

RESEARCH IN WORD PROCESSING NEWSLETTER

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OUTLINING
COMES OF
AGE**

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DESKTOP PUBLISHING THAT ANYONE CAN DO

William J. McCleary

Anyone following developments in the microcomputer field has by now noted the trend to "desktop publishing." The term refers to the use of micros to lay out on the screen a whole page of a newsletter and then print out the entire page at once. This avoids the time and expense of the old typeset-cut-and-paste method of layout and lets the newsletter editor have far more control of the production.

The best desktop publishing programs produce nice-looking newsletters with text of near-typeset quality, along with sharp graphics, multi-column format, variable font sizes, and other amenities. Unfortunately, using the best programs also costs a lot of money. One needs a computer with tons of RAM, a laser printer, a high powered word processing program, and a page makeup program. Expenditures will be \$11,000 at least, big bucks to the average college professor.

At the other end of the price scale are programs like *The Newsroom*, which operate on ordinary computers and ordinary dot matrix printers. Like the high priced programs, they provide columns, graphics, and some choice of fonts. However, some people find the "dot matrix look" of the text and the graphics unattractive if not unreadable. Also, the choices of fonts are limited and the graphics are not always useful, there being only so many ways a person doing newsletters for professional audiences can use puppy dogs and American flags.

Fortunately, though, if one is willing to drop the requirement that the program produce a whole page at once, an ordinary computer set-up can still be useful in producing newsletters that look almost professionally typeset. Would-be publishers can start with whatever computer they already own, a daisywheel printer that will do proportional spacing (and almost all of them will), and trusty old *WordStar* for word processing. Also needed will be a proportional spacing program to assist *WordStar*, a large-type program such as *FancyFont*, and a friend who will lend the use of his or her dot matrix printer for half an hour or so whenever an issue of the newsletter is in the final stages of production. Oh yes, it's also nice to have a collection of artwork--line drawings of various kinds. Buying a selection from an artwork service is preferable, but some people clip their artwork from ads and magazines.

Just a few years ago most people would have thought such a set-up exotic, expensive, and high tech, but today it's ordinary and available to almost every professional employee. For example, I am using such an ordinary set-up to publish a newsletter about writing-across-the curriculum for about 125 professional employees at my school. I set the text of my newsletters on a Kaypro 4 CP/M machine with just 64K of RAM, using the *WordStar 3.3* that came with my Kaypro. To take advantage of the proportional spacing capability of my inexpensive Comrex CR II daisywheel printer, I first bought an appropriate daisywheel, Anelia PS, from Brother, since the Comrex is really a Brother underneath. Then, to make *WordStar* do proportional spacing, I bought an auxiliary program called *ProportionalStar*, from Writing Consultants of Fairport, New York. Installing *ProportionalStar* on a diskette with *WordStar* is, for most people, easily accomplished with a menu-driven installation program. The same program also allows one to get into the character-width tables and change the widths of any characters that don't appear correctly spaced on a particular printer. Other companies claim to have better programs than *ProportionalStar*, but I don't have the money to find out. For the large type, I borrow the use of an IBM PC that is connected to an Epson dot matrix printer. I would have preferred the *FancyFont* as the program but for various reasons chose *Megatype* instead. *Megatype* is not very versatile and does not produce type that looks as nice as *FancyFont*'s, but it is cheap and can be operated with only four or five commands. It's hard to hate a program like that.

With these tools I can produce the text and large type for my newsletter. However, where the new technology allows one to make up an entire page on the computer screen, I must put together my pages with scissors and rubber cement, just like in the "old days." I cut out the columns of type, the headlines, and the graphics, arrange and rearrange them on the page until they look right, and then glue them down. (*ProportionalStar* will produce multiple columns, but this requires more planning ahead than I am willing to do.) It may be slow and a bit messy, but it works. Furthermore, it has several advantages over other methods.

