

COMPUTERS AND YOU

For a few bucks, a publishing empire

By Peter Bates
Special to the Globe

Suppose, as a New England farmer, you decide to retire from hogfarming and publish a slick newsletter called Pigs in Print. Then you realize that even if you write every article yourself, you will still need to hire expensive designers and typographers. No, you don't. For less than \$10,000 initial investment, you can do it all yourself.

In the last year, a little-publicized computer innovation has developed that could affect entrepreneurs as pervasively as word processing did writers. Using computer-aided publishing, shoe string publishers can now lay out that monthly newsletter on a Macintosh computer and page composition software. Produced with multiple fonts, enhanced graphics, and a 300 dot-per-inch resolution laser printer, the desktop product may impress even seasoned typographers.

According to Brian Skidmore of the Boston Computer Society's Computer Aided Publishing Group, software packages such as MacPublisher have brought about a dramatic change, a revolution similar to the computer's move from corporations to the home.

With computer aid, publishing power will move into personal hands. The very character of what's being published will change, he said. "As more corporations examine the Macintosh Office, software companies are designing page composition packages that use the what-you-see-is-what-you-get principle." MacPublisher (Boston Software Publishers) lets you create mastheads, design columns, and incorporate text and graphics from other Macintosh packages on screen, so you have a clear idea of how your document will look in print.

Room for innovation

PageMaker, its higher-priced cousin, is even more sophisticated. With it, you can view opposite pages on screen, cut and position text anywhere on the page, even edit it without exiting to a word processor. When a long story overflows onto the next column page, PageMaker will let you raise and lower the text column like a window shade, should you want to place a graphic in the middle of the story. You can shrink or expand the graphics, print white type on black background, and vary column widths from page to page.

Like much software, page composition software is user-educative. Skidmore said he taught a computer novice to lay out a publication with MacPublisher in a half day. "After that, it was hard to tear her away," he said. Colleen Byram of Aldus claims that companies needn't hire people to run their feature-laden software: the gang hanging around the water cooler can be lured into service.

Proponents see cost saving as only the first plus of desktop publishing. Most medium-sized companies average \$50,000 a year in typesetting costs, much of it often caused by last-minute changes that linger at the printshop for weeks. With page composition software, you can wheel the Macintosh into the conference room and let the project managers cut and paste onscreen until lunchtime and then be done with it.

What about IBM, Apple's eternal nemesis? Is it in the desktop competition? "Yes and no," said Kim Pickard, author of *Why Typesetting?* "You can buy composition packages for the IBM-PC from such companies as CText, Bestinfo, Cybertext. They work very well. But be prepared to pay between \$2,000 and \$12,000 for the software alone."

Pickard said this ultra-specialized software is not easy to use and requires a typographer with a seasoned knowledge of picas, points, and leading. Gem, a modestly priced package recently released by Digital Resources, not only offers Macintosh-like icons and what-you-see-is-what-you-get text and graphics, but also may give software programmers the means to develop page composition packages for the personal computer.

Won't meet all needs

According to Rob LaTulipe, product marketing manager of Gem, 60 software companies have acquired the programmer's toolkit in the last few months. Industry spokesmen are skeptical about when an "IBM MacPublisher" will appear, they say that if Gem could compose in color through IBM graphics cards, business people would snatch it up for presentations.

These software packages will not solve all your inhouse publication problems. A reproduction of 300 dots per inch may be adequate for most tasks, but not for annual reports. They require more snap and pizzazz than a laser can print. And don't even think of publishing a small town tabloid onscreen; the programs won't swallow them.

You also can't incorporate quality computerized photographs into your text. The technology for producing digitized half-tone photographs is still in its infancy, too memory-intensive for the little Macintosh, even if equipped with a hard disk. So, by all means start your newsletter, but keep your straight-edge and scissors handy. You'll still have some cutting, blocking and pasting to do.

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Fix it yourself

By Peter Bates
Special to The Globe

Last month, while I was changing the video monitor on my Kaypro II computer, a friend dropped by. Seeing an open computer with its main board leaning on its side, wires strewn in all directions, he exclaimed: "My God! I didn't know you were electronically inclined!" "I'm not," I replied. "I have trouble stripping wires. Right now, I'm just following directions - very carefully."

"People feel they can't repair computers because they lack knowledge and confidence," says Henry Beechhold, author of "The Plain English Repair and Maintenance Guide for Home Computers." If you have good documentation and tools, and know something about how computers work, most of your confusion will clear up.

Change in attitude

Beechhold thinks repairing computers involves more of a change in attitude than innate dexterity. "I'm convinced any halfway intelligent person can do almost anything if they don't rush themselves," he says.

While the prices of computers plummet almost daily, the cost of repairing them continues to soar. According to Beechhold, simple repairs on IBM PCs can cost \$50-60 an hour, and, if done "portal-to-portal" (they come to you), can run well over \$100 an hour. Also, many people in remote areas can't get to repair stations, and when they do, the lead time is often a week.



