

SOFTLINE

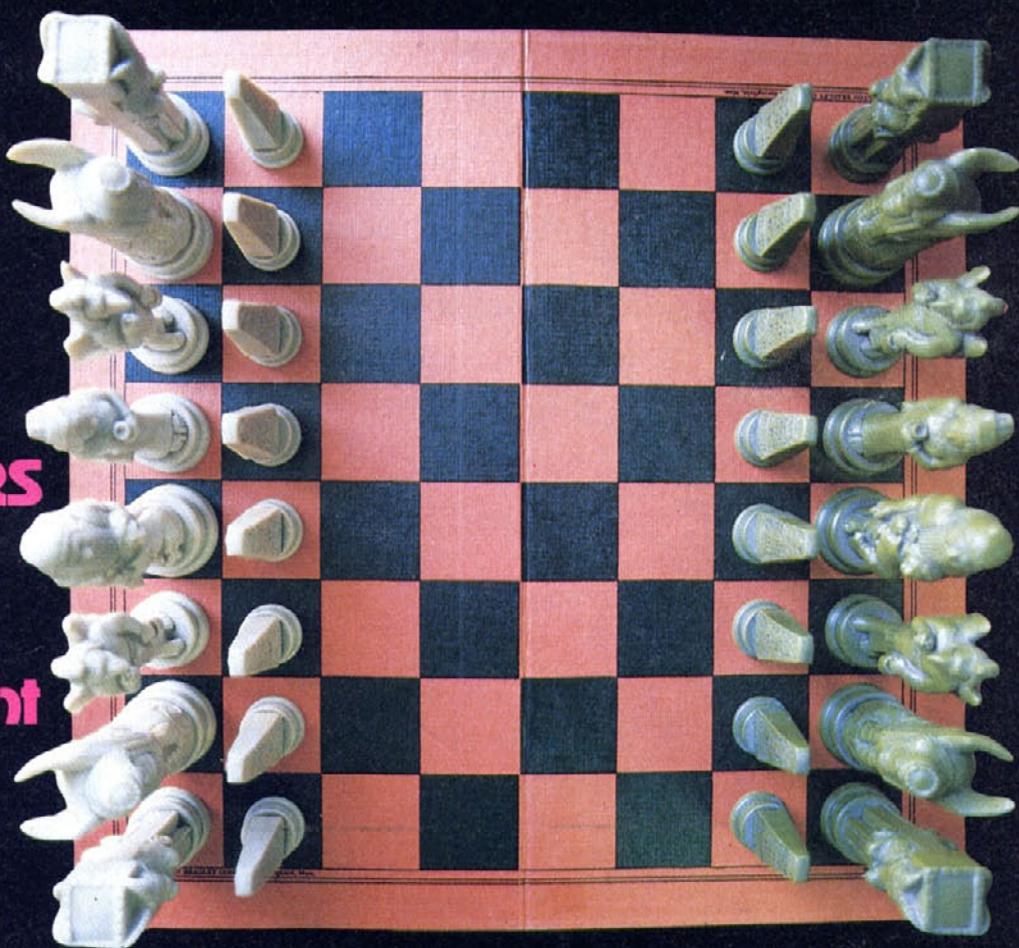
VOLUME 2

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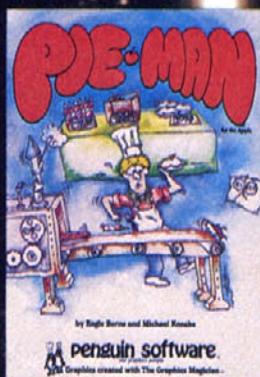
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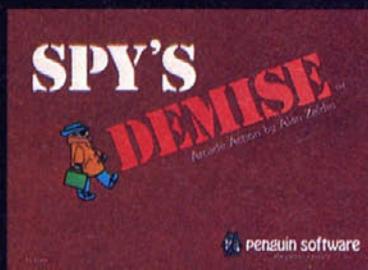
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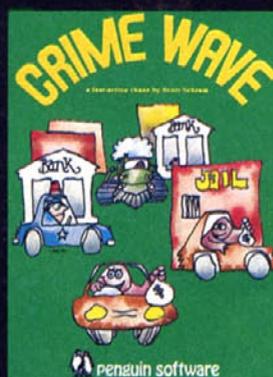


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NEW RELEASES

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We believe games should be fun and that the price of games shouldn't dampen that fun. The growth of the market over the past couple of years leads us to believe that \$19.95 may work now as a reasonable game price, so we're trying it for the next six months, and if we're right, longer. This policy does not just apply to new games, but to ALL our games, including our past and current best-sellers! Our bet is that we'll sell more and that the increased sales will offset the decreased income per product. If so, more people get to play our games, and we still make enough to keep developing newer and better software.

As our customers know, at Penguin Software we take a great deal of care and pride in our products. This change in our pricing in no way affects our standards of quality. We pioneered the removal of copy-protection from applications software last year in an effort to give you a better product. This year we are trying again to lead the way in putting the customer first.



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Eamon calls for Mexican stand-off between verbose reader writers.

No Contest / 7

It's amazing: if you don't enter, you won't win.

Winners' Circle / 7

Many are galled but few are frozen.

Managing Your High Scores Portfolio / 10

Database management system to retrieve high scores bimonthly and update daily by handy input routine. Fifteen-minute delay between scoring and posting.

The Still Amazing Maze, Part IV / 14

The sideways glance and the view from the corner of your eye—especially for the beady-eyed.

by Brian Fitzgerald

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Making drill and practice palatable—it's all in the mind. Remember Harold Hill, Harold Hill.

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Softline readers expose the worst in software. Scratch and sniff.

No Tipping / 24

Winning cryptic clues for stalled stalwarts, plus toppled adventurers for you to help confuse.

Atari Sound / 26

Usually heard from Go players and David Carradine look-alikes.

by Bill Williams

Editorial: Margot Comstock Tommervik, figurehead and naysayer; Pat Ryall, managing honcha; Andrew Christie, working honcho; Tommy Gear, letter mauler and high score booter; Matt Yuen, contestmeister and mag wag; Jean Varven, sense maker; David Durkee, David Hunter, Cord Cooper, Harry McNeil, Betsy Barnes, working stiffs; Roe Adams, cantankerous misreviewer; Forrest Johnson, critic.

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Adventures in Adventuring: The Challenge of the Adventure Writers Guild / 28

A complete adventure in forty-three lines? Who you kidding, buddy? Why, you—

by Ken Rose

By Golly, That's a Good Game / 30

A bunch of aliens, an armory of weapons, a drop of dew from a rose at dawn, the blood of a lizard caught at midnight . . . oops, wrong recipe.

by Margot Comstock Tommervik

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Nobody knows how good *Mind Games*'s adventure is; nobody's managed to stay awake through the three exciting arcade games you have to master to play it. But it's certainly innovative. . . .

Profile of a Programmer: Roger Keating Strategizes with Kangaroos / 34

Never has one company gone so far for one programmer. SSI went to Australia and 1985 for this one.

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Where have all the good games gone? Long time passing. . . .

The Most Popular Program Ever for Ataris / 44

Literate Atari owners voted for their favorite programs. This article could spill the beans.

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All the news that's prit to fint. Thanks to Brent Shaw, we now have plenty of varnish for the truth.

The New Spring Computers / 53

Are spring computers anything like spring lamb? If they've got keyboards, they must be hand springs.

Who's on First? Name the New Computers Contest / 54

Win one of the baby ones for identifying the competing computers. Don't worry about those manufacturers watching to see who knows too much; they're just paranoid.

High Scores / 57

A bimonthly summary of fanaticism for the benefit of David Ahl.

Highlines / 57

A running fist fight over the value of verification, plus advice on how to keep your dad's, mom's, spouse's minds on verification when you wake them up at 4 a.m.

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DIRECTLINE

New Friends

I am writing about one of *Softline's* advertisers, Strom Systems. I have been doing business with them since May 1982, when we first saw their advertisement in *Softline*. The owner, Rick, has been extremely courteous and helpful. Orders from them have always arrived when Rick said they would. He stands behind the products he sells, and gives prompt and efficient information when needed. All in all, I've found somebody I can trust, and whom I consider a new friend.

Jeff Marraccini, Clarkston, MI

Public Adventures

In the January '83 *Softline*, Evan Hodson asked about outlets for the *Eamon* adventures by Donald Brown. Here is an address that may be of some help: Apple PugetSound Program Library Exchange (A.P.P.L.E.), 21246 68th Avenue South, Kent, WA 98031. They have the *Dungeon Designer* disk and thirty (!) adventures—all available to members only at \$4 each.

Mr. Hodson's difficulty in finding an outlet for public domain software illustrates the essential fallacy of the arguments of most pirates. You've all heard the claim that if it costs less than \$10, of course they'd buy it! Well, so would I. But *where* would you buy it? A dealer won't expend wall or floor space and the time of a clerk on products that net him only a dollar or two. He wants \$10 profit if a clerk is going to spend five minutes on the sale. This is needed to help pay his overhead, rent, personnel, stocking fees, and profit for himself. Surely this is reasonable. Why else would he be in the business?

If the dealer gets \$10, the product must sell for \$30. The additional \$20 goes to the author (\$2.70), publisher (\$11.30), and distributor (\$6.00).

If you eliminate or reduce any of these shares, the product is either not written (no one gets it), not promoted (no one knows about it), or not distributed (no one can find it). Then we have Mr. Hodson's problem. He knows about an excellent series of games (the *Eamon* adventures) that are not protected, are sold at cost or are free to copy, and are set up via the *Dungeon Designer* for users to do their own adventures. He cannot, however, find these adventures or an outlet for his own. How many of you other adventure players have tried the *Eamon* games? They are good and the price is right!

There is a lot of public domain software. The A.P.P.L.E. club carries nearly three hundred disks' worth. Other clubs do too. You seekers of inexpensive software should spend some of your energy tracking down, improving, donating, and promoting public domain software instead of stealing the efforts of some poor programmer that is trying to make his living as an author. Believe me, for every one you read about getting rich in this field, there are dozens that lose their shirts and go on to some other work. If their products were sold in anywhere near the volume that they're copied, maybe they could afford to lower the price on the next one.

How about some input from others. Let's see some addresses for other sources of public domain software in *Directline*. Where can we get this stuff?

Robert C. Clardy, Synergistic Software, Renton, WA

In response to Evan Hodson's letter: there is a central clearing house for *Eamon* adventures, a public domain adventure system for the Apple II. It's the Apple Avocation Alliance, 2111 Central Avenue, Cheyenne, WY 82001. 3A carries a huge line of public domain software, including thirty-three *Eamon* adventures, three *Eamon* tournament adventures, two utility disks, and the *Eamon* *Dungeon*

Designer disk, version five. The *Dungeon Designer* disk lets you design your own adventures.

It costs \$3 per year to join 3A, and the catalog costs \$2. If you have programs to contribute to 3A's public domain library, you get a free disk of 3A programs for every disk you contribute.

The *Eamon* adventures are actually better than many commercial products, and no commercial product can compete with *Eamon* in price.

Robert Plamondon, Corvallis, OR

From Mainframe to Micro

Thank you for a dynamite magazine, for the dialogue in *Directline*, and for High Scores!

I've been playing *Crowther* and *Wood's Adventure* on and off for some two years now, whenever mainframe computer time could be begged, borrowed, or stolen. The same day my Apple was purchased, I also bought a copy of Microsoft's *Adventure*, and, happily, it's everything they claimed: completely faithful to the original.

This is a rich, full adventure, and it's tough. And, thanks to the hints of Reed Hubbard and Don DeCosta in January's *Directline*, today, at long last, I finally read the following on the screen:

A twenty-foot hole appears in the far wall, burying the dwarves in the rubble. You march through the hole and find yourself in the main office, where a cheering band of friendly elves carry the conquering adventurer off into the sunset. You scored 350 out of a possible 350, using 378 turns. All of *Adventure* gives tribute to you, Adventurer Grandmaster!

Apparently, for some reason you don't list *Adventure* scores in your High Scores column, but please consider ours for listing. We completely agree with *Softtalk* that this game is a classic and is being actively played, as evidenced by the letters. Why subject a game of this caliber to a time limit in reporting scores? Instead, reward, even for one issue apiece, those who have beaten their heads against the wall for so many sleepless nights trying to unravel the mysteries of Colossal Cave, and have finally earned the title of Grandmaster.

And now's our chance to return the favor to Reed Hubbard (January '83 *Directline*) and certainly others: obtaining the extra point you seek has brought many to their Witt's end! But be grateful for the help obtainable through *Softline* and other fine magazines. If all else fails, consider this: Microsoft's *Adventure* actually contains one more room than the mainframe version! This room contains a very broad clue to the solution of your problem.

Finally, regarding Evan Hodson's letter (also January '83 *Directline*), exactly what is the *Eamon* program and how may it be obtained? We've seen a vague reference to it before but could never get any hard information.

C. S. Egel, La Grange Park, IL

Consider yourself recognized. But games with score ceilings don't allow for a lot of competition once you get as high as you can go. For the hard stuff on Eamon programs, write to Magnetic Fantasies, 1626 North Wilcox, Suite 403, Hollywood, CA 90028. Send them a disk and they'll send you the programs. (See also "Public Adventures" above.)

Personal Gamer

I have an IBM pc, and, although there aren't as many games out there for the IBM as there are for the Apple and Atari, I believe the situation will improve in time. I hope *Softline* will start helping pc users learn the art of creating games in the same way as it does for

Apple and Atari users. Would it be possible to get versions of the "Amazing Maze" series that run on the IBM pc?

Jack Hamilton, McKinleyville, CA

As time improves the game situation for the IBM, so will its presence be felt in these pages. Stay tuned. And if anyone out there wants to convert "The Amazing Maze" to IBM Advanced Basic in their spare time and donate it to this magazine, go right ahead. Then put in for your Medal of Valor.

Adventuring on a Budget

I have worked with computers for several years, but I have only recently become involved with personal computers. I currently have a Sinclair ZX-81 (don't laugh—it's all I could afford) on which I am developing games and adventures.

The best thing about *Softline* is Ken Rose's ongoing series on adventures. How about presenting a piece on how to write a standard adventure driver with a good multiword parser, and then supply a new database and main program changes each month. This would allow for some surprise in the adventures, as in the original *Adventure*, in which clues could not be discovered by typing in the database or program unless you wanted to. Some of the database could be in hex or octal so the programmer would not know what it said unless he worked at it.

Russell Neal, Phoenix, AZ

No Witnesses

One question regarding the High Scores verification policy, which, by the way, I applaud. How do people who live alone (yes, there are a few of us out here) acquire written verification for our scores? (Especially at 2 a.m.) Should we call our local police and have them rush over? That's guaranteed to make you really popular. Most of the time this wouldn't affect me, since my friend Bob and I compete on my Atari. But there is bound to be a time when I get a possible high score and there won't be anyone there to verify it.

Richard Strecker, Mentor-on-the-Lake, OH

Try giving Brent Shaw a call.

Fallen Falconer's Follow-up

I enjoy your magazine immensely. The articles are always top drawer and easily understood by novices. I love "Adventures in Adventuring" and the articles on Apple II graphics.

I was sorry to hear that the game I set a high score on, *Falcons*, has been removed from the High Scores roster. I was very disappointed in hearing of Jim David's cheater copy of the game. I am slightly upset that not only has his previous score been eradicated (as was expected), but that mine is now invalidated too. I can understand the reasoning behind such actions, however, and there are no hard feelings from my side of the world. I was also surprised to see that the November issue is to be remembered in gamer's circles as the Great Purge of Fong Scores issue. I had been wondering for a long time exactly when this would take place. Maybe the Jim Davids and Norman Fongs of this world will now sit up and take notice; the bona fide gamers will not tolerate cheaters, and *Softline* is heading the fight against such travesties of nature. This entire issue has caused one small wrong to have been forced upon me. Although I have told all of my friends about my victory against the evil Falcons, they do not believe that the David Foster named in small print at the end of your magazine is indeed myself. I wonder if some small word could be placed in my behalf. I would be eternally grateful.

Another of my favorite columns has been "The Amazing Maze."

Although I always type in the programs in what I think is perfect precision, I am more often than not met with an error message. Frustrating! That is until I saw the free maze-disk offer. This offer is one of the most generous I've ever encountered in any magazine. Thanks for the knowledge that somewhere out there is a bunch of people on "our" side. *Softtalk* and *Softline* are the most-read magazines in my circle of friends.

David Foster, Delanson, NY

Now Picture This

In response to George Fergus's letter (January '83 Directline), I'd like to say that a picture is worth a thousand words. Not original, but true. I would rather have fewer reviews and more pictures. There are a lot of us who are not close to a computer store where we can go and sample software. Or we would much rather buy mail order to save money. I live eighty miles from the closest computer store and have to rely completely on advertisements and magazines in deciding what to buy. I have ordered many programs that were given good reviews and that sounded exciting, only to find I was really disappointed in the graphics. Few companies show pictures of their games. Broderbund is an exception and is to be congratulated. I have never been less than thrilled over any of their products. It may be true that some products, such as *Ultima II*, could never be properly displayed with one picture, but I believe games like this are the exception and not the rule.

John Wira, Burton, SC

More Advice

I am writing in response to the letter in January Directline titled "Advice." I am an Atari 800 owner, and I'm glad to see that *Softline* is devoting more space to the Atari computer. I agree with George Fergus that there should be pictures of the games reviewed, not just people. I would like to see a column devoted to rating computer games from best-liked to worst-liked. I don't know of any magazine that does all this. There are magazines that tell you everything you want to know about home video games, but not for home computer games. I hope to see *Softline* expand, covering everything about computer games, along with the continual inclusion of a fun and high-quality game in every issue. I don't think *Softline* should be totally instructional, but I think it should cover the advanced as well as the beginning programming of games.

Tim Gulden, Winona, MN

The Limitations of Memory

My compliments to Ken Rose on what seems like a very good adventure game, *The Horrible Rotten Dancing Dragon*. I currently subscribe to seven computer magazines and have never seen a listed game of this caliber in any of them. I'm glad to see that *Softline* is not exclusively pro-Apple. I think there are more Atarians out there than people realize.

Because of financial considerations, I am still stuck with only 16K on my Atari, which was purchased not only for small-business programming but also for the good games that fully utilize Atari's clearly superior graphics and sound capabilities. (Let's be honest, there's a little kid in all of us.) Anyway, after quite a bit of typing on Ken Rose's program, I was disappointed to find that I had run out of memory space and still had the last forty lines to enter. I had not entered the REM statements, as he had suggested, and even adjusted the program accordingly.

Here, then, is the status of all us "handicapped" 16K owners: after inserting the Basic cartridge, we are left with 13,326 bytes of available memory. The dimension statement alone (line 30) used up

1,419 bytes when entered and run. Add to this a very wordy adventure and there's just no way to squeeze it all into a 16K system. Oh, well.

Lastly, what's the chance of seeing an Atari translation of Brian Fitzgerald's "Amazing Maze" series? It looks exceptional.

Devin MacAndrew, Costa Mesa, CA

Brian Fitzgerald's writing as fast as he can. Those of you who sent in your disks for the Atari version may have noticed the very slight delay.

After receiving the January '83 issue of *Softline*, I hope I never receive another issue again. After looking through the issue, I decided to go ahead and type in the adventure game titled *The Horrible Rotten Dancing Dragon* by Ken Rose. Knowing I have only 16K, I carefully read the instructions that said to leave out all the REM statements. I did. After line 3200, I received an error message that stated I had run out of RAM. I checked and discovered that I had only five free bits left. After three straight hours of nonstop typing I am very annoyed.

Steven Gelfman, Oceanside, NY

Sounds like you both had the disk operating system loaded. On the Atari 400 you need all 16K, free and ready.

Just Amazing

To Brian Fitzgerald: My school just received its first issue of *Softline*. I read your article and was happy when I came to the part that said we can get all the current programs for your 3-D maze. I appreciate this a lot. *Softline* seems like it will be a big help in learning some of the intricacies of the Apple II Plus.

I don't think you should waste space on screen photos of all the arcade-type programs in the reviews, as George Fergus suggests. I believe that, before you buy any program, you should get a demonstration, or, if you are getting it in the mail, see if you can get a refund if you aren't satisfied.

Tim Dieckman

Getting Assembled

This is one hot magazine you've got here! I am against making backups of copyrighted programs. That's how you lose money. The publishers should offer free backups, sparing the costs of disks. Software for breaking protection schemes would then not be needed for these programs.

I like writing games, but all my games are written in Basic. There's nothing like a good slow game—literally nothing. So my dad bought a compiler for me, but it's still too slow and takes up a large amount of memory. Compilers are good, but not for games. What I'm getting at is that I need to know assembly language. Can anyone recommend a really good assembly language book? Thanks.

Derin "Bazz" Basdin, Fresno, CA

A really good book we'd recommend is Assembly Lines: The Book, by Roger Wagner. It's available from Softalk Publishing by mail for \$19.95.

Bibliophilic Blitz

This is in response to the letter in September Directline titled "Message from Middle Earth" in which James Brown said that the book *From Here to There and Back Again* was not Frodo's book, but his uncle Bilbo's. When I first read that letter I went back to the article in reference and found that there was a mistake. Brown was only half right, though so was the article. The book is actually a collaboration of Bilbo, Frodo, and Frodo's servant Samwise Gamgee. You can probably tell that I am a fan of fantasy games and fiction.

Also, in the January '82 *Softline* in "Adventures in Adventuring," the dungeons and dragons books were listed. One book was listed incorrectly. *The Friend Folio* should read *The Fiend Folio*. That was a major difference.

Would *Softline* ever consider having a series of articles on machine language graphics and animation?

Nils Nieuwejaar, Milford, NH

Objectionable Practices

The antics of Southwestern Data Systems and Slipshod Software in marketing games that switch to spreadsheets, thereby more easily cheating an employer out of his workers' time, is disgusting and immoral. I object to your permitting either of these companies to advertise in your magazine.

Stuart Smith, Nevada City, CA

Agreed. Slipshod's business is no longer welcome at this magazine—and, we trust, nowhere else either.

Late-Night Drifter

I am the person who stayed up late one night and left my computer on overnight to finish a game of *Snake Byte*—only to have my town black out in the middle of my game. However, something worse has since happened with *Snake Byte*. After playing for almost an entire day, I left the computer on overnight. The next day I continued playing, scoring over 600,000 points. I had 99 snakes left when I cleared a round. Instead of gaining a snake and having 100 left, the screen said I had 0 left. I cleared a few more rounds but died eventually with 0 left. Instead of going back to 99 snakes left, my game ended. If this bug was not in the program, I could have played forever and gotten a high score.

Concerning *Genetic Drift*, I have found a bug similar to that in *Snoggle*. When the TVs are going around at the end of a round, by typing control-shift-N, three free ships are awarded at the next normal ship-giving time (5,000, 15,000, 25,000, and the like). Also, the game slows down to its original speed. So, with this feature, almost any score can be reached.

Peter Gordon, Teaneck, NJ

Somewhere . . .

It seems that Reed Hubbard (January '83 Directline) is at his "Witt's end" in struggling for that last point. Jeff Frank, on the other hand, might do well to recall the song *Over the Rainbow*.

Paul Nester, Lorton, VA

How 'bout a Subscription?

Reed Hubbard asked for a hint on Microsoft's *Adventure*, so here's one from me: you have to go to a room and find something you might have at home. Do you have a *Softline* I can borrow?

Brian Peticolas, Worthington, OH

Pirate's Progress

I am twelve years old and I think it's about time that I wrote to tell you about a subject that annoys me very much. The subject is, of course, software copy protection. Like George Eliades, I break disks and copy programs. I copy a lot, and my friends and I get together a lot to talk about the newest software and to copy and swap programs. My opinion of copy protection is that it is 50 percent stupid. Half of it is okay, since I know that programmers need to make money. The other half of me knows that copy protection is stupid. No matter how programmers protect their programs, the code will always be cracked and copied. And another thing, what about those people whose programs crash because of the copy-protection code? What of them?

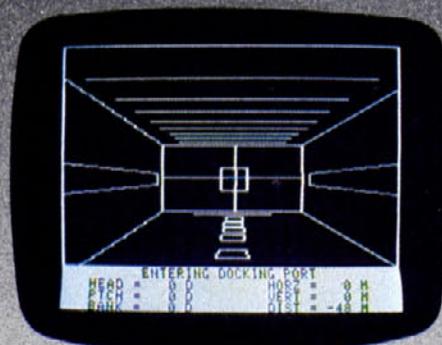
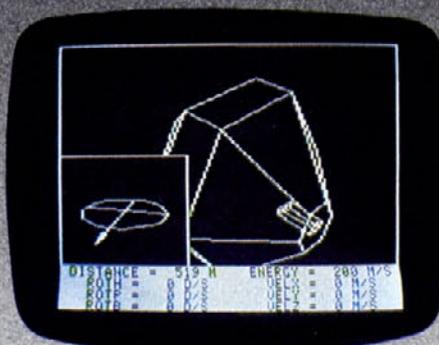
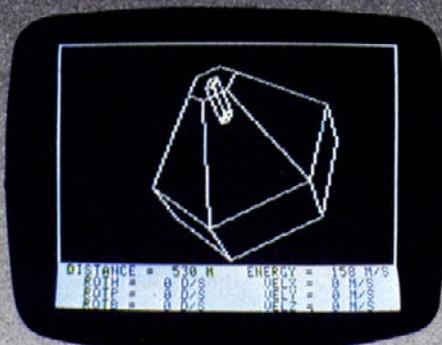
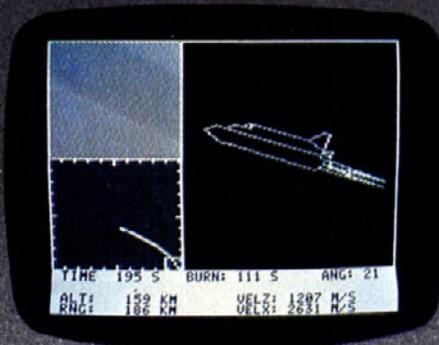
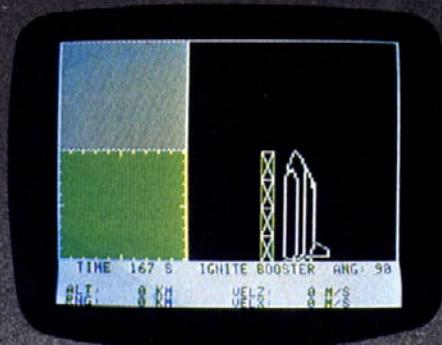
Other companies, such as Penguin Software, are okay in my book. My friends and I do not copy their software; we buy it. Other companies, such as Beagle Bros and Fantastical Software, are perfect examples of companies that trust their customers. I still see that they are going on as strong as ever. I think they know that copy protection is a waste of time and money. You guys are okay, though you may not feel the same toward me. I am eager to hear from anyone who has the same or different opinions about copy protection.

Well, as I end my letter, I hope that other companies take me se-

RENDEZVOUS

Version 1.1
Now faster, more realistic
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When reality is challenge enough.



Breakthroughs occur once in a great while, when a product emerges that goes beyond imagination. It defines new territory. If that product is a computer simulation, it will leave the crowded field of carbon-copy Space Invaders far behind.

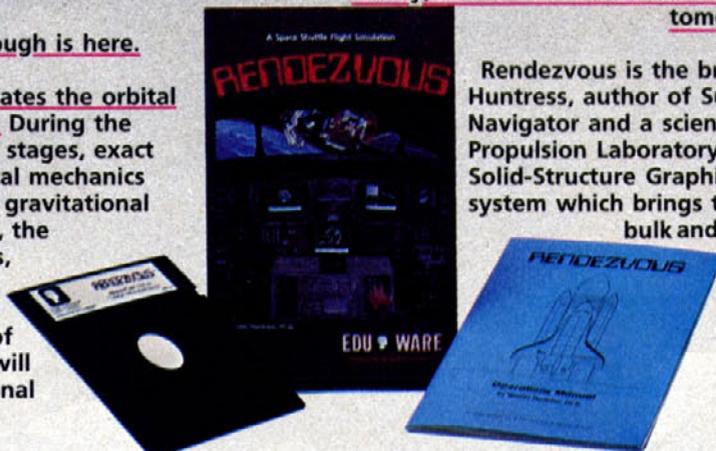
Rendezvous ... the breakthrough is here.

Rendezvous accurately simulates the orbital flight of a space shuttle craft. During the liftoff and orbital rendezvous stages, exact systems of ballistics and orbital mechanics require you to master Earth's gravitational force. Once you achieve orbit, the disorientation of a frictionless, zero-gravity environment complicates your maneuvers. Throughout the final stages of alignment and docking, you will view the rotating, 3-dimensional space station as it would appear in a space craft's anterior window.

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Today, Rendezvous is an Interactive Simulation ... tomorrow it will be reality.

Rendezvous is the brainchild of Wes Huntress, author of Sub Logic's Saturn Navigator and a scientist at NASA's Jet Propulsion Laboratory. Huntress created Solid-Structure Graphics™, a 3-D animation system which brings to life the massive bulk and solidity of the station and docking bay.



New Flight Manual

Recommended for individual players, 13 and over.

Applesoft, 48K, DOS 3.3
\$39.95

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Interactive Simulations™

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riously, even though I am twelve years old, and that they decide on which road to take. As for *Softline*, since your magazine is no longer free, I advise that you add something (though I love your new Infomania) such as a new article for future game programmers who want to learn new techniques. Keep up the good work! You guys are the greatest.

To D. Wolfsdorf: You can get the dragon to move by stinging it with bees. Now how and where you get the bees is up to you to find out. Also, here's some information I got from the Beagle Bros books. You can make the reset key boot when it's pressed by adding this line:

```
100 FOR X=1011 TO 1015:POKE X,0;NEXT
```

You can make the program run when the reset key is hit by adding this line:

```
100 POKE 1010,102:POKE 1011,213:POKE 1012,112
```

John Woo, Bronx, NY

Just Hinting Around

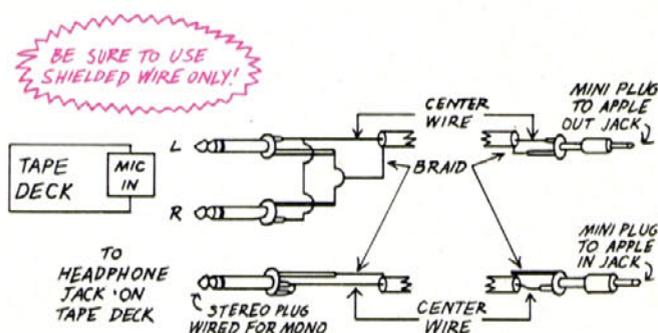
Remember, Alexander Wei, you get what you pay for. One further note on *Cranston Manor*—computers run on electricity. Advice to Jeff Frank: look for the gold. My advice to you, George Eliade, on *Wizard and the Princess*: stuff it! Also, read page 4 of the *Zork* manual for stashing treasures. There is a pump for the boat; the trick is to find it!

Deborah Bickford, San Jose, CA

The Cassette Connection

If you're using Applesoft on tape, I'm sure that on at least one occasion you have experienced a blowout where Applesoft drops out from under your program; you can type *OG* all day and still be in the Monitor. This can be a real pain if you haven't saved what you're working on. I've found that by typing *190BG* or *1992G* from the Monitor you can get back into Applesoft enough to save your program on tape (usually). Sometimes it can be saved, even if trying to list it puts you back in the Monitor again. This has saved me a lot of typing. Of course, you should reload Applesoft again after saving. Start fresh by turning the power off and back on.

If you're using a cassette recorder with your Apple, I suggest you use one that has VU meters. A stereo cassette deck works great. You can wire up special cables to run from your tape deck to your Apple, but be sure to use shielded wires only. Here's how:



Wiring the cables like this allows your tapes to be compatible with a cheapo cassette recorder. When you're saving a program to tape with these cables, set the volume on the cassette deck to read at least +5 on the VU meters—but don't pin the meters either. Also, use quality blank cassettes to avoid dropouts and the gumming up of the tape deck. These cables disconnect from the tape deck easily, so you can listen to music without fooling around with the wiring on your stereo. And the best part is that you can see when the tone starts without having to hear it!

In answer to D. Wolfsdorf's question in the November '82 Directline, to prevent a program break in Applesoft, type *poke 82,128* and then save the program. When the program is loaded it will

autostart; when reset or control-C is hit, it will stop. But no matter what you type, hitting return will cause the program to run from the top again! An explanation for this can be found in *Micro* magazine, number 41, page 12.

