary to notice and respond to passages which the student should have emended but did not; passages which the student did emend but should have left alone (either because nothing was wrong with them or because the level of edit precluded such a change); passages which needed emending but which were not improved by the emendation; and passages in which the emendation, while adequate for the passage itself, created a problem elsewhere in the manuscript. Furthermore, as discussed in Chapter 6 ("Preserving the Author's Meaning"), unclear and offensive queries also require responses from the instructor. Finally, the instructor, in addition to making note of students' failures, will want to make note of more-than-routine successes.

Choosing the most effective and most practical form of response requires fast but shrewd decisions. Often, the best procedure is not to make the correct emendation for the student but to offer only some guidance (a "hint"). An instructor, then, might write, "Isn't there a punctuation problem in this sentence?" or "Is the author being clear here?" The assumption behind such hints, of course, is that the student has the ability (and the motivation) to figure out what he or she should have done. When the instructor feels that the student will not be able to understand the hint or figure out what he or she should have done, the instructor will very often provide an emendation and a comment explaining it. When the situation is really complex or difficult, the best solution, I have found, is to write in the comment "See me on this" and to handle the problem orally. Looking in the other direction, if the student's error was merely an oversight, a simple correction without any comment at all may be fully adequate. These responses are in many respects similar to those instructors offer when grading student writing assignments.

There are several procedures that can streamline the grading process somewhat. One is to establish with the students a set of shorthand symbols to represent an instructor's most frequent responses. For instance, an exclamation point over a word might represent a clearcut deficiency in the original which the student has failed to spot and emend. A "J?" can mean, "Could you justify this change to the author?" And so forth. Often, however, the instructor will still need to add some commentary to a symbol.

When the instructor sees that a particular error is recurring throughout a student's editing assignment, he or she need not mark each occurrence — particularly if the instructor adds comments such as "and etc." at the point where the instructor will cease commenting on that error.

Finally, the instructor can also use the class review of the editing assignment to simplify the grading process,

especially in cases in which a problem would require detailed commentary and is recurring in numerous student papers. The instructor can simply make a personal note to discuss the problem in class and can then comment on it very briefly in the student papers that exhibit this problem.

REVIEWING

Comments on editing assignments are a form of communication that goes in only one direction, instructor to student. Also, students do not benefit from the comments the instructor puts on the work of other students. For these and other reasons, a thorough class review with extensive discussion of the manuscript the students have edited is, I believe, highly desirable.

A thorough review of a manuscript can consume a great deal of valuable class time — perhaps three or four class hours — especially when the manuscripts are long, when the class size is large, and when the manuscript has significantly challenged the students' abilities. But this expenditure of time will almost certainly be worthwhile.

There are several procedures for directing a class discussion to each of the various problems and passages that warrant comment. The first is simply to go through the manuscript linearly, from beginning to end. Another possibility is to go through it linearly, but in more than one sweep, starting with the most important issues and proceeding with the less. A third possibility is to discuss all the occurrences of a particular problem at one time. Very likely the instructor will want to use more than one of these procedures when reviewing an editing assignment.

The review process takes place more quickly and productively if the instructor distributes a professionally edited version of the class assignment. The instructor, however, must resist the tendency to assume that only his or her emendations are the correct ones. In fact, it is desirable to distribute a triple-spaced version of the corrected manuscript that contains more than one emendation of the manuscript's more problematic deficiencies. It is also helpful to display the original manuscript on a transparency projector and for the students as well as the instructor to indicate various emendations using a grease pencil.

APPENDIX A:

THREE COMPOSITE DESCRIPTIONS OF TYPICAL WORK SETTINGS

COMPOSITE 1:

THE METRO MEDICAL INSTITUTE

The Metro Medical Institute is a large, nonprofit medical research center located in a major East Coast city. It is funded by its own endowment, by federal and foundation grants, and by its own fund-raising activities. In addition to having its own staff of researchers and support personnel, the Institute shares staff with the medical college of a local university. The Institute consists physically of three large buildings (now connected with enclosed walkways) in a park-like setting in an older downtown neighborhood.

The Editing Group consists of a director, two senior editors, two junior staff editors, an editorial assistant, three part-time proofreaders, two editorial typists, and a receptionist-secretary. The director and the senior editors have humanities degrees and no formal training in the life sciences. One of the two junior staff editors has a B.S. degree in biology; the other has a B.A. degree in technical communication, a degree which includes six upper-division biology courses. All of the editors have developed a good background in medical research on the job. The editorial assistant and one of the proofreaders are interested in careers in technical communication, and they both do occasional editing under the supervision of a senior editor.

