Terminal Madness, The Word, Grammatik, and Then Some

The critic reviews some new computer terminals, word-processing software, BASIC compilers, and M-drive.

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As if we didn't have enough problems here at Chaos Manor, we had to buy a new terminal the other day.

We've had the Godbout 8085/88 running for a couple of months now. (Incidentally, I need a name for that machine; preferably one not too blasphemous.) We set it up with a Zenith Z-19 terminal, which works all right (except that all three that my consultant friend Tony Pietsch bought had a loosely soldered wire in the horizontal amplifier); but I don't like it. The dislike is purely personal: the keyboard is too close to the screen for me. I wear bifocal glasses, and I'm torn between moving my head forward and looking down, or moving back and not being able to see the letters at all.

So, what I wanted was a terminal with detached keyboard. Preferably one with a video output on the back so that I could switch the output onto my big 15-inch Hitachi monitor that sits 29 inches from my head. I also required a really nifty keyboard, one that has a good feel and a Selectric key layout.

I may one day buy an IBM—but not until I get over the shock of that ruined keyboard.

"DEC VT-100," said my engineering-genius friend Tony. "Costs a little more but has everything you want. And DEC equipment is *reliable*. It's also *maintainable*. If I've got to work on it, I prefer DEC."

Only there's no store that sells VT-100s in Los Angeles County, which is weird, but there it is.

"Televideo 950," said Bill Godbout when I asked him. "We're converting to Televideo 950s everywhere, and our people really like them."

That, at least, I could look at, so off I went to Dick Dickenson's establishment, which seems to be named Compu-Plus this week. (It began as Computer Components, where my mad friend and I bought our old memo-wreck keyboards and some other surplus equipment; changed to Computer World; changed again to,

Dan Mac Lean, RIP

I often start these columns with a quote from my mad friend. Alas, I'll never be able to do that again. Dan Mac Lean died of cancer in December. He'd known for a good year that he had about a year to live.

My mad friend never published much, but he had a great and beneficial effect on the microcomputer world. For one thing, any influence I may have is due to him; he talked me into getting my first machine, held my hand while I learned to use it, and encouraged me to do these columns.

More than that, he was insatiably curious. He examined everything *in the microcomputer field: programs, hardware, and you name it. He'd used it or knew someone who had; and he had strong opinions.*

I suppose he was sometimes wrong, although I can't think of an instance just now; but because he had strong opinions, with good reasons for holding them, he shook up a lot of prejudices. Winning an argument with Mac Lean was possible, but it was never easy; and whether you won or lost, after you discussed a matter with him, you understood it much better than you did when you began.

Mac Lean was an expert software thief: I don't suppose there was a single program in all the world that he hadn't got, somehow. When George Tate first met him, he offered Mac Lean copies of any programs Ashton-Tate had on the grounds that, if he gave them to him, Mac Lean would feel some ethical obligation; and Mac Lean would certainly get them one way or another, anyway.

Understand, my mad friend didn't do *anything unethical with his booty. He never sold anything and was reluctant to give programs away, except to people he knew wouldn't have bought them. But he did analyze programs and try to use them, and his views often got into this column. (At the direction of his widow, all of Mac Lean's disks except those containing his own writings have been reformatted; we'll never know precisely what he had on those disks, which is probably just as well.)*

He also wrote letters. Lord Almighty, did he write letters. Some of them were hilarious. Some were very serious, and many of his suggestions were taken by major firms. He had a lot more influence than you see on the surface.

Mac Lean worked off and on for the U.S. government, as a consultant to private firms, and as a collector of general information. He helped hundreds of people, and we're all going to miss him. I certainly do.

and I kid you not, "The Place You Go To Buy Computers Incorporated"; and now has become Compu-Plus. My son Alex says that next week they'll be Xylophone Computers, but I don't believe that.)

Dickenson had a Televideo 950 set up there, and I played about with it and liked the feel of the keyboard. The screen was rock steady and easy to read. The character set looked good. He had them in stock, and my son Alex needed a terminal for his machine down in San Diego, so if I bought the 950 on the spot, Alex could take my Z-19 away with him.

But there was one other alternative to explore: buy an IBM Personal Computer and teach it to be a terminal. That would be an expensive solution, but just at the moment that's not a problem; so off we went to Computerland, where IBM machines are set up and working.