Also, I'm converting some of my Applesoft programs to run on an Atari 400/800 and I'd like some programming advice. Is there an equivalent to the Applesoft get statement in Atari Basic? Can you enter the Monitor on the Atari without the assembler/editor cartridge? Can you create shape tables on the Atari, and if so, are there draw, xdraw, rot, or scale commands? Is there a scrn function on the Atari? Can you get flashing text? Is there a speed= or slow list/stop list function? I'd appreciate it if anyone could help.

E. Macsinka, Oakland, NJ

Be of good cheer. Our Atari adventure translations are on the way.

Around the Sound

In rebuttal to Terry Toolin (November '82 Highlines), it's not necessary to bypass sound routines to shut off the sound in games. It's easy to change each line that produces a "tick"

```
AD 30 C0 LDA $C030
```

to

```
AD 30 00 LDA $0030
```

or whatever you wish. This doesn't affect timing one iota.

Larry Edelstein, Hicksville, NY

Step by Step

In answer to Alexander Wei (January '83 Directline), you first have to go to the garage attic and find a coin. After you get it, go to the cave. After going down the stairs you will find a slot machine in the subway. Put the coin in the machine and you will find the ID card. Go through, turn left at the door, then left again and down the hall, and put the ID card in the door.

Brett Hester, Dallas, TX

To Alexander Wei: I can't help with the tin soldier, but the armor is frightened by the mouse. You must feed the mouse and find something to carry it in. And remember not to swim in the fountain!

Brett Bosley, Mentor, OH

A Dose of Realism

I received my January *Softline* the other day, and I'm pleased to see that it's expanding. The issue looks to be the best yet.

In reading Ken Rose's column and in typing in the accompanying program, I detected one error that I felt should be brought to your attention. That error is contained in line 310, where no quotation marks should be present around the variable *N\$*. A slight error, for sure, but one that will give some strange results nonetheless.

In addition, if an improper noun is entered into the command prompt, the program will crash. Since it is inevitable that someone will enter *feed dragon*, rather than *feed McRib*, or whatever, it made sense to me to eliminate this undesirable feature. By simply adding the following line, all risk of improper-noun input can be eliminated:

```
2275 IF X < 1 OR X > 7 THEN ?"BE REALISTIC":POP:GOTO 100
```

I hope that you and your readers will find this hint to be helpful.

John F. Mueller, Westminster, CO

Roll Over, Say Woof

I am enjoying *Softline* and eagerly await the outcome of the Dog of the Year poll. Regrettably, my latest contribution to the world's computer-game surplus, titled *Tank Platoon*, will not have been available long enough to be a serious contender. Perhaps next year.

William G. Tucker, Deep River, CT

NO CONTEST

How Amazing Is It? If you've been following Mr. Fitzgerald's series on the generation of 3-D mazes, you have, by now, got a lot of technical information under your beanie. Floors, ceilings, doors, color fills, machine code dumps. . . . Why, you're in danger of becoming a computer wonk/geek/nerd! Your maze education is clearly lacking a certain element. What will you do with your mazes when you generate them? Where will you put them? Have you even thought about it?

Our maze contest is here to encourage you in such creative efforts. Noticing there are some of you who don't yet realize that spending sixty hours a day hunched over a keyboard in a dark room is the most fun you can have sitting down, our maze contest only has two prerequisites:

- 1) paper
- 2) pencil
- 2a) imagination

Your maze doesn't have to be three-dimensional, but it should have a plot, or a theme, or a story line supplied with it. After that, an exotic locale, narrow escapes, thrilling romance, and characters who make you laugh and cry would be a plus, though they're not required. Prizes will be awarded as follows:

- Most complex: \$50
- Best theme: \$50
- Best overall: \$100

Send your entries to: Softline Maze-Out, Box 60, NoHo, CA

91603. Postmark deadline: April 7, 1983.

Our Man Brent. The other day, we got a phone call from Brent Shaw (Yorktown Heights, NY). It seems we deleted his high score for *International Gran Prix* in January, and he wanted to know why. What actually happened was that Shaw held the record for *Gran Prix* for six months and has thus entered the Softline Hall of Fame. As the Hall of Fame is figurative rather than literal, Brent opined wistfully that he missed seeing his name in the magazine, despite the magnitude of the honor that the Hall of Fame membership implies.

Well, Shaw's dream has come true, and you're all a part of it. During the national observance of "Brent Shaw Month," you can make your own bumper stickers, hold your own testimonial dinners, and dedicate town memorials, all in honor of Brent Shaw.

Just to help kick things off, we're having a contest based on Shaw himself. How many references to Brent Shaw can you spot in this month's issue? All you have to do is comb the pages of the mag and count the number of times you see "Brent," "Shaw," or "Brent Shaw." Whoever tallies the correct total number of Brent Shaw references will have a shot at winning an expenses paid holiday in Bermuda shorts. Also a copy of *International Gran Prix* so you can beat his score. In case of ties, the Softline Random B.S. (Brent Shaw) Generator will choose a winner.

So get busy, count up the number of Brent Shaw references, and send your entry to Softline B.S., Box 60, NoHo, CA 91603; all entries must be postmarked by April 7, 1983. Special consideration will be given to those including appropriate quotations from the works of George Bernard Shaw or enclosing a photo of thirties matinee idol George Brent.

CONTEST

Winner

Contest Winners! The winner of the Atari Sound Effects contest (November '82 *Softline*) is Jason Hollinger of Owings, Maryland. Jason produced the sound of "a fleet of helicopters going to rescue the wounded fighting men at the front, under heavy enemy fire, in Vietnam" in a nine-line program. Jason started programming two years ago on an Interact home computer, moving up to a Sinclair ZX81 and finally to an Atari 800. Along the way, he picked up Basic and machine language for the 8080A, Z-80A, and 6502, and he's now learning Forth. He's nine years old and attends the fourth grade at Mount Harmony School, Calvert County, Maryland. A young man with a future.

Jason's nine award-winning lines of Atari Basic are printed herewith:

- ```

3 POKE 709,0:T=0:POKE 710,0:POKE 752,0:M=30:
 GOSUB 10
4 SOUND 1,10,8,1:FOR Z=1 TO 10:FOR V=1 TO
 160 STEP 2: SOUND 2, INT(49*RND(0)+1),8,
 3:SOUND 0,V,8,15
5 SOUND 0,INT(155*RND(0)+100),10,1: FOR J=1
 TO 15:NEXT J:NEXT V:SOUND 0,0,0,0
10 FOR U=1 TO M+10:SOUND 1,INT(5*RND(0)),
 8,INT(1*RND(0)+1) :SOUND 2,INT(49*RND(0)
 +1) ,8,3:R=INT(100*RND(0)+1)
11 IF R>95 THEN GOSUB 25

```

- ```

15 NEXT U:IF M=30 THEN M=20:RETURN
16 IF T=1 THEN 10
17 NEXT Z:T=1:GOTO 10
25 A=INT(1*RND(0)+14) :FOR N=0 TO 200 STEP
  2:SOUND 3,N,0,A:FOR O=1 TO 2: NEXT
  O:NEXT N:SOUND 3,0,0,0:U=U+5:RETURN
  
```

Woof! Okay, now roll over! Gimme your entry. Send in the card, boy . . . send it in. . . . That's it! Good boy. Very good; here's a disk-yummy.

In the overwhelming response to the Dog of the Year contest, there were only a few hundred respondents who caught on to our promise to hold a random drawing among those entrants who picked the winning programs and reward them with the worst games *Softline* possesses. Determined to make us keep our word, they actually found a space on the reply card to include their names and addresses along with their votes. Right. You are true connoisseurs of unique software and so truly deserve what you get.

Without further ado, the winners of the Random Dog Drawing are:

Michael S. Babcox, Lindenhurst, Illinois, who fingered the Apple Champ, *Frogger*.

And the more discreet

M. Clemente, Bethpage, New York, who named the victorious *Rear Guard* for the Atari top spot.



Saw Map, Took Path, Got Cash

Off we went adventuring among the leaves so green. Two salient points served to separate the epic heroes from the Sunday morning strollers: when you "cross a dirt road," you go straight across, just like in real life. You don't bisect it on a diagonal. Also, for directional purposes, "the front of the customshouse" could just as well have been the top, back, and sides.

Babcox's copy of Crystalware's *Lasar Wars* (sic), with no documentation, is winging its way to him by refrigerated DC-10. Clemente will receive his hand-picked disk of Swifty Software's *Haunted Hill* some night soon and will have to live with it the rest of his life.

Map Rap. How far would you walk to win a prize valued at more than two hundred dollars? A mile? Ten miles? Try a tenth of a mile, roughly five hundred fifty feet—round trip. That's all Bruce Warden had to walk to win the *Softline* Map contest in the January issue. Warden was able to find the treasure as well as the shortest possible route to it.

For his excellency in clue-solving and his stamina in enduring hazardous village roads, Warden wins \$272, a dollar for every pace along the way to the treasure.

Unfortunately, Warden didn't put his address on the entry blank, so we'll just hope he sees his name here and gives a call or drops us a line.

After sifting through the mounds of entries that poured into the *Softline* office in response to the Map contest, we managed to weed out the clueless few who couldn't read the clues, the illiterates who didn't understand the clues, and the clumsy who couldn't figure out how to use a ruler. Unfortunately, it didn't make the task of picking a winner much easier.

Fact is, most of those who took the time to enter the Map contest found the treasure that Guorvaad buried on page 8 of the January issue of *Softline*. Finding it was no small task, but if you followed the clues there shouldn't have been too much problem.

In case you still have your doubts, Gourvaad's treasure was located 2 15/16 inches from the left edge of the page and 5 5/16 inches from the top. According to a sampling of several copies of the magazine, none were cut so that you would have ended up with a significantly different measurement. But just to make sure, we included all entries that were measured in terms of 1/32s of an inch, with an error margin of plus or minus 1/32 of an inch (one pace).

Sorry, all you people who rounded off your measurements to the nearest 1/8 inch; that's a full two paces off the mark, and you would have been digging until winter and still have missed the treasure.

Finding the shortest route to the treasure was a different story. Of all the treasure hunters who knew where it was, only a handful took the shortest route there. If you followed the shortest route, it would

have taken you only 272 paces to get to the digging point. Longer routes would have gotten you there, too; but by the time you arrived someone would have already taken the treasure, and you'd be standing around a hole in the ground scratching your head.

Taking the long way there is understandable. What really stumps us is how some of you were able to get to the treasure in fewer than 260 paces. Remember, you had to stay on the paved or dirt roads until you reached a spot closest to the treasure. Only then could you leave the road and head for the loot.

Not everyone had an easy time with this contest. Witness Bob deWitt (Provo, UT), who misunderstood the clues and probably had no idea what the contest was about. "Assuming my location of the treasure is correct . . . the shortest route [to the treasure] does not lie along the road that passes closest to the treasure," he wrote. We're waiting for deWitt to tell us how in the world the route to the treasure doesn't lie along itself. Which brings us to *Softline* travel tip of the month #1: when in Provo, be sure to stop by deWitt's house. It's the house on the road that doesn't pass his house.

Among those klutzes mentioned earlier who couldn't read the ruler was poor Chuck Williamson (Salem, OR). He apparently found the treasure but misread his ruler by an inch. *Softline* travel tip of the month #2: when in Salem, be sure to visit Williamson. His house is the one with all the doors an inch shorter and thinner than the door frames.

If you ever need a lawyer, don't let Dan Samuel (Mountain View, CA) represent you. Whether you're guilty or innocent, Samuel will compile enough faulty evidence to get you locked up for life and a half. Samuel just barely missed finding the treasure, but he was sure he had the shortest route to it. To convince us he was right, Samuel included with his entry the string he used for measuring his route. Gee, Dan, that's like trying to prove you're innocent of murder by bringing in the blanket you were sleeping under at the time the murder took place. *Softline* travel tip #3: when in Mountain View, be sure to visit Samuel. His is the house on Easy Street (literally). Just follow the strings.

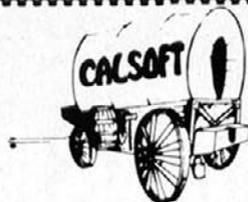
That's enough rambling for this month, gang. Join us again when we name the winner of this month's contest and point our finger at more people who embarrassed themselves in front of fellow readers.

Softline Tip. The spirited response of this competition has caused it to move to a new location, carving out a permanent niche for itself elsewhere in the magazine.

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10	25,520
20	*2,183 Miles
30	Level 8/*1,003,282
40	*414,330
50	112,015
60	*75,000
70	*12,152
80	47,86
90	*31,477
100	*227,873
110	(1 Player) *975
120	*2,067
130	Progressive/4,580
140	Double/2,656
150	*1,198,900
160	*1,900,000

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110	(1 Player) *975
120	*2,067
130	Progressive/4,580
140	Double/2,656
150	*1,198,900
160	*1,900,000

Games in Disgrace.
The following can be, and should be, without any special privilege required. No scores on it accepted without extraordinary documentation:
Clowns and Balloons
Falcons
Labyrinth
Olympic Decathlon
Pie Man (bug)
Serpentine
Snake Byte
Snuggle (aka Puckman)
Stellar Invaders
Taipan
The same applies to games like Star Raiders, with maximum scores already entered.

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My Own High-Scores Database

Yes, that's right: a high-scores database. Now you can keep all your scores on all your games in the same place, with annotations and vital statistics. You can also use your database with the High Scores feature in the back of this very magazine to keep track of who's got what and when they had it.

Sound like something you want? If so, get ready to type. Restriction: the program is in Applesoft. Any Atarians who don't want to convert (language, not faith) may jump off here.

Let's get down to business. Many are the possible construction procedures for a high-scores database. One version that served as a prototype for this one required going into the program and changing lines. Another required sequential text files but used a different file for each record—a record being ten names and scores—and soon the disk crashed, buckling under the weight of a catalog comparable to that of Sears, Roebuck and Company. The present program is about the size of an average Ken Rose adventure and is, fortunately, perfect. (A moment of silence.)

Using the HSDB, you may create a file, add games to the list, and record new scores. The computer keeps track of which scores are the highest. You can also delete names, replace a game on file with a new, blank file, and look at a game's score listings. If that's not enough, you can add your own functions.

The program uses three text files: Data, Names, and Game Data. Data is merely the number of game files you have. Names contains the names of all the games that have been entered. Game Data is the tricky part. It holds validation, the player's name and score, and comments (such as level of play, the player's city and state, the game's publisher, or, "Wow, this one took four and a half hours—my eyes hurt"). The names in Names and all the other information in Game Data are matched by record number so the program can coordinate them correctly.

Using the Program. As soon as you boot the main program you are told always to use provided exits. Unless you're the type of person who likes to watch data die, disks crash, and bytes run and hide in terror, follow that advice.

After starting the program, our first consideration is the name of the game. Once you've named the game, the program assumes

that's the game you want until you tell it otherwise. If there is no file under that name, you may enter a new name or create a new record with the name you've already entered. Do what you wish.

Once you've selected a file, whether it's an old one or one you've just created, you behold the main menu. Then you get to choose what to do. G sends you back to the start—that is, to enter a new game name. I lets you insert a score; V shows you the scores for that game; S exits (this is the legal, recommended, kid-tested, mother-approved way out). D lets you replace a file by changing its name; be sure you want to do this, as it deletes the data associated with the name. Finally, W removes a name and score from a game record.

When you want to insert a score, you're asked a number of self-explanatory questions. If your score is good enough, it will be put into the file records. If not, it won't.

The deletion option actually replaces an existing record with a new record and game name. You are asked what game name is to replace the one you're deleting. Everything else about the record will be deleted. You are then asked if you're sure about doing this. If not, type anything but Y.

When you want to wipe out a name from a game's high-score list, you are shown only the names and scores in the record. They're numbered. Enter the number appearing next to the name and score that you want to delete. Then you're asked, "Are you sure?" Again, anything but Y will put you back at the beginning.

Having entered the program, you must set up one little program to create the original files. The HSDB will sputter and fizz and give all kinds of errors if these files aren't on the disk. The program creating the files need only be run once. Here 'tis:

Warning! Caution! ¡¡¡ Atención!!! This wipes out all previous high-score records on target disk!!!!

```

10 D$ = CHR$(4)
20 PRINT D$;"OPEN DATA": PRINT D$;"DELETE DATA"
30 PRINT D$;"OPEN NAMES": PRINT D$;"DELETE NAMES"
40 PRINT D$;"OPEN GAME DATA": PRINT D$;"DELETE GAME DATA"
    
```

Player	Score
Clark Alyea, Bloomington, IN	\$4,000
Terry Rora, Roanoke, IL	20/94
Reginald Greene, Carson, CA	\$6,720
Chris Athanas, Topsham, ME	\$175,350
Ron Bunch, Collegedale, TN	1,103,400
Steve Halberstadt, Newark, DE	\$92,470
Clark Alyea, Bloomington, IN	\$86,400
Joey Grisaffi, Houston, TX	118,000
Leonard Hammond, East Greenwich, RI	3,594,520
Robert Marinaro	\$425,620
Cape Girardeau, MO	\$2,183 Miles
Patrick Moran, Amherst, NY	Level 8/1,003,282
Rick Brawley, Weston, MA	\$14,330
Michael Cranford, Corona del Mar, CA	112,015
Terry Rora, Roanoke, IL	\$75,000
Robert Gazis, Queens, NY	\$12,152
Buell Hollister IV, Shelburne, VT	\$7,86
Robert L. Skell, East Wenatchee, WA	\$37,873
Tommy Brown, Shorewood, IL	\$22,873
Harry Jig, Chesterfield, MO	\$975
Bruce Mah, Fresno, CA	\$2,067
Buell Hollister IV, Shelburne, VT	Progressive/4,580
Fred Di Cesare, Colchester, VT	Double/2,656
Kevin Moore, Dallas, TX	\$1,196,900
Bill Shean, Hinsdale, IL	\$1,990,120
Robert and Steven Gazis, Queens, NY	\$8,200
Terry Rora, Roanoke, IL	\$2,000,210
Eric Lauritzen, Chatsworth, CA	\$29,100
Dave Albert, Atlanta, GA	\$31,362
D. K. J. [unclear]	\$138,740

HIGH SCORES

Highlines

Games in Disgrace.
The following can be, and usually are, cheaply edge required, without any special programming knowledge accepted without extraordinary games will be documented:
Clowns and Balloons
Falcons
Labyrinth
Olympic Decathlon
Pie Man (bug)
Serpentine
Snake Bite
Snoggle (aka Puckman)
Stellar Invaders
Tajpan

The same applies to games like Choplifter and Star Raiders, with maximum possible scores that have already been achieved.
When sending in a high score to a multilevel game, it is wise to report the level number, as well as the score. In some games this helps others it is more important to record the level number.

by Jason Meggs

Whitworth, Meriden, CT	\$23,750
Ken Cavener, Salinas, CA	\$5,350
Bobby May, New York, NY	4,667
Ed Nixon, Ypsilanti, MI	\$478,900
Bruce Schlickbernd, Westminster, CA	6,660
Mark Klemczak, San Jose, CA	\$245,400
Gary Penacho, Tallmadge, OH	\$5,338
Dan Steele, Dubuque, IA	\$307,750
Joel Durkee, Riverton, WY	\$9,850

Frank Oueli: "This game will advance to level 99, then future attack waves will all be designed 99."
Rob Hammond: "2,398,150 on the easy level. I could have gone farther but it was getting boring because I had seventeen men in reserve."
Maier: "what kind of a Horizon V score is that in January High Scores? Seriously, the only dumb, like hoverline..."

```

50 PRINT D$;"OPEN DATA": PRINT D$;"WRITE DATA":
   PRINT 0: PRINT D$;"CLOSE DATA"
60 PRINT D$;"OPEN NAMES,L30": PRINT D$;"WRITE
   NAMES,R0": PRINT "ABM": PRINT D$;"CLOSE NAMES"
70 PRINT D$;"OPEN GAME DATA,L790": PRINT D$;"WRITE
   GAME DATA,R0": FOR T = 1 TO 10: PRINT X$: PRINT X$:
   PRINT X: PRINT X$: NEXT T: PRINT D$;"CLOSE GAME
   DATA"

```

Although this program needs to be run only once to set up the database files, you should save it someplace in case you ever want to start a new high-scores list from scratch, listing only Brent Shaw's high scores or some such. Also, while you're debugging the main program (assuming you have a typing error somewhere), you may find you have to start the database over again because of erroneous files created in testing. Save your main program and run the small program to remake all the files.

Well, happy typing. And remember: don't artificially exit from the program; use the provided release at the main menu. Keep your hands and arms inside the data structure at all times until the program has come to a complete stop. Thank you for joining us and have a good game.

High-Scores Database Program

```

5 HOME :D$ = CHR$(4): INPUT "DO NOT EVER PRESS RESET
   DURING THIS PROGRAM AND SAVE YOUR VALUABLE
   DATA.":Q$
10 PRINT : PRINT D$;"OPEN DATA": PRINT D$;"READ
   DATA": INPUT NUMBER: PRINT D$;"CLOSE DATA"
15 DIM X$(10),X(10),N$(11),V$(11),S(11),R$(11),V1$(11),N1$(11),
   S1(11),GA$(NU + 100),R1$(11)
20 PRINT D$;"OPEN NAMES,L30": FOR T = 0 TO NU: PRINT
   D$;"READ NAMES,R": T: INPUT GA$(T): NEXT T: PRINT
   D$;"CLOSE NAMES"
30 PRINT "THIS PROGRAM WRITTEN BY JASON MEGGS FOR
   GAME LOVERS EVERYWHERE. . . ."
40 M$ =G$: PRINT "WHAT GAME DO YOU WISH TO WORK
   WITH?": INPUT "→ ":G$:C$ = LEFT$(G$,29): IF G$ = ""
   THEN G$ = M$

```

```

43 PRINT
45 PRINT G$;" IS THE GAME YOU ARE WORKING WITH"
46 PRINT
50 FOR T = 0 TO NU: IF G$ = GA$(T) THEN 70
60 NEXT T: INPUT "THAT'S NOT HERE. DO YOU WANT TO
   CREATE? (Y OR N) → ":Q$: IF Q$ = "Y" GOTO 600
65 M$ = "" : GOTO 40
70 E = T
80 PRINT : PRINT "GO BACK TO THE START": PRINT
   "I)INSERT A SCORE": PRINT "V)IEW A LISTING": PRINT
   "S)AY GOOD NIGHT, GRACIE": PRINT "D)ELETE A FILE":
   PRINT "W)IPE OUT A NAME": PRINT : INPUT "→ ":O$
90 IF O$ = "I" THEN 200
100 IF O$ = "V" THEN 500
120 IF O$ = "S" THEN END
130 IF O$ = "D" THEN 700
140 IF O$ = "G" THEN 40
145 IF O$ = "W" THEN 1500
150 GOTO 80
200 GOSUB 1000
210 INPUT "IS THE SCORE VERIFIED? (Y OR N) → ":V$
215 IF V$ = "Y" THEN V$ = "": GOTO 220
217 V$ = ""
220 INPUT "WHAT IS THE PLAYER'S NAME?":N$
230 INPUT "AND THE SCORE? ":S
240 INPUT "REMARKS? ":R$: IF LEN (R$) > 38 THEN R$ =
   LEFT$(R$,38)
250 INPUT "IS ALL THIS CORRECT? ":Q$: IF Q$ = "N" GOTO
   210
255 FOR T = 1 TO 10:V1$(T) =V$(T):N1$(T) = N$(T):S1(T)
   = S(T):R1$(T) = R$(T): NEXT T
260 IF S > S(1) THEN 2000
270 IF S > S(2) THEN 3000
280 IF S > S(3) THEN 4000
290 IF S > S(4) THEN 5000
300 IF S > S(5) THEN 6000
310 IF S > S(6) THEN 7000
320 IF S > S(7) THEN 8000
330 IF S > S(8) THEN 9000
340 IF S > S(9) THEN 10000
350 IF S > S(10) THEN 11000
360 IF S = S(10) THEN PRINT "SORRY. YOU ARE TIED FOR
   LAST PLACE. FIRST RECEIVED SCORE GETS FIRST RIGHT
   OVER ALL TIES.": GOTO 40
370 PRINT "ARE YOU KIDDING ME?!?!? DON'T YOU CHECK
   BEFORE YOU INSERT? YOU AREN'T EVEN IN THE TOP
   TEN!!!! . . . . . WOW. . .": GOTO 40
400 PRINT D$;"OPEN GAME DATA,L790": PRINT D$;"WRITE
   GAME DATA,R":E: FOR T = 1 TO 10: PRINT V1$(T): PRINT
   N1$(T): PRINT S1(T): PRINT R1$(T): NEXT T: PRINT D$;"
   CLOSE GAME DATA"
410 GOTO 40
500 GOSUB 1000
510 CALL -936: HTAB 12: PRINT G$;" HIGH SCORES"
515 D = 1: VTAB 3
520 FOR T = 1 TO 10: PRINT V$(T);T;" ";N$(T): HTAB 22:
   VTAB D + 2:D = D + 2: PRINT S(T): PRINT R$(T):
   NEXT T
530 PRINT "PRESS ANY KEY TO CONTINUE": GET Q$: GOTO
   40
600 NU = NU + 1: PRINT D$;"DELETE DATA": PRINT D$;"
   OPEN DATA": PRINT D$;"WRITE DATA": PRINT NU:
   PRINT D$;"CLOSE DATA"
610 PRINT D$;"OPEN NAMES,L30": PRINT D$;"WRITE
   NAMES,R":NU: PRINT G$: PRINT D$;"CLOSE NAMES"
620 PRINT D$;"OPEN GAME DATA,L790"
630 PRINT D$;"WRITE GAME DATA,R":NU
635 GA$(NU) = G$
640 FOR T = 1 TO 10: PRINT X$(T): PRINT X$(T): PRINT X(T):

```

```

PRINT X$(T): NEXT T
650 PRINT " CLOSE GAME DATA"
660 GOTO 40
700 PRINT "WHAT NAME WILL REPLACE FILE' ";GA$(E); "'?":
INPUT "->";G$
710 PRINT "ARE YOU SURE ABOUT THIS?": INPUT "(ALL
PREVIOUS DATA WILL BE LOST)->";Q$:
IF Q$ = "Y" THEN 720
715 GOTO 40
720 PRINT D$;"OPEN NAMES,L30"
730 PRINT D$;"WRITE NAMES,R";E
740 PRINT G$: PRINT D$;"CLOSE NAMES"
750 PRINT D$;"OPEN GAME DATA,L790"
760 PRINT D$;"WRITE GAME DATA,R";E
770 FOR T = 1 TO 10: PRINT X$: PRINT X$: PRINT X: PRINT
X$: NEXT T
780 PRINT D$;"CLOSE GAME DATA"
785 GA$(E) = G$
790 GOTO 40
1000 PRINT D$;"OPEN GAME DATA,L790": PRINT D$;"READ
GAME DATA,R";E: FOR T = 1 TO 10: INPUT V$(T):
INPUT N$(T): INPUT S(T): INPUT R$(T): NEXT T: PRINT
D$;"CLOSE GAME DATA": RETURN
1500 GOSUB 1000
1510 FOR T = 1 TO 10: PRINT T;" ";N$(T);" ";S(T): NEXT T
1520 INPUT "WHICH NUMBER? ";Z
1530 INPUT "ARE YOU SURE? (Y OR N) ->";Z$: IF Z$ = "Y"
THEN 1550
1540 GOTO 40
1550 FOR T = Z TO 10: V$(T) = V$(T + 1): N$(T) = N$(T +
1): S(T) = S(T + 1): R$(T) = R$(T + 1): NEXT T
1560 PRINT D$;"OPEN GAME DATA,L790"
1570 PRINT D$;"WRITE GAME DATA,R";E
1580 FOR T = 1 TO 10: PRINT V$(T): PRINT N$(T): PRINT S(T):

```

```

PRINT R$(T): NEXT T
1590 PRINT D$;"CLOSE GAME DATA"
1600 GOTO 40
2000 FOR T = 1 TO 10: V1$(T + 1) = V$(T): N1$(T + 1) =
N$(T): S1(T + 1) = S(T): R1$(T + 1) = R$(T): NEXT T: V1$(1)
= V$: N1$(1) = N$: S1(1) = S: R1$(1) = R$: GOTO 400
3000 FOR T = 2 TO 10: V1$(T + 1) = V$(T): N1$(T + 1) =
N$(T): S1(T + 1) = S(T): R1$(T + 1) = R$(T): NEXT T: V1$(2)
= V$: N1$(2) = N$: S1(2) = S: R1$(2) = R$: GOTO 400
4000 FOR T = 3 TO 10: V1$(T + 1) = V$(T): N1$(T + 1) =
N$(T): S1(T + 1) = S(T): R1$(T + 1) = R$(T): NEXT T: V1$(3)
= V$: N1$(3) = N$: S1(3) = S: R1$(3) = R$: GOTO 400
5000 FOR T = 4 TO 10: V1$(T + 1) = V$(T): N1$(T + 1) =
N$(T): S1(T + 1) = S(T): R1$(T + 1) = R$(T): NEXT T: V1$(4)
= V$: N1$(4) = N$: S1(4) = S: R1$(4) = R$: GOTO 400
6000 FOR T = 5 TO 10: V1$(T + 1) = V$(T): N1$(T + 1) =
N$(T): S1(T + 1) = S(T): R1$(T + 1) = R$(T): NEXT T: V1$(5)
= V$: N1$(5) = N$: S1(5) = S: R1$(5) = R$: GOTO 400
7000 FOR T = 6 TO 10: V1$(T + 1) = V$(T): N1$(T + 1) =
N$(T): S1(T + 1) = S(T): R1$(T + 1) = R$(T): NEXT T: V1$(6)
= V$: N1$(6) = N$: S1(6) = S: R1$(6) = R$: GOTO 400
8000 FOR T = 7 TO 10: V1$(T + 1) = V$(T): N1$(T + 1) =
N$(T): S1(T + 1) = S(T): R1$(T + 1) = R$(T): NEXT T: V1$(7)
= V$: N1$(7) = N$: S1(7) = S: R1$(7) = R$: GOTO 400
9000 FOR T = 8 TO 10: V1$(T + 1) = V$(T): N1$(T + 1) =
N$(T): S1(T + 1) = S(T): R1$(T + 1) = R$(T): NEXT T: V1$(8)
= V$: N1$(8) = N$: S1(8) = S: R1$(8) = R$: GOTO 400
10000 FOR T = 9 TO 10: V1$(T + 1) = V$(T): N1$(T + 1) =
N$(T): S1(T + 1) = S(T): R1$(T + 1) = R$(T): NEXT T: V1$(9)
= V$: N1$(9) = N$: S1(9) = S: R1$(9) = R$: GOTO 400
11000 FOR T = 10 TO 10: V1$(T + 1) = V$(T): N1$(T + 1) =
N$(T): S1(T + 1) = S(T): R1$(T + 1) = R$(T): NEXT
T: V1$(10) = V$(10): N1$(10) = N$: S1(10) = S: R1$(10) =
R$: GOTO 400

```

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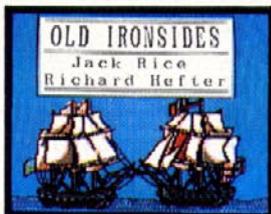
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THE AMAZING MAZE

PART IV



by Brian Fitzgerald

Colors blossom, only to disappear, as the whole world around you goes black. In the distance, you hear ripping, tearing noises, as if someone is dismantling reality piece by piece. . . .

/discontinuity/

. . . Groggily, you awaken and open your eyes. A bewildering sight confuses you; too many things to see. At least your tunnel vision is gone, but the peripheral vision may drive you mad. . . .

Splits 'n' Stuff; or Where To Draw the Line. When last we met, we—hold it! You in the very back; you don't look familiar. Where've you been? Class started six months ago. Well, what are we going to do with you? A recap is out of the question; there are only sixty-four pages in this magazine. So, try to go out there some-

where and beg, borrow, or pirate the last three issues of this great computer mag. Or, if not the entire contents of all three, at least glom (that means read/study) the "Amazing Maze" articles from those three volumes. Brent Shaw may have some spares. Okay?