The main activity of the Editing Group is the editing of articles that the researchers have written for publication in medical journals throughout the world. Researchers send typescript drafts of their manuscripts to Editing – often after the manuscripts have been reviewed informally by

other researchers, both at the Institute and elsewhere. The director assigns each manuscript to an editor, often giving the particularly difficult manuscripts to a senior editor. Often, researchers request particular editors, and occasionally they request that their material *not* be assigned to a particular editor.

The editor edits the draft thoroughly and slowly, working to achieve the very highest level of quality. Many journals and professional organizations in the life sciences have their own style and format requirements; consequently, the Editing Group maintains a collection of style manuals (as well as standard references) and frequently makes use of the Institute's library to examine the format and style of journals for which an article is being prepared. The library is also used to check on possible errors in manuscripts.

Editors often schedule meetings with authors, especially to query authors about difficult-to-follow passages in their manuscripts. At times authors go on leave, and so the editor will mail the author a photocopy of the manuscript and a set of written queries. A few of the researchers are non-native speakers of English with very poor writing skills, and editors occasionally sit down with these people for extended periods of time and help them write up their research paragraph by paragraph.

Many of the authors' manuscripts contain tables, graphs, photographs, and other graphic material, and generally the authors are required by the journals to prepare graphics that are ready for printing. When a journal requires "camera-ready" graphics, they are generally prepared from the

author's rough versions or according to her directions by the Institute's Medical Photography Unit. The editors from the Editing Group, however, edit the graphics (either in the rough or the camera-ready stage, or both) to make sure that each graph, table, and photograph communicates the appropriate information and communicates it effectively. Editors, for example, often are the ones to point out when the data points on a graph are too faint, when a table needs to be reorganized, and when a photograph needs to be cropped to call more attention to its important features.

When a medical journal asks an author to revise a manuscript she has submitted, the editors generally assist in this process. When a manuscript has been accepted for publication and the galleys or page proofs are returned to the author, they are proofread by the proofreaders in the Editing Group.

The Institute's researchers are very supportive of the activities of the Editing Group. By and large, they are not good writers, and universally they wish to concentrate on research and let communication specialists perform as much of the communication function as possible. Also, they feel that because of the efforts of the Editing Group their research is accepted by more influential journals and is far clearer and more useful than it would otherwise be.

COMPOSITE 2:

STONEHENGE SOFTWARE

Stonehenge Software is a medium-sized software house that develops products for home and business users. It is growing rapidly, and during the last five years has moved into several increasingly larger buildings in a Silicon Valley community.

Most Stonehenge employees are programmers and most are less than 35 years old. Dress is informal and eccentric behavior is routine, but appearances are somewhat deceiving, for the workloads are heavy, the pressure to develop innovative products is great, and the deadlines are often tight. The atmosphere at Stonehenge ranges from happy confusion to screaming panic. "Meetings" are often held in the corridors, and there is always noise and confusion. Stonehenge employees often work away from their desks, and it can be impossible to find someone.

Every piece of software requires several of the following documents: a user's manual, an in-house product-support manual, tutorials (both in paper and diskette form), training aids for trainers who conduct classes in the use of new software products, a product catalog, and marketing brochures. In addition, various financial documents, including an annual report, are prepared.

Each document is produced by one or more of the technical writers, depending upon the size of the project and the deadline. The writers work from the product development notes kept by the programmers who did the

programming for the product, but they also run the software on their own computers and write from what happens on the screen. They can also get information directly from the programmers, though these people can be difficult to find in a hurry.

The documentation process rarely goes smoothly. Often the product doesn't do what the development notes say it should, and often the documentation cannot be completed because work on the product itself is not yet complete — even though it may be only a few weeks before the product is due to be released.

Writers sometimes do their own editing, but there is also a staff of editors who take on many of the manuals (as well as the other documents) in the draft stage. When time permits, the editors begin their work by assuming the role of trial users, often running the product according to the instructions in the draft version of the manual. Then they edit for clarity as well as for style, grammar, mechanics, and consistency. Since there is no company style manual the editors (and writers) use the better of the previously published manuals as a style guide.