After all, I've worn out three IBM Selectric typewriters. I know that keyboard and its feel and layout, and I love it. From Gregg Williams's review of the Personal Computer (see "A Closer Look at the IBM Personal Computer," January BYTE 1982, page 36), I could see I would like the graphics and letter set, and IBM sells complete technical manuals for the computer.

Meanwhile, Bill Godbout called to say he was sending me a new Godbout disk controller that would handle Qume DT-5 double-sided double-density 5¼-inch disks in IBM-compatible format. So there was everything going for getting an IBM.

Only IBM has *ruined* the keyboard! What ought to be its strongest point, the thing IBM always excelled at, is its worst mistake.

What IBM did was to put extra keys between the space bar and the Shift key. Why, I don't know. The result is that when you think you've typed, say, a capital T, you get instead /t, which isn't useful at all.

There is also no **line-feed** key; instead IBM seems to have manipulated the Carriage Return key to give *both* carriage return and line feed when struck. Unfortunately, many programs won't be able to stand that. I suppose there's a way to filter that madness; but there's no help for the Shift key being mislocated, nor for the egregious amount of space between the home keys and the Return key.

I may one day buy an IBM—but not until I get over the shock of that ruined keyboard. I've never been so disappointed in my life.

So back to Dick Dickenson's place for a Televideo, which we took home with us. Installation was no problem. The documents are absolutely clear, the data-rate switches and other such stuff are on the back and clearly marked, and the stop-bit settings are simple enough to understand. Bill Godbout's 8085 BIOS (basic input/output system) is also clear, so I was able to set up the 950 in no time.

At first, the only thing I didn't like about the 950 was minor: the keyboard cable attaches in *back* of the terminal, so that the cord has to come around the side of the machine. It should attach in front.

So we set it up and turned it on, and it worked the first time, controlling the Godbout perfectly. I played about with it a bit, then I loaded Wordmaster.

Blooey.

"Why?" I wondered. So I experimented some more. And sure enough, any time I sent an escape character, the terminal went into a different mode, until eventually it got into a block mode where it didn't send anything to the computer at all.

I looked through the manual. Nothing on that problem. Try logic. The Televideo 950 uses the Escape key to send an escape character out, while Shift-Escape is used to tell the

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machine "This is a setup. Don't send out the next character, but execute it as an internal setup instruction." Unfortunately, this particular machine was broken; Shift-Escape worked fine, but Escape did *both*: that is, it sent out the escape character all right but also executed the next character as an instruction (and sent it out as well). The results were maddening.

So. Back to Compu-Plus. "Take it back," I told Dick. "I want a DEC VT-100."

"Sure you can have your money back," he said. "But I have a Televideo at home, and we've had that one out there as a demo for a year, and nobody ever had any problems with either of them."

It was Saturday, and Alex wanted to go back to San Diego, and he needed a terminal, and they had three more 950s in stock.

"Okay," I said. "I'll take a different one in exchange. Only this time we try it out here."

"Right," said Dick. "We'll plug it in right here where the demo is."

So we did. The first one didn't work: it couldn't set the proper data rate. The next one didn't work. It couldn't set something, I forget what. The third one didn't work. It didn't even turn on. And that was surely enough.

So I've got my money back, and I'm using the Z-19 just now, and I've ordered a DEC VT-100. You can conclude anything you want from my ordeal. One lesson for sure is that, although Dick Dickenson's price for a Televideo 950 is about $150 above the discount houses, he was right there and ready to take care of it for me when I had a problem. It's worth dealing with established firms with a reputation for good service; or so say I.

Words

I have here the biggest software bargain I know. It's called The Word, and it comes from Oasis Systems.

The Word is a spelling program; but it's also a *lot* more. It counts words for you. It makes files of words. It will make a list of each unique word in a text file and sort it alphabetically. It will also do a list of each word used and the number of times you used it, sorted by frequency of use.

I've used The Word to find strange character names: that is, I'm working on *Janissaries Two* right now. That story takes place on a planet settled by successive waves of Celts, Minoans, Romans, and Franks, so that the character names tend to be a little strange. They have to be kept consistent with the culture in which they appear.