ILLUSTRATION BY PATRICK BLACKWELL

No wonder more users are turning into tinkers. To meet this growing trend, the Boston Center for Adult Education has been offering a course titled "Repairing and Maintaining Computers" since the winter of 1984.

"Emphasis will be on understanding why systems fail," reads the brochure, "and what the user can do to minimize repair bills." Says instructor William Murrell: "People have developed a healthy distrust for repair bills. They're starting to realize shops would rather swap an entire board or disk drive and bill the customer than realign that drive or replace one chip." Also, manufacturers who want to keep track of their own failures and misalignments persuade repair stations to send back the faulty equipment.

But doesn't it take sophisticated equipment to test - let alone fix - computers? Don't you need exotic disk exercisers, oscilloscopes, digital multimeters, voltmeters and logic probes? And what about those twin watersheds of home hobbyists - drilling and soldering? Aren't they both highly critical and unpleasant tasks?

Murrell says most home repair people can start their shops with \$75-100 worth of equipment: a logic probe, voltmeter, chip pullers, and several screw drivers. Beechhold believes drilling and soldering are necessary only if you're modifying your computer. Both think most of the tasks that users encounter will be minor repairs and maintenance.

"Much of your time may involve cleaning the electrical contacts or lubricating your disk drives," says Beechhold. "Grease builds up in surprising quantities inside your computer. Also, you'd think pushing down on your chips ("reseating" them) wouldn't do much good, but it does." His book urges readers to cover keyboards to keep dust out, use surge protectors, and align drives regularly to avoid data loss.

Diagnostic programs

Diagnostic programs that tell the computer what's wrong with itself are also worth the investment. Last winter, rather than pay \$150 for a new drive, I aligned it with a diagnostic program in less than two hours - without an oscilloscope.

Of course, computer tinkering carries its own warning lights. Like cooking, it can be a simple matter of taking your time, paying attention to each step, and keeping track of ingredients. It's possible to become too hasty and make silly mistakes, like breaking a pin on your one replacement chip. And like cooking, you can not only hurt your project, but yourself. For example, even with an unplugged computer, if you touch your monitor's high voltage anode before it's discharged, you can get electrocuted.

Both Beechhold and Murrell believe no computer possesses a mystique the average software user can't penetrate. Like swimming in a chilly mountain stream, the hardest part is the first step - once you've jumped in, it gets easier.

Bates is a freelance writer who lives in Boston.

COMPUTERS AND YOU

Translation software

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For Charles Brown, director of marketing at Paul Brink Associates, textbook translation becomes more intricate each year.

Not only are there more Spanish-speaking students, but they use different dialects in different regions of the United States. In California, New Mexico and Texas, students speak Mexican Spanish at home. In Florida and Mississippi, Cuban and Puerto Rican influences are strongest.

Of course, the dialects have common words. But idioms can account for 15 percent or more of the variance between Cuban and Mexican Spanish. How can a translator achieve consistency in a fourth grade reading text?

Technical texts

Paul Brink Associates also translates technical material. When the company hires new translators, how does each one know the subtle (and changing) terminology of the semiconductor industry? Luckily, Brown and his colleagues found a solution: Let the computer do it. Weidner Communications of Northbrook, Ill., offers a computer-aided translation (CAT) system that works on the IBM-PC XT Personal Computer. For \$20,000, it will sell you its bundled system of computer, printer and the software language of your choice: Spanish, French, German, Italian, even Arabic.

It will translate 1200-2000 words an hour, two to three times faster than a human. And it will "batch translate" a long document at night and have it ready for you in the morning. How does it know the syntaxes and idioms of these languages? How can it distinguish "taste" as noun and "taste" as verb? Can it translate poetry and still preserve an author's delicate shades of meaning?

First, the mechanics of computer translation. The language is loaded into computer memory along with the document to be translated. The system first goes through the text, one sentence at a time, flagging words it does not know. Since its core dictionary holds only 20,000 words, the initial run through a new dialect takes a while.

The next mode, "update," is important for new dialects. The machine interacts with the operator, asking him whether the flagged word is a verb or noun. Does it create plural by adding an "s" or an "es?" Can it have several different meanings? If so, it will distinguish "conduct" the verb from "conduct" the noun by its sentence position. As many as 60,000 more words can be added to these customized dictionaries.

If a company were translating technical documents for the rubber industry into German, it could build a dictionary of buzzwords. The computer could then access it before checking its standard core dictionary. According to Brown, this customizing feature gives the Weidner CAT its strength. "With a 'user configurable' glossary of Mexican Spanish, the software is more consistent than a human translator," he says. "That means we don't slip into insensitivity as often as we used to." It may not seem like much, but an Argentinian word in a Cuban fourth grade math text can glare worse than any typo.