Now, so far we have done outline maze plotting and filled maze plotting in Basic and machine language. Is that all there is to drawing mazes? No, of course not, everyone says in unison. Right. We could, say,

put doorknobs on the doors
hang torches
put pits and stairs in
as trivial but fun things to really light up a dungeon. Or we could fix

IN 3-D

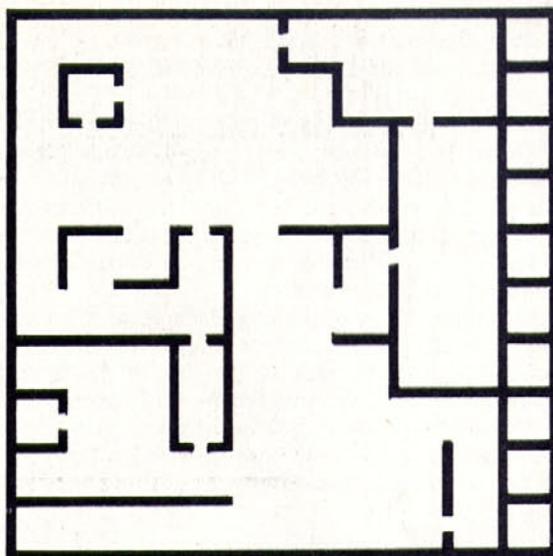


Figure 1. An overview of the maze.

Well, how are we going to do this? Unless you're the kind of person who does Fast Fourier Transforms in your head for relaxation, you draw several hundred (well, actually thirty-four) pictures of how places in mazes should look on the screen. And, eventually, you perceive consistency in the rules applied and, for artistic reasons, use fewer and fewer lines. Because it's not easy to program aesthetics into an Apple. Trust me.

Getting Started. Figure 1 is our sample maze. Figure 2 is a representation of what a view from cell (3,1) gazing east ought to resemble.

Let's go through our procedure step by step. First, we find the wall with a midpoint in the center of the screen. In this case, it's two cells away (the cell we're in doesn't count; we can't see any of it) and thus occupies one-fourth of our viewing area. We count only the X axis in this, as the Y axis is fixed.

So we now have a left side to fill in and a right side. So, the left side will be first, even though it's our second step. Confused? Sorry.

Let's fill in the left side. Starting from the wall and going back to our point of view, we try to draw side panels. In this case, the whole left side is filled in by side panels.

Now for the right side. There's no right panel for cell (5,1) or for

problems like:

- the jerkiness of movement through the maze
- the lack of peripheral vision
- too few keys on the keyboard.

Um, yeah, well, maybe not the third item. Everyone has limitations.

Anyway, this article will be concerned with the second problem: narrow vision. This wasn't picked at random; it's the most serious problem to date, because it makes any rooms larger than two-by-two sort of strange-looking, as some of you may have noticed. So, without (much) further ado, *Softline* presents (ta da da dum ta da) the *Real Maze Plotter!*

Isn't this exciting?

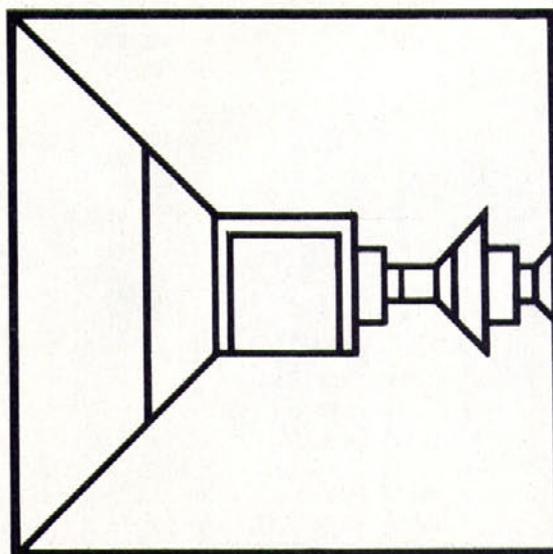


Figure 2. Cell (3,1) looking east.

cell (4,1)! Now what?

Rule: after drawing side panels, fill in remaining space. With what? With the front panels that are revealed by the lack of side panels, that's what.

So, we start at the front, but one cell over and up. Is there a wall for cell (4,2)? No. For cell (5,2)? No. For cell (6,2)? Yes! Draw it. That helped a little bit, but we still have a lot of room. What do we do?

We do what we did before and draw more side panels back down to the end of your vision range. These attach to the edge in approved fashion. So, we do it and . . . no luck; no side panels on the entire row from (6,2) to (4,2).

But now we've got a pattern going. Back up to the top, checking for front panels, we put another one from cell (7,3) on the paper. No side panels, so back up the fourth row and there's another panel from cell (7,4). And, finally, we have side panels on cells (7,4) and (6,4). That takes up a lot of space.

Keeping this up, we put a wall from (6,5) and two from (7,6) on the paper, and then we sit back to relax. The job is done—no space left to plot.

Of course, that was an easy one.

Stacking Forks. So, all that sounds easy, but where do the numbers come from? And how do we arrange the program so that the up-down traversing gets accomplished?

What do you mean, "After you"? Oh, all right. First of all, let's look at another big problem; check out figure 3. This is a view from cell (2,4), again looking east. The problem here is that, after drawing the side walls of cells (4,4) and (6,4), we have two gaps to fill in, not just one; thus, we have a fork. So what? Well, if we do just one section, we lose the variables needed to do the other section. And we can't just use temporary variables to save our parameters either, because we could come across another fork while processing this one and lose everything.

Answer: we have two routines that call each other recursively.

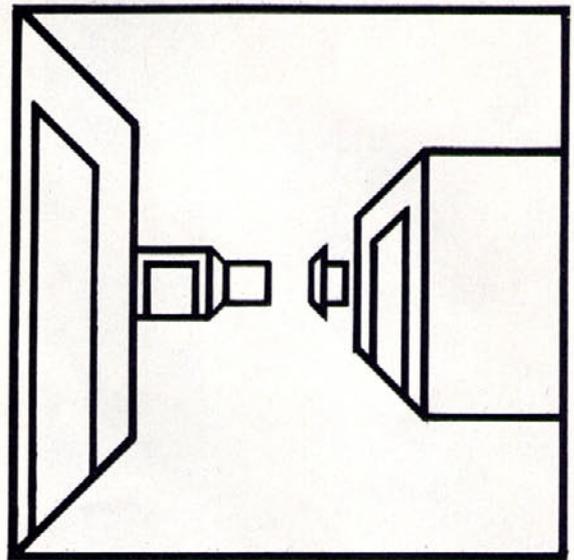


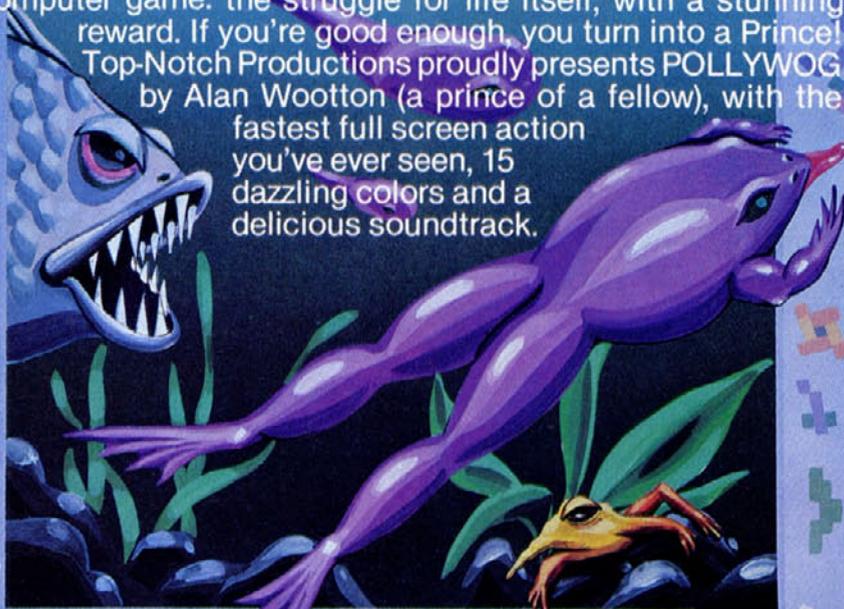
Figure 3. Cell (2,4) looking east.

That means, in this case, that at a fork all vital variables are pushed onto a stack, the fork is taken, the variables are rescued, and then the other fork is taken. That way, no matter what twistings we take, our course is clear, and we can safely sail from one limit to the other. And—added benefit—the program is shorter (although slower, because of trying to use a stack in Basic).

Now, about those variables. We need: an initial center, CX,CY (yes, it changes, but don't worry); the depth counter, R, which keeps track of the distance from wall to eye; left and right limits, E1 and E2 (all drawing must be inside these limits); the cell X,Y coordi-

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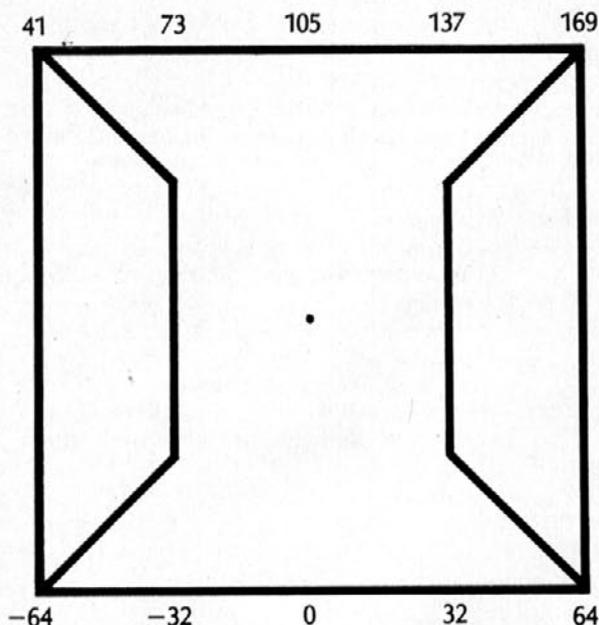


Figure 4. A middle cell.

nates, XX,YY, which tell what cell is currently being examined; and, finally, the magic symmetry number, TR. This is important and will be explained later.

Face to Face to Face. Except for one major difference, the left and right sides of any maze drawing act the same. Of course, they reflect the appearance of different cells. What is that difference? They're on opposite sides. That's really not a facetious answer; here's why.

Look at figure 4. It shows the plotting of the left and the right side panels of a middle cell. Look at the numbers above the maze—these are the physical X coordinates for plotting. But look at the numbers below the maze. The center is zero, and the other numbers come in pairs, one positive and the other negative, each corresponding to an identical point on the two sides. This symmetry is easily exploited. If we draw the left side and then reverse all the signs and draw again, we end up with the right side. Isn't that nifty?

One coordinate is -64. For the left side, we just add the transform number, TR (which is 105, by the way), to get the X coordinate:

$$X = -64 + 105 = 41$$

But for the right side, we negate the coordinate before adding the transform number:

$$X = -(-64) + 105 = 169$$

Mirror, mirror, on the wall; that's two lefts, no right at all.

So, with that, we start drawing lines from the edge to the center, and any given cell is drawn from a set of those lines. That sounds similar to what was said in the first article, except that the center is now movable and is different for each row of cells. How do we get a new center?

A new center is derived each time a front panel is drawn. The new center is, appropriately, in the center of that panel and is used for the calculations of the side panels attached to that front panel. The equation for the new center is

$$CX' = RX - 2^{(7-R)}$$

Depending on the size of the new front panel, the old center is moved over appropriately.

Since much of the rest is just earlier material made complicated, we'll do a step-by-step explanation of the program again, taking breaks to explain some of the bigger concepts.

Line number	Explanation
10-430	Same as in previous program.
1000-1020	Set up the beginning parameters: starting cell, depth zero, and so on.
1025	Clear screen and set color.
1030	Begin loop by getting first cell.
1040	If no wall, then skip plot.
1050	Otherwise, plot the wall and skip to finish.
1060	No wall, so set up for next cell and continue until R = maximum.
1070	No wall at all; back up one because you're too deep.
1080	Set right-hand limit, E2.

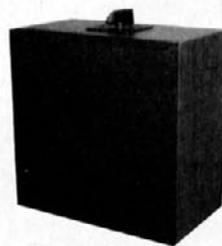
All plotting is always done between two limits—E1 is the lower limit and E2 is the upper limit. The initial E1 is the left edge of the screen, and the initial E2 is the left edge of the first center square plotted. Keep in mind that the references here to the left edge and right edge concern the left half of the screen; it is reversed by symmetry for the right side of the screen.

Line number	Explanation
1090	If big front, then E1 = E2, so end for both sides.
1100	Push important variables onto the stack.
1110-1120	Draw left side starting with side panels of current row.
1130	Restore important variables from the stack.
1140-1150	Draw right side and so on.
1160	All done, so return.

More variables to remember in this next section. E is the number of missing side panels that need to be filled in. P points to the left of the direction, D (or to the right, if the right side is being

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drawn). And remember that SG is the sign: 1 for left side, and -1 for right side.

Line number	Explanation
1200-1210	Set up E,P.
1220	Start loop. Get first cell.
1230	If no side panel, then increment E and skip to backup.
1240	Found a panel, so draw it.
1250	If no spaces so far, skip to clear before backup.
1260-1265	Otherwise, push variables, set limits, fill in with new centers, restore variables, and continue.
1270	Clear E: make new right-hand limit.
1280	Back up one cell: if space left, then continue loop.
1290	If space left, then fill it with new centers; otherwise return.

This next routine looks for new center panels along the row. Unlike the first center panel, which was directly along the line of sight, multiple center panels in the same row are not only possible but plausible. Or vice versa. Anyway, this routine looks for a center panel, fills in space to the left, and then continues to the right until filled up. No new variables in this one.

Line number	Explanation
1300	First thing, move one cell to the left to get to proper row.
1310-1320	Move up one cell, increment depth counter, and make sure that you're not too deep. If too deep, skip to more side drawing.
1330-1340	Get cell, and check for center panel.
1350	Yes, save CX, make new CX, and draw center panel.
1360	If no space to left, then skip.
1370	Otherwise, push variables, set new right limit.
1380	And fill back with slants. On return, restore variables.
1390	Restore old CX. Set new left limit.
1400	Keep going until filled.
1410	Then return when done.
1420-1430	Here, there's still space, so back up to maximum depth.
1440-1450	Get new CX, and, if room, then back to slant plot.

The above are the two main routines that keep calling each other until the job is done. Following are the support routines that move the (XX,YY) pointer, push and pop the stack, and so on.

Line number	Explanation
1500-1545	Move the (XX,YY) pointer one cell in direction D.
1550-1580	Move the pointer one cell in direction P.
1600-1630	Move the pointer one cell in the opposite direction from D.
1650-1670	Set new CX coordinate from old by calculation of midpoints. If CX is out of range, set it on the edge of the range.
1700-1770	Push variables onto the stack to save them.
1800-1870	Restore the variables from the stack.
1900-1910	Push just CX.
1950-1960	Restore just CX.

Here are the three plots. Even though the first and second could be combined into one, they are separated for clarity's sake.

The first plot is the first center wall, or end wall. The calculations for its coordinates are standard.

Line number	Explanation
2000-2020	Set L and L2, the two lengths, and the X,Y coordinates also.

2030	Hplot the wall.
2040	If there is a door, then hplot that also.
2050	Return.

The second plot is the generalized center wall plot. It is bound by the two limits E1 and E2. E1 is the lesser limit and E2 the greater limit.

Line number	Explanation
2100-2115	Set up lengths and coordinates.
2120	If left edge is chopped off, then move it accordingly.
2125	If right edge is chopped off, move it also.
2130	Hplot the wall.
2140	If no door, then skip to return.
2150-2155	If door cut off by limits, then don't plot it.
2160-2170	If edges of door chopped, then move them.
2180	Hplot the door.
2190	Return.

The last plot is, of course, the most complicated. The side wall plot is also bound by the two limits E1 and E2.

Line number	Explanation
2200-2215	Set up initial coordinates.
2220	If left side cut, then move it and door coordinates.
2230	Hplot the panel.
2240	If no door, then skip to return.
2245-2250	Set the rest of door coordinates.
2260	If no door, then return.
2270	If door cut, then move rest of coordinates correspondingly.
2280	Hplot door.
2290	Return.

Finally, the get cell subroutine.

Line number	Explanation
2500-2590	Break cell number (XX,YY) down into four directions and a special number.
2600	Return.
3000-3060	A special! Beware the trap!
4000-4200	Read maze data.

All right, type this baby in and let's get on the road. (Or, of course, if you abhor typing, send in that initialized disk with SASE to Amazing Maze, Box 60, North Hollywood, CA 91603.)

Things Are Seldom What You See. Be patient and wait to read this until you've played with the new program a bit. It's not the least bit like the old one, is it? Nope, this is the new model—more powerful and more confusing.

Yes, we've taken two giant steps forward and three teeny-weeny ones sideways. Things are clearer . . . most of the time. But sometimes things seem screwy, don't they? Why? Well, it's not that it's a secret, but did anyone tell you that what we're doing is no longer perspective? Not straight perspective, anyway. Those light beams are really bent up in long rooms with empty spaces.

See, the reason it looks funny is that we're trying to force the same kind of perspective on every single part of the maze. And that's not what perspective is. There are some simple trigonometric rules that tell you what something is going to look like, depending on where it is. So why aren't we using them? Because.

No, really. They're easy to use, but horrendously slow—like Brent Shaw trying to run speed laps in a Buick. If you use tables and all kinds of interpolations, the routines get faster, but very, very messy. This program will serve us for now, and next time we can clean it up and try to add some more rules to make it prettier.

Those of you with good memories should only be struck by lightning. Yes, you're right. The "solution" hinted at near the end of

the last article won't work. Why it won't work is another story, one that will never see print because this is a chronicle of success, not failure.

And so this is the end, my friends. Long program, so short article. Until next time, remember not ever to track mud inside your computer unless you have a darn good reason.

Bye.

```

10 LOMEM: 16384
20 DIM A%(50,50),S(100),T(4)
30 HOME
40 VTAB 10: HTAB 6: PRINT "THE MOUNDS OF CTEIA"
50 REM *** MAZE:3-D PLOTTER
60 GOSUB 4000
70 D = 2:XC = 1:YC = 1:RR = 5
80 SP = 0
90 HOME : VTAB 23: HTAB 35: IF D = 1 THEN PRINT "N";
100 IF D = 2 THEN PRINT "E"
110 IF D = 3 THEN PRINT "S"
120 IF D = 4 THEN PRINT "W"
130 VTAB 24: HTAB 20: PRINT XC;" ";YC;
140 R = RR: GOSUB 1000
150 IF SP <> 0 THEN 190
160 XX = XC:YY = YC: GOSUB 2500: IF S = 0 THEN 190
170 SP = 1
180 ON S GOTO 3000,3200,3400,3600
190 VTAB 22: HTAB 1: PRINT "MOVE > ";
200 VTAB 22: HTAB 7: GET A$
210 IF A$ = CHR$(8) THEN 270
220 IF A$ = CHR$(21) THEN 290
230 IF A$ = ";" THEN 310
240 IF A$ = "T" THEN 410
250 IF A$ = "/" THEN 330
260 GOTO 200
270 D = D - 1: IF D = 0 THEN D = 4
280 GOTO 90
290 D = D + 1: IF D = 5 THEN D = 1
300 GOTO 90
310 XX = XC:YY = YC: GOSUB 2500:P = D: IF T(D) <> 0
    THEN 350
320 PRINT CHR$(7): GOTO 200
330 XX = XC:YY = YC: GOSUB 2500:P = D - 2: PRINT P: IF P
    < 1 THEN P = P + 4
340 IF T(P) = 0 THEN 320
350 SP = 0
360 IF P = 1 THEN YC = YC - 1
370 IF P = 2 THEN XC = XC + 1
380 IF P = 3 THEN YC = YC + 1
390 IF P = 4 THEN XC = XC - 1
400 GOTO 90
410 HOME : VTAB 22: HTAB 1
420 INPUT "TELEPORT TO (X,Y) ";XC,YC
430 GOTO 90
999 REM *** ENTER MAIN SUBROUTINE
1000 R = 0:XX = XC:YY = YC
1010 E1 = -64:CX = 0:CY = 79
1020 TR = 105
1025 HGR : HCOLOR = 1
1030 GOSUB 2500
1040 IF T(D) = 1 THEN 1060
1050 GOSUB 2000: GOTO 1080
1060 R = R + 1: IF R < RR THEN GOSUB 1500: GOTO 1030
1070 R = R - 1: GOSUB 1600
1080 E2 = CX - 2 ^ (6 - R)
1090 IF R = 0 THEN RETURN
1100 GOSUB 1700
1110 SG = 1
1120 GOSUB 1200
1130 GOSUB 1800

```

```

1140 SG = - 1
1150 GOSUB 1200
1160 RETURN
1170 REM *** SIDE WALL ROUTINE
1200 E = 0:P = D - SG: IF P < 1 THEN P = 4
1210 IF P > 4 THEN P = 1
1220 GOSUB 2500
1230 IF T(P) = 1 THEN E = E + 1: GOTO 1280
1240 GOSUB 2200
1250 IF E = 0 THEN 1270
1260 GOSUB 1700:E1 = X2
1265 GOSUB 1300: GOSUB 1800
1270 E = 0:E2 = CX - 2 ^ (7 - R)
1280 R = R - 1: GOSUB 1600: IF CX - 2 ^ (6 - R) > E1 THEN
    1220
1290 IF E = 0 THEN RETURN
1299 REM *** FLAT WALL ROUTINE
1300 GOSUB 1550
1310 GOSUB 1500:R = R + 1
1320 IF R = RR THEN 1420
1330 GOSUB 2500
1340 IF T(D) = 1 THEN 1400
1350 GOSUB 1900: GOSUB 1650: GOSUB 2100
1360 IF X1 = E1 THEN 1390
1370 GOSUB 1700:E2 = X1
1380 GOSUB 1200: GOSUB 1800
1390 GOSUB 1950:E1 = X2
1400 IF E1 <> E2 THEN 1310
1410 RETURN
1420 R = R - 1
1430 GOSUB 1600
1440 GOSUB 1650
1445 IF CX <= E1 THEN RETURN
1450 GOTO 1200

```

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1499 REM *** FORWARD ONE
1500 V = D
1510 IF V = 1 THEN YY = YY - 1
1520 IF V = 2 THEN XX = XX + 1
1530 IF V = 3 THEN YY = YY + 1
1540 IF V = 4 THEN XX = XX - 1
1545 RETURN
1549 REM *** LEFT ONE
1550 V = D - SG
1560 IF V < 1 THEN V = 4
1570 IF V > 4 THEN V = 1
1580 GOTO 1510
1599 REM *** BACKWARD ONE
1600 V = D - 2
1610 IF V < 1 THEN V = V + 4
1620 IF V > 4 THEN V = V - 4
1630 GOTO 1510
1649 REM *** SET NEW CX
1650 CX = CX - 2 ^ (7 - R)
1660 IF CX > E2 THEN CX = E2
1670 RETURN
1699 REM *** PUSH VARIABLES
1700 ST = ST + 1:S(ST) = CX
1710 ST = ST + 1:S(ST) = XX
1720 ST = ST + 1:S(ST) = YY
1730 ST = ST + 1:S(ST) = R
1740 ST = ST + 1:S(ST) = E1
1750 ST = ST + 1:S(ST) = E2
1760 ST = ST + 1:S(ST) = X2
1770 RETURN
1799 REM *** POP VARIABLES
1800 X2 = S(ST):ST = ST - 1
1810 E2 = S(ST):ST = ST - 1
1820 E1 = S(ST):ST = ST - 1
1830 R = S(ST):ST = ST - 1
1840 YY = S(ST):ST = ST - 1
1850 XX = S(ST):ST = ST - 1
1860 CX = S(ST):ST = ST - 1
1870 RETURN
1899 REM *** PUSH CX
1900 ST = ST + 1:S(ST) = CX
1910 RETURN
1949 REM *** POP CX
1950 CX = S(ST):ST = ST - 1
1960 RETURN
1999 REM *** PLOT END WALL
2000 L = 2 ^ (6 - R):L2 = L / 4
2010 X1 = CX - L:X2 = CX + L:X3 = X1 + L2:X4 = X2 - L2
2020 Y1 = CY - L:Y2 = CY + L:Y3 = Y1 + L2
2030 H PLOT X1 + TR,Y1 TO X2 + TR,Y1 TO X2 + TR,Y2 TO X1
+ TR,Y2 TO X1 + TR,Y1
2040 IF T(D) = 2 THEN H PLOT X3 + TR,Y2 TO X3 + TR,Y3 TO
X4 + TR,Y3 TO X4 + TR,Y2
2050 RETURN
2099 REM *** PLOT FLAT WALL
2100 L = 2 ^ (6 - R):L2 = L / 4
2110 X1 = CX - L:X2 = CX + L:X3 = X1 + L2:X4 = X2 - L2
2115 Y1 = CY - L:Y2 = CY + L:Y3 = Y1 + L2
2120 IF X1 < E1 THEN X1 = E1
2125 IF X2 > E2 THEN X2 = E2
2130 H PLOT SG * X1 + TR,Y1 TO SG * X2 + TR,Y1 TO SG * X2
+ TR,Y2 TO SG * X1 + TR,Y2 TO SG * X1 + TR,Y1
2140 IF T(D) <> 2 THEN 2190
2150 IF X4 < E1 THEN 2190
2155 IF X3 > E2 THEN 2190
2160 IF X3 < E1 THEN X3 = E1
2170 IF X4 > E2 THEN X4 = E2
2180 H PLOT SG * X3 + TR,Y2 TO SG * X3 + TR,Y3 TO SG * X4 +
TR,Y3 TO SG * X4 + TR,Y2

```

```

2190 RETURN
2199 REM *** PLOT SIDE WALL
2200 L = 2 ^ (6 - R):L2 = L / 4:L3 = 2 * L
2210 X1 = CX - L3:X2 = CX - L
2215 Y1 = CY - L3:Y2 = CY - L:Y3 = CY + L:Y4 = CY + L3
2220 IF E1 > X1 THEN X1 = E1:Y1 = CY - CX + E1:Y4 = CY +
CX - E1
2230 H PLOT SG * X1 + TR,Y1 TO SG * X2 + TR,Y2 TO SG * X2
+ TR,Y3 TO SG * X1 + TR,Y4 TO SG * X1 + TR,Y1
2240 IF T(P) <> 2 THEN 2290
2245 X3 = CX - L3 + L2:X4 = CX - L - L2:Y5 = CY - L3 + 3 *
L2
2250 Y6 = Y2 + L2:Y7 = Y3 + L2:Y8 = CY + L3 - L2
2260 IF E1 > X4 THEN 2290
2270 IF E1 > X3 THEN Y5 = Y1 + 2 * L2:Y8 = Y4:X3 = E1
2280 H PLOT SG * X3 + TR,Y8 TO SG * X3 + TR,Y5 TO SG * X4
+ TR,Y6 TO SG * X4 + TR,Y7
2290 RETURN
2499 REM *** GET CELL
2500 T = A%(XX,YY)
2510 IF T < 0 THEN T = T + 65536
2520 S = INT (T / 4096)
2530 T = T - S * 4096
2540 T(1) = INT (T / 512)
2550 T = T - T(1) * 512
2560 T(2) = INT (T / 64)
2570 T = T - T(2) * 64
2580 T(3) = INT (T / 8)
2590 T(4) = T - T(3) * 8
2600 RETURN
3000 HOME : VTAB 21: HTAB 1
3010 PRINT "THOU HAST THE TEMERITY TO ENTER MY"
3020 PRINT "DEMESNE?!"; CHR$(7);" THEN SUFFER"
3030 PRINT "THY FOUL CONSEQUENCE OF FOLLY!!!"
3040 VTAB 10: GET A$
3050 HOME
3060 XC = 2:YC = 2: GOTO 90
4000 READ MX: READ MY
4040 FOR I = 1 TO MY
4050 FOR J = 1 TO MX
4060 READ A%(J,I)
4070 NEXT J,I
4090 RETURN
4100 DATA 10,10
4110 DATA 72,65,73,73,137,66,73,73,9,0
4120 DATA 520,144,586,585,585,9,576,593,513,0
4130 DATA 584,1097,585,585,585,585,9,1096,9,0
4140 DATA 584,577,585,593,585,577,513,584,521,0
4150 DATA 520,72,513,8,584,9,136,586,521,0
4160 DATA 576,577,65,529,584,585,513,584,521,0
4170 DATA 64,73,9,1032,584,585,9,576,513,0
4180 DATA 128,586,521,528,584,585,585,73,9,0
4190 DATA 64,577,577,1089,585,585,585,521,520,0
4200 DATA 64,65,4161,65,577,577,577,641,514,0

```

What If They Called a Machine Language Plot and Nobody Answered? Have a little trouble with listing 2 in January's installment, pilgrim? That's right: it was a trick program. Congratulations to those of you who correctly guessed that two vital symbols had been craftily withheld in several places.

For the rest of you, here are those places:

