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Abstract

Those working in editing and publishing have seen many changes over the past decade - changes in the way text is handled, artwork prepared and type set. Most of these changes have been brought about by the introduction of microcomputers into the work areas of editors, typographers, artists, and secretaries.

The Microcomputer, New Publishing Technology, And The Impact on The Editor's Role

By Thomas W. Knecht

Those working in editing and publishing have seen many changes over the past decade—changes in the way text is handled, artwork prepared and type set. Most of these changes have been brought about by the introduction of microcomputers into the work areas of editors, typographers, artists, and secretaries.

Although the changes are not as dramatic or far-reaching as those brought about by the invention of movable type, the impact of the microcomputer rivals that of the Linotype machine and the offset press.

In 1986, the author conducted an informal survey of agricultural information units at land-grant colleges throughout the United States to determine how widely the new microcomputer technology has been adopted. Editors at more than 80 percent of the responding institutions had direct access to a computer or terminal. Only 7 percent had no plans to provide editors with screens and keyboards. Only a few years earlier, a majority of writers, editors, and even some of the information unit managers in the land-grant system were only dimly aware of the microcomputer's full potential for publications work.

The personal computer, which originally was developed primarily to help people handle numerical information, is now used more extensively to manipulate words than numbers, making word processing the foremost application of personal computers in homes and offices. It is now possible to purchase a microcomputer with two disk drives and substantial internal memory for less than the cost of an IBM Selectric II typewriter several years ago.

And it is no wonder. Certainly it is difficult—in some cases beyond human capabilities—to perform mathematical operations on large blocks of quantitative data by hand. But it is also hard to handle large blocks of text by manual methods, and in businesses and homes there are more people who must deal with words than with numbers.

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The Traditional Publishing Process

It is not news to those who have worked even a short time in the publishing field that the transformation of ideas in the author's mind to typeset words printed on paper is a complex, tedious, and time-consuming process.

As editors, we sometimes forget that the author puts a great deal of work into a manuscript before we ever see it. He or she may go through several revisions, each requiring a complete or partial retyping. Then the manuscript is sent out for review. When it comes back, the author may have to incorporate further revisions, requiring yet another retyping to clean up the manuscript before it goes to the editor.

When the editor receives the manuscript, he or she marks it up and, often, must clear the changes with the author. If the manuscript is heavily marked, it may have to go through yet another retyping before it goes to the typesetter, who then faithfully repeats every keystroke just made by the typist.

One of the most unpleasant burdens inherent in this traditional way of handling manuscripts is that the text must be proofread every time it is rekeystroked.

Computer-Assisted Publishing

If a means is provided to transfer keystrokes electronically from author to editor to typesetter, the process becomes much simpler. Let us suppose that the author has a word processing system (perhaps an IBM-compatible personal computer with word processing software), that the editor has a similar setup, and that the typographer's system can read the diskettes from these word processing systems. With this arrangement, the author can create the text using a computer—or have a secretary type it into the computer. The keystrokes can thus be captured at the very outset of the project. Now if the author wants to make changes—or if the reviewers insist on it—changes may be keyed into the stored document and a clean printout prepared without having to retype the entire manuscript.

The printout and diskette can then go to the editor. The editor can call the document up on the computer screen and start correcting its imperfections. Or the editing can be done on the printout and a secretary can be asked to key the corrections into the version stored on the diskette. Regardless of who does the keystroking, the edited draft can be prepared without retyping the document. The editor can transfer the clean edited manuscript via diskette to the typesetter, who can prepare galleys simply by adding the necessary typesetting command codes.

The survey mentioned earlier indicated that about the same percentage of information units as had equipped their publication editors with screens and keyboards also had interfaced their

Knecht: The Microcomputer, New Publishing Technology, And The Impact on T systems to some type of finished-quality output device such as a typesetting system or laser printer. This high percentage should not be surprising, because the ability to transfer manuscripts directly to the typesetting system is what gives computerized systems their speed and cost advantages. In other words, that is how the expensive electronic equipment can be made to pay for itself.

Computers and the Graphic Designer

While the author, editor, and typographer have been learning to talk to each other electronically, the world of the artist has been changing, too. It is quite possible for a designer today—if given enough money—to throw away all of the traditional pens, pencils, tape, T-squares, triangles, and Zip-a-Tone and replace them with a computer, a graphics tablet or mouse, and some type of graphics output device like a plotter or camera. Using the computer equipment and appropriate software, artists can create and manipulate images in any way they could on the drawing board—in fact, in some ways that would be impossible with physical materials.