This is all right for major characters, but what if I'm writing along and need a minor character name? I grab one of my reference works (such as Robert Graves's *Greek Myths* or R. W. Munro's *Highland Clans and Tartans*) and find a suitable name in the index; and if I'm sensible, I make a note of that somewhere. But usually I don't make the note or can't find it, and I can't remember where this particular spear carrier appeared when I need to use him (her, it) again.

But with The Word, I can simply run the text through the spelling program, and the program makes a file of all the words it doesn't recognize. I can now examine that file, and, lo!, there will be my strange character name.

Then with the Find program I got from Barry Workman (Utility Disk One) I can go right into the text files and find that word in context. Saves no end of time.

The Word does much more; and it sells for under $100, which is why I say it's the biggest bargain in word-handling software I know.

Incidentally, I'm still using Spellguard too. The Word, while excellent, isn't quite as convenient for the straight job of checking spelling, particularly at three in the morning when I don't want to think about options and toggles and command lines. I want a fully menu-driven program that just does what I ask it to without quibbles; and that's Spellguard. But for really sophisticated word work fully under user control, you just won't beat The Word. **[Editor's Note:** *Oasis Systems has just announced The Word Plus. Priced at $150, several features have been added including display of suspect words in context, the ability to use LOOKUP from within REVIEW, and the ability*

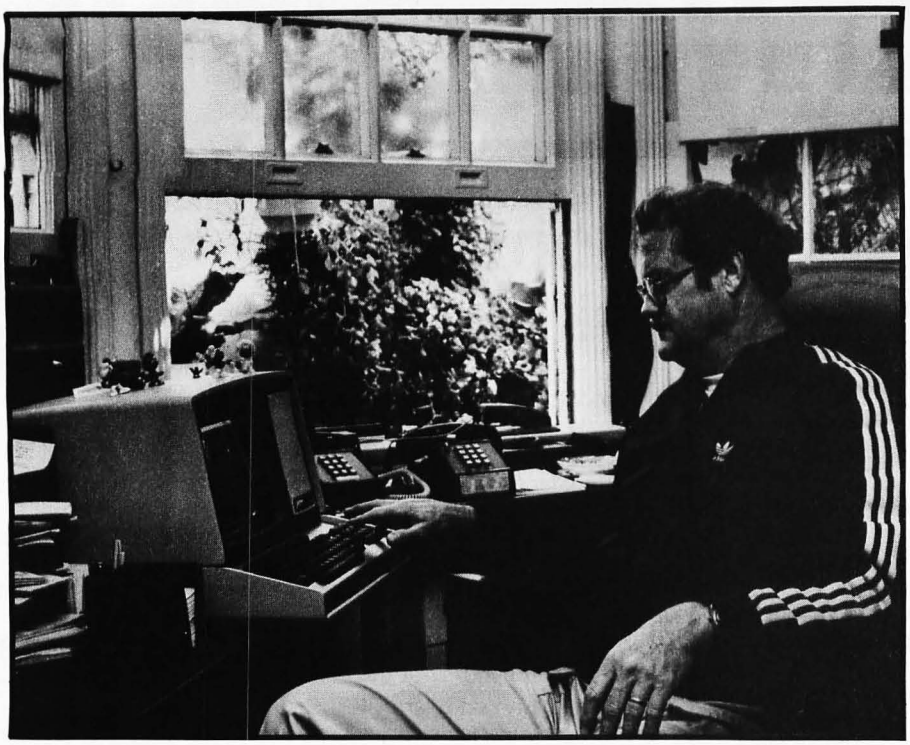


Photo 1: *The critic at work at his California home. Photo by Frank Pournelle.*

to have the software actually make the correction in your text file. Present owners of The Word will be able to upgrade to Plus for the difference in cost between the two packages. The original version of The Word will still be available for $75. . . . **M.H.**]

Pascal, Anyone?

My son Alex is a senior in computer science at the University of California, San Diego. Since they developed UCSD Pascal there, you will understand that he's become fairly proficient in it.

When we got the Godbout 8085/88 running here, Alex undertook to write some utilities for me, using Sorcim's Pascal-M on the new Godbout machine. Consequently, I had the fascinating experience of watching someone familiar with computers and Pascal, but unfamiliar with CP/M, trying to get programs running. So, as it happens, did Barry Workman, who happened to be over. (He's an assistant scoutmaster in the troop my younger boys belong to.)