```

150 IF SP<>0 THEN 190
190 VTAB 24: HTAB 1: PRINT "MOVE>";
310 XX = XC:YY = YC: GOSUB 1600:P = D:
IF T(D)<>0 THEN 350
330 XX = XC:YY = YC:GOSUB 1600:P=D-2:PRINT
P:IF P < 1 THEN P = P + 4
3130 IF K<0 THEN K = K + 65536

```

Thinking a Program

by Sherwin Steffin

Now that you've looked at everyone else's programs and determined that none of them suits your purposes, let's walk through the process of designing a simple drill and practice program. Once you understand how to go about it, you may want to try creating one for yourself. You'll soon discover the complexity of the task faced by instructional designers each time they plan a new program.

We're assuming you have the needed programming skills or that you can get someone else to help you in writing the code.

Choosing Content. Before designing the program, you need to decide just what content, or subject matter, is to be contained within this lesson. For purposes of our illustration, we'll set up a simple practice series in division.

Yet even this content needs to be narrowed considerably. We could choose any or all of the following subsets: basic division facts; single-digit divisor, with a single-digit dividend and an integer remainder; single-digit divisor, with a dual-digit dividend and no remainder; and so on.

For this program, let's select a single-digit divisor, with a dividend from one to three digits. All dividends will be evenly divisible (they will have integer quotients).

Content Presentation. Next we must decide how we'll present the program problems to the learner. Since this system is for drill and practice, we're assuming that users have already learned to carry out division activities—we're now reinforcing their skills through the use of this program.

We could, for example, choose to have the learner get a random selection of any possible divisor and dividend within the ranges we've specified; we could also present the problems in an increasingly difficult progression or in a sequenced pattern. Each pattern of presentation should be considered on the basis of its utility to the learner. For our example, we'll allow for any of a number of patterns being made available. Later, we'll discuss how these patterns can be set up by the learning manager.

After selecting the pattern of the presentation, we must decide whether our program will test *power* or *speed* or will have both options available.

In a *power* practice mode, learners have as long as they like to answer a given question. No consideration of the time they take is used for either the presentation or the scoring. This kind of practice is particularly appropriate when learners need to be encouraged and not placed under pressure during the use of the program.

Conversely, when a *speed* test is employed, learners get differing responses from the program, depending on the time it takes them to respond, as well as on the accuracy of their answers. This approach is particularly helpful when learners are using a program to help them prepare for an entrance examination in which speed of response is essential to completing the test successfully. Use of the speed requirement is also very effective when working with learners who are easily distracted from a task, and in situations where one objective is to build attentiveness to the situation.

To get the maximum utility from this system we'll plan to make both options available to the learner or to the person responsible for the setup of the system.

Learner Response. There are several ways a learner could respond to the problems presented. The most obvious of these would be to enter the completed answer he believes is correct. This kind of answer is called a *constructed* response. The advantage of a constructed response is that it best measures whether a learner actually knows the answer and can solve the given problem. The disadvantage is that it can be anxiety-provoking, particularly if the learner

hasn't mastered the fundamental algorithms required for solving a given problem.

We could also ask the learner to answer a multiple-choice question, choosing from one of several answers. When this method of response is employed, we don't know for sure whether the learner really knows the correct answer. She may be guessing or may be getting some subliminal cues from the position of the correct answer with respect to the other answers provided. Yet, this format does have the advantage of helping the uncertain learner without inducing as much anxiety as does the *constructed* response.

Confirmation and Reinforcement. From an intellectual standpoint, this is among the most formidable of the challenges faced by the program designer. *Confirmation* refers to the process of giving learners information as to whether their responses are correct, and if they aren't, providing them with correct answers. *Reinforcement* refers to the process of rewarding learners for desired behavior. If done effectively, reinforcement motivates learners both to continue the learning process and to maintain the learning they've acquired.

Confirmations can vary from simple right/wrong displays to elaborate diagnostics of errors. For our program, we will use a "right" for a correct response, and a "No, the answer is _____," for an incorrect response.

Reinforcement presents a much more difficult task. What we need to do is make the rather dreary process of going through many problems a more interesting experience. We need to make it sufficiently entertaining, intriguing, or challenging to the learner that he will want to continue. At the same time we must be careful not to distract his attention from the task at hand.

A number of possible solutions suggest themselves. At one end of the spectrum, humorous positive comments offered at the ends of correct responses are anticipated and may be watched for and enjoyed by the learner. More elegant reinforcement may be provided with game-type scoring or by branching the learner to some entertainment activity following the achievement of a prespecified demonstration of competence.

A third approach would be to set up the presentation of the problems in a game format. This has been done with notable success in the program *MasterType*, a bestseller almost since its release. Creativity in the design of this reinforcement is one of the most essential factors in the ultimate value of a program.

Tying It All Together—The Management System. We've identified a number of parameters from which you'll need to make some choices. Perhaps the most important thing to consider is whether you want learners to be able to make these decisions, or whether you want to decide for them. This is the first thing you'll want to provide for in the System Manager. Your next task is to set up menus for selecting options for each of the parameters we've discussed, taking care to provide for the number of trials, movement from one difficulty level to the next, time requirements, and scoring.

These factors can all be built into a parameter file, identified if you wish by a learner identification number or code. That way, the setup for each learner can be individually selected. This will be particularly useful if you have several learners in your family or if you're going to be using the program in a classroom setting.

Once all this is done, your program design is complete. Put the design to code; and when you're finished, evaluate carefully to see how your learners benefit from and enjoy using the program. Next time, we'll look at teaching the same concepts that we've been designing for practice here. ■



Everybody Doesn't Like Something

Nothing is sweeter than revenge. Bill Cosby based a comedy routine on it. Paul Newman got his *Absence of Malice*. Paladin Press has a book on the subject entitled *Getting Even: The Complete Book of Dirty Tricks*. Brothers of the Delta fraternity in *Animal House* preached, "Don't get mad; get even."

If Goliath had beaten David the first time around, David might have left a burning pile of horse dung on the front porch and rung the doorbell.

Today, when applied to your neighbors and other enemies, revenge means ordering pizzas delivered to their houses, calling taxis for them at two in the morning, or signing them up for three years of *Better Homes and Gardens*, *McCall's*, and *Changing Times* with an X in the box that says, "Bill me later."

Child's play.

Having counted up the votes and read the comments for the *Softline Dog of the Year* award for badness in computer games, we just hope none of you ever gets mad at us. Based on some of the things we read, the stunts you people could pull are unthinkable. Software publishers had better hope you don't live near them.

Atari and Apple owners totally swamped all the other users in the balloting. There was no way to reach a comparable consensus on the TRS-80 trash, Commodore clinkers, et al.

Producers of the biggest dogs can take solace in the fact that since their games received lots of votes they must be selling relatively well, or at least better than other dogs receiving no votes at all.

The Envelope, Please. Enough analyzing. Let's see who won.

The people have been heard and the votes tabulated. In the Atari division, it's Adventure International's *Rear Guard*.

According to the ballots, *Rear Guard* was bad beyond belief. *Softline* tactfully refrains from passing judgment; let's just put it this way: when we decided to review the game, it was so "interesting," that the review wound up on the cutting-room floor. If you don't know what we mean by "interesting," just remember what your last blind date looked like when the person who set you up said, "Well, she's got an interesting personality," or, "He's an interesting conversationalist. Nice, too."

Don't be misled, though. *Rear Guard* didn't hog all the spotlight. Computer Magic's *Kayos* was another big vote-getter, placing second in the pooch poll. Almost every ballot that mentioned *Kayos*

gave it a first-place vote. In fact, *Kayos* received more first-place votes than *Rear Guard*, but the latter won by virtue of receiving 30 percent more votes overall.

A special award for depth went to Synapse Software, with two games in the top ten. *Protector II* took the bronze for third, while *Chicken* had a firm grip on seventh. Rounding out the top ten were Gebelli's *Andromeda*, Synchro's *Alien Hell*, Atari's *Asteroids*, Avalon Hill's *B-1 Nuclear Bomber*, tying with (the late) Horizon Simulations's *Shadowhawk One*, and Automated Simulations's *Invasion Orion*. All other entries have led us to believe that people were just voting for games they were ashamed to admit having spent money on.

Strange Fruit. All you Apple aristocrats who think your machines are eons ahead of the Atari in terms of games, forget it. On the whole, the most scathing comments and the largest number of ballots came from Applers. That means one of three things: there are more Apple gamers than Atari gamers, there are more dogs for the Apple than for the Atari, or Apple gamers are mad as hell and more apt to say so. Probably all three are true.

The big-name game producers can no longer sit high and mighty above the little guys. Most of the games in the top ten were put out by companies whose names are readily recognizable to even the most modest of game players.

A lot of people thought the delayed release of *Frogger* was because it wasn't ready for release when its ads began running. More likely it seems that Sierra On-Line was adamantly putting its webbed foot down, saying, "We're gonna win this poll if it kills us," and refusing to release the game until it was sure it could beat out the competition.

Well, maybe not.

After all, how can you honestly say that *Frogger*, with all its block graphics and logs resembling ballpark wieners more than anything else, is a worse game than Piccadilly's *Rabbit*, an incredibly similar game that got no more than a handful of votes? You can't. But that didn't stop the voters. The animosity toward Sierra On-Line's attempted arcade look-alike far outweighed everyone's hate for other games' horribleness.

Little froggie was down on all fours, barking like a doggie.

Coming in a distant second was CPU's *Human Fly*, narrowly



beating Micro Lab's *Roach Hotel* (the author of which later metamorphosized into the author of bestselling *Miner 2049er*. Weird, huh?).

Pac-Man lovers hated Broderbund's *Snoggle*, giving it fourth place, while Piccadilly's fifth-place *Suicide* should have gone ahead and died. However, a company called Crystalware did die, and that didn't stop gaming necrophiliacs from harping on *Sands of Mars*, which was close on *Suicide*'s tail.

Completing the list of top ten dogs were, in order, Gebelli's *Ruski Duck* (tied with *Sands of Mars*), Sirius's *Pulsar II*, Sentient's *Congo*, and *Horizon V*, again by Gebelli.

Analysis '83. The trend of votes leaned toward games that had minimal challenge, lousy graphics, or little similarity to the coin-op games they were supposed to emulate. General letdown after months of overhype in advertising was a favorite theme among the angriest of readers.

What's really odd about all these dog notes is that both winners (losers?) were released in superior versions on the other computer. The Apple *Rear Guard* is just fine, and the Atari *Frogger* is outstanding. Why Sierra On-Line and Adventure International turned out gems for one brand and botched up those for the other is anybody's guess. Columbia Records doesn't release the John Phillip Sousa march collection by Eugene Ormandy and the Philadelphia Orchestra in Dolby stereo for eight-track and the same collection by Walter Snotweiler and the Ferndale High School band in mono for cassette. It just ain't done.

Alien Hell got more than its share of abuse in addition to votes. One reader told us, "I've seen better graphics on a cave wall! If you're talking about software dogs, then *Alien Hell* is the pick of the litter. However, it seems that the litter was full of birth defects."

Human Fly haters voiced their opinions of the game in almost as many ways as there were votes. One *Fly* fiend put it this way: "*Human Fly* wins the contest because of its sheer arrogance; any game using Basic and shape tables and yet calling itself 'the next generation of computer games' has got to win some sort of prize." Fortunately, *Human Fly* needed no sympathy votes.

Readers had a field day ripping on *Roach Hotel*, *People Pong*, *Kayos*, and even *Custer's Revenge*. "Why are they allowed to exist?" "These games suck so much, they have created a black hole in my

room," and, "I voted for *Custer's Revenge* three times. If you had fourth and fifth places, I'd have voted for it two more times"—this despite the fact that it ain't available on computers.

And if you think computer game powerhouses like Sirius were immune to attack, think again. "I vote for *Autobahn* [Sirius], *Pulsar II* [also from Sirius], and *Hadron* [from guess who?]. No wonder Sirius is called the Dog Star."

It was nice to see that many of our readers are budget-minded and concerned about how they spend their money. "*Pig Pen*, *Snapper*, and *Firebird*. Why are these programs using up perfectly good floppy disks?" About *Temple of Apschai*, one remarked, "I just hate slow games that aren't even worth the cost of electricity it takes to run the computer." *Rings of Saturn*, another fave rave, brought this: "... [it] should have been sold for less than the cost of the disk because you had to take the time to look at it and erase it."

Erase it? Yep, that's exactly what this voter did: "I initialized my M.I.R.V. disk. It holds my checking account now." That's showing 'em.

One Atarian felt that *Rear Guard* and *Treasure Quest* "bite the big burrito a million times over," while another suggests that *Voyager I*, *King Arthur's Heir*, and *Clonus* "should be gone over with a magnet."

On the international side of things, we were told that *Blister Ball*, *Alien Rain*, and *Snoggle* were "vrai merde," which translates into English as "true merde"—a substance that *Gorgon* was referred to on one ballot as not being worth two lumps of in a blender.

A self-admitted cheater noted that in *Snoggle*, "Control-shift-M

Apple	Game	Points	Atari	Game	Points
1.	<i>Frogger</i>	200	1.	<i>Rear Guard</i>	137
2.	<i>Human Fly</i>	161	2.	<i>Kayos</i>	107
3.	<i>Roach Hotel</i>	153	3.	<i>Protector II</i>	74
4.	<i>Snoggle</i>	112	4.	<i>Andromeda</i>	66
5.	<i>Suicide</i>	98	5.	<i>Alien Hell</i>	62
6.	<i>Sands of Mars</i>	97	6.	<i>Asteroids</i>	59
	<i>Ruski Duck</i>	97	7.	<i>Chicken</i>	54
8.	<i>Pulsar II</i>	92	8.	<i>B-1 Bomber</i>	48
9.	<i>Congo</i>	88		<i>Shadowhawk One</i>	48
10.	<i>Horizon V</i>	84	10.	<i>Invasion Orion</i>	46

lets you have extra men, but who'd want them?" Good point; why prolong the agony?

Speaking of arcade rip-offs, the Atari versions of *Defender* and *Pac-Man* were named as Milk Bone munchers more often than expected. Wrote one dissatisfied gamer, "I'm just waiting for Atari to get the rights to *Robotron* so they can do a hack job on that, too."

Perhaps the most suspicious ballots we received were the two that voted for Slipshod's *Cropduster Utility Pak #2*. You fenderheads, that's a business package! But then, most owners of the *Utility Pak* admit that the program is so bad that it works like a game.

And rounding out all this arcade acrimony is a reader who moved that "these games should be run-protected for everyone's sake."

Not all games that got votes for badness were, in fact, bad. *Crossfire* and *Labyrinth*, among others, got votes for being too hard to play. Come on, people, if your reason for hating a game is because you stink at it, then who is the real dog here? You don't see Rex Reed calling *Gandhi* a bow-wow movie just because he didn't understand what was going on! He hides that fact by giving it a rave review.

By the same token, we got tired of hearing people comment that their choices for Dog of the Year were made on the basis of their inability to score more than five hundred points while having gone through all their ships, whining energy, and a box of Twinkies. So get tough and quit your whining.

Well, Wasn't That Fun? We might even do it again sometime in the future if the mood strikes us. But just because we may not be sponsoring one of these polls, don't let it stop you from venting your anger at bad games. Let us know when you run across a dog; we'll check it out and tell the world if you're right. ■

NO TIPPING

We're amazed. We're amused. We're impressed. We're overworked. We asked for "hints," a few helpful words to help out a few adventurers in need, and we got an outpouring, a ground swell, a gusher, an uprising, a national movement.

This first time out, some of you got the idea and some of you didn't. Here are some tips for tipsters: on the one hand, painstakingly giving the game away isn't exactly a "tip." On the other, if you're going to supply Pentagon-level cryptograms, it might help your cause if you also supply the solution—just for the editors, just to reassure us that there is, in fact, an answer. We won't peek unless absolutely necessary.

The big finding is that you want both to tip and be tipped. So now we're running a clearing-house. You want it, you got it. Very well. But first, let's recall the original purpose of all this and take a look at those who came away with the gold, the \$50 reward for best tip in each designated game category. Judging was based on wit, originality, concise choice of words, and how well-struck was the fine balance between tantalizing ambiguity and rocklike impenetrability. Being right helped, too.

And those categories were:

Ulysses and the Golden Fleece—How do I get past the chasm in the cave on the Isle of Storms?

The limerick-styled winning epic, like the game, requires a passing acquaintance with Greek mythology.

Ulysses came to the Isle of Storms
Seeking answers in many forms.
The warning said a potion
Is needed to cross the ocean
But this case defies all the norms.

The key is found in what you bought.
Didn't you purchase the ones you ought
To have to finish?
Your chances will diminish,
And the Golden Fleece remains to be sought.

While on the way, strange mishap:
Part of the solution fell in your lap.
One creature's demise
Should make you wise
To the solution for crossing the gap.

If still you are puzzled—what to do?
I offer you this final clue:
An ancient feat won praises
For the master of the mazes
Who escaped from a prison or two.
—James P. Furlong, Roswell, GA

Honorable mention:
If at first you don't succeed, tie, tie again.
—Peter T. Clark, Sacramento, CA

Further honorable mention to Paul Alexander of Orange, California, for these words of wisdom (the used InvisiTabs are on their way, Paul):

Don't slip up when provisioning for your trip; then, if you show

a little pluck and stick to your task, the rest should be a breeze.

Adventure—The 350th point.

And the winner is:

349 is pretty fine
But one more point you need to find.
You're at Witt's end, it's getting dark;
Did you forget to leave your mark?
Don't stop to read, or drink, or rest,
Just drop it off and don't go west.
—Larry Houbre, New Bedford, MA

The iambic muse also struck Jon Kreisler of Flushing, New York, providing this honorable entry:

The goal that you seek is not one of greed,
But to get to the point, you must do a good deed.
Deliver the letter,
The sooner the better.
It isn't a letter in this Microsoft game,
But other reading matter with *LWPI* for a name.
The destination you'll find, is not where it sits,
But to get to the point, you're at the end of your Witt's.

Wizard and the Princess—How do I get to the princess?

And the winner is:

There's a vile solution to the problem, but if you adopt the right attitude, you'll be able to wing it.
—Michael D. Decker, Madison, TN

Honorable mention to Rebecca Tamel of Hales Corners, Wisconsin, for her cogent cryptogram, which addresses a different aspect of the problem:

jba arn wzkvna sy fzbm jzkvna,
hyl af jn wbkf az qna hkmzpp sa.

Further kudos to Lyle N. Benson of San Jose, California, who addressed the same issue as Rebecca, though in a manner more immediately accessible:

It's not useful, that "Lucy" locket?
You'd better keep it in your pocket!
Sooner or later you will see
It will be needed to enlighten thee.

Not very honorable mention to everybody and his uncle Sheldon who wrote in with virtually the same hint for Jeff Frank on the matter of where he could get the gold coin for the merchant. If happy little bluebirds fly there, why can't he? Yeah, yeah; right, okay.

Savage Island—Surviving the hurricane and locating a light source.
And the winner is:

You'll really *dig* the answer to this one. All bears are worth their salt. Don't sweat it, sweetie. Salt is for tidepools. *Rum* is for pirates. Always look at your work. The cliff is a real *hot* spot. Basins are like

pirates. These clues are not in order. (Wasn't that punny?)
—Ted Phelps, Dunlap, IL

Congratulations to all our winners and our runners-up, and thanks to everyone who entered. If you didn't make it this time, feel free to try again now that you've got the idea of what we're looking for. That address again:

Softline Tip
Box 60
North Hollywood, CA 91603

Typifieds

Adventure

How does one gain access to the room with the dwarves?—Matt Skinner, Foster City, CA

I'm at the emerald place where you can't take anything in.—Peter T. Clark, Sacramento, CA

To the west of the "Y2" where the magic word takes you is a huge pit. Across the pit, someone is waving, trying to get your attention. How do you get to him and to the bottom of the pit?—Shawn Smith, Greendale, WI

I solved it. Thanks to the many people who responded to my question.—Brian Service, Exton, PA

Adventure in Serenia

I need help plugging the hole in the bottom of the boat.—Jack Hamilton, McKinleyville, CA

Castles of Darkness

Got in; now can't do anything. Have found a couple of clues but they don't seem to help.—Riva Bickel, Lake Worth, FL

Escape from Rungistan

In the saloon, what command do I need to open the combination lock on the safe? Tried to trade something to the farmer for his rake and he didn't accept. Am furious, brokenhearted, and not knowing what to do.—John Woo, Bronx, NY

Kabul Spy

We're at the gate leading to the airfield. Have the professor with us but just can't get through.—The Adventure Wizards, Adventureland.

I can't find my tour guide.—Darcy Higden, Livonia, MI

Mask of the Sun

I can't get through the door when the game starts.—Darcy Higden, Livonia, MI

Mystery Fun House

Have gotten off the first grate, so it's either how to get off the second grate or what to do in the shooting gallery.—Riva Bickel, Lake Worth, FL

Mystery House

Spent hours trying to find the secret passage. I have the gun, now what?—John Woo, Bronx, NY

Been through the secret passage and to the telescope. Can't get back to the house.—Randy Hayes, Yuba City, CA

How do I open the trunk, or kill the killer?—Jerry Glendye, Woburn, MA

SAGA #10: Savage Island I

How can I get past the pirate on the atoll to the ship?—Scott Yang, Minneapolis, MN

SAGA #12: Golden Voyage

What do you do after you deposit the two stone tablets in the strange fountain?—Paul Nester, Lorton, VA

On the rocky strand, how do you get off the stairs where you find the flint and steel?—Stephen Newburg, Marblehead, MA

Tarturian

I still can't get the last item needed for battle.—Riva Bickel, Lake Worth, FL

Time Zone

How and where can I get the boomerang?—Scott Yang, Minneapolis, MN

How do I communicate with Ben Franklin or otherwise accomplish something in his era?—Riva Bickel, Lake Worth, FL

Ulysses

How do I handle the skeletons?—Riva Bickel, Lake Worth, FL

How do I get past the dragon?—Stephen Newburg, Marblehead, MA

Wizard and the Princess

Can't even get past first encounter with the rattlesnake.—Bill Jewett, Wilmette, IL

What's the door in the tree for and how do I get in it?—Brad Diermann, Laurel, MS

Zork I

Where is the boat? How do you turn off the dam? Is there an easy way to kill the thief? Is the ax good for anything but a weapon? What does the golden scepter do?—Ted Phelps, Dunlap, IL

How do I open the grate under the leaves and get past the spirits to enter Hades?—Tom Cafaro, Bethel Park, PA

What can be done in the coal mine?—George Eliades, Nashua, NH

Got the Egyptian treasures, all obvious treasures, found diamond, got rid of thief; am still missing three. Where to go?—Deborah K. Bickford, San Jose, CA

Zork III

Any way of getting a light source to the western shore? Any way out of the manhole?—Riva Bickel, Lake Worth, FL

RULES:

1. As before. If you think your clues are good enough to warrant trying for the fifty bucks, give no more than three tips from the questions above—in one envelope. No multiple entries, please. And make sure your entries are addressed to Softline Tip.

2. If you just want to be helpful—out of competition—address your tips to Directline.



Part 5: Hallelujah—Chorusing for the Atari

Look at any modern synthesizer advertisement and you'll find the recurring use of an unlikely word: fat. "Nice fat sound!" they scream. "Multiple oscillators for that modern fat sound." Guitarists, too, have been hit with a blitz of effects devices promising "fat sounds." Members of the musical community have not lost their collective mind; they're just trying to describe the subjective effects of three different techniques: phasing, flanging, and chorusing. Our discussion of waveform cancellation, then, will conclude with advice on how to make your Atari gain weight.

Natural Chorusing. Not surprisingly, a good example of natural chorusing is a choir. The "bigness" of the choral sound cannot be attributed just to additional volume, or to the variety of voice qualities found among its individual members. Consider a string section made up of identical violins; there is still something that gives the

sound a "bigness" or "fatness" that a single violin does not have.

The secret to this chorusing effect is disarmingly simple: no matter how good the vocalists or how accurate the violinists, they will always be slightly out of tune with each other. This slight deviation of frequencies, rather than being unpleasant, creates a shifting waveform that is inherently more interesting than the static tone produced by a single performer.

How Does It Work? To understand why this happens, you should understand that no matter how many sounds are in the air at one time, there is only a single waveform present. If we play Mozart on a crowded city street and run the resulting mix of sounds into an oscilloscope, we will see one very complex waveform. This seems to run contrary to common sense, but consider a speaker cone or an eardrum. Both are membranes designed to interact with the air, and, like most objects, they can be in only one place at a time. Yet, a speaker can reproduce the sound of three people talking at once, and the ear can hear it. This is in spite of the fact that both the speaker cone and the eardrum can only jiggle back and forth in a single pattern at any given moment.

Obviously, multiple sounds must combine together to form a single pattern that can be reproduced by a single membrane. Furthermore, the combination of these waveforms must follow a rational, predictable rule—otherwise, our ears would not be able to decode this waveform back into its multiple parts. You may have already encountered this rule in trigonometry; it's called graphical addition.

The idea is fairly simple. Graph two waveforms on a chart. The X axis will represent time, and the Y axis will represent amplitude (the volume of the pressure wave). Now travel along the X axis, and at every point along that line add up the Y values (amplitudes) of the waveforms. Plot the result, and you will see a third waveform appear. This waveform is the summation of the two original waves, and if both were heard simultaneously a graph of the resulting sound would look like the third wave, the wave we obtained by graphical addition.

For example, suppose that, at 2 seconds, waveform A has an amplitude of 4 and waveform B has an amplitude of 3. The resulting waveform will have an amplitude of 7 at that point. Because sound waves are often graphed symmetrically balanced about the X axis, we will also get negative numbers. The method of graphical addition is the same. If, at 7 seconds, waveform A has an amplitude of 6 and waveform B has an amplitude of -4, the resulting amplitude will be 2.

The key point to realize in all this is that sound waves affect each other. We tend to visualize separate sound waves hanging blissfully in the air, totally unconcerned with each other. Nothing could be further from the truth. When a flute plays a duet with a piccolo, the sounds the instruments make interfere with one another and produce a completely different wave shape.

The ramifications of this are important. Take, for example, two

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sine waves of the same frequency that are 180 degrees out of phase; this means that their shapes are identical, but that, when wave A is at its top, wave B is at its bottom. At any point you choose along the X axis, the sum of the two waves will be the same: if they're symmetrically balanced about the X axis, their summation will be a straight line at zero. Because the ear only responds to change, we won't hear a thing.

The effect we're most interested in, though, is illustrated by sample program 1. Type it in and run it. You will see two sine waves drawn at the top. They are very close in frequency but not identical. The bottom wave is the summation of these two and shows an interesting pulse in the amplitude of the waveform.

When the graphs are completed, the program will start two tones very close together so that you can hear the audio equivalent of this effect.

Practical Applications. One use for this effect is to thicken up musical lines. It's a sad fact of life that single oscillators tend to sound wimpy, so many commercial programs now use this effect for their theme music. A lot of users wonder what special "trick" was used to soup up the sound. The answer is disappointingly simple.

```

10 REM Demo 1: Waveform Cancellation
20 GRAPHICS 8:SETCOLOR 2,0,0:SETCOLOR 1,0,12:COLOR 1
30 DIM A$(1)
40 FOR T=0 TO 31 STEP 0.1
50   A=10*SIN(2*T)
60   B=10*SIN(2.2*T)
70   PLOT T*10,A+20
80   PLOT T*10,B+50
90   PLOT T*10,A+B+100
100 NEXT T
110 SOUND 0,200,10,8:SOUND 1,201,10,8
120 PRINT "Press return to stop";
130 INPUT A$

```

Sample program 1.

Sample program 2 demonstrates this technique with a tune we all know and love. If you select the no-chorusing option, the tune is played with a single generator. Selecting chorusing causes the frequency specification to be incremented by one and output to a second generator. Of course, one drawback to this method is that it limits the number of independent voices you can use.

Do not, however, be trapped into thinking of this as only a musical device. Try this technique with other distortion specs and different frequency ranges. Many effects, from hollow booms to *De-fender*-like growls, can be obtained this way. Fattening up your Atari can add a lot of impact to your program!

Next issue: Enter the assembler. SL

```

5 REM Demo 2: Chorused Melody
10 DIM WORD$(11)
20 ? "Do you want chorusing (0=no,1=yes)"
30 INPUT CHORUS
40 GRAPHICS 2:POSITION 0,4
50 RESTORE
60 FOR L=1 TO 8
70   READ FREQ,WORD$
80   ? #6;WORD$;
90   FOR V=14 TO 0 STEP -2
100     SOUND 0,FREQ,10,V
110     IF CHORUS THEN SOUND
120       REM           1,FREQ+1,10,V:GOTO 140
130     FOR D=1 TO 3:NEXT D
140   NEXT V
150 NEXT L
160 GOTO 20
170 DATA 96,HAVE ,96,YOU ,96
180 REM Note 6 spaces after "played"
190 DATA PLAYED ,96,A,81,TAR
200 DATA 85,I ,96,TO,108,DAY?

```

Sample program 2.



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Adventures in Adventuring

by KEN ROSE

The early-evening fog from Lake Michigan rolled across Lakeshore Drive, almost obscuring the dark brownstone building on Chicago's Gold Coast.

Carruthers, the doorman, assisted me from the taxicab, as he knew the damp spring air aggravated the old injury I had suffered while recovering the skull of the Emperor Tiberius from the catacombs . . . guarded by a Roman Legionnaire who by all rights should have been dead several centuries ago. He was by now; at least I hoped he was.

The iron-bound door swung open at my approach and Burnhardt took my hat, cape, and cane and led me into the walnut-paneled library, where the twelve others were already sitting around the polished table. The colonel, sitting at the head of the table, waited until I had taken my seat and sipped the sherry, tapping his finger against the table until I settled back.

"Extraordinary, Rose, quite extraordinary. Not only do you embarrass us with your drivel, but you keep us waiting at your, so to speak, own funeral. We will make this quite short, for us, quite sweet, and for you . . . yes . . . for you. . ."

At this point my old friend Bobby Howard attempted to break in but the colonel harumphed him down.

"We here at the Text Adventure Writers Guild have taken the greatest pains to produce only the best in well-written, carefully plotted, intelligent, logical, and thoughtful programs. Your previous commercial programs barely—I repeat, barely—have given you a probationary admission . . . but . . . but. . ."

At this point the old gentleman turned beet-faced and tears of anger filled his eyes as he waved a copy of the January issue of Softline in the air.

"How could you . . . how dare you . . . what gall . . . what drivel . . . the . . . the . . . Horrible Rotten Dancing Dragon . . . four pages of code that I input . . . and you call that an adventure!"

"I did, I do, and I shall," I replied. "I can understand why you might be miffed by the length, but the plot was solid, the characters were whimsical, there was danger and magic and dragons."

The colonel ripped the magazine to shreds and threw the pieces in my face.

"I shall say this once and once only," he said. "You may stay with us only if you produce an adventure with thirty rooms, and with treasure and danger. It must have monsters and magic. It must be whimsical but it may not be silly. And . . . it must be exactly forty-three lines in length!"

As if an echo were rebounding throughout the room, the words "forty-three lines" were taken up and repeated back and forth.

"Sir," I said, "I think you are unrealistic and unreasonable. But I shall take up your challenge, and I think—nay, I know—I can meet it."

And here, gentle reader, for you to judge, is the fruit of his labors. In forty-three lines you will find a complete adventure written for the Apple.

Atari owners need only change two things: first, lines 3 and 4 to the parser shown in last issue's "Dancing Dragon" article; second, all variables ending in \$ must be dimensioned.

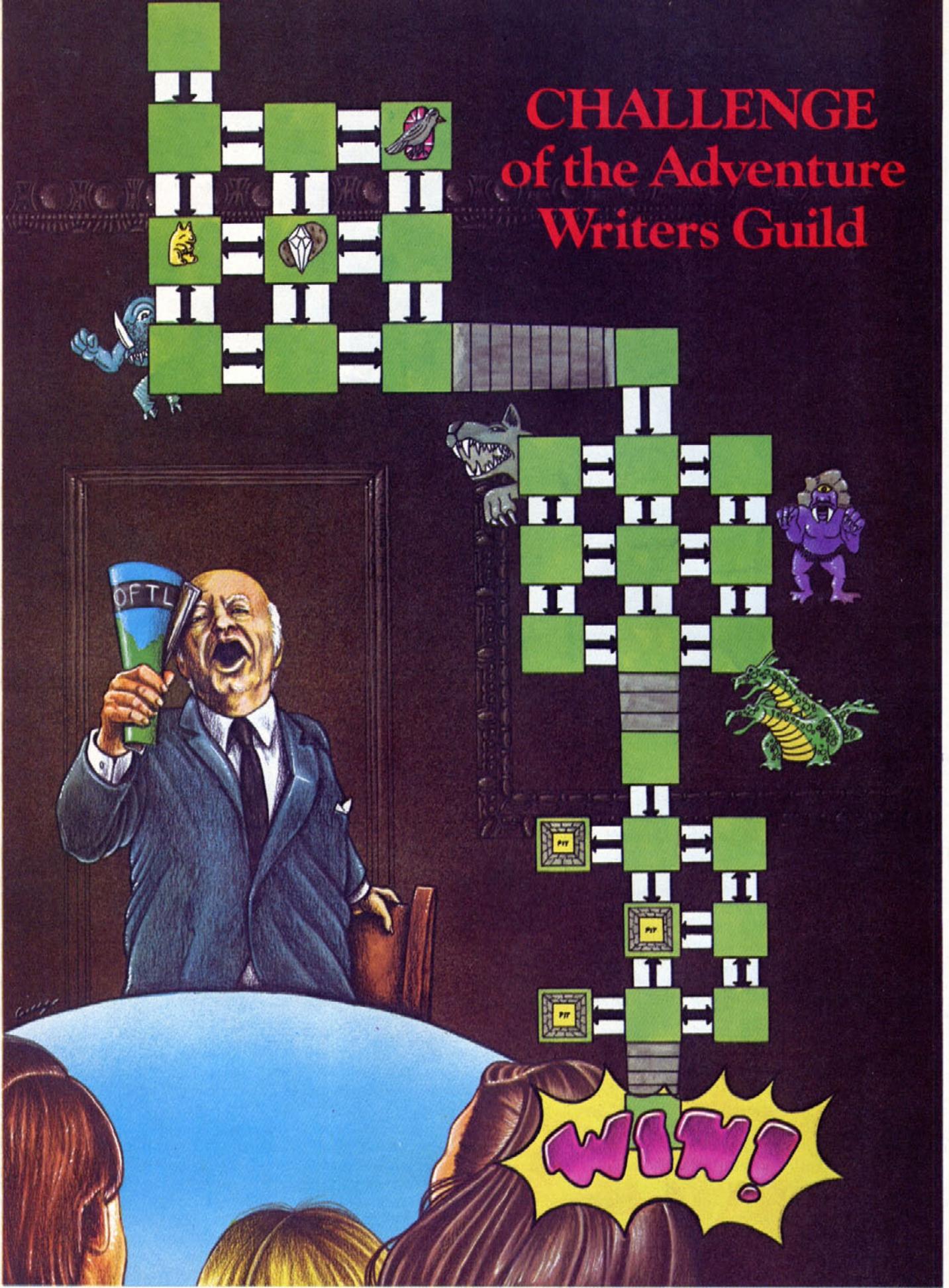
It is hoped that you will be merciful. Next issue you'll see a full report on the judgment of the Text Adventure Writers Guild.

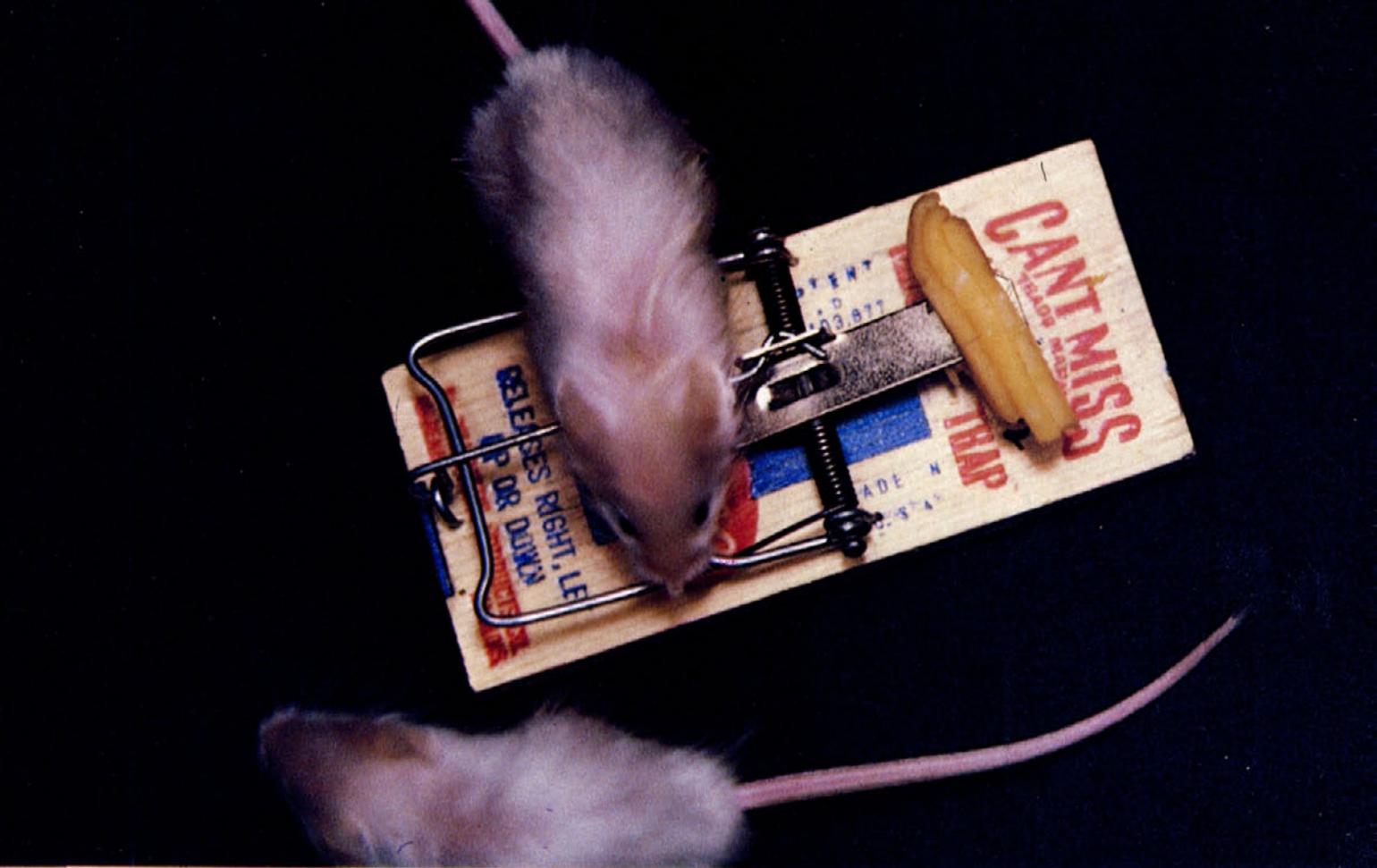
Adventure of the Adventure Writers Adventure