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The primary advantage of my method is that I do have proportionally-spaced text (a great improvement over typewriter-style text) and right-justified columns. Even some of the most expensive page programs can't do right justification. I can and do use a variety of column widths, from full page (about 7½ inches) to one narrow enough to fit into a column with a border. Equally important, I still have all the advantages of word processing. The ease of correction allows me to correct and reprint a whole column of type in just a few minutes rather than trying to glue on a few corrected words here and there. Also, if I change my mind about column width, I can have the width changed and the column reprinted in a short time. That's the big advantage over my old Varsity typesetting machine that now sits in the closet. The Comrex printer may produce only one size and style of proportionally-spaced type, unlike the Varsity's wide variety of fonts, but the fact that one need set the type only once on a computer virtually cancels out the advantages of the old-style machine.

Even the expensive laser printers with their variety of fonts have one disadvantage compared to a daisywheel printer. Laser printers are dot matrix printers, and while the type they produce is much higher in quality than ordinary dot matrix, it still can't match the fully-formed, crisp letters one can get with a daisywheel. Furthermore, the letters produced by the daisywheel are so sharp that I can afford to lose a little resolution to speed up the duplication process. After layout, I photocopy the pages, paint out shadow lines with Liquid Paper, and send the photocopies to be used as masters by the duplicating center. The resulting slight loss of resolution is worth it to help out the center staff.

Since layout requires only the simplest of tools—a drawing board, a T square, scissors, and rubber cement—the publishing operation is low-to-medium tech all the way. Anyone who can word process can now also produce nice-looking newsletters with a minimum of required skill and very little expense beyond equipment already purchased. (I spent \$75.00 for *ProportionalStar* and \$25.00 for the daisywheel. *Megatype* was borrowed from my school's software resource center.) Furthermore, the materials, once purchased, can be used for other purposes. For example, my wife published a genealogy for her family with the same equipment and software described above (but without *Megatype*).

In such a manner can writer/editor of a newsletter, who in the past relied on a host of support personnel, now control the production process almost from start to finish. Once again, the computer gives the individual more power.

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SOFTWARE REVIEW--APPLE WRITER II

Michael Meeker

Program:	Apple Writer II (ProDOS 2.0)
Publisher:	Apple Computer 20525 Mariani Avenue Cupertino, CA 95014
List Price:	approx. \$120
Compatibility:	Apple IIe, IIc
Memory Required:	48-128k; automatically selects appropriate version; 128k program has 48k free
Disk Drives:	one required; two convenient
On-Line Help:	yes
Spelling Checker:	not on-line; works with most ProDOS checkers
Documentation:	excellent
Ease of Learning:	very good; tutorial program and tutorial disk supplied
Ease of Use:	excellent
Copy Protection:	unprotected; completely open

Apple Writer II is the ProDOS version of *Apple Writer IIe*. It is compatible with the IIc and the enhanced IIe (it will also run, with a simple patch, on the older IIe). Although it looks identical to the earlier DOS 3.3 version, the new *Apple Writer* runs faster and adds several new features, including a terminal program, horizontal scrolling to 250 lines, automatic text adjusting, page and line counts, the ability to create subdirectories and format hard disks, as well as a number of smaller improvements.

GENERAL FEATURES

Help Screens

full listing and concise explanation of all commands; tutorial disk supplied; user can create custom help screens

Menus

all utilities listed (format disk, delete, rename, lock/unlock files, catalog, create subdirectories, etc.) but commands are also accessible without calling menu

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Cursor Control

by character, word, line, or 22 line blocks using narrow keys; control key to jump to beginning or end; jump paragraphs using find command; user defined movement is possible with macro commands

Word Wrap

automatic word wrap can be toggled on or off

Search/Replace

will find, find and replace (with or without delimiters) strings of text, numbers, control characters or embedded commands; can replace all or single occurrences; the last used find command can be repeated

Cut/Paste/Copy

will cut and paste or copy words, sentences, or paragraphs using 1024 byte buffer; blocks of unlimited length can be moved with load-to-memory command using delimiters

SCREEN DISPLAY

Screen Information

data line (with available memory, document length, tab position, file name, etc.) can be toggled on, off, or switched to tab ruler

Windows

will create two horizontal windows; either can be active

Auto Text Adjust

can display margins set in print menu or display full 80 columns even though margins are set; does not display spacing options except in preview (print to screen) mode

Page/Line Count

will toggle on/off; does not adjust to compensate for variable line spacing or embedded commands

Preview Mode

will print to screen and display margins and indentations as they will be printed