There was no problem with Pascal itself. The Sorcim documentation is adequate for that, provided that you're fairly familiar with Pascal.

Hooking to CP/M was another story. Of course Pascal is notoriously deficient in input-output (I/O) to begin with, and it's not so hot in handling strings. But the Sorcim Pascal has a "feature" that sometimes makes things even worse. When Sorcim Pascal looks at a file using the "read line" Pascal command, *it ignores line feeds.*

A story goes with that. The American Standard Code for Information Interchange (ASCII), while nice enough to work with in many respects, has one defect: there's no new-line character. Instead, there are carriage return and line feed, two separate characters which together give you a new line. Many programs will insert a line feed when they see a carriage return. Others will not. All have to deal with this somehow. Sorcim Pascal-M solves the problem by ignoring line feeds altogether.

Now this is a good thing under certain circumstances because some text editors (for example, Wordmaster and Wordstar) put both carriage return and line feed into the text, while others (Electric Pencil, Magic Wand, and WRITE [Writer's Really Incredible Text Editor]) insert carriage returns only. (To make the confusion complete, Electric Pencil and WRITE mark the ends of paragraphs when you hit the Line Feed key; but the mark they actually insert in the text is not a line feed, but a carriage return!) In any event, what appear to be identical files can be different, depending on the editor that created them. What is the poor Pascal programmer to do? So the Sorcim solution is as good as any, except. . . .

Unfortunately, Sorcim has not provided a way to turn this feature off; so that if you want to make an exact copy of a file, you must go through massive contortions to test for whether or not there were line feeds in the original file.

Now the way I intended to learn Pascal was to go through the excellent book *Software Tools in Pascal* by Kernighan and Plauger (Addison-Wesley, 1981) and implement all their utilities as I came to them. Alas, one of the first utilities was a Copy utility, and what could I do about the line-feed and carriage-return problem? Worse, none of that is explained in either Kernighan and Plauger or the Pascal-M documentation. (The documentation tells you that the read-line utility ignores line feeds but doesn't tell you the consequences and the way to get around the problem if you want to see if there were line feeds.)

Eventually Alex managed a way around the problem, and after that he turned out programs in rapid fire order. He'll shortly have written a really good text formatter and printer that will do everything but wash the dishes; the basic program and most of its features work now.

He also got many of the programs from Kernighan and Plauger running and, for good measure, set up some of the demonstration programs for me from Peter Grogono's really excellent *Programming in Pascal* (Addison-Wesley, 1980) so that they work with CP/M. The result is that now I can use Kernighan and Plauger, and Grogono as tutorial guides to learning the Pascal language.

And the books are really good. I can learn more in a couple of hours of playing about with those books and getting the programs up than I can in a week of reading; and when I'm through, I often have useful utilities as well.

At this point enter Barry Workman.

"That's worth something," he said. "There's lots of people who want to learn Pascal and get discouraged because they don't know where to start. You take those programs Alex did, his notes, your notes, and the two books, and you've got a complete guide to learning the language."

"Not me," said I. "I write books for a living, articles for fun, and programs for a hobby, and I'm damned if I'll get into the software publishing business."

"But I'm in the software publishing business," said Barry. "At least by default." (His normal business is consulting on new installations, but he's slowly built up the mail-order publishing end as a sideline.) "Let me put that out for you."

So, Workman offers a package deal on learning Pascal. The disk with Alex's programs (sources and notes) and my notes on what I thought I needed to know is $50, and whether or not it's worth it depends entirely on how badly you want to learn Pascal and how much of a duffer you are when you begin work. I can truthfully say I wish I'd had the package when I started; it would have saved me a week and perhaps more. But it is not the Earth. You'll still need to work.

Understand that you will also need Grogono's *Programming in Pascal* and Kernighan and Plauger's *Software Tools in Pascal*. Each sells for about $15.95 in book stores and computer shops. Workman will send the two of them postpaid for $20 each, so that his total package is $90 if you want it all.