```
1 R = 1: FOR A = 1 TO 10: READ N(A),S(A),E(A),W(A):  
NEXT : IF L = 2 THEN GOSUB 24  
2 X = 0:V1$ = "": PRINT : PRINT "QUICK!!! WHICH WAY
```

```
SHOULD I GO? ": PRINT : INPUT "":A$  
3 FOR A = 1 TO LEN (A$): IF MID$(A$,A,1) = " " THEN X =  
A - 1:A = 0:V1$ = RIGHT$(A$, LEN (A$) - (X + 1)):X = 0:  
GOTO 5  
4 NEXT A:V1$ = RIGHT$(A$, LEN (A$) - (X - 1)):X = 0  
5 IF V1$ = "NORTH" OR V1$ = "N" OR V1$ = "SOUTH" OR  
V1$ = "S" OR V1$ = "EAST" OR V1$ = "E" OR V1$ =  
"WEST" OR V1$ = "W" THEN GOTO 7  
6 PRINT : PRINT "I ONLY KNOW HOW TO GO NORTH,  
SOUTH, EAST, OR WEST...HURRY AND TRY AGAIN.":  
GOTO 2  
7 GOSUB 13: IF L = 1 THEN L = 2: GOTO 1  
8 IF L = 0 THEN GOSUB 20  
9 IF L = 2 THEN GOSUB 24: GOSUB 31  
10 IF L = 3 THEN GOSUB 24: PRINT : PRINT "WATCH OUT  
FOR THE PITS...": GOSUB 38  
11 IF L = 4 THEN GOSUB 24: GOTO 42  
12 GOTO 2  
13 X = R: IF V1$ = "NORTH" OR V1$ = "N" THEN R = N(R)  
14 IF V1$ = "SOUTH" OR V1$ = "S" THEN R = S(R)  
15 IF V1$ = "EAST" OR V1$ = "E" THEN R = E(R)  
16 IF V1$ = "WEST" OR V1$ = "W" THEN R = W(R)  
17 IF R = 11 THEN L = L + 1:R = 1: PRINT : PRINT "WHOOOPS,  
WE'RE ON ANOTHER LEVEL."  
18 IF R > 0 THEN Q = 0:M = 0: RETURN  
19 PRINT : PRINT "UH, UH...CAN'T MOVE THAT WAY.":R =  
X:X = 0:M = M + 1: RETURN  
20 IF R = 5 THEN T1 = 1  
21 IF R = 6 THEN T2 = 1  
22 IF R = 4 THEN T3 = 1  
23 IF R = 8 THEN T4 = 1  
24 PRINT : PRINT "YOU'RE CARRYING.": PRINT  
25 IF T1 = 0 AND T2 = 0 AND T3 = 0 AND T4 = 0 THEN  
PRINT "NOTHING.": GOTO 30  
26 IF T1 = 1 THEN PRINT "A STATUE OF A GOLDEN  
MUSKRAT"  
27 IF T2 = 1 THEN PRINT "A DIAMOND THE SIZE OF A  
POTATO"  
28 IF T3 = 1 THEN PRINT "A PIGEON THE SIZE OF A RUBY"  
29 IF T4 = 1 THEN PRINT "A TANTALUS"  
30 RETURN  
31 IF R = 3 THEN B$ = "WEREWOLVES":Q = 1  
32 IF R = 7 THEN B$ = "THREE-TOED OGRES":Q = 1  
33 IF R = 9 THEN B$ = "HORRIBLE DRAGONS":Q = 1  
34 IF Q = 0 THEN RETURN  
35 IF M > 1 THEN GOTO 37  
36 IF Q = 1 THEN PRINT : PRINT "HURRY, RUN...": PRINT  
B$;" ARE AFTER YOU!!!!":M = M + 1: RETURN  
37 PRINT : PRINT "TSK TSK. THE ";B$;" GOTCHA.": GOTO 41  
38 IF R = 3 OR R = 4 OR R = 8 THEN PRINT : PRINT  
"YIKES...YOU'RE FALLING, FALLING, FALLING,  
FALLING...FALLING...OOPS!!!!": PRINT : GOTO 41  
39 RETURN  
40 DATA 0,2,0,0,5,3,0,0,6,4,2,0,7,0,3,2,8,6,  
0,3,9,7,5,4,10,0,6,5,0,9,0,6,0,10,8,0,0,11,0,0,2,0,0,4,5,3,  
0,6,2,0,2,10,7,6,0,7,0,2,3,8,2,0,5,9,0,4,6,0,10,0,7,0,0,10,  
4,11,9,8  
41 PRINT : PRINT "AW, YOU'RE DEAD.": END  
42 IF T1 = 1 AND T2 = 1 AND T3 = 1 AND T4 = 1 THEN PRINT  
: PRINT "HEY, YOU WON...CONGRATULATIONS!!!!":  
END  
43 PRINT : PRINT "WELL, PAL, YOU GOT OUT BUT  
WITHOUT ALL THE TREASURES...YOU LOSE.": END
```

CHALLENGE of the Adventure Writers Guild





Why are some games so popular that players keep going back to them when they lose interest in their bright, newer games? Why do some games keep selling year after year, despite their being less than state of the art in execution? Why do other games die even though they're up to the moment, have superior graphics, and catch the eye and interest immediately?

Consider *Sargon* chess and the original *Adventure*. Neither is state of the art. Yet each is continuing to sell after two and a half years of tracking. *Flight Simulator* also has held strong for two years in the Apple market, and its updated version is promising to repeat the phenomenon in the IBM pc market.

And every time Infocom releases a new adventure—still all-text—sales on all its previous offerings are rejuvenated—especially those of its first game, *Zork I*.

Consider *Apple Panic*. Strictly an arcade game, a genre in which each item is expected to have a two to four month life span, *Panic* never hit the top spot on any of the charts; but it remained on the Apple Top Thirty for nearly two years, still shows admirably in that market's sales, and is now winning kudos and high sales in Atari and IBM markets. The game hasn't been altered.

It isn't too hard to recognize some of the traits these games have in common, as widely ranged as they are in category and style. Each is good entertainment, shares qualities with successful games from every medium, and has a strong central idea and purpose. The form and details in each have been carefully chosen to serve its purpose, and every facet of play and detail has been executed with great care and attention—with the highest quality as the goal.

Some People Who Make Better Mousetraps. Who better to help us identify the elements of good games than the authors and publishers of some of the most successful and popular games around?

Joel Billings is the founder and president of Strategic Simulations, leader in war games and other strategic simulations. Billings designs and programs some games; the rest must pass his critical eye before publication.

Marc Blank designs and programs all-text-but-who-cares-when-they're-this-good adventures for Infocom. The *Zorks* and *Deadline* are some of his babies.

Lord British, who obviously chose that *nom de plume* just to come before Bill Budge in this alphabetical rundown, designed and programmed *Ultima* and *Ultima II* role-playing fantasies.

Bill Budge, owner of BudgeCo, designed and wrote *Raster Blast*—the first real computer pinball simulation, and the *Pinball Construction Set*.

Doug Carlston, president and cofounder of Broderbund, designed and programmed the *Galactic Empire* series, cocreated the *Arcade Machine*, and participates in the design of many of the other Broderbund games.

Jerry Jewell cofounded Sirius Software, helped design many of the early Nasir Sirius games, and says yea or nay on Sirius's output.

Roberta Williams cofounded Sierra On-Line and designed most of the On-Line hi-res adventures, including *Time Zone* and *Dark Crystal*.

Robert Woodhead cowrote *Wizardry* and its sequels under the banner of Sir-tech.

Considerations most often mentioned by the experts in defining good games were variety, ease of play and increasing difficulty, and graphic quality. Almost as popular were plot or angle, ability of players to identify with game characters, and attention to detail.

Let's take a look at each of these ideas individually and at what the experts had to say about them.

The Spice of Life. Bill Budge states the problem: "A game's not good if you know all that can happen in the first fifteen minutes."

Almost everyone agrees that a good game should present a variety of challenges. "Variety and depth," Jerry Jewell offers, "sustain interest longer." Lord British defines what the others all touch on: "Variation means new additions at higher levels; not just different pictures, but new styles of attack, new strategies. The challenge should increase, not just speed and numbers."



By Golly, That's a Good Game!

Masters of the Mousetrap Maxim Tell Why

by MARGOT
COMSTOCK
TOMMERVIK

"Different puzzles at different stages," says adventurer Marc Blank. In arcades, Blank looks for "cute touches—something sort of random, to mix you up a bit, so you can't always do everything the same way."

Roberta Williams, another adventurer, goes further: "Each level should be like a different game, yet related to all the other levels."

And Joel Billings, speaking from the context of complex strategy games, suggests that players should be able to "learn more and more as they go on, and thus play better."

Budge sees variety geographically. "A good game should create an interesting world, complicated and open. *Deadline*"—Blank's mystery—"creates a big space, a big world. There are tons of things to figure out in *Deadline*."

The Play's the Thing—and Progress. "It must be easy to pick up what you're doing," says Jewell, "and you must be able to control what you're doing smoothly and easily."

Almost everyone agrees that good games should be easy to get into and then increase in difficulty. Doug Carlston believes the best games have plateaus where players can feel satisfaction at their achievements even though they have further to go. As for ease of play, Carlston says the play of a game should be largely intuitive; he uses one of the games he most enjoys playing as an example of the opposite: "*Crossfire* wasn't more popular because you can't immediately see its value and you can't do well at first."

Williams sees playability as the opportunity to improve, with a gradually increasing challenge. Blank adds to this that "the instructions are important; the player must not have to struggle." He sees "ease of play" as more than "easy playing"; it's part of the technical quality of a game as well. In an adventure, for example, the parser should be a help, not a hindrance.

Blank believes freedom is an important part of playability. "Rules shouldn't get in your way. A game should have less restrictions, so you just *do*. . . . In an adventure, the more you see the computer involved, the worse; the computer should be invisible."

Not so in other genres, according to Budge: "A game is good when the computer seems to have a personality you can interact with." But Budge agrees about freedom. "The game should be able to do anything you want, be open; a good game can do anything that it seems intuitively obvious you should be able to do." Shades of Doug Carlston.

Carlston and Jewell speak out against arbitrary loss of progress. "Whatever happens should be a result of your actions. Every failure should be the result of a lapse on your part, a mistake you don't think you should have made," Carlston says. Jewell puts it this way: "You have to feel you died because you did something wrong, that it's your own fault." He calls it the frustration factor; a game's too frustrating if the bad guys get you even when you could see space between your ship and theirs. So the tie should always go to the player? "Always," says Carlston.

Carlston sees games needing a dual element, what he calls the push-pull factor: danger plus the ability to affect things. Again he cites *Crossfire*: "You're never not in control." Jewell recognizes the dual factor: "A good game needs a threat and a strategy you can learn."

A Picture's Worth. Everyone agrees that graphics, where they're called for, must be excellent. Lord British suggests that the game maker determine from the game idea or setting what would be "neat, appropriate visuals" and be willing to "push graphics to the limit." He also opts for "quirks or off-the-wall things just there for audio or visual enrichment—like stars in the background in space games."

Carlston aims for artistic graphics. He also sees the style of graphics (and story line) in the context of the game's other elements: "The more abstract the game, the stronger its other attributes must be. In *Crossfire*"—golly, Doug, don't you play anything else?—"you're just a diamond on the screen, but there's a complex strategy to be evolved." Carlston throws in a tip on how to determine whether a game has strategy: "If beginners and experi-

enced players play differently, it has strategy."

An Angle on the Plot. Williams stresses plot as the most important game element, that with which a game begins and from which all else is derived.

Carlston lists it as one of the three principal ingredients, along with graphic quality and skill of execution. Billings mentions it only as that from which all detail flows. Blank assumes it in adventures and calls it imagination in arcades—"for instance, *Choplifter*; there's a story behind the game."

Lord British says the plot must have a twist, and he credits "a good story" with tying everything together. Woodhead calls plot "the end"—as in, "You must work from the end and go back to the means."

The Three Faces of Eve. "The player must feel like he's in there with the character; the player grows with the character, develops, gets better, and feels successful," says Billings.

"The ability to identify with a character or role in a game is important," Carlston agrees. "Flight simulators do well because you really feel like you're in the cockpit."

"My games are you," says Williams. "You are the main character. What you'd do in a situation is what matters."

"That's why it's important that the role be desirable—heroic or dramatic," Carlston adds. "People like to visualize themselves in *Choplifter*; they're the pilot rescuing all those hostages."

Lordy, what a relief. Carlston plays something besides *Crossfire*.

Details, Details, Details. Appropriately, it's war gamer Billings who most emphasizes the importance of detail. "Detail makes the game," Billings says; "lots of detail, nuances—*Wizardry* is an example." *Wizardry*? Well, Robert Woodhead? "Attention to detail," Woodhead agrees, "gilding the lily, makes it more real, more fun."

Billings goes on. "In simulations, detail must be easy to deal with for players, but inherently complex, so that players see all the results of all their actions." Lord British calls this transparent complexity: "If you can add complexity without the user knowing it, so much the

better." He believes in another kind of detail, too, the kind that increases player/computer interaction. "A good game has a strong audio/visual reaction to everything the player does, as much direct response as possible."

But detail, per se, is the last consideration for Williams. "When you plan an adventure, you start with a plot, and you develop the characters and objects and puzzles that make up that plot. Then you space them on a map. Weave and tie it all together next. Finally, paint in the detail."

Isolated Icings. Realism and consistency got several votes. "The physics must be consistent," says Woodhead, "as in *Choplifter*. In *Wizardry*, moving around the maze is logical."

"There must be internal coherence in any fantasy," Carlston expounds. Brent Shaw says he finds this difficult to understand.

"There must be consistency throughout the game, especially in role-playing," says role-player Lord British. "Progression must be consistent. In difficulty there should be no one big jump; in tempo, no gap, but progression from one step to another; and in scoring there must be no loophole, no easy way—it must be impossible to bypass the main object."

Williams charges plot as the base for creating realism. "Create a feeling about land and character," Williams says, "so the player has the feeling she's there."

"Simulate the world as well as possible, with a lot of care," says Blank. He's outspoken about quality: "The care that goes in really shows up. People respond to quality at a gut level."

The Last Word. Robert Woodhead sums it all up.

"A good game has to be fun. All the elements we've talked about are circular; each depends on each of the others. In games, like in paintings, technique is one thing—but the great ones must have everything."

There you have it, concisely put.

What, Robert?

"Besides, it's a good game if I like it!"

51

SOUTHWESTERN DATA SYSTEMS is proud to announce its recent appointment as the official sales representative for the planet Earth for the **ꠗꠗꠗꠗꠗ** Software Co., Inc. Of greatest interest is the information that they have recently released the first Apple II arcade game written by an alien, **ꠗꠗꠗꠗꠗꠗ**

Unfortunately, due to U.S. Postal limitations, the translated version of the game and manual have been lost in transit. S.D.S. therefore asks your assistance in determining the actual rules for the game, by translating the alien text of the instructions presented during game play.

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This is the story of two boys with an idea and a highly developed sense of American enterprise. All this has happened before. And it will happen again. This time, it happened in Beverly Hills.

Greg Segall and Gil Beyda met eight years ago in a Los Angeles Boy Scout troop. Segall had just moved to southern California from New York, as a result of which the two happened to be simultaneous candidates for promotion to the same troop rank, normally a single position. Instead of aggravating an uncomfortable situation and competing for the spot, they chose to share it.

Fast friends, they both went on to join the Beverly Hills High School computer club, a notorious outfit called Group 5, and were responsible for most of the pranks involving the school's DEC-1170 system (and five years ago, Beverly Hills was one of the only high schools in the country with a computer to play pranks on).

How To. Beyda, age fifteen, got a job in a computer store, for simultaneous on-the-job training in sales skills and programming languages that would serve him well in later life. From the contacts made at the store, he went on to do consulting work for the educational software divisions of Harcourt Brace and McGraw-Hill. Meanwhile, Segall became the first fourteen-year-old programmer at Farmers Insurance, did free-lance programming for SelecTV and ON TV, and joined Beyda occasionally in his educational program consulting work.

About a year ago, they decided they weren't making enough money to justify doing other people's programming. It was time to go where the action was. It was time to write a game.

They had each played a lot of adventure games. Their first time at bat, they knew they didn't want to get more complex than a two-word parser; at the same time, they wanted to liberate the player from the somewhat rigid conventions of the traditional adventure. As Segall put it, "Forget this North, South, East, West stuff; I just wanna go through the door!" The game should recognize and respond to commands that have nothing to do with the adventure—for example, command: Sit chair; response: "Boy, it feels good to take a load off your feet!" They wanted the descriptions written in a single, arresting style like a pulp thriller, and they wanted the programming to be language-independent for easy transference to different systems.

The first thing they needed was a story. Together they brainstormed a plot about four intergalactic princes who are all scheming to gain their father's throne by devious means. Unwittingly, they all hire the same assassin (you) to knock off the old man and each other. Beyda and Segall titled their story "The Desecration," and wrote it as the first installment in a nine-disk role-playing system that could continue indefinitely—the adventure saga of the intergalactic assassin.

The next thing they needed was a hook; something that would set their adventure off in the general marketplace. *Desecration* is the first adventure to have serious arcade-game levels. The arcade games turn up at appropriate plot junctures and must be played suc-

cessfully—survived, that is—before your character is allowed passage to the next part of the adventure.

"The trick is to find the obvious thing everyone else overlooks," muses Segall. "You don't want to do the obvious rip-offs—walk into an arcade and see what's hot and copy it—but take an idea, or several ideas, and make a twist on them. So we put arcade games inside an adventure."

"Not I," Said the Fox. Concept in hand, and now officially christened and registered with the city of Beverly Hills as Mind Games, Inc., they approached various computer-graphics houses with the proposition of programming the hi-res graphics for the adventure scenes and arcade sequences. They were told that what they wanted would cost them several of their favorite limbs. They decided to do it all themselves and eventually developed adventure-disk utilities and a graphics package that allowed the use of 167 colors.

They did most of the work—in the time-honored tradition—in a garage. They worked through the winter of 1981, with no heat, though they occasionally took the computer into a bedroom when weather conditions became too extreme.

The two tried splitting the work, Segall handling the plot and design and Beyda executing the graphics, but then Segall would come up with a graphics routine and Beyda would think of a plot twist; so it took eleven months anyway.

"Not I," Said the Goose. Shopping the game around to distributors, Mind Games was told that no distributor wanted to take the risk of handling a new company. Once again, the cofounders took matters into their own hands, designing their own packaging, text, and a marketing program, holding out against pressure to sell all rights to their creation until an investor came up with the capital they needed to continue. Last November, they sank every penny into a company booth at the San Francisco Applefest.

It was a pass/fail situation. They passed. Distributors came up to the booth to inquire as to whether they could get a copy of the game being demonstrated. They were blandly told, "You sent back the one we gave you."

"It's nice to be needed," recalls Segall, in the aftermath of the Applefest. "It's nice to have something people want. It's a charge to see people enjoy what we've created."

"People say, 'Your parents must have put up the money.' We're used to that," says Beyda. "We sink or swim on our own."

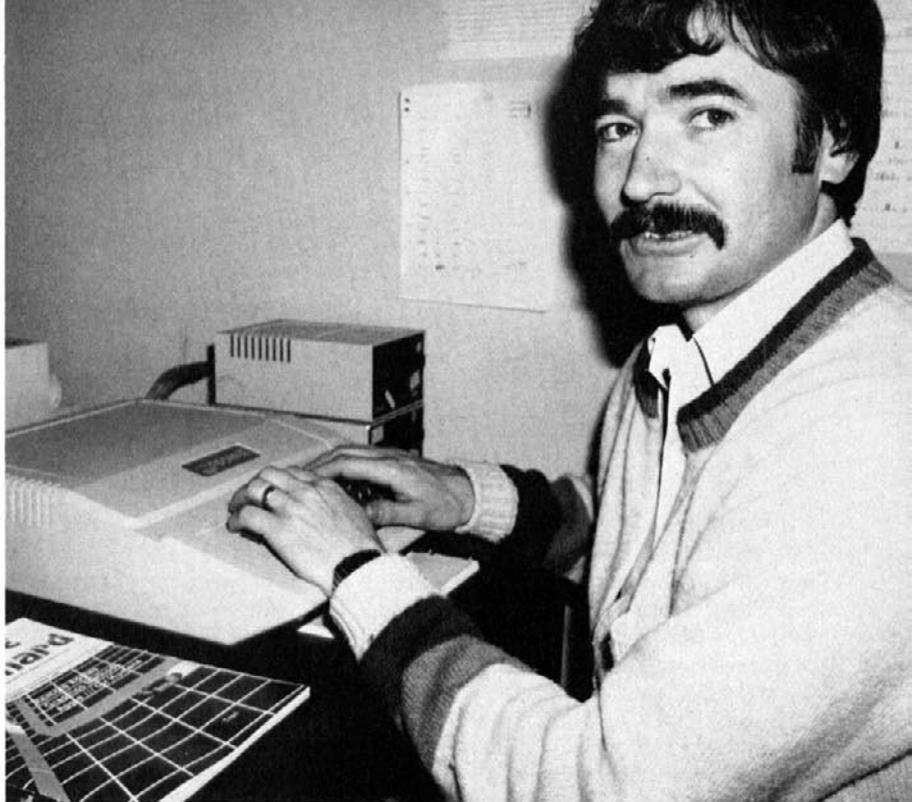
"No one told us it couldn't be done. They told Mr. Lear he couldn't make a jet small enough and cheap enough for a private company to use. It's all in the mind."

Mind Games has been Apple-oriented up to this point, but the company is now looking into Atari and Commodore systems to "see what they can be used for."

"Programmers are coming to us, now. We give them their freedom because we want them to have the same freedom to create that we had."

What's good for business is good for gaming.

Strategies of a Man Down Under



by JOHN MacGIBBON

We're all armchair adventurers and "fantasists," more or less, our private escapism fueled by the printed page, radio, and television. Now, thanks to the microchip, home fantasies can extend beyond the purely vicarious, and we can get personally involved in unreality.

Many spouses now share each other with carefully nurtured heroes and armies, guided (usually into the small hours) through space, time, dungeon, and battlefield. Mind you, such silicon mind trips still form only a small part of a computer game market dominated by Pac-like munchers and shoot-'em-up variations. Programmers of "intelligent" games live on faith in the future more than on the prospect of immediate riches.

One such hopeful is Roger Keating, a thirty-two-year-old New Zealand-born-and-bred programmer whose work is on the cutting edge of microcomputer strategy game design. Keating, who moved to Sydney, Australia, five years ago, publishes sophisticated war-game simulations in the U.S. He is a regular visitor to Silicon Valley who would probably move there permanently if he could get immigrant status.

Formerly president of the strong Sydney Apple Users Group, Keating is now director for Australasia of the International Apple Core and serves as one of the group's three international software directors.

Roger Keating wrote his first war game, *Conflict*, in 1979 and offered it to the local user group software library. On being told it was "a bit too good," he polished it up, sent samples to U.S. software houses, and was accepted by Strategic Simulations.

In 1980 he left a math and physics teaching job in Sydney to program full-time, spending two months in San Francisco finishing *Operation Apocalypse*. A follow-up game, *Southern Command*, simulated a pivotal battle in the Yom Kippur War and sold well enough to make *Softalk's* Strategy 5 listing.

Armageddon Time. Last November Keating launched the first of a new series of war-game simulations with the theme, "When Superpowers Collide." As a full-page advertisement reported, "1985 was not a very good year. The Russians invaded Germany, stormed the Persian Gulf, attacked Norway, and overran the Baltic. . . ."

Standard bearer for the series is *Germany 1985*, and the first spin-off scenario is *Rapid Deployment Force*, now complete. (It was held up by the U.S. government's initial reluctance to supply

topographical maps of Gulf states.)

Keating's war games are extremely complex—he claims *Germany 1985* is the hardest game of its type in existence. Just learning the rules takes about a week. But the same basic playing routines are retained for follow-up games, and Keating believes this will justify the initial learning investment.

Two players can participate, each "playing" a superpower, or one player can defend NATO against the computer, which plays Russia. Nuclear weapons are not used, at least in the first three scenarios. When the final "apocalyptic" crunch comes in the Baltic (due for release this Christmas), there just may be a nuclear option. . . . Keating says the pressure will really be on NATO in the Baltic, and it should be interesting to see how easily keyboard generals can resist the nuclear temptation.

After the Baltic release, Keating plans to publish a utility disk people can use to adapt their own scenarios within the basic *Germany 1985* framework. It's an approach software buyers should find refreshing.

"I don't like the idea of selling completely fixed game packages and forcing my own ideas on users," Keating explains. "This is my answer to users' claims that game designers like to keep their secrets to themselves."

In 1983 a new programming venture is beginning for Roger Keating. Though he hopes to stay with his present publishers, he is also working on a set of games for a new Sydney company, Strategic Studies Group.

The group's first release will be *Reach for the Stars—Conquest of the Galaxy*, a strategy game combining graphics and text. Though simpler to play than *Germany 1985*, the ideas will still be complicated and a high skill level will be demanded.

Worldwide release is planned for June, and negotiations are under way for U.S. distribution. A second effort, set for a fall release, is *Task Force South*. (Presumably Keating will lengthen the Argies' odds!) The third game planned for publication under the Strategic Studies banner will be a war game based in Europe and set between 1940 and 1945.

This Warring Life. It's no surprise that Keating has a background in conventional war gaming. He's also a grade-A chess player who once represented New Zealand Universities against Australia.

During his student days, he also sharpened his skills playing the complex game of *Diplomacy*.

Unfortunately, war-game opponents are hard to find. Some people are put off by the subject matter, while others really can't be bothered with the complexity of it all. This was one reason Keating set up war-game clubs in colleges at which he taught. "That way you don't have to find opponents, you develop them." Another solution to his problem was to write computerized war games.

Fortunately Keating had a strong computer background, both from college days and from teaching. In his first teaching job, he helped install a PDP-11, and in 1977 he persuaded Sydney's Cranbrook School to invest its cafeteria profits in the fledgling Apple computer. ("At that stage it was like asking for an IBM," he says.)

He became prominent in Sydney computer-education circles and remains convinced of the worth of the Apple II in the field: "In terms of software, the Apple is the only computer that's viable for a school," he claims.

Though a dedicated war-gamer, Roger Keating is no saber rattler: his is mainly an intellectual fascination with the strategy and history of war. He even considers himself a pacifist who stands firmly in the balance-of-power camp.

"One must project a strength that is visible and observable to the rest of the world," he says. "In the international sphere it's very easy for a country to become weak, just because of the way it acts. Such weakness will be picked up by neighbors, and pressures will be put on that country."

Keating likens the superpowers' nuclear stand-off to a situation in which the Americans are in one corner of a gas-filled room holding three matches while the Russians are in the other corner holding eight matches. Sounds like mutual cancellation, right?

Keating disagrees. He contends that the person with eight matches will be stronger than the person with three, because of the pressure he can apply on neutral Third World countries.

"The projections of that power are very real," says Keating. "If you're more powerful than another country in a number of ways, it naturally leads to the development of your influence over third parties."

"These countries will see you as strong, and the other country as weak. Therefore that neutral country will lean toward you. You'll effectively become the protector, and this is why the balance of power between Russia and the United States is so vital."

Being a successful strategy game programmer has not proved financially rewarding—at least not yet. While not exactly starving in a garret, Keating and his "emphatically" noncomputerist wife Lyn live in a small inner-city apartment, sharing their bedroom with a silicon partner. (Their first-born, Rowan, ousted the Apple from the spare room last July.)

There's no prospect of the comfortable suburban ranch house on a quarter-acre block he could have expected as a schoolteacher in Christchurch, New Zealand. Unless you bought before Australian real estate prices went haywire five years ago, home ownership in Sydney is a sick joke.

Man at Work. The work routine in the Keating boudoir ranges from doing almost nothing to putting in sixteen-hour days. When programming very heavily Keating tries to start work at 9:00 a.m. If he starts earlier than that or works late at night, after two or three weeks he becomes so exhausted his programming ability drops dramatically.

At five in the afternoon he tries to make himself stop, providing no bugs are visible and things are running smoothly.

"If I carried on and found I had a bug or major problem, I would tend to work right through and solve that problem. If it was eight at night and the problem occurred, I'd be up till two in the morning."

During the evening he maps out the next day's work with one eye on the television.

Programming in machine language is intense, solitary, and sometimes excruciatingly tedious. "You have this desire to burrow in and turn something out, but at the same time you know the boredom associated with it," he says. "Take, for example, an exciting ex-

pllosion. You go through the animation effects in the same way you'd create a cartoon. There may be sixteen shapes you have to program into the machine, plus all the sound effects that have to occur amongst those shapes. Often you get to the end of that and realize it's not going to work, and so you have to start again from scratch."

Keating will spend days working out a particular strategy when writing intelligence routines, then delete it all. He's learned to accept dead ends as something he just has to work his way through.

"That's why I don't worry too much about someone coming up with a game resembling *Germany*," he says. "It takes years of study to get to that level, to make games play that intelligently."

Even without scrapped developmental work, the *Germany 1985* program printout is four inches thick.