There is a level-of-edit system, although it is informal. Marketing materials, documentation for popular consumer and business products, and external financial reports receive the most careful writing and editing as well as the most elaborate production. Products that do not generate much revenue and products that will be used by computer specialists get less careful treatment. In fact, more than once manuals for such products have been partly indecipherable or in significant ways have not corresponded to what the products actually did. The least care is given to documentation that will be used only within Stonehenge, on the theory that Stonehenge people can ask someone when they need help.

Stonehenge has a production editor who supervises three assistant production editors and an illustrator-photographer. All printing is done externally, except for the photocopying of in-house product-support material and rush-deadline updates.

On the less elaborate publications, the writers and editors establish the layout or follow an established layout and mark the copy for the typesetter. The writers and editors also specify routine art such as diagrams, flowcharts, and photographs of computer screen displays. Once the material comes back to the printer in galley form, the Production Department takes over.

On the more elaborate and more important publications, a production editor establishes specifications for format, graphics, and printing. These publications are often printed in full color. When a particularly important document or series of documents is being planned, a production editor will hire a graphic designer on a project basis. Also, an outside photographer or artist may be hired for special projects.

Stonehenge has often been criticized for the quality of their documentation, and they recognize the need to improve it. The documentation staff is thus becoming larger and considerably more influential within the company.

COMPOSITE 3:***THE QUERN CORPORATION***

The QUERN Corporation is a highly diversified manufacturer of industrial and military equipment. The Propulsion Systems Division has several large, long-term contracts with the Defense Department, including a billion-dollar contract to design, manufacture, and provide documentation for radar- and laser-controlled missiles and their launchers for naval warships. This division is located in a large complex of factories, warehouses, and offices in a midwestern city. The entire complex is surrounded by chain-link fence, and tight security is maintained.

The Documentation Department prepares installation, operation, and maintenance manuals (including frequent updates) for these military systems. Some of these manuals are used by highly trained technicians; others are used by military personnel with grade-school educations. The Documentation Department also prepares a variety of other documents, including massive proposals for new weapons systems.

The Department consists of a Manager and 3 Assistant Managers, 5 Project Supervisors, and about 50 Writer-Editors. The Writer-Editors are classified as junior, staff, or senior, depending on their experience and ability. There is also a six-person printshop and a secretarial staff. Because of the technologies in use in the Documentation Department, no production personnel are needed. More than half of the Writer-Editors have degrees in engineering or science; most of the others have had extensive coursework in a technical area. Those without technical coursework have gradually acquired considerable technical knowledge through their years of experience at QUERN and other companies. When projects are important and deadlines are tight, engineers from various units of QUERN may be assigned temporarily to the Documentation Department to enable the documentation people to get their technical questions answered quickly.

The Documentation Department is expected to maintain very high standards of productivity and quality, and toward this end is supported by state-of-the-art technology. There is a highly sophisticated electronic publishing system that is wired to all of the engineering departments in the Division. The printshop has the best and most modern equipment, and can produce manuals in any format down to microfiche.

When projects are initiated, there are meetings among

the following individuals: the Manager (or an Assistant Manager), one of the Project Supervisors, managers from the engineering departments and perhaps other departments, and, at times, military people who will receive the weapon system. An overall plan and outline for the documentation is established, a schedule and budget are agreed upon, a group of technical reviewers are designated, the Writer-Editors who will work on the project are chosen, and the work begins.

The electronic publishing system is the technological core of the Documentation Department. It receives and stores all of the engineering reports, testing data, and graphics that the Writer-Editors will need. The Writer-Editors call up this source material on their terminals and build their sections of the manuals from it. The Writer-Editors can modify the graphics they receive in almost any way they choose. They can also call up (but not alter) sections of a manual being prepared by other Writer-Editors. As they work, the Writer-Editors can draw upon special computer programs that check spelling (including specialized technical names and trade names) and catch certain lapses in grammar, punctuation, and style. Dictionary programs provide definitions or detailed explanations of technical terms, including those pertaining only to QUERN technology.

Each completed draft section is sent back electronically to an engineer for technical review. Queries may be written onto the screen or discussed either on the phone or face-to-face. At various stages, the Manager or an Assistant Manager reviews the progress being made on each document by calling the material up on her terminal.

After the review by the engineering departments is completed, the entire manual is formatted and paginated so that it appears on the screen exactly as it will exist on paper. The Manager or an Assistant Manager then conducts a final review of the document, and, if it passes, sends it, as a screen document, for review by higher-ups in QUERN and in Washington. When all necessary approvals have been obtained and all last-minute changes made, the document is sent to the computerized typesetter in the printshop, which produces camera-ready pages. Shorter manuals are often printed and bound in two days. Almost all the manuals are in and out of the printshop within a week. Many of the manuals are stored not only in paper form but in computers at the locations where they may be needed. Navy manuals, for instance, are often stored in computers located in Washington, at major naval bases, and aboard ship.