Merging Text and Images

Until recently it was not possible for images from word processors and graphic design systems to merge effectively except on that physical medium called the mechanical or pasteup. On many of the current phototypesetting systems it is possible to prepare entire pages with everything but illustrations in place. The typesetting system can produce finished pages, with all text, running heads, page numbers, rules, and even opaque “windows” for halftones in place. Even so, it still is necessary to paste in line art.

Desktop publishing systems carry the process to completion. For less than \$7,000 it is now possible to purchase a complete desktop publishing system with which one can create and edit text using word processing software, create and edit artwork with graphics software, select clip art from a large file of stored images, and then combine the text and graphic images into a page layout that appears on the screen exactly as it will look on the printed page. Once the page image is in final form, it can be sent to a laser printer to produce camera-ready copy that the average person will mistake for typeset.

Desktop publishing is a giant step forward for publications work. It makes it possible to integrate the various parts of the process into one automated system. There are, of course, some things that a desktop publishing system cannot do—four-color artwork, for example—but for run-of-the-mill publications that

must be done fast and at minimum cost, it will quickly become indispensable.

This background information is presented at the risk of boring the many readers who are already familiar with microcomputers and their benefits in publications work. It is important, however, to look at where we have been to get a better view of where we are now and where we are going.

When a new technology is introduced it is not uncommon to focus on the many advantages and opportunities it provides while forgetting that adjustments must be made in the way we organize our work and divide responsibilities among individuals. I would therefore like to draw your attention to the matter of how we have adjusted—or can adjust—to these new machines in our work environment.

CHANGES IN ROLES AND WORK RELATIONSHIPS

Whenever new equipment is brought into the workplace, things change. Procedures change, interrelationships change, and sometimes division of labor changes. For example, many editors used to write letters longhand and give them to the secretary to type. With new technology, that job is made more efficient. In addition to the time savings, however, there is an unintended side effect: the secretary's work load is lessened. That is beneficial if—and only if—is found some other way to make good use of the time saved.

The editor has traditionally performed three basic functions in the publishing process: helping people plan their publications, doing the actual editing, and (in many publication offices) serving as project manager. In this discussion we will examine how the introduction of automated text handling is changing the role of the editor and of the other people involved in the publishing process.

Traditional Roles

Figure 1 shows how responsibilities for various aspects of the publishing process might be divided in a typical communications unit before the introduction of computers. The editor's primary responsibilities are editing, proofreading, and project coordination. The latter task involves arranging for services—such as typesetting, proofreading, design, printing, and sometimes distribution—and keeping the entire project on schedule.

The artist or designer is responsible for the visual aspects of the project. In some communication units, the tasks marked with asterisks in this chart are the responsibility of the editor rather than the artist. The typographer has traditionally been responsible for keystroking the manuscript into the typesetting system, producing galley proofs, and making type corrections.

FIGURE 1.

Typical Division of Labor in a Conventional Publishing System

EDITOR	ARTIST	TYPOGRAPHER	PROOFREADER
• Edit MS • Proof galley • Proof pages • Coordinate project	• Specify type* • Design cover • Develop page design* • Prepare illustrations • Prepare camera-ready art	• Rekeystroke MS • Add typesetting commands • Produce galley • Key in corrections	• Proof galley • Proof pages

In many print shops a proofreader carefully checks the typeset galley and marks corrections. But the editor usually reads the proof, too, and, of course, the author is almost always given an opportunity to see both galley and page proofs.

Changes in Responsibilities

As we have moved more toward automated systems, we have seen some interesting shifts in responsibilities. It is worth examining these changes to ensure that we are making best use of the time and talents of each specialist involved in the publishing process.

Let me illustrate with a brief example. Suppose that the editor receives a manuscript on paper and edits it in pencil. When finished, the editor asks the secretary to type the edited draft into the computer and store the manuscript on a diskette. After the author has approved the editorial changes, the editor can take the diskette to the typographer so that the manuscript can be typeset with rekeystroking it. Thus we have shifted the bulk of the keystroking work from the typographer to the secretary. This change is likely to be efficient because a secretary's time generally costs less than a typographer's.

It is possible to save even more on typesetting charges if, in addition to furnishing the typographer with stored keystrokes, we also embed typesetting machine commands among those keystrokes. Because some knowledge of typography is required, this task is a little too complicated for a secretary to handle without special training. Thus the task of embedding the codes will likely fall to the lot of the editor. Is this new responsibility a good use of the editor's time? It takes considerably more time to introduce typesetter command codes throughout a document on the computer than it does to mark type specifications in pencil on a typed copy. By asking the editor to perform this additional task, we shift one of the typographer's responsibilities to the editor.