And understand that this is implemented for Sorcim's Pascal-M. Since Alex's programs are in Pascal, you will *not be able to run them* if you don't have the Sorcim compiler. (Alex has done exactly the same job on Digital Research's Pascal-MT+. See Items Reviewed, page 298.) Barry Workman has now put together a package that includes Pascal-M (or Pascal-MT+), Alex's programs and notes, my notes, and the two books.

Alex's evaluation of the two Pascals is that both are very good. If you're doing a lot of experimental programming, you'll want the Sorcim Pascal—which is also the best one to learn the language on. This is because Sorcim's Pascal-M compiles like lightning, much faster than UCSD Pascal or MT+ will compile. The error messages are very complete and informative. Thus you can do a lot of programming work in a short time.

Pascal-M's shortcoming is that it compiles to an intermediate code, and thus the programs written in Pascal-M tend to be slow. Not egregiously slow, but certainly slower than programs written in Pascal-MT+, which compiles to machine language. So if you're more interested in your programs running fast, you'll want Digital Research's MT+.

Me, I keep both and develop programs with the Sorcim package. Then when they're running I use MT+ to get them running fast; translation isn't all that difficult. But that's an expensive solution.

The Great BASIC Compiler Debate

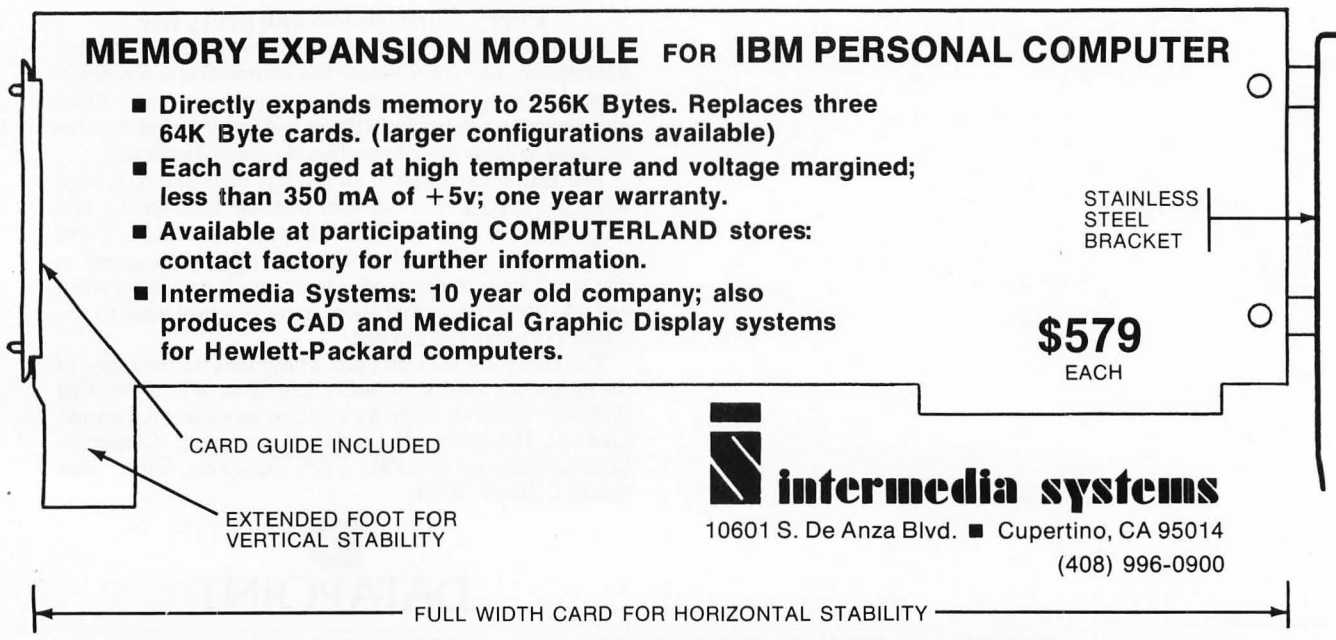
I recently received several letters imploring me to choose between Microsoft's BASCOM and Digital Research's CB-80. Both are, of course, BASIC compilers; the difference is that BASCOM compiles Microsoft's *interpretive* BASIC, while CB-80 compiles CBASIC, which is itself a pseudocompiled language.

Unfortunately, those were no easy letters to answer. As usual, the answer is "it depends."