FORMATTING

Headers/Footers

single line headers/footers standard (left, center, right); multiple line headers or footers possible using WPL routines; automatically numbers/renumbers pages

Auto Footnoting

will create footnotes at top or bottom, but notes must be numbered and formatted in text

Adjustable Margins

from 0 to 250 spaces; set by print menu or by embedded commands at any place in text

Justification

left, right, center, or full

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Spacing Options	line spacing can be set from 1 to almost any number
Sub/Superscript	macro commands are easily assigned to insert the required half-line commands for printer
Printer Control	printer controls can be inserted into the text at any time; user defined glossaries can be saved to disk and inserted into the text using macro commands; self-prompting printer glossaries can also be displayed on screen

SPECIAL FEATURES

Terminal Program	on line access to modem; captured text can be edited as normal document and saved to disk; macro commands can be used for automatic dialing, log-on, etc.
Typewriter Mode	will directly connect keyboard to printer
Macros/Glossaries	will allow substitution of assigned function key for complex command sequences; macros may be chained, executed conditionally, and saved to disk
Merge Printing	will boilerplate text, merge data in form letters, chain commands, and execute conditional commands (if/then/else) to create complex documents
Programmable	with WPL (word processing language) the user can create complex programs to boilerplate form-letters, run databases, do word counts, number or renumber lists, move or replace strings from file to file, create multiple column formats, prepare camera ready text etc.

OTHER FEATURES

The built in terminal program in *Apple Writer* is simple but very easy to use. Researchers will appreciate the ability to load material from an on-line source directly into an *Apple Writer* file. It won't replace a full-featured terminal program when sending and receiving complex data, but it's perfectly adequate for most on-line tasks. Macro commands can also be created for use in automatically dialing and logging on.

Another important advantage to the new version is its faster ProDOS operating system. The program is compatible with all other ProDOS programs, and disks can easily be partitioned into subdirectories accessible by pathname. This means that spelling checkers or copy programs could be loaded in RAM and called without removing the *Apple Writer* program, or that *Apple Writer* itself could be installed on hard disks and the new 800k drives. Because the program is completely unprotected and open, it can be modified to fit an individual's writing requirements.

PRINTER SUPPORT

Apple Writer will seemingly work with any printer. Specific printer choices are not listed, but the menu-driven printer set-up feature is simple and easy to use even if you haven't read your printer manual. Furthermore, you can insert printer control characters into your document at any time (bracketed by Control-V to defer execution). Or you can save all such commands to a printer glossary and load them from a menu with assigned macro commands.

OVERALL EVALUATION

Apple Writer doesn't have all the bells and whistles possible on a word processor: it doesn't have a pop-up calculator or on-line spelling checker, it won't perform alphanumeric sorts, and it doesn't have an "undo" command. It also limits writers to about 20 pages of text in memory at a time, although files can easily be chained for printing. But this is a small price to pay for such an easily operated word processor. The strength of *Apple Writer* lies in its easy combination of power and simplicity. Although menus are available for beginners, the program does not require their use—a great advantage for more experienced users. Most of the editing commands are logically mnemonic control-key sequences ([L] to load; [S] to save; [B] to jump to beginning of file; [E] to the end).

While the program is simple to operate, it is also very powerful and adaptable. One source of this power is in its ability to use glossaries of macro commands. Macros are often used to save the user from repeatedly having to enter long phrases or sentences in the text—the string is assigned to a macro and one key will enter it into the text as needed. But macros can also be used to speed up any sequence of *Apple Writer* commands, and because they can be "nested" they can handle very complex tasks. For example, a single macro could be assigned to reset the entire print menu to a given format. Glossaries of macros for several different printers can be saved to disk and loaded as needed; a self-prompting glossary of printer commands can be easily displayed on screen at any time. The same techniques can be used to set up specialized help screens for any purpose.

All this makes *Apple Writer* a perfectly adequate word processor for both beginners and experienced users. But WPL, the word processing language resident in *Apple Writer*, makes it one of the most powerful and most adaptable word processors available for any computer. WPL programs can operate the word processor the way a piano roll runs the player piano. Any manual operation on *Apple Writer* can be automatically carried out by a WPL program. With WPL it is possible to create form letters, run database programs, generate indexes, format multiple columns on screen, automatically create a topic sentence outline of an essay, or display menu options and present tutorials. Learning WPL is relatively easy because the programming commands are composed of *Apple Writer* commands. Only seventeen new commands are needed, and the WPL manual supplied with the program is clear and very helpful.