This may or may not be a net savings, depending on their respective salaries. And if the number of available editors is limited, we may have saved some money but left ourselves short-handed in the editorial section.

For the sake of contrast let us now compare one possible division of labor when a desktop publishing system is introduced into the editorial office (Figure 2). In this schema the editor now has virtually all the capabilities of the artist and typographer at his or her fingertips.

FIGURE 2.
Possible Division of Labor
with a Desktop Publishing System

EDITOR	ARTIST	TYPOGRAPHER	PROOFREADER
• Edit MS • Prepare illustrations • Design cover • Develop page design • Select typefaces • Lay out pages • Produce pages • Read page proofs • Key in corrections • Produce camera-ready art	• Knit	• Play cards	• Go for walks

In some offices, particularly those where the services of an artist and typographer have not been readily accessible, the desktop publishing system can mean a significant increase in capabilities and improvement in quality. But in situations where designers and typographers are available in house or nearby, the advent of desktop publishing can—or should—raise some important questions about how responsibilities will be divided.

First, if the editor does everything—even if done efficiently with an automated system—then more time is spent on every publication. That will mean that if the office already has a full editorial work load, it will have an *unmanageable* editorial work load when the desktop publishing system arrives, unless preventive measures are taken.

One possible solution is to lay off a few artists and typesetters and use the salary savings to hire more editors. But, that approach can have some practical and political drawbacks. Another possibility is to put the desktop publishing system on the desk of the artist or typographer. That approach would allow these professionals to do *their* work more efficiently.

Another important consideration is quality. After years of experience, some editors develop a good eye for typography and

design, but some never reach the same level of ability as someone who has been specially trained and has had practical experience in these fields. A few editors have reached that level, and they will do well with a desktop publishing system.

The truth is that a trained designer will almost always design better than an editor, and a typographer will have a better grasp of typography. When the editor takes over the chores of these other specialists, something is lost.

Again, a possible solution is to make the desktop publishing system available to the designer and, perhaps, the typographer. Ideally, manuscript and rough illustrations produced on a computer by the author could be transferred electronically to the editor, who would edit it and then pass it on electronically to the designer. The various stages of proof could be sent back to the author and editor either electronically or as a printout. When the publication is ready to go to press it could be directed to the typesetting system, where complete camera-ready pages would be produced. This way the labor would be divided more evenly and the expertise of several specialists would be brought to bear on the publication.

Communicator's Role

As professionals, communicators should take the time to look closely at work habits so that we do not fall into ineffective patterns. For example, we may be tempted—for the sake of expediency—to keyboard or do other tasks on our desktop computers that should be done by others.

Just as in a political system, it is dangerous in publishing to concentrate too much power in the hands of too few individuals. The more people involved in preparing a publication for the press, the more there are to catch errors and oversights. Most honest editors will tell you that they have, more than once, been saved from an embarrassing mistake by the sharp eye of an artist, typesetter, or author.

Another factor to consider is the amount of expertise that the editor must have if he or she is expected to “fly solo.” It is not common in screening applicants for editorial positions to find highly experienced editors with advanced design skills and a knowledge of computer systems. Applicants seldom possess design backgrounds or knowledge of typography. Only recently have applicants for editorial positions begun to include among their credentials the ability to operate a word processing system or personal computer.

If the publications unit develops a system in which the editor is expected to be not only a skilled editor but also a competent project manager, talented designer, efficient typesetter, and experienced computer operator, it is certain to be more difficult

than ever to fill positions with people who can become productive employees with a minimum of training.

Looking at this situation from the applicant's viewpoint, the successful professional must keep abreast of new technologies. A sizable percentage of the respondents in the survey mentioned earlier reported that computer "literacy"—or at least familiarity with word processing systems—is now among the criteria they consider in reviewing candidates for editorial positions. If an editor applies for a position in a publications unit where fully computerized publishing systems are used, the chances of success will be greater if he or she can offer not only the traditional capabilities but also computer literacy, design abilities, and a working knowledge of typography.

SUMMARY

Automated publishing systems offer new and exciting capabilities. As we incorporate these systems into land-grant organizations, we should not allow their dazzling capabilities to blind us to the impact they will have on our work habits and division of labor. We must devote conscious effort to adjusting procedures and responsibilities so as to take full advantage, not only of the new technology, but also of the expertise of our professionals. We must be careful not to place demands on staff members which they may not be equipped to handle. In some cases, we will need to encourage them to seek further training. At the same time, we must make sure that our editors, artists, and typographers are provided with challenging and stimulating assignments.