First, let's establish something: of the two languages, CB-80 is unquestionably better if your criteria are ease of use and ability to write structured programs. CB-80 has "functions" that are indistinguishable in operation from Pascal procedures and calls by label (GOSUB DO-ONE is a perfectly legal statement). CB-80 has a whole host of features that Microsoft's BASIC simply doesn't support.

Why, then, don't I simply recommend CB-80 and be done with it?

It's a bit like Pascal-M vs. Pascal-MT+. Microsoft's BASCOM, used in conjunction with Microsoft's inter-



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pretive BASIC, isn't as fast or as convenient as CB-80; but you can get your program running much more easily because of the *interpretive* feature of the language. With Microsoft's BASIC you can write a complex program and run it (slowly) in the interpretive mode. You'll be able immediately to correct all the syntax errors and other trivia, after which you can check the program logic to see that the damned thing really does what you wanted it to do. Only then must you invest the time in actual compilation.

With CB-80, you must write the program; compile it, at which time you'll undoubtedly find a dozen trivial errors; put it back in your editor and fix the trivia; compile again, when you'll find more trivial errors that were masked by the first set of errors; etc. After about four to five iterations of the above, you'll finally be ready to check program logic, which may also drive you crazy because you can't jump around in the program at will the way you can in an interpretive language.

So, what do you want? As for me, I find I do the following: for a quick and dirty program, one I want to get running *right now*, I invariably use Microsoft's BASIC; if I'm going to use it very much, I then compile it with BASCOM.

For a program that will be part of my permanent inventory, meaning that it's complex and will need modifications over the years, and for which I'll want lots of comments and a rigid structure, I almost always start with CB-80. That's because CB-80 programs are inherently better structured than BASCOM programs.

Sometimes I'll use Microsoft's BASIC to get started, then translate to CB-80 later; but that's rare because CB-80 has so many nifty features that Microsoft's BASIC lacks.

But that's me. I discussed this with my mad friend not long before he died, and he said—not unsurprisingly—that the answer is "none of the above." Mac Lean was enamored of Digital Research's PL-I/80, which is admittedly harder to learn than either of the above BASICs, but which he claimed was far more powerful than either.

And my son Alex, not surprisingly, argues that Pascal is much better; a sentiment shared by Carl Helmers, the former editorial director of this magazine.

And if all that's not enough, I can find no end of people to tell you that you must ignore *all* of the above and adopt the C programming language. The latter is a view for which I have surprisingly friendly sentiment; but the problem is that there is no good C compiler for microcomputer systems. Now true, Leor Zolman's BDS C (B.D. Software C, available from Lifeboat Associates, and worth the price even if you're only mildly curious about C) is a truly amazing product; but it isn't the full C language, and the omissions are not trivial. The Whitesmiths C compiler is a full C compiler (provided you have more than 60K bytes of free memory), but it is slower than molasses in January and has perhaps the worst error-reporting features of any language I've ever seen. You can spend *days* trying to get the simplest program running in Whitesmiths C.

And yet, the C language compiles to the tightest code of all the higher-level languages. It runs fast and is suitable for operating-system programming—something you certainly can't say for any of the other higher-level languages. If there were a really decent C for microcomputers I'd be inclined to support it; and I'm very much looking forward to the development of a good C for my Godbout 8088.

As of this writing, I've no definitive advice. If I could buy only one higher-level language, I suppose I'd get CB-80, an opinion which I suspect is causing my mad friend to revolve rapidly because he didn't care much for BASIC in any of its guises. The second one I'd buy would be BDS C, followed by BASCOM, and PL/I-80. But that's me, and I've different problems from many of you.

I wish I could be more definitive.

Goodies

One reason you'll probably want the BDS C compiler is the BDS C User's Group. It puts out a truly amazing pile of useful software at practically no cost. You can purchase file comparators, Game of Life, graphics for the Z-19 terminal, Pong games, Rally games, and the like. If you like playing with computers, you really ought to have BDS C and belong to the user group; if you get something you like only once a year, that's worth the cost.

I'm also pleased to say that WRITE, devised for Larry Niven and myself by Anton Pietsch, is now available from Ashton-Tate for *terminals* as well as for memory-mapped video. I'm using it on the Z-19 right now, and it has a mind-staggering pile of features that really work. George Tate tells me that by the time you read this it will have been announced and demonstrated at the West Coast Computer Faire.