With its excellent tutorial disk, *Apple Writer* can be used as a relatively simple word processor, one especially suited to beginners. (It is interesting to note that *MECC Writer*, a product of the Minnesota Educational Computer Consortium suited for younger students, has used an identical control format.) But its uncluttered operation should not deceive the professional. By making use of its programmable macros and WPL functions, the experienced writer can adapt the word processor to fit sophisticated writing needs. *Apple Writer* can be customized easily. It is a program that will grow with the user.

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COMPUTER-PROJECTED THINKING IN THE CLASSROOM

John S. Lawrence

In Plato's dialogue *Meno*, Socrates draws a square in the sand. A series of further tracings and inferences about equivalent surface areas follows. Thousands of intervening years brought the improved technologies of blackboard, overhead projector, and duplicated handout. Each has significant limits. The blackboard writes slowly and must usually be erased at the end of class. And how often do teachers amuse their students with the strange patches of chalk dust that cling to hands, face and clothing. An instructor's poor penmanship also causes laughter, scorn, or frustration. The cleaner, more legible overhead requires large handwriting and is thus suited only for outlining or single sentences. Duplicated handouts, while legible and ample in capacity, are completely static; hence they cannot portray thought in process.

Computers can be superior to all these pre-electronic display technologies. In speed, an instructor can keyboard ideas two to three times more quickly than writing them by hand. Thoughts worked out in class can be saved and brought back for another session of tinkering. Laborious rewriting on the board is thus avoided. And provided that monitors or screens are sufficiently sharp, the computer's standard characters are usually more legible than a typical college teacher's handwriting.

In addition to these technical advantages in display, there may also be important psychological benefits that come from a teacher's demonstration of the writing process. These peculiar computer-assisted benefits merit detailed exploration.

Consider the achievements evoked from students when teachers work together with them in tasks of performance that permit both to display their mastery. Think of the dedication and skills of student athletes, instrumental music players, studio artists, actors.

How can we explain commitment and competence of students in such skills-performance areas? Beyond the popular appeal of the activities and the resulting public accolades, we should also notice the differing instructional styles. In all such performance-intensive activities, an instructor normally demonstrates the competence taught. In music, athletics, drama, and studio arts, teachers must be able to demonstrate the bowing, the blocking technique, the stage gesture, or the alternate rendition of a drawn line. In these situations, there are also opportunities for the teacher's rehearsals, or co-rehearsals, if you will. Their credibility as teachers depends upon such exhibitions. What ambitious music student would study with a piano teacher who didn't play well?

When we turn to research and writing in the liberal arts, the styles of instruction differ significantly. Without statistical backing, I suspect that a considerable number of papers are assigned by teachers who do not regularly prepare manuscripts for publication. Further, among those publishing, I suspect that many have not shown their articles to students in the course of explaining the rationale or tactics of writing. One could guess that an even smaller number have shown their work in process to students.

I think the basic facts are obvious. Professors who give writing assignments do not generally display to students the prescribed competence. Instead of personally exhibiting the ability to write--as a cello teacher might, for example, play a segment of a sonata--professors generally direct the student gaze toward a distant, impersonal horizon of lofty, immaculate professional achievements in journals or text anthologies. In responding to the student's paper, professors often reinforce this remote, unattainable perfection by marking every last student writing error, no matter how trivial.

Computers can now help us eliminate some of these anomalies. Let me suggest some scenarios.

Professor X has made an assignment. Instead of simply prescribing a topic and listing the do's, don't's and be careful's, she/he brings to class a portable computer (to be attached to a large monitor), a partial draft outline (on

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disk) of a paper on a similar topic, and a draft page. The drafted material might also be duplicated. (We needn't assume that Professor X is an established author; merely that he/she can express ideas publicly through a keyboard.)

In the presence of the students, the professor could experiment with the outline, perhaps taking suggestions from students about major headings or relevant resources. Or an outline might be developed from scratch. Similar topics of development or modification could be done with a draft page. In a seminar course, the professor might bring to class a piece of personal research writing and incorporate student responses into the paper's design or expression. These sorts of writing activities, projected to the class by video monitor, might have the following benefits for writing instruction.