Keating says programmers who don't admit to a love-hate relationship with their computers are lying. And under the circumstances he isn't at all concerned that his wife isn't into programming: she's his link with the real world. She also has to be tolerant beyond the call of normal duty.

"If I'm coming up to a really hard period in writing a game, Lyn realizes that the behavior I exhibit over the next month may not be totally relevant to me," Keating says.

"When I strike a major problem I become antisocial. She realizes that and won't disturb me. She knows I'll become sociable again when I've solved the problem."

Tomorrow Belongs to Games. So far Keating has resisted the lure of writing arcade-type games, which can bring enormous rewards. He points to Atari's *Pac-Man* cartridge, which has grossed over \$100 million—"amazing for a terribly sloppy piece of programming."

However, he notes that even arcade games are getting more sophisticated, and believes (or hopes) that as people come to terms with those increased leisure hours Alvin Toffler's been promising us, intelligent games will become more popular. But his early hopes are for the U.S. rather than New Zealand or Australia, where leisure activities still lean toward television, beer, barbecues and physical sport.

"That won't change dramatically, but attitudes toward playing games must improve in this part of the world, because better-educated people are going to be looking for new ways to entertain and enjoy themselves," he says. "In this we'll be following America, where games are much more integrated into the social system."

Keating was surprised to find people playing charades at a Christmas party here. "If you suggested a game of charades at an adult party in Australia you'd be looked on not so much as an outsider but as someone who hadn't grasped the Australian way."

One encouraging sign Keating notes is that over the past five years the attitude toward games in Australian colleges has changed "dramatically," with a rapid increase in the number of students playing *Dungeons and Dragons* and other thought-provoking diversions. But will people really have time to play Keating's type of game? Yes, he says, they'll be able to play from their homes whenever they want to with linked computers.

But won't this brave new world suffer from reduced personal interaction?

"In a sense, yes," Keating admits. "But the other side of the coin is that these people might never get together normally. For example, I find it extremely hard to get war-game opponents. But if I had access to the whole of Australia or even the U.S. through the computer, I would find any number of people to play against. And I wouldn't have to worry about arranging playing times. We could, for example, play half an hour every night for a week, with the game progress being saved on disk. There would be no hassles about laying equipment out or having to get families out of the way."

For the present, a computer network is as close as Roger Keating is likely to get to the U.S. of A. "If it was easy to get in, then I would go. Unfortunately, in order to emigrate you have to have a job; you have to specify exactly what you're going to do."

"And when you're designing games, the hardest thing to know is what you're going to do."

GAMELINE

The Sands of Egypt

By Frank Cohen.

Since they began, interactive adventure programs have needed a kind of visual kinetic energy—a goal partially realized in *The Sands of Egypt*.

Atari computers can produce wondrous visuals; it's a shame this capability has yet to be fully exploited. While a game such as *The Wizard and the Princess* attempts to blend visual clues with text adventuring, the pictures are as lifeless as Aunt Bertha's vacation snapshots. A quick look at *Salmon Run* proves it's possible to create images that move; this is the technology that should be applied to graphic adventures.

The Sands of Egypt is a step in that direction. Clouds scud (a bit too rapidly, perhaps) across the barren sands of the hot and interminable desert. A friendly camel smiles and winks at its rider before slowly sashaying toward an unknown destination. An underground canal eddies gently toward unseen waterfalls. A hidden tomb gyrates wildly during a shuddering earthquake.

Cohen's attractive graphics react in response to the player's manipulation of the environment. This feature is mostly cosmetic, however, for the pictures rarely help or hinder the player's movement through the game. Only when boating on that underground canal will the current cause the player to drift downstream (changing the image) if the correct commands are not used.

In spite of this clever use of graphics, the game must rest on the strength of its text . . . and there it is somewhat lacking. *The Sands of Egypt* uses the one-word or two-word command mode of early adventures; even when the vocabulary is large and extremely well thought out, what should be a calculated problem in logic can sometimes become a frustrating exercise in semantics. Cohen's parser is much less forgiving than most. It demands precise wording and will not accept reasonable synonyms. Two chores—obtaining a scepter and removing a swimming pool drain—are particularly exasperating because of oblique commands. Nor is the logic present to justify such pickiness, especially with respect to the scepter.

The Sands of Egypt begins with the player lost in the desert with nothing but an on-screen compass. The picture fills the upper half of the screen; the lower half is reserved for dialogue. The immediate problem is the lack of water, and most players probably will perish several times before surviving the nicely designed desert maze. Civilized explorers will realize that a source of water is not enough; the cool, soothing liquid must be captured in a canteen before the player can quench that piercing thirst.

Cohen developed an intriguing aid for players at odds with the vast desert expanse. Every location has its own specific response to the request for help. This answer appears on-screen only once; thereafter, requests for aid will produce only the message "Ra helps those who help themselves." In this manner, players always know if they've been in a particular desert vista before. Since the explorer begins with no objects to drop—a time-honored means of dealing with such problems—the help routine is necessary.

At the conclusion of the game, a score appears, based on the number of moves made. Cohen claims his best score is 101.

There are no random responses, so *The Sands of Egypt* probably won't survive more than one or two plays. But it's a better-than-average challenge and pleasing to the eye in its imaginative use of graphics. DB

Atari 400 or 800; 16K, disk, \$39.95 from Datasoft, 9421 Winnetka Avenue, Chatsworth, CA 91311; (213) 701-5161.

Miner 2049er

By Bill Hogue. Apple version by Mike Livesay.

How can we do an honest review of this game without having it sound like an obligatory pat on Micro Fun's back? After all, if you've ever heard of the game, you've no doubt heard mostly good things about it. "Great fun! A welcomed change! Superbly programmed!"

Miner 2049er hit the Apple game neighborhood, direct from a successful Atari engagement, at the end of December last year. It sold like crazy, debuting in *Softalk's* hit parade at number eight, hot on the tail of the highly touted, well-publicized *Ultima II*. This month, *Miner's* number three; *Choplifter* remains the only game to be conquered. (Nongame *VisiCalc's* up there too, of course. But tired traditions, like *VisiCalc's* top thirty position and *Original Sin*, are easy to ignore.)

The concept of *Miner* is original, even if the concepts of its components aren't. There's a touch of *Pac-Man*; there are hints of *Donkey Kong*; even some *Apple Panic* manages to dig in. An imitation of any one of these games might have gone unnoticed into the summer surplus blowout sales. *Miner* is no imitation; it's a conglomeration.

The protagonist is a fellow named Bounty Bob whose job it is to reinforce one at a time the framework of the mine's ten levels, which are plagued by deadly mutants. Nutrition is the key to destroying them; after Bounty Bob eats one of several apples on a level, the mutants weaken and Bob can then obliterate them.

The way most multilevel games work is that the game repeats itself but gets faster, harder, or both. Maze games are known for this. In *Miner*, each level has Bounty Bob running and jumping at the same speed, and degrees of difficulty are pretty much the same. The difference is in the technique used on each level.

Your expertise in avoiding the slides that take you to the bottom of the mine will not help that much when you need to operate the lift. Having the Midas touch on the joystick will ensure your success with the moving platforms, but it will be of little avail in avoiding the radioactive pool.

Unlike many arcade games, *Miner* doesn't require you to get faster as the pace picks up in order to attain the next level. It requires you to develop the different skills needed to survive. The game is tough, but novice players have as much chance at racking up the points as do experienced players, if not more. The keys to enjoying *Miner* are patience and finesse. Brute force won't do, and dexterous agility isn't enough.

If you're reading this review hoping for us to say the game is outstanding, the best of its kind, or a sure bet, you're out of luck. You already knew it was a great game. MTY

Apple II, Apple II Plus; 48K, disk, \$39.95 from Micro Fun, 2310 Skokie Valley Road, Highland Park, IL 60035; (312) 433-7550. Atari 400 or 800; 16K cartridge; \$49.95 from Big Five Software, Box 9078-185, Van Nuys, CA 91409; (213) 782-6861.

Wayout

By Paul Edelstein.

Today, students, ve vill study zee behavioral patterns ov zee species: Mus Musculus, more commonly known as zee house mouse.

First ve vill place zees small lump ov green Roquefort cheese at zee far ent ov zees maze.

Ve haf aged zee cheese in zee sun for six days to help zee mouse by enhancing eets pungency. Come, come now, schtudents, gather round, zere's plenty ov room here in front.

Next ve vill take zee mouse und put him here at zees ent ov

zee maze, like so. Now ve vill wait.

Come on, come on, vat's wrong vis you? Don't chust sit zere viggling your pointy little ears; you can do it.

Vy are you looking at me like zat? Your eyes, your eyes seem to be glowing! Zee room, is eet getting dark? Schtudents, schtudents, help me, I can't see you! Vat's happening to me? Zee mouse eet's getting bigger—oh no, I am fallllllllnnngggg.

Vere am I? Vat's going on here?

A maze, Gott im Himmel, I seem to be in a huge maze. Vas is dos? A compass und a map maker. Ya, ya, zees vill help.

Let's see, forst I vill map off vere I haf been; ya, zat vill vork, und, vis zees compass, I vill be able to tell vere I am going.

Zese little fireflies, zey all seem to be coming from vun direction. Perhaps eef I go in zee direction zey come from, I vill find a vay out.

Ah, zere is a nice breeze blowing zees vay, pushing zee little fireflies. Zees is gut. Gut breeze. Ya, a little strong, but eet is definitely coming from zees direction.

Is zat music I hear? Perhaps somevun has come to help me. Help! Help! No, zee music! Come back! Come back! Help me!

Zee vind, eet is blowing so hart; I can't push zrough. Oh no, I vill haf to go around eet.

Again vis zee music, help me, help. . . .

No, no, vat are you? Geef me back my compass. Stop, thief. Come back here. Don't go away! Geef me back my compass!

Ah, so you return to geef me back my com. . . . No, you schvinehunt, give me back my mapmaker!

I vill get you for zees, you blackguard. I can hear you coming. . . . Got you, you dirty Cleptangle.

Oh no, not zee music again. Ah, zee exeet, I knew I could find my vay out. No silly little mouse can get zee better ov me. Now I'll chust. . . .

Mein Gott! Zees can't be, not anoizzer maze again! How vill I ever find my vay out of zees vun!

Will the professor ever find his way out and prove himself a greater man than the mouse? Or will exhaustion and hunger make him long for a bed and some Roquefort? What of the Cleptangle? Will it ever learn a new song or mend its thieving ways? Will the professor ever learn to make fire by rubbing the limbs of fireflies together? For the exciting answers to these burning questions, play Sirius's *Wayout*.

The game features smooth-scrolling, truly three-dimensional mazes, twenty-six selectable ones to torture your mind. The perspective is similar to riding in the front car of a very fast roller coaster—it's not recommended for vertigo sufferers. If you've a propensity for motion sickness, playing won't bother you, but for goodness' sake don't watch while someone else is at the keyboard!

Wayout invites you to join all the rats who've ever challenged a maze to see if you can find the way out. Perhaps there will be a delicious Danish Havarti at the exit. Bring your own wine. HAS Apple II, Apple II Plus; 48K, disk. Atari 400 or 800; 48K, disk. \$39.95 from Sirius Software, 10364 Rockingham Drive, Sacramento, CA 95827; (916) 366-1195.

Bolo

By Elvyn Software.

Level 5. Density 1. It's a great day to annihilate alien robot tanks. Cruising in a commandeered BK1 156 Bolo Mark XXV, following the alien base indicator, you suddenly see one of the fast, dumb, I-shaped drone tanks. Probing erratically, it doesn't see you and speeds off. You shift into fourth gear in anticipation of finding the alien base in the next few seconds.

Suddenly three of the dark, wedge-shaped drone tanks appear at the right of the screen. You swiftly turn the tank's turret forty-five degrees to your left while going into a counterclockwise turn that takes you within pixels of a protruding wall in the maze. You fire several shots but miss. Now, speeding below the enemy, you turn the turret another forty-five degrees. The speed of your travel affects the accuracy of your shot but you manage to kill one of the enemy.

Turning ninety degrees in the clockwise direction, you narrowly

avoid another wall of the maze and quickly swivel the turret one hundred and eighty degrees. The fates are with you. The alien's base appears to your right. You come to a bone-jarring halt and start blasting away at the wall, trying to hit the center core. Off-line just enough to barely miss, you back up a little and fire again. After four shots you penetrate the wall and the base explodes.

Frantically you punch the throttle and scream out in fifth gear. It's not over yet. Two of the white wedge-shaped drone ships pop up and start coming after you, firing. You have to slow down or you'll probably smash against a wall. Then you see another base and about fifteen more alien tanks.

Level 1. Density 3. You've destroyed five of the six alien bases. Cautiously maneuvering through the narrow corridors of the maze, you offhandedly eradicate one of the opposition shooting behind you. The airplane-shaped drones are slow and not very aggressive. They are easy to eliminate.

Finally you find the last base, but it's been replicating tanks while you've been destroying the other five bases. There must be twenty of the enemy tanks in the vicinity. You pull up perilously close to the base and attempt to shoot through the corner to get to the central core. You fire several shots, but you're slightly off-line. Luckily you hit one of the new tanks before it leaves the base. The tank explodes, taking the whole base with it.

Horrified, you see that another tank has got you in its sights. It fires a shot just as the base explodes. Desperately you engage the throttle to escape. Screaming, you realize that you didn't correct the direction. You and your Bolo supertank are swept into the destruction of the base and perish.

Level 9. Density 2. Even fifth gear doesn't seem fast enough. Two of the pill-shaped alien tanks have been hot on your trail for a minute or two. You're not even paying attention to the radar. It's enough to avoid their shots and not smash into the walls of the maze.

Around the next corner death awaits. You don't even see the ten enemy tanks waiting for you and the half dozen shots that reduce your tank to cinders.

Bolo is played with a keyboard (or joystick and keyboard), requiring eight different inputs to maneuver a BK1 156 Bolo Mark XXV properly. It has nine levels of difficulty, and the game's maze has five levels of density. A player can pick any combination at the beginning of play.

Requiring almost superhuman, multifinger coordination and speed-of-light decision making, this is a hot game. Who ever said that the only good arcade games were in the arcades? The best arcade-style games, like *Crossfire* and *Choplifter*, are found at home.

No joke. Animation, graphics, playability—*Bolo* is in every way a superior "game" to *Tron*. Unfortunately, *Bolo* is not an "event." And that means few of you will bother to take a chance on "just another arcade game." You'll be missing a lot of enjoyment. DH Apple II, Apple II Plus; 48K, disk. \$34.95 from Synergistic Software, 830 North Riverside Drive, Suite 201, Renton, WA 98055; (206) 226-3216.

Picnic Paranoia

By Russ Segal.

Why would anyone get paranoid about a picnic? Good friends, good food, and bucolic countryside. What good food it is, too, chicken, ham, watermelon—four tables in all. There are a few ants, of course. What would a picnic be without a few ants? A couple of swats and they'll stay away from the food. The killer wasps are an entirely different matter; their sting is paralyzing. By the time a picnicker recovers from a sting, the darned ants have made off with a ham.

The game is designed to be played in shifts. First, the food must be guarded; points are awarded for killing all foodnappers. Then whatever food is left can be enjoyed while bonus points ring up. On the more elegant courses of the meal, spider webs impair movement and deadly bees dive at the table.

Every five thousand points you find a can of bug spray that can be used to sweep the entire area free of these ravenous creatures.

Picnic Paranoia is an excellent, original arcade game, although a

tad slow for experts with lightning reflexes. The graphics are edible. The sounds are paralyzing. Above all, remember that there is nothing to fear but fear itself—and ants.

PG

Atari 400 or 800, 16K; cassette or disk. \$34.95 from Synapse Software, 5327 Jaccuzzi Street, Suite I, Richmond, CA 94804; (415) 527-7751.

Legionnaire

By Chris Crawford.

Can box art, part cartoon and graphically gory, possibly convey any hint of what awaits within?

Designed by Chris Crawford, *Legionnaire* bears many similarities to his excellent *Eastern Front*, but it is definitely not more of the same.

The player may choose to command from one to ten legions from eight different levels of barbarian infantry and cavalry. The units are depicted by silhouettes: swords for infantry, horse heads for cavalry, and an eagle for Caesar's legion. Depending on the number of legions chosen, the game will last from ten to thirty minutes. The final score is based on the number of units chosen and performance. Playing with six or more is hectic and fun.

Graphically this is a fine piece of work. The terrain includes trees for forests and contour lines in three colors, one for each height above the plain. The screen is scrollable via joystick, as in *Eastern Front*. This allows eight times the area of the screen to be used for the map.

Now comes the hook: this is a real-time game. As one unit receives its orders, the other legions and the barbarian hordes are moving: terrain and morale are among the factors that determine speed of march and combat effectiveness. Some units, especially those less prone to straggling, march better than others. If a unit arrives at a battle site and goes into battle immediately, without regrouping, it may be at significantly less strength.

Everywhere is the sound of marching feet. The noises of battle are fascinating, each segment unique.

This is a well-documented and thought-out program. The game is easy to learn and difficult to play well. There are more than six hundred different starting combinations and each game has different initial placements. Tactical hints are included for the less experienced player. A pause option allows for minor interruptions such as

VCS Triple Crossover

How many times have you bought the home-computer version of an arcade game, played it, and said to yourself, "Boy, this game really stinks; I wish this company would roll over and die"?

Temper, Temper. In all fairness, as the arcade games get more sophisticated, micro programmers will be under more pressure to reproduce those increasingly elaborate effects on home machines. The personal computer game player is a demanding beast: if a game has the same name as the arcade hit, it had better be the same game. But the saturation point is fast approaching; different machines have different capabilities, and not all machines can handle current full-scale arcade programming requirements. A software house that ignores that fact and plows on blithely with a licensing agreement and a marketing program is asking for trouble these days. You people are picky, picky, picky.

VCS people, now, are a different story. Mellow, easygoing, small, furry creatures who don't expect miracles out of arcade conversions, they'll be satisfied if it moves fast and makes noise.

And if someone put a VCS game on a home computer, everyone would know exactly what to expect. Potentially, everybody's happy.

Hmmm. . .

The latest project of Sacramento-based Sirius Software is the conversion of Twentieth Century-Fox's VCS Games of the Century to Atari and Commodore ROM cartridges. A risky endeavor, but being conservative doesn't get you much in this business.

Without the powerful marketing hand of Twentieth Century-Fox, the whole line of carts might have gone virtually unnoticed. Thirty-second prime-time television spots for VCS versions literally have been sprinkled over teen-oriented shows as far back as last September. The crux of the matter is that these games are direct conversions from VCS versions and therefore use only 16K. And you don't need a disk drive to play them. The advantages to this are twofold. First, if you don't have or can't afford a disk drive, you're still in the game. Second, because cartridges plug right into the computer, there's no more waiting until next Tuesday for the game to load. Just pop it in and go.

Another satisfying aspect of these games is that playing time is longer than for most games you'll find on 48K disks. *Fast Eddie* gives you an extra man at the completion of each level, with a maximum of three reserve men. *Turmoil* does the same with its ships, up to a maximum of six. If you're tired of jogging, try these games for endurance training.

Some Games of the Century will be available only for the Atari 400 and 800, some only for the Vic-20 and Commodore 64. The first three releases, however, work on all machines. Let's begin with Mark "Sneakers" Turmell's *Turmoil*.

Basically, the name of the game is "dodge ball." Various aliens fly back and forth, trying to mow you down if you get in their way. Lucky for you, you're armed with a gun, so you can blow them away as you run through the vertical center alley past their horizontal lanes. Lucky for you, they're unarmed. And lucky for you, you can just hold down the rapid-fire button as you run by, laughing, "Suck on this, ya gunsels!" Well, almost.

Once in a while, bonus prizes appear; they're worth big points if you can run the length of the lane and grab them fast enough. If you wait too long, though, prizes turn into speeding cannonballs that take a special delight in blowing your tail into oblivion. These guys mean business.

Advancement from level to level seems to happen by whim (the game's, not yours), and the only difference in the levels seems to be the speed and frequency at which the aliens appear. Oh, the lines defining where your alley begins and ends disappear now and then, but other than that *Turmoil's* the same game over and over, faster and faster.

The object of the game: get plenty of points and make plenty of noise. Accept that as your mission and you'll have a ball. *Turmoil* is ideal for beginning arcaders; it's an exercise in reflexes and peripheral vision (keep an eye out for the prizes).

Mighty Joe Kong. One of the most popular games in the video arcades involves hopping over barrels that an oversized version of King Kong is throwing at you while you're trying to rescue your kidnapped girlfriend. There aren't any donkeys in it, but that didn't make any difference to the guys who thought up its name. When it debuted, it was the only game around that involved running, hopping, climbing, and smashing.

To play the game and play it well was to be "in" with the arcade crowd. But there were those who, no matter how hard they tried, just couldn't get into the swing of it. Dismissing the game as "wimpish," they went back to eating things in mazes.

You hopping/climbing klutzes . . . say hello to *Fast Eddie*.

If ever there were an introductory course in how to succeed at jumping-and-climbing games, *Fast Eddie's* it. The point of the game is to have fun. Jumping over the Sneakers (who are making a guest appearance from the game of the same name) is fun. Grabbing the prizes as you evade the Sneakers is fun. Getting stomped to death by the Sneakers is . . . not so bad.

As in *Turmoil*, the object is to score a lot of points. Hearts, kettles, balloons, hammers, tanks, and other goodies appear on different floors in the game, and you must grab ten of them before climbing to the top floor, where you can snatch the key from the honcho Sneaker, "High-Top." That's the key allowing you to advance to the next level.

Fast Eddie is a good way to get your feet wet in jumping games because it's simple. Really simple. Sneakers that move are a breeze to jump over; those that just stand there are even

a telephone call or a nuclear attack. On a scale of 1 to 100, this is a 95. Besides, it's got a great beat and you can dance to it. DL
Atari 400 or 800, 16K, cassette; joystick required. \$35 from Microcomputer Games, a division of Avalon Hill, 4517 Harford Road, Baltimore, MD 21214; (301) 254-5300.

Theseus and the Minotaur

By Bruce Nesmith and Keith Enge.

Can a hi-res adventure game be boring? Can a game's packaging far exceed the product? Was *Theseus and the Minotaur* really developed by the originators of *Dungeons and Dragons*?

Unfortunately, the answer to all of these questions is yes. That is just the problem with *Theseus*. After a three-year lead time, you would think that TSR's initial entry into micro-gaming would be a mind-blower. Well, it is, but not in the sense that you'd want to spread the word. It's more like . . . pass the zzzz pills.

Theseus and the Minotaur is a maze game with the single objective of rescuing the Princess Ariadne from the clutches of the Minotaur. The player is allowed to select not only the labyrinth's difficulty but also the number of secret doors. Surely the game design-

breezier. Granted, it does get tricky when additional Sneakers, including fat ones, appear at higher levels, but achieving those levels without losing men is not hard to do.

In the Blood. In the evolution of computer games, *Fantastic Voyage* is the next step after you outgrow the life of continual shooting, running, and jumping. Not a difficult game, *Voyage* has two features that *Turmoil* and *Fast Eddie* haven't: a plot and different levels of difficulty.

The goal is the same as it was in the movie from which the game draws its name. You and your ship have been shrunk to minuscule size and have been injected into the bloodstream of a sick patient. Your job is to combat bacteria and antibodies on the way to destroying a massive arterial clot. In addition, there are enzymes you must shoot to release their healing properties and blood cells you must avoid hitting to prolong the patient's life.

A curious twist to *Voyage* is that you get only one ship. You never die; the patient does. There's even a beeping heart monitor at the bottom of the screen to let you know how close the patient is to kicking the bucket. You'll know when he dies, all right; the monitor goes flat and discontinues its beeps in favor of a long "wheee . . ." while you hide your face in shame, muttering, "It's all my fault!"

If you manage to destroy the clot (it takes fifteen hits to do so), don't celebrate for too long; your reward is a numeral in the corner telling you how many patients you've saved, and it's time to start over with the next patient.

Voyage gives you several options—not a choice of levels at which to start, as in the first two games, but a choice of how difficult you want the game to be.

It's hard to come up with landmark games with elaborate programming techniques and originality when you have only 16K to work with. You don't go up to George Lucas and say, "I have a thirty-minute spot to fill; here's five hundred dollars—give me the next *Star Wars*." Things don't work that way.

With its new line of Games of the Century cartridges, the only experienced arcaders Sirius can hope to draw are those who take hedonistic joy in racking up points and in making the game sound like they're winning. More sophisticated players will tend to sneer.

But who needs those prima donnas anyway? These games aren't geared toward them. In the eyes of game-playing elitists, Sirius's Games of the Century may not even be the games of the month. But if you're a new computer owner or are practicing the trickle-up effect, making the gradual migration from VCS to VCS-with-keyboard to personal computer, they make a nice starter set and should lessen the shock of transition. MTY

Turmoil and *Fast Eddie*, by Mark Turmell. *Fantastic Voyage*, by David Lubar. Atari 400 or 800; Commodore 64 or Vic-20; 16K, cartridge. \$34.95 from Sirius, 10364 Rockingham Drive, Sacramento, CA 95827; (916) 366-1195.



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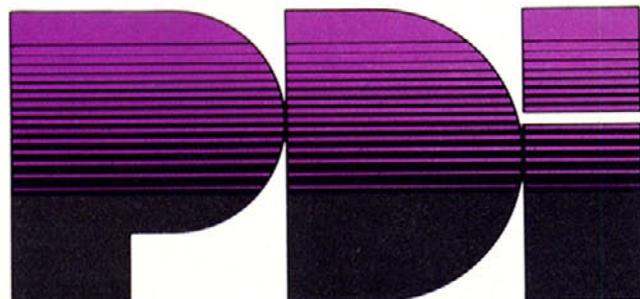
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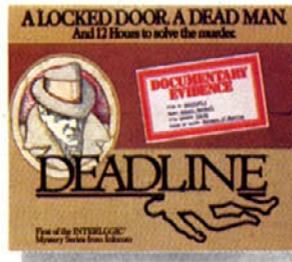
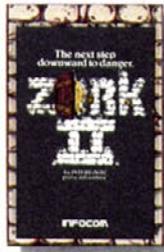
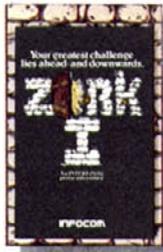
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ers are hiding behind one of them. A supposed plus is an option to add a confusing hall of mirrors to the maze. Unfortunately, this hall turns out to be invisible to the adventurer in his travels. Nothing seems to change.

After the labyrinth has been secretly drawn, the adventurer is dropped into the maze starting at the bottom floor. The real fun begins as the player searches the three-level labyrinth looking for the princess. Setting forth through a maze of *Akalabeth* style perspective graphics the adventurer quickly finds that there are very few squares on each level. Ah, but those clever game designers found a way to make you feel as if it's bigger. For every normal step, the game makes the player take seven steps. Making matters worse, the program must be written in Applesoft, rather than machine language; the screen redraws with excruciating slowness each move. The overall effect is akin to attempting to swim upstream in a river of molasses.