WRITE will, in my judgment, blow Wordstar out of the market. I know that's a heavy statement, given the number of people using Wordstar; but I still think it's true. WRITE is a truly transparent editor. To use it, you just type. If you want to go back and insert and delete and in general mess about with your text, WRITE reformats the paragraphs automatically; there aren't any danglers poking out at the end as if your sentences had rigor mortis. WRITE lets you change disks while your text is in the machine, so that paranoids (like me) can make safety copies that are truly safe. (The worst power failure isn't going to go across the room to the bookcase to clobber my disk.)

And so forth. Obviously I'm prejudiced. Not that I get any profit from WRITE, because I don't; but the program was written to make Larry Niven and me happy. All I can say is, get a demonstration; if you're a creative writer, I can't believe you won't prefer WRITE to any other text editor you've seen. Meanwhile, Tony is also doing a programmer's version of WRITE that, he says, will more than compete with Wordmaster.

Grammar, Anyone?

One real problem with artificial intelligence is that we can teach computers to spell, but we can't really teach them grammar. For all the rules that appear to be rigid, when you get right inside the grammar of English, there is far too much of the "you-know-what-I-mean" type of statement.

One valiant attempt to change this comes from the Aspen Software Company, which makes Proofreader and

Items Reviewed

Ashton-Tate
9929 Jefferson
Los Angeles, CA 90230

WRITE
(Writers' Really Incredible Text Editor for terminals) $395

Aspen Software Company
POB 339
Tijeras, NM 87059

Proofreader and Grammatik (combined)
IBM Personal Computer $250
TRS-80 Model I or III $139
TRS-80 Model II $179

CompuPro/Godbout
Oakland Airport, CA 94614

M-Drive
128K memory $1590
256K memory $3100

Digital Research
POB 579
Pacific Grove, CA 93950

Pascal-MT+ 5.5 system $350
CB-80 1.1 $500

IBM
Information Systems Division
Entry Systems Business
POB 1328
Boca Raton, FL 33432

IBM Personal Computer $1600

Lifeboat Associates
1651 Third Ave.
New York, NY 10028

BDS C Compiler $150

Microsoft
400 108th Ave. NE
Suite 200
Bellevue, WA 98004

BASCOM BASIC Compiler
CP/M and Apple $395

Oasis Systems
2765 Reynard Way
San Diego, CA 92103

The Word $75

Osborne Computer Corporation
26500 Corporate Ave.
Hayward, CA 94545

Osborne 1 $1795

Sorcim Corporation
405 Aldo Ave.
Santa Clara, CA 95050

Pascal-M $395

Televideo Systems Inc.
1170 Morse Ave.
Sunnyvale, CA 94086

Televideo 950 $1195

Whitesmiths Ltd.
POB 1132
Ansonia Station
New York, NY 10023

C compiler for CP/M $750

Workman & Associates
112 Marion Ave.
Pasadena, CA 91106

Utility Disk One
(including FIND) $32.50
Pascal Primer $50

with Grogono's *Programming in Pascal* and Kernighan and Plauger's *Software Tools in Pascal* $90

with both books and Sorcim's Pascal-M compiler $350

with both books and Digital Research's Pascal-MT+ compiler $425

Books Reviewed

Software Tools in Pascal
by Brian W. Kernighan and P. J. Plauger, Reading, MA: Addison-Wesley Publishing Company, 1981. $15.95

Programming in Pascal by
Peter Grogono, Reading, MA: Addison-Wesley Publishing Company, 1980 $15.95

Grammatik. Proofreader is another spelling program. It's not very good, compared to the best; it's certainly not up to Spellguard's standards of performance as far as convenience.

For one thing, the Aspen spelling checker doesn't know about dot commands: that is, whereas the best spelling programs know that a line beginning with a period is a command line and contains words to be ignored, Proofreader faithfully offers all my formatting commands as candidate misspelled words. It's also quite slow, even on the 8085 at 6 MHz.

What makes the Aspen program unique is Grammatik, which is an attempt to teach a computer elementary rules of grammar. Grammatik is an integral part of Proofreader and is invoked from within that program. It first makes a table of words by frequency (just as The Word does); the idea here is to let you see if you've overworked any words. Then it looks for "grammatical errors."