First, they could establish the professor's credibility as someone who thinks and writes. Too often we find that we have locked ourselves into patterns of mere textbook and test administration. When we make writing assignments without demonstrating our own competence, do we confirm for students the adage that "Those who can, do; those who can't, teach"?

Second, computer-projected writing may humanize the appearance of the task. Students often believe that writing is a transcription of an already completed text in the (divine?) author's mind. Since they can hardly discover such a text, writing may seem impossible to them. Composing in public, on the other hand, can show the fluid, incremental, and rough processes in which larger structures are tentatively and gradually created out of much smaller, human fragments. If instruction fails to convey these mundane realities of writing, are students less likely to accept its demands?

Third, computer-projected writing may illustrate how one uses the responses of peers to extend an argument or to test its effectiveness. Many students will find that dialogue with others can diminish the psychological blocks that so often afflict privately pursued writing.

As with any other kind of performance, it is difficult to anticipate all of the critics' (students') interpretations. Computer-naive students may feel that the professor is teaching word processing. Some students are likely to be overly impressed by the professor's mastery; others may see public errors, false starts, and revisions as marks of incompetence. Some students may feel that the professors are showing off instead of teaching. The professor's awareness that students may misinterpret or perceive in a hostile way could have an inhibiting effect on her/his willingness to rehearse or perform. Does this sort of demonstration require a stronger ego? Perhaps. But let us remember that teaching by merely talking is already a performance that carries a known potential of failure. I suggest that projecting our abilities through the computer medium is a sensible new risk in our search for ways to help students write.

TECHNICAL ASPECTS

Classroom projection of writing-in-process raises the usual technical and cost questions—how? and how much? Depending upon class size and computer brand, technical solutions range from the simple/cheap to the perplexing/outrageous.

For the least expensive implementations at short projection distances, the Apple II computer is satisfactory. The Apple's video signal can be directed to commonly available 21" or 25" classroom monitors. With an RF modulator, the Apple can display on a large screen television while maintaining its monitor output to someone sitting at the keyboard. Unfortunately, 80-column display on a television screen is intolerably fuzzy. For maximum legibility, the older pre-IIe *Apple Writer 2.0* with its 40-column display option is preferable whether using large screen television or monitor. My easiest implementations have come with the Apple IIc (small enough to carry in a briefcase) in rooms with a large fixed monitor. One can quickly connect and project without having to move any large pieces of equipment.

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Larger audiences require heavier "gun-type" projectors, screens, and careful control of room light. The monochrome, single gun types are usually adequate with 80-column text. For color display, three gun (red/green/blue) projectors can be driven by RGB computer interfaces and are likely adequate with 80-column. Three gun types also project monochrome text and background. Some systems offer their own proprietary interfaces. Technical requirements for such devices are so variable that one must consult with dealers or audiovisual specialists.

NOTES

Equipment

Stevens, Mary, Managing Editor. *The Equipment Directory of Audio-Visual, Computer, and Video Products, 32nd Edition, 1986-7*. Fairfax, VA: The International Communications Industry Association, 1986. "Video Projectors," 454-459, lists several alternate computer projection systems with data about technical interface requirements. Prices range from \$2,500 to \$94,000. An important, relatively inexpensive option not included is the \$4,000 Limelight Computer Projector from Vivid Systems, Incorporated, 2440 Embarcadero Way, Palo Alto, CA 94303. Rental rates for these types of projectors can vary from \$150 to \$500/day.

RGB Interfaces

RGB board for the Apple IIe or IIc—Video-7 Incorporated, 12340 Saratoga Sunnyvale Rd., Suite 1, Saratoga, CA 95070.

Hercules Color Card for IBM PC, XT, AT, or Portable—Hercules Co., 2550 Ninth St., Berkeley, CA 94710.

Technical Commentary

Darbyshire, Matt. "Projecting Computer Output to Large Audiences," *Iowa Media Message*, June, 1986, 8-9. An excellent, brief discussion of the maze of routes to large screen output. [Address: Michael Simonson, Managing Editor, Quadrangle, Instructional Resource Center, Iowa State University, Ames, IA 50011]

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