The dungeon dwellers encountered are no match for the wary traveler. Remember the original legend about the single Minotaur guarding the maze? Well, not satisfied with that, this game features dozens of Minotaurs lurking everywhere. There is also a large family of snakes willing to bore you with momentary delays. The Minotaurs are so easy to kill that you wonder why Princess Ariadne needed your help in the first place.

Treasure and wonderful armament are there to be won, but the designers forgot to allow an inventory function. You never know the total treasure you've won. If better weapons or armor are acquired, says the manual, an automatic upgrade takes places. It's a good thing they say so in the manual; no apparent change in combat occurs.

Objections notwithstanding, *Theseus and the Minotaur* might be palatable to someone with lots of free time who'd be willing to

play a while, save it, and come back. But you can't save it; there's no such option.

The meenies are well drawn in colorful hi-res, but as a first offering, this game would barely rate a nod at the Temple of Cant. *Theseus and the Minotaur* is a passing sop to fantasy role-playing, totally inexcusable coming from the founders of the genre. HC Apple II, Apple II Plus; 48K, disk. \$25 from TSR Hobbies, Box 756, Lake Geneva, WI 53147; (414) 248-3625.

Beneath Apple Manor—Special Edition

By Don Worth.

Many years ago, the Apple family disappeared without a clue. The house is empty but rumor has it that the most magical treasure of all, the golden apple, lies in the dungeon, beneath Apple Manor.

The first Apple fantasy adventure game, *Beneath Apple Manor* was introduced not long after the Apple itself. It was written in Basic using lo-res graphics—very impressive at the time. It was crowned a classic and was one of the most popular games of the time.

Soon, hi-res graphic adventures were introduced and *Beneath Apple Manor* was forgotten. But now it's back, and it's better. The special edition contains many features that the original didn't have: hi-res graphics, sound effects, a deeper dungeon, more magic, more monsters, and one vital necessity, a save-game feature.

Another nice feature lets you customize your own dungeon. You can play the standard game or choose your own number of rooms. You can also choose between hi-res and text graphics. If you choose more than five rooms, then you automatically go into the text version. Either way, you choose from among ten difficulty factors.

Your quest is the same as in the original. You must find the golden apple hidden somewhere in the dungeon. But not so fast. The

Epyx Adventures Weigh In

Epyx/Automated Simulations recently engaged the programming services of Marc Russell Benioff and immediately released four adventure programs for the Atari: *King Arthur's Heir*, *The Nightmare*, *Escape from Vulcan's Isle*, and *Crypt of the Undead*. Lest one be tempted to marvel unduly at Benioff's speed, however, let us add that he had these games on hold. All were developed initially for the late and not-too-lamented Crystalware. Anyone familiar with that company's adventures will already be wary in approaching any of these "new" ones.

Benioff (or Epyx) did clean up several of the problems that made Crystal games like *Fantasyland 2041 A.D.* so frustrating. All commands in the new games are entered via a single joystick, rather than the confusing mixture of joystick and keyboard commands used before. And, since each game occupies a single disk, players will no longer have trouble proceeding from one segment to another (a terrible problem in *Fantasyland*, when faulty pokes would prohibit entry to the next disk).

The melees have been modified completely. Dual random number generators, which favor the stronger combatant, subtract hit points until one or the other is slain. Luckless players are resurrected by pushing start, which reboots the game. (Hitting option resumes play from the point of death, a much nicer alternative that bypasses the tedious introductory music. That's a hint you won't find in the instruction books.)

The games are played on a large map divided into four different sections on the disk. The player is represented by a little figure that moves up, down, left, or right across the scrolling terrain. When the edge of one section is reached, the program automatically loads the adjacent section and play continues. The size of a particular region is no deterrent to anybody intelligent enough to make a diagram; as a result, each game succeeds or fails on the basis of its various puzzles and monsters. The puzzles merely involve finding objects (rarely hidden) in the proper order, and the scarce, slow-moving monsters can gen-

erally be outrun or outfoxed. They always approach the player on the shortest possible straight line; simply lure them behind a solid object (such as a wall) and they'll try unsuccessfully to pass through rather than go around.

Each game ends by assigning the player a score nebulously derived from treasures found, enemies slain, and time spent. While there might be some incentive to improve one's score, the games are not interesting enough to stand repeat play.

King Arthur's Heir boots accompanied by an incredibly limp rendition of the theme from *Camelot*—Frederick Loewe, who wrote the song and is cocredited in the instruction manual, should sue posthumously for damages. The player next selects a new or saved game (make sure a saved game exists before taking that option; otherwise the system hangs and must be rebooted), after which the action begins.

The player starts outside Camelot, which may not be entered until the Scroll of Truth is found. Superfluous hints quickly point toward the mazelike Caves of Somerset. Once through them and in possession of the objects within, the player essentially is strong enough to defeat all monsters and complete the game with nothing lost except time.

Nightmare took exactly two and a half hours from boot to completion. Based on this, you could make some fast computations of entertainment value for the dollars spent, if you so desired. The game loads to the last few bars from the theme to television's *The Munsters*, and Jerry White should know better than to claim credit for copyrighted material. The instruction manual shows a negligee-clad woman with her mouth open in what is intended to be a scream of fear; it may be a yawn.

The four sections of this game represent the dungeon and three upper floors of a haunted mansion. The player, who begins at the front door, cannot leave without finding his Mind's Eye. The graphics differ slightly from those in the other games and provide a ceiling's-eye view of the rooms in the mansion. Many are locked and cannot be entered without the proper key. A hint in the instruction manual suggests searching the dungeon, which gives away the whole show. Two easily obtained keys lead the

monsters on guard on every level. As you increase in power, so do the monsters.

There are various chests spread around the dungeon, and if the one you open is trapped you may not live to see what's inside. You may find gold, which can be exchanged for better weapons and armor. Or you may find magical items that will help you.

You also have spells you can use. Some will help you defeat a monster, or escape one. The powerful spells will cost you gold as well as intelligence.

Many features of the game are very realistic. After running around for a while, you get tired and have to rest. Attacking a monster will cost you some strength. You must rest to regain that strength. Your life is measured in body points—when they're gone, so are you. All of these attributes, and more, make up your character. As your character gains power, you elect how to distribute the power among these attributes.

BAM is not a game that you will tire of easily. The maze is completely new with every game. If that's not enough, you can try one of the other levels or adjust the amount of rooms. This can make it a totally new game. *BAM* is for any adventurer, beginner to expert.

By the way, you'll get a nice surprise if you ever find the golden apple.

AM
Apple II, Apple II Plus; 48K, disk. \$29.95 from Quality Software, 6660 Reseda Boulevard, Suite 105, Reseda, CA 91335; (213) 344-6599.

Dnieper River Line

By Bruce A. Ketchledge.

Avalon Hill, so highly respected for its board war games and so disappointing in its early computer fare, is beginning to see the light. *Dnieper River Line* is a good cross between a board game and a computer game. An 8-by-11-inch full color map and 240 playing counters provide background for a German army entrenched

against the Russian army advance at the end of World War II.

The Russians are coming, coming, coming, and the Germans must protect six possible objective squares against their onslaught, onslaught, onslaught. Actually, those troikal Russians have only three objectives in mind, two primary targets and one secondary one. Not knowing this, the Germans need to work out several contingency plans; but that's easier said than done. It's darned hard to concentrate and plan in the midst of Russian air attacks, artillery barrages, and partisan and paratrooper attacks.

The playing pieces are well-made. Each troop carries an identification number, an allotment of movement points, attack strength, defensive strength, and armor strength; and the units are easily recognizable by their shapes.

Dnieper River has four levels of play, two different scenario beginnings, a meeting engagement, and a strategic offensive, and a campaign takes between eight and twelve turns. Then the Russians win if they have control of two of their three secret objectives.

What does the computer do? All the calculations, of course. All the hard and dirty work.

This game is excellent. Winning requires skills with strategic movement, artillery fire, and the proper placement of garrisons with minefields; even the fog of war is simulated.

At last, Avalon Hill has a computer game nearly worth its name; *Dnieper River Line* is one of the better war simulations available today.

MK
Apple II; 32K, disk; Atari 400 or 800; 48K; TRS-80, I/III, level II; Pet; 32K; all on cassette. \$30 from Microcomputer Games, a division of Avalon Hill, 4517 Harford Road, Baltimore, MD 21214; (301) 254-5300.

Guest reviewers in March were Derrick Bang, Harry Conover, Phillip Good, Michael Klem, Donald Lynch, Alan Mankovitz, and Howard A. Shore.

player sequentially from one room to the next. Each locked room yields a key (nicely labeled, to avoid confusion—or much challenge) that opens the door to the next room and provides the next object and so on.

There are no menaces to slow the player on the first floor. The dungeon contains a rat pack that can be defeated by even novice starters. The second floor has a bathroom which, if invaded, releases a nasty psycho who ends the game by killing the player. (Psycho . . . bathroom . . . get it?) The third floor features a ghost that is hard to avoid; unlike anything else, it can drift through walls. This floor also has a belfry full of bats.

The Nightmare is little more than a time-consuming foot-race. If a key is found in the dungeon, the room it opens will be on the third floor. The action follows that pattern, back and forth, back and forth, until the player ultimately and quite easily finds the Mind's Eye.

Escape from Vulcan's Isle is even easier. Its four sections function independently, rather than forming four parts of a much larger whole. This removes the need for scribbled notes; even a complete beginner would find it hard to get lost. There is also no need to jump back and forth, as in *The Nightmare*.

Vulcan's Isle boots to the worst music yet, a lethargic rendition of the Hawaiian tune, "Aloha-Oe." The player starts on Vulcan's Isle, directly adjacent to a village that conveniently sells all the tools needed for the entire game. Contrary to the instruction booklet, commands need not be executed by keyboard but can be implemented by the joystick. The Isle's monster is a Harris (?), and it pops up relentlessly . . . so relentlessly, in fact, that the player becomes near-invincible after the first few successful encounters. By the time the game is over, your alter ego should have in excess of two hundred hit points, being merely annoyed by creatures with twenty-two or twenty-three.

The same insipid music "rewards" the player at the end of the game as the score comes up. Inquisitive players who call up the program (easily done, since it's in Basic) will notice a curious reference to a \$250 prize. The line appears unreachable through play, so it must be left over from Benioff's earlier days.

Crypt of the Undead is a good game, leagues above the other three. Its added complexity comes from the use of both sides of the disk. One side displays a large, four-part map of a cemetery; the other reveals the interiors of certain buildings. There also are a few genuine mysteries that require the player to pay close attention to the various messages.

The cemetery is divided into large and small fields (Forest Lawns, Peacock Park, the Field of Martyrs) interconnected by paths (Memory Lane, Lovecraft Avenue, Vincent Price Way). Each of the four sections contains one monster: Jim the Zombie, Chet the Vampire, Marc the Werewolf, and Susan the Headless Woman. Presumably there're a Jim, Chet, and Susan somewhere who are suitably flattered. Brent Shaw, however, is nowhere in evidence.

This game boots to a nice piece of music (what was that title?) and starts the player in Strawberry Fields. Numerous buildings fill the graveyard—the Cecil B. De Mille Hall, the Crematorium, the Lewis Crypt, Marc's Mausoleum, and the Herman Monument. None can be entered without first finding a key. Only one key lies "above ground"; all the others are hidden deep within the buildings.

The interior of Cecil B. De Mille Hall is filled with crypts devoted to numerous celebrities—John Wayne, Laurel and Hardy, and John F. Kennedy are so honored. The mausoleum has a wonderful maze that requires considerable time to map. The crematorium, on the other hand, recycles the exact same cave maze used in *Vulcan's Isle*. That, folks, is sloppy.

A final word: if your copy of *Crypt* comes with a write-protect tab, remove it. The game cannot be finished with that tab in place—a little glitch unmentioned in the instructions.

With the exception of *Crypt of the Undead*, these games are strictly for the beginning adventurer. Epyx will have to look a little farther for a topper to its *Dunjonquest* series.

DB
King Arthur's Heir (32K, \$29.95), The Nightmare (32K, \$29.95), Escape from Vulcan's Isle (32K, \$29.95), and Crypt of the Undead (40K, \$29.95) from Epyx/Automated Simulations, 1043 Kiel Court, Sunnyvale, CA 94043; (408) 745-0700. Atari 400 or 800.

The Most Popular Atari Program Ever

Well, the Most Popular Atari Program poll results have come in from *Softline* readers scattered over all parts of the globe, and some of the more urban regions of the solar system as well. The votes have been tabulated and thrown together into meaningful categories so that we, future historians, and all the folks at home can glean some insights from them.

In the Top Thirty list, the index number is derived from weighted votes and is the final arbiter of a program's position. The number of votes shows how many ballots a program appears on. A high index and a relatively low number of votes indicate that the people who voted for a program thought very highly of it. A large number of votes and a relatively low index show that more people thought of it but weren't ready to give it their highest accolades.

The Top Thirty shows us one thing we already knew: the average Atarian's top nine favorite things to do are playing games. At least, that's what they like to do with their Atari . . . that is, Atarians who read *Softline* . . . who answered the poll. Those qualifications limit the field to the most discriminating and influential Atari users. Right? Right!

Above all, Atarians like *Star Raiders* from Atari. The three-year-old program, a grand old game in the Atari market, appeared on approximately 45 percent more ballots than the second-place contender, *Jawbreaker*, from Sierra On-Line. In weighted votes, *Raiders* bested *Jawbreaker* by a whopping 65 percent. And four out of five optometrists recommended it for their patients who play arcade games. You can't argue with that.

The Arcades Come Home. Atari itself dominated the top ten with five programs, four of which are home versions of popular arcade games: *Pac-Man*, *Defender*, *Missile Command*, and *Centipede*. The fact that Atari's top winner, the top winner, didn't come from the arcades proves that originality counts for something. The strong positions of *Jawbreaker* and Broderbund's *Choplifter* also speak well for those who think for themselves. Sierra On-

Line's *Frogger*, a favorite from the San Francisco Applefest, rounded out the list of homewardly mobile top-toppers.

More than anything, arcade-type games dominated the upper reaches of our list. A notable exception in the top ten is *Shamus*, from Synapse Software, a worthy game with both arcade and adventure qualities.

Getting Down to Business. *VisiCalc*, from VisiCorp, narrowly made the top ten, and heads the list of the top ten nongames. Nevertheless, Atarians seem to pick word processing as their second-favorite thing to do with the computer, as the word processors that share the nongame top ten with *VisiCalc*, specifically *Letter Perfect* by LJK, *Text Wizard* by Datasoft, and Atari's *Word Processor*, outclout the stalwart spreadsheet in combined votes and weighted averages.

The business users of the Atari 800 are a small but vocal group. Those that voted for the serious applications frequently decried the lack of software necessary to match their chosen machines with their chosen avocations.

After word processing and spreadsheet analysis, database management gets some small recognition, with nongame top ten positions for *File Manager 800* by Synapse and *Data Perfect* by LJK. Programmers offered votes of confidence for Atari Basic and ValFORTH.

A unique contender in the nongame category is *S.A.M.* by Don't Ask Software. No, that's not Surface to Air Missile, or Spreadsheet Analysis Manager, but Software Automatic Mouth. As the name implies, it's a software-based speech synthesizer and boasts a very recognizable voice with phonetic alphabet keyboard input, accented syllables, and variable tone.

One Man's Meat Is Another Man's Dog. Surprisingly, *Rear Guard*, the hands-down winner of the Atari Dog competition, got a few votes in this ballot as well. Just goes to show that it all comes down to a matter of taste in the final analysis. Either that, or some people voted with their guards down. SL

PROGRAMS THAT RECEIVED A FIRST-PLACE

A.C.R.A. Point of Sale
Action Quest
Advanced Music System
Airstrike
Ali Baba and the Forty Thieves
Apple Panic
Assembler
Assembler/Editor
Astro Chase
Atari World
Bandits
Basic
Basic A+
Basic Commander
Berzerk
Bookkeeper
C/65
Canyon Climber
Castle Wolfenstein
Caverns of Mars
Centipede
Chameleon CRT Terminal Emulator
Chicken

Choplifter
Chopper Rescue
Claim Jumper
Crossfire
Crush, Crumble, and Chomp
Data Base Report System
Data Management System
Data Perfect
David's Midnight Magic
Deadline
Defender
Dig Dug
Disk Detective
Diskscan
Diskey
Dragon's Eye
Eastern Front
Easy Grader
Educational System
Embargo
Empire of the Overmind
Enhancements to Graph-It
Facemaker

Family Cash Flow
File Manager 800
Financial Wizard
Frogger
Frog Master
Galactic Chase
Galahad and the Holy Grail
Galaxian
Ghost Encounter
Ghost Hunter
Ghost Town
Golf Challenge
Gorf
Graphic Master
Graph-It
Jawbreaker
K-DOS
Keyboard Organ
Kid Grid
K-Razy Shoot-Out
Labyrinth
Letter Perfect
MAC/65



The Top Ten Applications Programs

1. **VisiCalc**, Dan Bricklin and Robert Frankston, VisiCorp
2. **File Manager 800**, Ken Grant, Synapse
3. **Letter Perfect**, LJK Enterprises
4. **Text Wizard**, William Robinson, Datasoft
5. **Word Processor**, Atari
6. **S.A.M.**, Mark Barton and Bob Freedman, Don't Ask Software
7. **Data Perfect**, LJK Enterprises
8. **Financial Wizard**, Computari
9. **Basic**, Atari
10. **ValFORTH**, Valpar International

The Top Thirty

Place	Number	Votes	Index	Program, Author, Publisher
1.	492	1.57		Star Raiders , Atari
2.	339	.95		Jawbreaker , Chuckles, Sierra On-Line
3.	302	.86		Pac-Man , Alex Leavens, Atari
4.	262	.78		Choplifter , Dan Gorlin, Broderbund
5.	227	.77		Defender , Atari
6.	244	.71		Frogger , John Harris, Sierra On-Line
7.	226	.67		Shamus , William Mataga, Synapse
8.	234	.59		Missile Command , Atari
9.	215	.58		Centipede , Atari
10.	151	.56		VisiCalc , Dan Bricklin and Robert Frankston, VisiCorp
11.	204	.50		Caverns of Mars , Greg Christensen, Atari
12.	176	.49		Preppie , Russ Wetmore, Adventure International
13.	182	.48		Threshold , Warren Schwaeder and Ken Williams, Sierra On-Line
14.	163	.45		K-Razy Shoot-Out , Keith Dryer, CBS Software
15.	117	.43		File Manager 800 , Ken Grant, Synapse
16.	149	.39		Eastern Front , Chris Crawford, Atari
17.	126	.39		Wizard of Wor , Roklan
18.	101	.38		Letter Perfect , LJK Enterprises
19.	143	.34		Crossfire , Jay Sullivan, Sierra On-Line
20.	89	.32		Text Wizard , William Robinson, Datasoft
21.	105	.31		Zork I , Infocom
22.	129	.30		Canyon Climber , Tim Ferris, Datasoft
23.	78	.29		Miner 2049er , Bill Hogue, Big Five
24.	95	.27		Ali Baba and the Forty Thieves , Stuart Smith, Quality Software
25.	84	.26		Bandits , Tony and Benny Ngo, Sirius Software
26.	65	.24		Word Processor , Atari
27.	78	.20		Apple Panic , Ben Serki, Broderbund
28.	78	.19		Raster Blaster , Bill Budge, BudgeCo
29.	64	.18		S.A.M. , Mark Barton and Bob Freedman, Don't Ask Software
30.	46	.17		Data Perfect , LJK Enterprises

VOTE

Macro Assembler
Mailing List
MasterType
MegaLeggs
Memory Match
Micro Painter
Microsoft Basic
Miner 2049er
Missile Command
Mouskattack
My First Alphabet
Nautilus
Next Step
Night Mission
Odin
OS/A+
Pac-Man
Paint
Pathfinder
Personal Finance
Picnic Paranoia
Preppie
Protector

Protector II
Raster Blaster
S.A.M.
Scott Adams Adventures 1-12,
Gold Disk Edition
SCRAM
Sea Dragon
Shamus
Shaw, Brent
Sherlock
Slime
Snake Byte
Snooper Troops
Soccer
Softporn
Solitaire
Space Ace
Starbase Hyperion
Starcross
Star Raiders
Stratos
Submarine Commander
Super Breakout

Syn Assembler
Teletari
Temple of Apsai
Text Wizard
Threshold
Tigers in the Snow
Track Attack
Tricky Tutorials
Tumblebugs
Tutti Frutti
Ultima II
Ulysses and the Golden Fleece
ValFORTH
Valley of the Kings
VersaWriter
VisiCalc
Wayout
Weekly Planner
Wizard and the Princess
Wizard of Wor
Word Processor
Word Search
Zork I

INFOMANIA

Heavy Hardware

Remember, You Can't Play ColecoVision on Atari... In our last episode, Atari was suing Coleco over the latter firm's Expansion Module #1, which Atari called "a thinly disguised copy of Atari's VCS unit." Well, that wasn't quite right. According to the testimony of a Coleco official, Coleco took the circuitry of an Atari 2600 VCS and put it in a housing with Coleco's name on it. The company proceeded to demonstrate its "adapter" at various electronics

shows around the country throughout 1982.

Atari previously had sued over patent infringement and unfair competition. They are now asking for an immediate injunction against the sale of the Coleco unit.

Coleco will be introducing an add-on computer keyboard module for the ColecoVision system this summer. Watch for it.

Remember, You Can't Play Spectravideo on ColecoVision... In conjunction

with the release this month of the SV-318 personal computer, Spectravideo is also marketing the SV-603 ColecoVision Video Game Adaptor. It retails for \$70, connects directly to the back of the SV-318 computer, and lets the user "enjoy the entire library of exciting ColecoVision video-game cartridges."

Says Spectravideo president Harry Fox, "This entire computer system was conceived and designed with the consumer in mind. Once consumers find out that the ColecoVision game line can be used with the SV-318, via the game adapter, we expect that their enthusiasm will be further increased."

Please, I Can Do It Myself! Also from Spectravideo is the CompuMate 2600 Computer Converter, a keyboard add-on for the Atari 2600 with 16K of ROM, 2K RAM, and music composition and graphics programs that fits over the top of the Atari VCS. It has a \$100 price tag.

Atari's own 2600 keyboard attachment, called My First Computer, can connect to printers and modems, has color display, and will retail for less than \$90. It is also completely incompatible with all Atari software currently available. Programs are under development.

Really Heavy Hardware. Yes! Now you can create professional-quality computer graphics in your own home! The top-secret computer system used in the making of Disney's *Tron* is on the market. Information International Inc. (Triple-I) of Culver City, California, is offering its digital scene-simulation hardware and software to interested parties. Be the first and last one on your block with a Foonley F-1 in your living room, accompanied by a 1,000-line-resolution monitor, frame buffer, custom high-performance color film recorder, standalone input system with high-speed vector display, operator aids, and a database verification program for creating 3-D descriptions of objects and scenes. The proprietary software features Fortran interloops in PDP-10 assembly language. The terms of a licensing agreement would vary with your intended use of the system. If, for instance, you want to make *Son of Tron*, they'll let you use it for \$150,000 and a cut of the profits. Maybe. Or you can snap up the whole system outright for \$930,000. Act now!

Teach Your Computer To Shut Up. The voice box II is a programmable speech synthesizer for Atari 400/800 computers. It can sing with voice and three-part music from an expandable library of thirty songs, speak with inflection, and convert the bottom

GARAGE SALE



Inventory clearance! Triple-I blows it out to the bare walls with a Foonley F-1 mainframe, Celco CFR 4000, customized software—you name it! Right now is the best time to buy. Make your own computer-generated movie for under one million dollars!





Here It Comes To Save the Day

Too Hot for Softalk IBM. Pictured here for the first time anywhere is the prototype of the IBM mouse, developed for use with IBM's oft-rumored forthcoming low-priced home computer. Clearly, IBM has a way to go in its comprehension of the term "user-friendly." In preliminary testing, the mouse reportedly provided barely adequate cursor control; response was fuzzy, testers quickly lost interest and went off looking for something else to do, and it soiled easily. Photographed surreptitiously at the IBM R&D facilities in upstate New York, this rare photo was turned down by virtually every news periodical and computer magazine in the country out of fear of the legal wrath of the big gray company—all publications, that is, but one. Our readers have the right to know. (Thanks to William S. Latz of Saint Joseph's Hospital, Fort Wayne, Indiana.)

two rows of the Atari keyboard into a piano; it also allows you to incorporate singing or speaking subroutines into your programs.

And TI-99/4A people now have voice recognition on their home computers. The Expander, from Milton Bradley, consists of a black box with speech synthesis/recognition circuitry and membrane keypad, a microphone headset, and a three-axis joystick. The unit is for sale in conjunction with Milton Bradley's *Voice Command* game cartridges, which come with overlays that fit the Expander's keypad. Once you're all plugged in to your TI, you play the games by saying things like "Right!" "Left!" "Up!" "Fire! Fire!" "Down! I mean left . . . eeyaaah!"—and then the game tells you what a jerk you are. The joystick is a pistol-grip affair with a trigger fire button and three thumb-operated special-function buttons on the back of the grip. The stick itself juts up from the top of the stock assembly and reads standard N,S,E,W movement—except for the top of the knob, which can be rotated independently for full analog 360-degree movement. Hoo-hah!

Current plans call for a retail price on the Expander between \$70 and \$100. The joystick and games will be in the \$35 range.

The Rule of Law

Forget About Summer Vacation and the Next Forty Years of Your Allowance. This is it. The Computer Software Piracy and Counterfeiting Amendment is due to be reintroduced this year before the august body of the U.S. Congress. The current penalty on the books for software piracy, in case you didn't know, is \$25,000 or a year in prison, or both. The new bill, sponsored by Barney Frank (D-Mass.), raises the ante to a five-year stretch in the pen and \$250,000. The measure was proposed last year but never came to a vote. It was not heavily opposed at that time and is expected to pass.

(Interesting how complex philosophical arguments can suddenly come down to earth.)

If you have recovered from your cardiac episode, let it be noted here that the bill is intended to aid federal investigators in their battle with big-time counterfeiting operations.

Who's Got the PC? *PC World*, the new

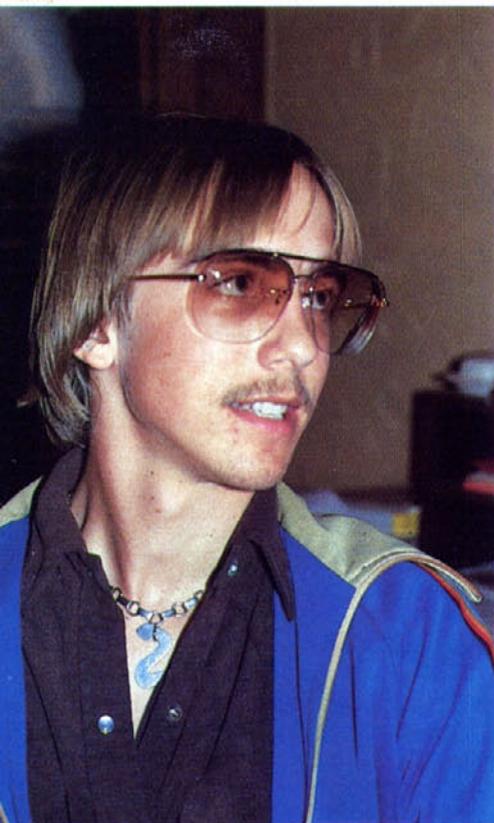
magazine for the IBM Personal Computer and related phenomena, hit the streets with its first issue February 24, direct from its smash San Francisco Superior Court appearance with *PC: the Independent Guide to IBM Personal Computers*. The infant publication was appearing there at the invitation of Ziff-Davis, publisher of the latter magazine, so that the two publications might engage in a genteel discussion of just who had the right to use the letters "PC" in the title of a magazine. The host of the show, Judge Ira A. Brown, capped the event with the denial of a request for a preliminary injunction against *PC World*.

PC World publisher David Bunnell states that "the ruling is a clear indication of our right to compete. As competitors, we expect to give Ziff-Davis a good run for its money." *PC World's* premier issue weighs in at 324 pages, the largest first issue of a magazine in publishing history, it says here. Nearly 200 pages are ads.

Ultima Bugged

What Can You Do with a Drunken Sailor? Notice anything wrong with this picture? No, not that one; the one below it. It seems some sodden swab reproduced a fleet-worth of himself all over the place. We've heard of a girl in every port, but a ship on every wave is taking things too far.

The game is *Ultima II*, the publisher is Sierra On-Line (just in case you're keeping score), the author is Lord British, and the technique is simple. Once you have a ship, you'll find that other ships attack you on occasion. You can fight them, and usually win, but that's no fun, and it doesn't get



Fame: makes a man take things over. Like, just get off his case, okay? Out to lunch, fer sure. The guy didn't say what paper he was with, okay? Get outta here, I mean it.