Now, no program yet written actually understands English grammar; certainly none that work on 8-bit microcomputers can. Grammatik can look for strange errors, such as doubled words ("the the") and STicky SHift KEy (more than one letter capitalized in a word). It makes sure that the first letter of each sentence (defined as the word following a period; be wary of abbreviations) is capitalized. It can find misplaced or unbalanced quotation marks, and it can look at a table of trite and overworked phrases that are best avoided and indicate them on the screen. In other words, it's useful if your work has to do with words. I've been using it since it arrived with no regrets.

Proofreader is apparently available without Grammatik; I wouldn't recommend getting Proofreader alone. There are much better spelling programs. I'm not sure that Grammatik will work without Proofreader, which compromises its value. So it goes.

Integrity and High Speed

We now have four major computers: Ezekial, my five-year-old Cromemco Z-2 Z80; the Osborne; the Godbout 8085/88; and Alex's CCS (California Computer Systems) Z80. There's also Dr. Stefan Possony's CCS in Palo Alto, California, and we have a cousinly relationship with the L-5 Society, which has installed a Godbout.

Amazingly, we're happy with all of them. The Osborne, just at the moment, is in the shop; we got one of the really early ones made before they shook the bugs out of it. The dealer to whom Alex took it doesn't know that I

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got mine direct from Adam Osborne or that I'm going to write a review. As far as he's concerned he's got an early model, well past its warranty date, but with an early main board known to be defective. And he's having it fixed. There is, it seems, a directive from Osborne headquarters covering such cases. Consequently, they're installing completely new electronics, at no cost. And, I hasten to add, the Osborne you can buy now comes already with the newly designed board.

So, where does this put Osborne? As one of those companies that uses its customers as its quality-control department? No. There is, after all, one company around with a prodigious reputation for delivering DOA equipment (that is, equipment dead on arrival) and doing nothing at all about the problems. It hasn't redesigned anything, nor has it made contact with all its dealers to tell them how to handle the problems. It just goes on buying advertising.

Osborne, on the other hand, obviously wants to make his customers happy. He keeps sending software updates, for example; and when he finds a design defect in his early models, he eats the cost of updating them. So, sure, it would have been better if there hadn't been problems with the first three hundred machines delivered; but that was, after all, a fairly small number, and Lord knows Adam Osborne has worked prodigiously to rectify any early problems.

And until the flaw showed up, as mentioned above, the Osborne performed more than satisfactorily. We've amazed a lot of friends with it. And we've now got it talking to our other machines, so that we can put programs in it and get text out. I use it at all my meetings and conferences, and I've missed it the past few days that it was gone.

Then there's the Godbout 8085/88: built like a Mack truck and every bit as reliable; the only thing to report about its operations is that there's nothing to report.

We do have a new feature, though. We've just installed Bill Godbout's M-Drive, which is a way of fooling your computer programs into thinking that a lot of extra memory (in our case 512K) is a disk drive; and you can't believe how fast that runs. Compilations and assemblies are nearly instantaneous. Of course the data isn't saved that way; if the power goes off, you've lost it. But for compilations and the like, who cares? Compile once with M-Drive, and if it compiles without errors, save it on disk. If there are errors, you get the result instantly and can fix things.

I wouldn't recommend M-drive for people primarily concerned with text and creative writing because they'll mostly be concerned with preservation of their output. I, for instance, want to see a copy of my text disks in a box on the other side of the room before I'm completely satisfied. But for programmers with frequent test compilations and the like, the Godbout M-Drive is a real godsend. ■

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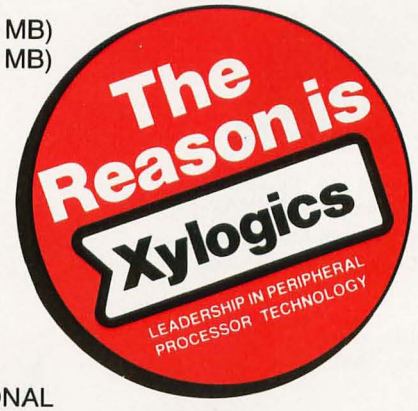

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