APPENDIX B: A SAMPLE SYLLABUS

Presented below is one possible syllabus for an editing course that incorporates the principles and many of the specific pedagogical suggestions presented in this monograph. There are certainly many other equally effective ways of developing an editing course from this monograph. My own practice, in fact, is to modify the course in significant ways each time I teach it.

The syllabus presented here is for a one-quarter course with two 2-hour class periods each week. Production is not covered here, because at my institution we have a separate production course.

Week 1

Tuesday October 1

Introduction to course/Policies and procedures/"Editing": definitions and distinctions/Editing as part of the publications process/The range of work settings – introduction

Assigned for October 3: "Three Composite Descriptions of Typical Work Settings"/Clements and Waite, 1-19 and 20-22/Grice, "Using an Online Workbook to Produce Documentation"

Thursday October 3

The range of work settings/Editing marks – part 1: discussion and exercises/The editor's style sheet/Introduce Project #1 (editing a well-written manuscript to perfection)

Assigned for October 8: Buehler, "Situational Editing"/Farkas, "The Problem of Consistency in Writing and Editing"

Due October 10: Project # 1

Week 2

Tuesday October 8

Substantive vs. surface editing/Situational editing/Using an editor's style sheet and achieving internal consistency/Querying – part 1/Interim discussion of Project # 1

Thursday October 10 DUE TODAY: PROJECT #1

Introduce Project #3 (term paper) and Project #4 (editing another student's term paper)/Exercises in situational editing

Due October 31: Project #3 (one copy for instructor; one copy for exchange with student)

Week 3

Tuesday October 15

Review Project #1 and related language problems/Introduce Project #2

Due October 22: Project #2 (edit a poorly written manuscript to perfection – Version A, with querying; Version B, no querying possible)

Thursday October 17

Preserving the author's meaning/Querying — part 2
and querying exercises/Editing marks — part 2/
Interim discussion of Project #2

Assigned for October 22: Clements and Waite, 23-27

Week 4**Tuesday October 22 DUE TODAY: PROJECT # 2**

External consistency/Exercises in editing to a style
manual/Proofreading and exercises

Thursday October 24

Sweep strategies/Interim discussion of Project #3

Week 5**Tuesday October 29**

Review Project #2 and related language problems

Assigned for October 31: Van Buren and Buehler,
The Levels of Edit/Vaughn, "A Logical Approach To
Editing Reports, Proposals, and Manuals"/Selec-
tions from *The Editorial Eye*

Thursday October 31 DUE TODAY: PROJECT #3

Time constraints/Crash editing and exercise/Level-of-
edit systems/Students pair up and arrange to meet
out of class during Week 6 to discuss their editing
of one another's term paper

Assigned for November 5: Clements and Waite, 29-47

Week 6**Tuesday November 5**

Review Project #3

Thursday November 7

Editing mathematics and graphics and exercises/
Catching substantive errors in a manuscript/Achieving
external consistency on a group editing project —
part 1

Assigned for November 12: Farkas, "How Will We
Edit Electronically Transmitted Text?"

Week 7**Tuesday November 12 DUE TODAY: PROJECT #4**

The problem of electronic editing/Introduce Project
#5 (moderately deficient document edited on-line
and according to a style guide — Version A, edited
to perfection; Version B, edited according to a speci-
fied level of edit)

Thursday November 14

Guest presentation and informal discussion

Week 8**Tuesday November 19**

Estimating editing time and specifying payment/
Freelancing: now and later/Interim discussion of
Project #5

Assigned for November 21: Exercise in estimating
editing time and specifying payment

Thursday November 21

Exercise in estimating editing time and specifying
payment/Achieving external consistency on a group
editing project — part 2

Week 9**Tuesday November 26 DUE TODAY: PROJECT #5**

Review Project #4 and related language problems

Thursday November 28 THANKSGIVING**Week 10****Tuesday December 3**

Review Project #5 and related language problems/
Assessment of the success of our procedures for
electronic editing

Thursday December 5

Workshop on computerized editing techniques

Week 11**Tuesday December 10**

Course review/Course evaluation

No Final Exam

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