It's not foolproof

Then is the system foolproof? Will it put scores of translators out of work? Of course not. Even though the software has built-in parsing rules that tell it when to pluralize a verb form (and where to place it), it has its bad days like anyone else. And the Weidner people know it.

"Our interactive mode also allows the translator to split the screen and check the translated output with the original text," says Milena Chelli, an account representative with Weidner. "Sometimes you may not like the word it supplies, so you can put in another."

And sometimes the machine just glitches out. When I used it to translate a 300-word piece into Spanish, it translated "words which have" as "palabras quietiene," instead of "palabras que tienen." To be fair, this was its only error - the rest came through clean.

Although efficient, the Weidner system does best with cut-and-dry text, such as technical pieces, medical treatises and reports. Both MacDonald-Douglas Aircraft and Lockheed have the system. So does the FBI. But it's unlikely that publishing houses will use it to translate much fiction or other creative writing. The subtle horror of a Stephen King novel or the ironic character studies in Thomas Berger's stories just can't hold up to machine translation. And forget poetry. There are too many double entendres, puns, alliterations. It's difficult enough for human translation.

Bates is a freelance writer who lives in Boston.

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Correcting the writer

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At a recent meeting of my KayPro computer users group, I received a submission from a fellow member for our newsletter. As book review editor, I try to clean up the rambling prose of our authors. Half in jest, I told this writer I'd put her disk through the Punctuation & Style test. She recoiled in horror. "How can you trust a program to make subjective judgments about style?"

She's right, of course. Computers may juggle checkbooks with ease, move text around like Silly Putty, spot our spelling mistakes, even generate the same "personalized" letter to 50 people, but should they tell us how to write?

Well, maybe sometimes.

Punctuation & Style, a software program developed by Wayne Holder of Oasis Systems, is a strict taskmaster. Its first part, "cleanup," is straightforward. It catches you when you've typed only one space after a period (except with abbreviations), or if you haven't closed a bracket, or even, in the white heat of writing, if you type "the the" by mistake.

Based on style manuals

"Phrase" is a different beast entirely. Holder and his team based it on several style manuals, such as Strunk & White's "A Manual of Style" and Richard Lanham's "Revising Prose." Here are some of the muddy, verbose, erroneous, folksy, redundant or pompous "phrase matches" it spots, together with their suggestions:

- as a consequence of: because
- includes the necessity of: requires
- in regards to: about
- a great deal of: much
- regretful: regrettable
- kind of: somewhat
- as long as: when
- in respect to: about
- quite: avoid
- tends to: avoid
- relatively: avoid

How does it work? According to Holder, "phrase" uses a "fast search algorithm," a highly structured procedure that recognizes delinquent phrases then retrieves the appropriate suggestion. You the writer can choose to mark up your text or ignore "phrase's" brassy remarks.

"Cleanup" is more complicated because punctuation rules have many exceptions. It ordinarily finds capital letters in the middle of words, such as "naSty." But what does it do about "McGillicuddy?" Holder has de-

signed a subfile that "cleanup" uses during its final search. Users can fill this and other files with their own exceptions if they wish.

"Passive.txt" is the most merciless file that "phrase" uses. Holder trained it to spot the passive voice whenever it occurs in a sentence. "In a sense," he says, "it is an unfair program. It's difficult to tell when the passive voice is appropriate or not." Although most people tend to overuse the file, even take its suggestions too literally, Holder maintains many writers can learn from it.

I talked to three writers in the Boston area who like word processors in general. Leslie Epstein, author of "King of the Jews" and "Regina," is thinking of buying one. But would he use Punctuation & Style on his future novels? "It sounds like a program I would never use. I'd be scared to death of it. I'd end up writing the same way!"

Anne Bernays, author of "The Address Book," owner of a KayPro: "I trust my own ear more than anything mechanical. I have no intention of buying it, or even trying it." Abby Freedman, another KayPro owner, writes video disks for a living. "I'm skeptical of automatic features that let people exercise their brains less."

Authors wary

These attitudes are common. Even though Punctuation & Style has been available for at least a year, many authors won't touch it. Anne Bernays feels that after 25 years of writing, she doesn't need a style checker. "After you've been writing a while, you program correct style into your brain."

Who can benefit from Punctuation & Style? "B-minus students and bureaucrats," says Epstein. "Someone who feels insecure with the language," says Bernays. "But like therapy, the idea is to stop using it."

It's true. I've run this program for three weeks and find that it has trained me not to use certain words. I began to feel gypped, so I cracked the whip even closer. I programmed it to flag "interesting, archetypal, dynamic, crux," and "beautiful." I stopped at "feature" and "fantastic," realizing I was turning into a computer compulsive. Holder assured me that many users did the same thing. What happened with my user group friend? I couldn't persuade her to try the program herself. "I'm a professional writer," she said defensively. "I don't write in the passive voice."

Still, I couldn't resist running Punctuation & Style on her 300-word piece. In two minutes, it found four cases of passive voice and three "phrase matches."

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