out of food, run out of hit points, run out of ocean, or run out of patience, you can destroy the opposing ship and that's that. In the meantime, you have created a whole fleet that you can do with as you please. Even line them up like a bridge and gallop a horse across them. Shades of Caligula at Ostia!

While we're ragging on *Ultima II*, here are a few other little-known facts about Lord B's most recent brainchild. In contrast to what the documentation would have you believe, not to mention what the author intended, not all the character attributes can be increased. Specifically, the strength you start out with is what you've got, and no amount of bribery, killing, magic potions, or muscle developers can change it. Where this becomes inconveni-

ent is in the flying of a rocket ship. To survive the launch, you must use a certain item, but you can't use it unless you have a strength of forty or greater.

At first, Lord British declined to comment when our reporter called him. In fact, he declined to answer the phone. When called again, however, he was more cooperative. He explained that the strength bug had been fixed in a more recent update. The procreation of the ships he dismissed as insignificant. Simply not a very effective method of cheating.

Kudos and credits to Theodore C. Mead of Port Naches, Texas, and Mike Turner of Woodland Hills, California, for this information. Don't forget to report the income, boys. Agents of the IRS may be reading this.

Student, 21, Makes \$100,000 A Year Creating Video Games

Young Richard Garriott, 21, hasn't even finished college yet — but he makes more than \$100,000 a year designing video games.

YOUNG ACHIEVER

He started raking in big bucks at the tender age of 17!

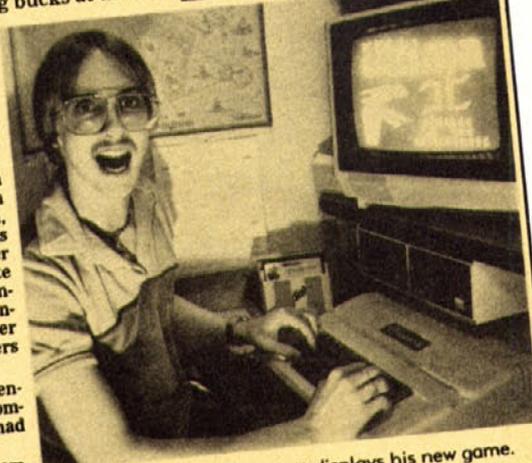
"I had a hard time convincing myself this was an honest living," said Richard, whose most recent game, *Ultima*, was ranked as one of the nation's number-one sellers.

Richard realized making a fortune was kid's stuff when he was a senior at a Houston, Tex., high school. "I was working in a computer store," he recalled. "I wrote *Akalabeth*, a video game consisting primarily of dungeons where you wander around fighting monsters coming at you.

"The store manager mentioned to a computer company in California that I had designed this game."

Just days later, the company jetted Richard off to California, where he signed a contract and started making money. Nearly four years later, Richard still makes about \$1,000 a month from that first game, on top of his *Ultima* earnings.

What's more, his soon-to-be-released third game, *Ultima III*, will be his biggest



WHIZ KID Richard Garriott displays his new game.

seller ever. "There are right now enough orders for *Ultima II* to make more money than Garriott's first two games combined," said John Williams, marketing director for the distributor.

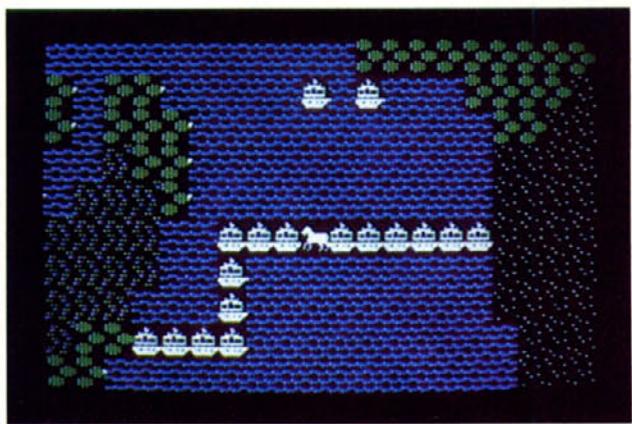
Richard, who's studying electrical engineering part-time at the University of Houston, has this advice for

those who want to make it to the top: "Anyone with an idea and some talent should get into a position where someone will notice their abilities. By revealing your talents to others, you can make it to the top. Too many people fail right off the bat by doing nothing!"

— DAN SCHWARTZ

Page 11

NATIONAL ENQUIRER



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STRANGE GAMES

EXCLUSIVE TO THE TRADE

And Now, This Important Message. Any suitably prompted scientist will tell you that television broadcasts here on Earth radiate outward and eventually may be received on distant planets. Market researchers say it is only a matter of time before video games are broadcast over the airwaves. As we all know, thousands of generally harmless computer users are spending a great deal of time eliminating aliens, using laser weapons, disintegrators, and epoch shifters, as well as the new memory-move techniques.

Isn't it time we considered the impression this might create among our alien friends? Here we are, spending millions to send spacecraft with messages of greeting to distant worlds, when any recipient will



have been watching us gleefully practice our violent treatment of aliens. Perhaps our governments would be wise to provide computer users with WATS lines, so we could stay off the air and not disturb "the neighbors." (Thanks to William Tucker, Old Lyme, Connecticut.)

Fondamania

Does Jane Fonda play computer games? How about Richard Simmons? Imagine it: "And one and two, get rock and bend, open door and breeeaaathe, cast spell and reach. . . ." Or maybe, "Tuck in those tummies! Come on, shoot the aliens, keep your legs straight, use shield energy; don't reach for those Twinkies!"

Okay, maybe not.

With the introduction of its exercise guide, *Tone Up at the Terminals*, Verbatim hopes to help office workers learn to relieve muscle strain and general fatigue that comes from spending long hours working at the computer.

The twelve-page guide offers twenty exercises you can do at work, each one demonstrated by fitness personality Denise Katnich. But Verbatim's altruistic intent of aiding the countless office workers of America isn't what interests us here.

No, the best part of the guide is the photographs of Katnich. The staff at *Softline* found that the best way to relieve fatigue was not to do the exercises but to look at the photos and then visualize someone religiously doing these exercises at work! We couldn't stop giggling, and before we knew it all our muscles felt much better (except for our stomach and cheek muscles).

You too can enjoy the fun, because the guide is free for the asking from Verbatim (Attn: Tone Up at the Terminals, 323 Soquel Way, Sunnyvale, CA 94086; 408-245-4400).

Tuck and shoot, and stretch and bomb, and. . .

Hit Me!

Fooled You! Jim Nitchals is not the worst poker player in the world.

All those who invited him to their floating tournaments thinking they had a game programmer patsy on their hands are now all sadder but poorer.

All those who successfully challenged him for the title of Worst, rest assured that Nitchals is no huckster. The error was *Softline's*. After all, we didn't know about you.



Ever wonder why Atari went to so much trouble to remove all those *Pac-Man* look-alikes from the market? It certainly wasn't because of any threatening resemblance to the Atari 800 or VCS versions of the game, which look less like Midway's original than any of the pack of imitators.

Well, now there's a *Pac-Man* game for the home, official and Midway-approved, that plays less like the original than any of them. Yes, it's *Pac-Man* candy from Fler. A whole bunch of little *Pac-dudes* and ghosts hang out in the central reservoir. To play the game, you must guide one candy guy from the center, through a clear plastic maze, to an exit on the bottom of the package, all by tilting the box.

Despite the heavy anticipated demand for this game, *Softline* regrets that it will be unable to accept high scores for *Pac-Man* candy; several players have already discovered a cheat mode.

How About Hogan's Heroes? *M*A*S*H* is no longer with us, but Twentieth Century-Fox is releasing the official video game version anyway, under its Games of the Century banner, making it one of the first canceled teevie shows to be so honored. Originally, Sirius had been contracted to write the game, with Fox distributing to the VCS market and Sirius retaining the rights to convert it to the Atari 400 and 800. However, Fox chose another version for VCS over the Sirius product at the last minute, so Sirius is now stuck with a computer game called *M*A*S*H*, which they can't use without getting sued by Twentieth Century-Fox for copying their VCS game called *M*A*S*H*. Stay tuned.

Play Unto Me. Word, Incorporated, a Waco, Texas-based evangelical multimedia development company, is researching the market for Christian video games and expects to be selling them by 1984. The *Wittenburg Door*, an evangelical Protestant periodical, recently brainstormed some ideas along those lines, coming up with such games as *Tract-Man*, featuring pentecostal power pills, *Messiah Command*, and *Pastoroids*, among others. Editor Mike Yaconelli says he doesn't know of any Christianized video games currently available. For his enlightenment and yours, know ye that there are indeed available at least two games answering to that description, both for the Apple computer: *Bible Baseball*, featuring two hundred "major-league" and "minor-league" questions on topics from Genesis to Chronicles, and *Jericho*, "an exciting, action-packed game," both available from Davka Corporation of Chicago. In play, they are definitely Old Testament.

GROUP DOINGS

Democracy Thwarted. The December issue of *Apple Bits*, the newsletter of the Greater Cleveland, Ohio, Neo Apple Corps user group, was mailed out to members with an absentee ballot on its last page. Said ballot was to be used by club members in voting for four of seven candidates to fill vacant board positions. On the back of that last-page ballot, however, was the news-

letter mailing label with the voter's name and address neatly affixed. Despite this subversion of the fundamental democratic principle of the secret ballot, losers Len Shapiro, Al Larue, and Dave Dennis have not yet contested the election results.

Now He Can Never Do One for American Express. Just like it says in the teevee commercial, Steve Wozniak owns two of the most glitzy sports cars in the world. But he pulled up in front of the house of Santa Cruz Apple User Group president Mike Zwerling last February 13 in his Mercedes.

"Hey, Steve, why aren't you driving the Datsun?"

"Because this Mercedes is awesome."

The Woz, along with Ms. Woz and baby Jesse Woz, was present for his group's traditional Lard-Out, SCAUG's annual potluck meeting and dessert fest.

By 1:45 in the afternoon, the meeting still hadn't started. Most of the members were swapping bits of Apple knowledge or setting up the desserts they had brought. Most of them, anyway. Woz was keeping himself busy flying baby Woz through the air with the greatest of ease over the edge of a forty-foot-high balcony.

"Rrrrrroowww! Zoom! Hey, isn't this kid the greatest? He's just awesome. . . ."

All tomfoolery aside, the meeting final-

\$CHEESE; 2GO



According to a Minneapolis computer-show street survey conducted by Kamstra Communications, a Saint Paul public-relations firm engaged in market research for its computer clients, 75 percent of IBM pc owners are partial to pepperoni pizza; whereas only 50 percent of all Apple owners share that preference. Marketing experts were mystified by the discrepancy until Jeff Lundblad, staff chef with Domino's Pizza in Minneapolis, shed some light on the matter when he revealed that pepperoni is considered "a plain pizza" in the trade. "It's good-tasting, but basically straight-laced. Pepperoni is not a flamboyant pizza."

As is already common knowledge, Commodore owners swear by manicotti with cottage cheese, TRS-80 owners prefer warm noodles and olive oil, and Timex Sinclair owners go for a Big Mac and a large order of fries.

And He Still Isn't Getting Enough Cheese. What can you say about a company that lends itself to pushing dog food? "Hey, Fido loves the taste, and he loves his personal computer, too." Somehow it just doesn't cut the kibbles.

That didn't seem to make any difference to the decision makers at Commodore. Allen Products is giving away eleven hundred Commodore personal computers this year in its nationwide promotion for its Alpo Canned, Alpo Dry, and Alamo Brand dog foods and Liv-a-Snaps pet treats. Players in the Alpo Lucky Dog Supergame have a chance at winning one of a hundred Commodore 64 computer grand prizes, and one of a thousand Vic-20 first prizes.

The whole thing begins in mid-April, giving you plenty of time to stock up on doggie dinners.

So far, there is no truth to the rumor that Commodore is planning to donate computers to the Hartz Two-in-One Flea Collar Kolossal Komputer Giveaway, or the Ken-L-Ration Kibbles 'n' Bits Binary Bonanza.

New Stuff

Atari: Home computer conversions of popular arcade games are Atari's latest. In *Dig Dug*, players create their own mazes to escape fire-breathing dragons. Veterans of the trenches may start at higher difficulty levels without having to wade through the simple ones. \$44.95. That old favorite, *Galaxian*, has players evading invading aliens that swoop down on innocent ships that try to blast them out of the galaxy. \$44.95. *Qix* requires the player to fill in the screen with boxes of color and surround the Qix helix. No patterns to memorize, no plot, and no tricks to give you an advantage. \$44.95. All are from Atari, General Delivery, F.O.B. Hong Kong.

The newest kid on the block is *Kid Grid*, moving in with the graphics and sounds of hot arcade action. There goes the neighborhood. By Arti Haroutinian. 16K, disk or cassette. \$29.95. **Tronix**, 701 West Manchester Boulevard, Inglewood, CA 90301.

You don't feel so frustrated at the end of *Lifespan* the way you do with most arcade games. You're in control of events in the game, the objective being to accomplish goals, not to destroy. Be all that you can be. \$44.95, cartridge only. On the other side of the arcade coin, *Anti-Sub Patrol* puts you in a submarine-seeking destroyer trying to find and annihilate enemy subs before they sink you. \$19.95, cassette; \$29.95, disk. Both games are from **Roklan**, 3335 North Arlington Heights Road, Arlington Heights, IL 60004.

No jokes about extraterrestrial aliens, okay? *A.E.* has you defending your planet against the squadrons of attacking stingrays. Not a basic shooting game; only patient players will survive. Great 3-D graphics and new firing technique. \$34.95, disk. You knew it was by Jun Wada and Makoto Horai, didn't you? Also available is *Sky Blazer*, formerly *Star Blazer*, until Broderbund found out about the Japanese Saturday morning teevee cartoon show of the same name. (You've heard of it? Good!) It's the Atari version of the bestseller Appleites went crazy about last year. Heat-seeking missiles, explosive balloons, and enemy jets dog you to the end as you try to blow out enemy radar and ICBM stations. Joystick is recommended. Definitely worth trying; a Tony Suzuki classic. Both are from **Broderbund**, 1938 Fourth Street, San Rafael, CA 94901.

If you think you're tough just because you can beat up other kids, try taking on *Marauder*, conqueror of planets. Your task is to penetrate ground defenses and destroy the planets' power source. And time isn't on your side. You'll need a joystick and lots of dexterity for this one. From Marauding Rorke Weigandt and Eric "Heman" Hammond. 32K, disk. \$34.95. **Sierra On-Line**, Sierra On-Line Building, Coarsegold, CA 93614.

Super 3-D is what *Vortex* is about. Put on Spectra-Vision 3-D glasses and fly your spectra shuttle through meteor showers while fighting off belligerent invaders. \$39.95.

Or put yourself in charge of the nation's gross national product and work against such financial foes as monetary crises, a plummet-

ly got under way, with Ron Williams, supervisor of competitive evaluation for Apple Computer, demonstrating Apple's new Lisa computer, to the approval and admiration of all those assembled.

"That machine is incredible!"

"Can you believe the stuff it does? What do you think, Steve?"

"Hey, it is awesome."

With the Lisa demonstration over, famished SCAUGers stampeded downstairs to gorge themselves. Danishes, doughnuts, brownies (with and without nuts), lemon meringue and chocolate cream pies, ice cream, and angel food cake were the obvious favorites.

"Here, Steve, try these, and this, and some of these, and that. . ."

"Oh, geez, this is just awesome. This apple pie? Awesome. Lemon bars? Awesome. This has got to be the awesomest Lard-Out yet. Some awe!"

When the food was gone, SCAUGers of all shapes and sizes, generally larger and rounder, were corralled in the workroom where Zwerling produces Apple-assisted graphics for his video production company. Once everyone was seated, Zwerling gave a showing of the computer-graphics videotape used at the Us festival, accompanied by the Disneyland Main Street Electrical Parade March in Dolby stereo.

"This is just awesome. I was backstage when all this was going on; it didn't look as awesome back there. . . Hey, there's Fleetwood Mac; weren't they awesome? Mike, you gotta make me a copy of this awesome tape."

Okay, enough is enough. One more and we're gonna barf. But that's just our opinion; what do you think? All present who believe there is one word that should undergo a universal search and delete from Steve Wozniak's vocabulary should write it on a postcard and send it to Softline 280-Z, Box 60, NoHo, CA 91603, and we'll forward them to SCAUG.

You can make a difference.

ing stock market, and East/West detente collapse. Where else but in *Reaganomics*, a game of bungling the economy. \$35. Both games also designed for the Commodore Vic-20. From **Spectravision**, 39 West Thirty-seventh Street, New York, NY 10018. Also from Spectravision are *Sector Alpha*, *Cave In*, and *Number Crunch* (see descriptions under Commodore).

Apple: Setting a high-water mark in lo-res graphics is *Pollywog*, a game in which you must survive the hunger of killer fish and nasty orange things. The more algae you eat, the more you grow. First bigger, then a tail, then legs. Lay enough eggs and one of them might become a prince. Wonderful sound effects and extensive use of sixteen colors. A new idea. By Alan Wootton and Nina Cohen. \$29.95. **Top-Notch Productions**, 1201 Montana Avenue, Suite 5, Santa Monica, CA 90403.

Not satisfied with being a frog? Then keep growing in *Evolution*, by Don "Amoebaman" Matrick and Jeff "Paramecium" Sember. Starting out as an amoeba, you evolve to a frog, rodent, beaver, gorilla, and, finally, a human. Don't bother to find out what lies beyond. \$39.95. **Sydney Development**, 600-1385 West Eighth Avenue, Vancouver, BC V6H 3V9.

Ultravision is back—in *The Serpent's Star*, an animated adventure by Michael Ormsby, Christopher Anson, Margaret Anson, and Alan Clark. Traps, trappists, and involving puzzles keep you stumped till the dragons come home. Parser understands sentences and multiple commands. \$39.95. **Ultrasoft**, 12503 Bellevue Redmond Road, Suite 200, Bellevue, WA 98005.

Adventurers can play one or two at a time in *Labyrinth of Crete*. Be Jason and Hercules, together or apart, on this trek to recover the Golden Fleece from the labyrinth. A three-level map is included to help you along. \$29.95. A Cliff Johnson and Allen Pinero creation, from **Adventure International**, Box 3435, Longwood, FL 32750.

Commodore: For the Vic-20 are two newcomers. You've been hurled overboard by pirates (seafaring variety) into the *Shark Trap*. Your only hope is to snare them with your atomic net as you try to avoid octopi. By Clifford "Jaws" Ramshaw. Cassette. \$19.95. From the same author comes *Martian Raider*, a game that lets you terrorize Mars with your intergalactic battleships. Destroy ammunition dumps while fending off Martian missiles and other pests. Cassette. \$19.95. Both from **Broderbund**, 1938 Fourth Street, San Rafael, CA 94901.

Introducing Spectra-Sound is *Sector Alpha*, a game in which you are in the center of army defense. The job is to get rid of enemy invaders that come by both land and air. Spectra-Sound adds speech to the game, without hardware. *Cave In* gives you the choice of digging yourself out from beneath a mine cave-in or being buried alive in the rubble. \$35. *Number Crunch* is an educational math game for youngsters and adults. \$35. All available also on the Atari 400/800. From **Spectravision**, 39 West Thirty-seventh Street, New York, NY 10018. Spectravision also introduces *Vortex* and *Reaganomics* (see Atari section for description).

For Pet players, *Heartbreak* is a target game with three speeds and four difficulty levels. What more could you want? 3K. **Single**

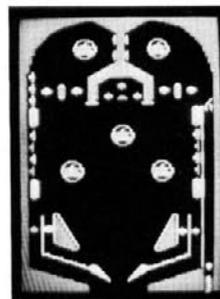
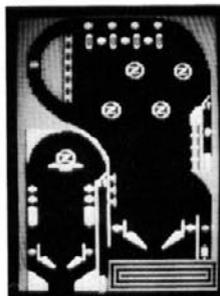
Source Solution, 2699 Clayton Road, Concord, CA 94519.

Timex: Whether you have a Sinclair ZX81 or a TS-1000 makes no difference to *Mazogs*; they'll hound you on either one. A maze full of treasurers, perils, prisoners, weapons, and, of course, the fearsome title nasties. 16K. \$19.95. Adventuring types can play two adventures on one tape: in *Quest for the Holy Grail*, you're an archaeology professor with a penchant for raiding lost arks while outwitting your Nazi archenemy. If that's not your bag, then play gumshoe in the Spade, Marlowe, or Tracy tradition. *The Elusive Mr. Big* works you against the clock on a tip leading to Mr. B. 16K. \$17.95. *Superchess* has ten levels of play and will kibitz in case you get stuck for a move. An analyze feature lets you set up situations for study. Also 16K. \$19.95. Finally, arcade fans can indulge in *Nightgunner*, where you're the tailgunner in a bomber plane, searching for enemy aircraft. Randomly weaving foes keep you on your toes. Unlimited ammunition to fill 16K. \$14.95. All are from **Softsync**, 14 East Thirty-fourth Street, New York, NY 10016.

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ROGUE



The New Spring Computers

Heavens, isn't it just too hard to keep up with the latest fashions? Should one go for the small stylish look or throw caution to the wind and opt for the exotic status excitement of 64K of expandable RAM? Yes, yes, it's all utterly mad; but, darling, you know that anyone who is anyone will be fighting everyone who is anyone else to get their hands on all the new scrumptious hunks of micro-chic this spring. And there will be lots of perfectly delightful items to fit every shopping budget, so you're bound to find the one that's "you."

But Seriously, Folks. This is the year when the home computers that have had the marketplace pretty much to themselves up to now face off for the big showdown—with each other and a tough playing field of new arrivals.

Video game companies, communications conglomerates, and brand-new firms are jumping into the arena to cater to your computing pleasure, bringing with them entirely new systems, hardware upgrades, and home video game adapters; taking entire display racks of video game cartridges and converting them wholesale to their operating systems so their hardware won't feel lonely. Preliminary skirmishes in the coming price wars have already broken out in several major metropolitan areas, and it's going to get worse before it gets better. Oh, it's going to be a vicious, savage chapter in the annals of home computer high jinks. You'll want to get your tickets early.

Yes, by this time come June, you, the consumer, are going to be faced with some hard choices. They, the manufacturers, are betting

that you're thinking, even now, of trading up, down, or sideways from your present system, and they want to provide you with a lot of stopping points along the way.

Let's take a look shall we?

Texas Instruments 99/2. Aiming squarely for the Timex/Sinclair drugstore market, the TI-99/2 is looking to redefine the term "low-end." The idea is to blow Timex out of the water with an under-\$100 sixteen-bit computer that can use solid-state cartridges as well as cassettes and accommodates a clutch of low-cost peripherals. It will be pitched as everyone's first computer, or a compatible second computer for owners of a TI-99/4A. The box has an elastomeric (look it up) keyboard with keys in a staggered QWERTY arrangement. It has 4.2K of RAM, expandable to 36.2K.

Timex Sinclair 2000. Aiming squarely at the TI-99/4A market, Timex is trotting out both 16K and 48K versions of their original model, now with color, sound, moving keys, and hi-res graphics. It still takes cassettes only, but with "high-speed load and save." The suggested retail is \$200 for the 48K edition, with the 16K price yet to be set. Timex is expanding its software catalog, though if its Sinclair 1000 game software is any indication of its idea of entertainment, it looks like it will be up to the independent software houses once again to give the new baby something to do.

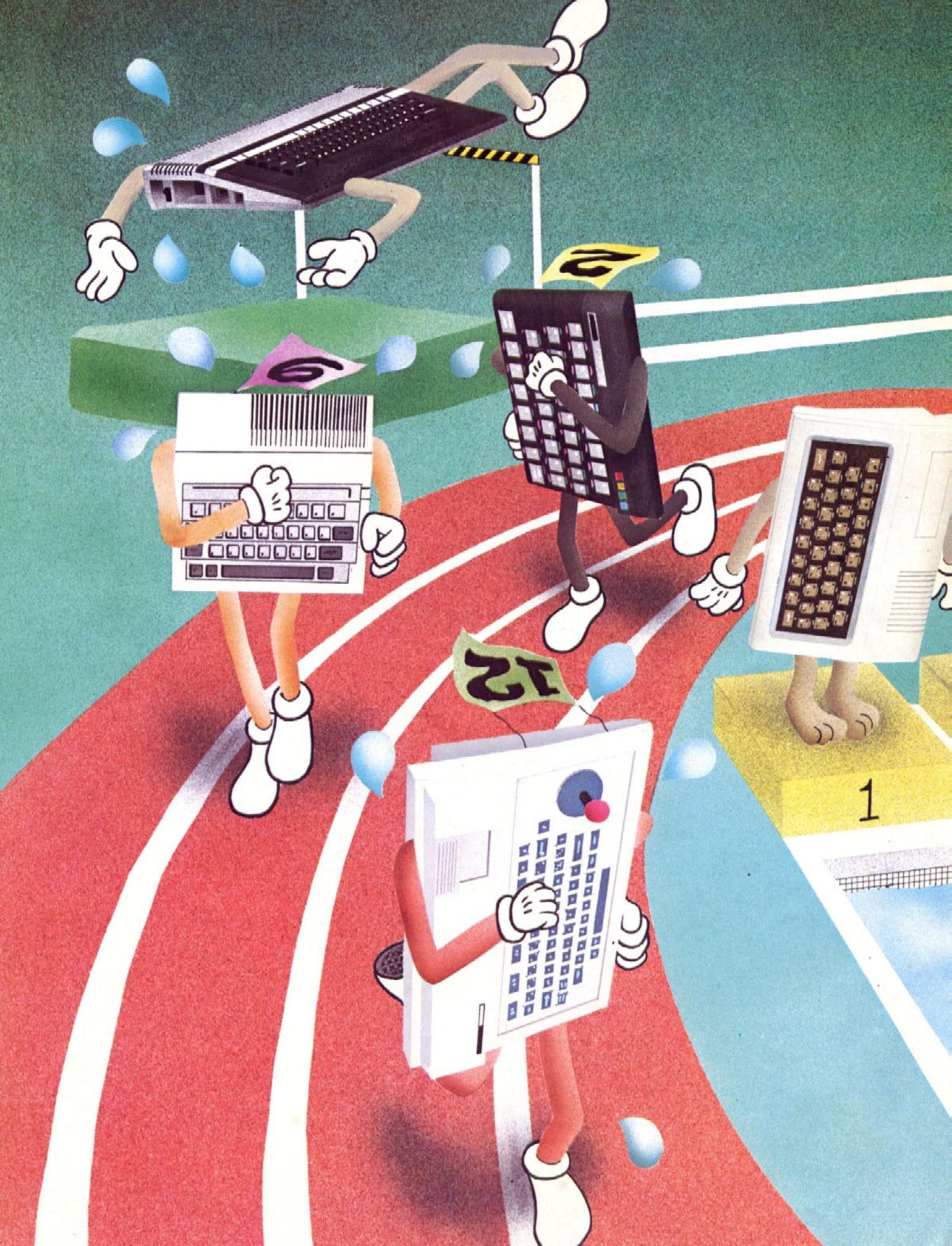
Jupiter ACE. Now available in North America through Data-Assette, this English import is being touted as "the fastest microcomputer." It's programmed in Forth, which means it's about ten times faster than Basic but takes up 20 percent more memory than machine language. An on-board speaker, hi-res graphics, and upper and lower case characters are the highlights. Also featured is cassette loading, with 3K of RAM, expandable to 51K. The ACE will debut at \$150, with peripherals and fifty software titles. ("Action games written in Forth will stretch your reaction speeds to their limits.") It's brought to you by Vickers and Altwasser, members of the Sinclair development team.

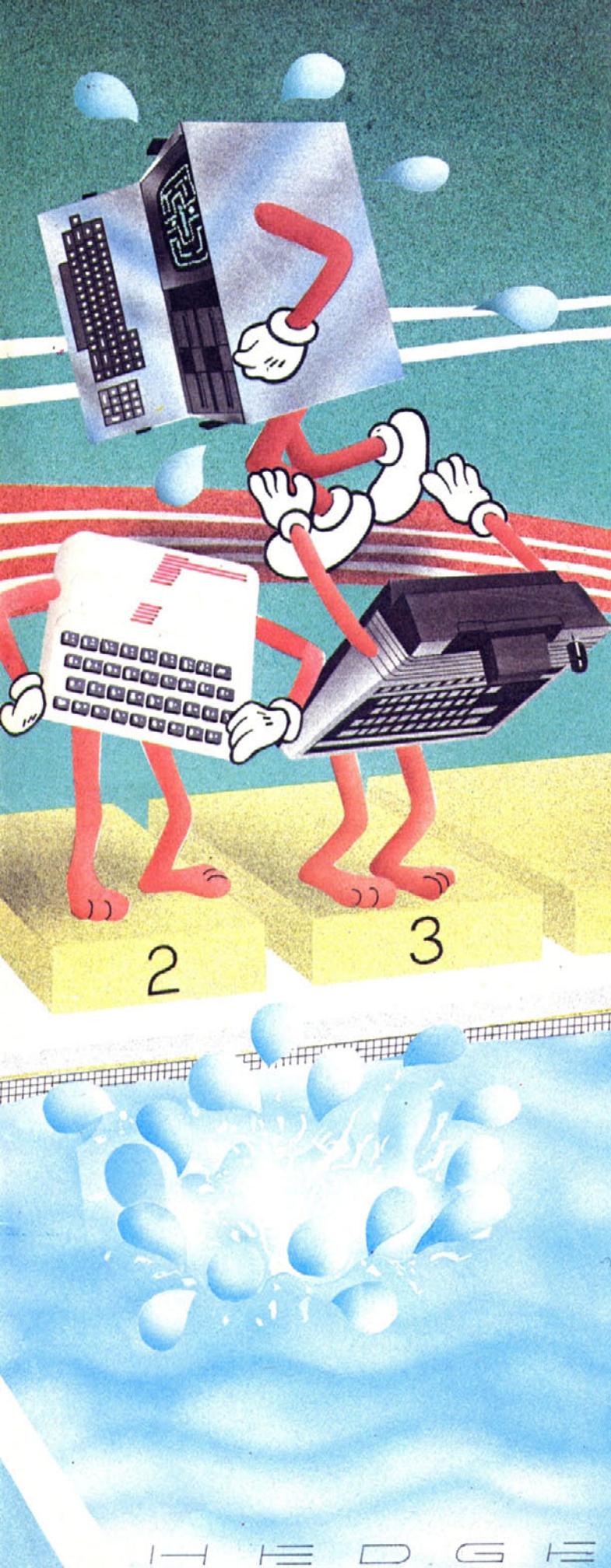
VZ200. Rounding out the new intros in the low-end computer derby is this 4K machine from Video Technology. Movable keys, standard cassette load, eight colors, and expansion capability up to 64K are some of its features. Forty-five programs, including seventeen games, plus disk drives, light pen, modem, and bar code reader will be available when the unit is introduced in April at a \$100 retail price.

Kaypro II. Definitely not a low-end machine, this one just recently passed its FCC Class B compliance tests qualifying it for home use. But when you buy it you get an M-Basic disk that includes such CP/M fun-fests as *CatChum*, *Ladder*, *Star Trek*, *Trade* (an intergalactic business game), *Chase*, and others; about twenty-five public domain games in all, though no one is sure exactly how many and the company prefers to play down such, ahem, activities. For \$1,795, you get all the features you'd expect for that kind of money, plus a battery pack and split screen display. Can you play two games at the same time? If we're inundated by an avalanche of interest, *Softline* will certainly take an in-depth look at this baby and find out. From Non-Linear Systems.

Atari 1200XL. The marketing campaign being mounted for the new machine from Sunnyvale is like something for the latest luxury land cruiser from Chrysler Corporation. May we expect to see Ricardo Montalban extolling its sleek styling, burnished, gleaming metal, and new low-profile look? The 1200XL is compatible with both its kid brothers and has 64K, twelve programmable function keys, 256 colors, and four-voice sound covering 3½ octaves. The sole cartridge slot is now on the side and doesn't have a little door or a cover over it any more. The 1200XL retails for around \$750.

Odyssey Command Center. It's the Invasion of the Video Game People—yes, a video game console with a computer keyboard, a Basic programming module, mass storage packs, and, for heaven's sake, a modem. It will be compatible with all Odyssey 2 video game cartridges, which means that the first proud owners will have immediate access to more than fifty arcade-type games. Not all Command Center carts, however, will be playable on the Odyssey 2—so this is not a video game unit with a keyboard on top of it. So what is





it? The price and more detailed info will have to wait until its arrival sometime around July.

SV-318. The name is not exciting, but if the first computer from Spectravideo, a manufacturer of video game cartridges, can deliver anything like what it promises, some waves will be caused and some swimmers may go under. What we have here is a Z-80A micro with built-in extended Microsoft Basic and eighty-column CP/M 2.2; 32K RAM (16K addressable), expandable to 128K; 32K ROM, expandable to 96K; a game cartridge slot and built-in joystick/cursor control; three channels of sound with eight octaves per channel; and sixteen colors, addressable from the keyboard . . . for a base price of \$299. The SV-318 leaps into the fray with a line of fourteen peripherals and more than a hundred educational and entertainment programs ready to go.

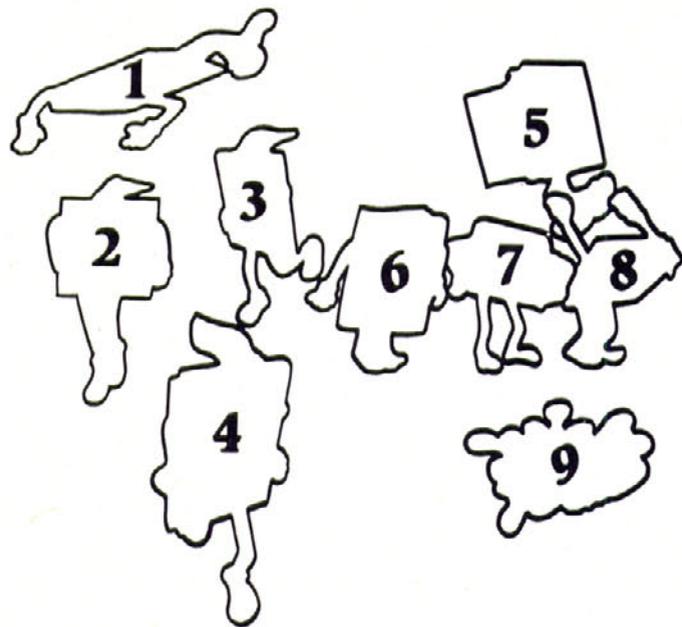
Yes, It Was All Leading Up to a Contest! As you can see, each of these machines is striving to achieve a personal best in the coming intense competition. The first major hurdle they'll all be trying to jump, of course, is that of recognition. And they'll need help establishing their own individual identities in the crowded and competitive real world marketplace. So, what do you say: do you recognize them? Based on the foregoing info, do you think you could help out sufficiently to name them all? Could you do it for \$100?

If so, then mentally match the names to the numbered outlines and fill in the blanks in the coupon next to the appropriate numbers. Computer #9 is a \$50 bonus prize. (Hint: what new computer has already jumped in and is making a big splash?)

Don't dawdle! Some of these little devils are already entering preliminary market penetration mode—another month and any idiot will be able to figure out who's who.

Only those entries correctly identifying all computers will be entered into the \$100 drawing, though if no one can identify them all we'll take the highest scorers.

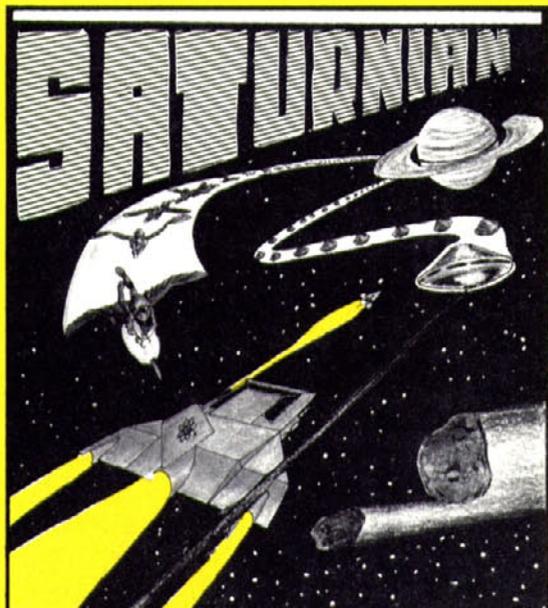
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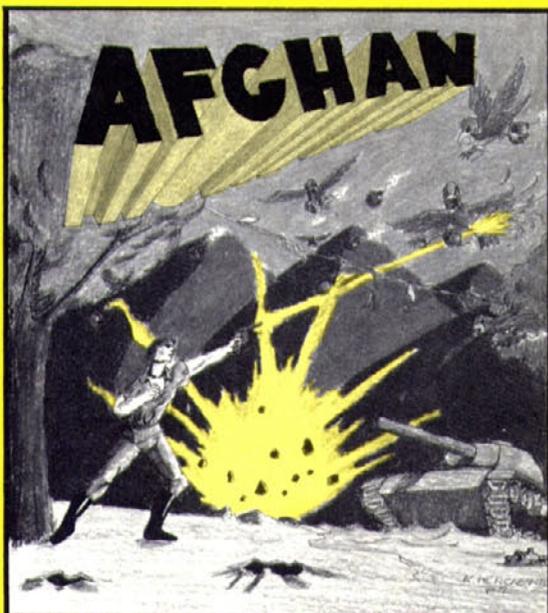
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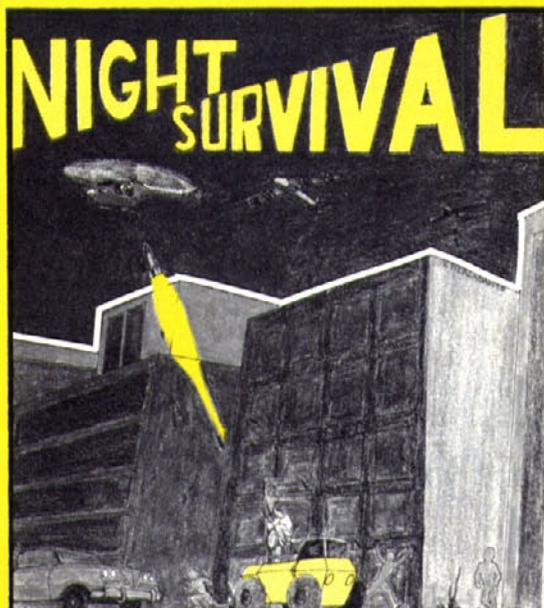
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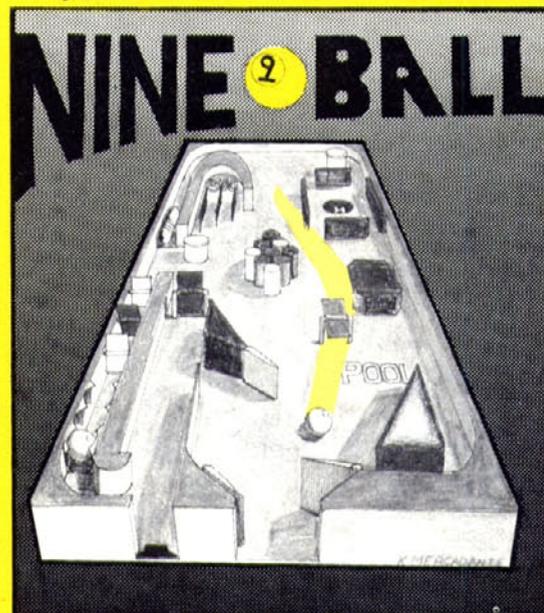
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Game/Publisher Score

Player

Action Quest , JV Software	20/94
A.E. , Broderbund	*54,000
Airstrike , English	*6,720
Alien Defense , Soft Sector Marketing	175,350
Alien Rain , Broderbund	1,103,000
Alien Swarm , In-Home	*92,470
Alien Typhoon , Broderbund	*886,480
Andromeda , Gebelli	118,000
Asteroids , Atari	3,594,920
Attack Force , Big Five	*425,620
Autobahn , Sirius	*2,183 Miles
Aztec , DataMost	Level 8/*1,003,282
Bandits (Apple), Sirius	*414,330
Bandits (Atari), Sirius	112,015
Battlesight , Versa	*75,000
Beer Run , Sirius	*12,152
Bell Hop , Hayden	*15,230
ㄥㄨㄚㄚㄚㄚ, Southwestern Data	*93,477
Bezman , Bez	*227,873
Blister Ball , Creative Computing (1 Player)	*975
Bolo , Synergistic	*2,067
Breakout , Atari	Progressive/4,580
Breakout , Atari	Double/2,656
Bug Attack (Atari), Cavalier	*46,815
Candy Factory , Gebelli	*1,198,900
Cannonball Blitz , Sierra On-Line	*1,390,120
Canyon Climber (Apple), Datasoft	*58,200
Canyon Climber (Atari), Datasoft	92,800
Centipede , Atari	*2,000,210
Chomper , MMG	*29,100
Clowns and Balloons (Atari), Datasoft	*281,820
Congo , Sentient	*31,362
Cosmic Fighter , Big Five	*138,740
County Fair , DataMost	*4,205
Crazy Maze , DataMost	*105,600
Crisis Mountain , Synergistic	*121,255
Crossfire (Atari), Sierra On-Line	*2,000,770
Crossfire (IBM), Sierra On-Line	*143,320
Crush, Crumble, and Chomp , Epyx	*18,030
Cyclod (Apple), Sirius	*567,559
Cyclod (Atari), Sirius	275,715
Cytron Masters (Apple), Strategic Simulations	Level 3/*22,210
Cytron Masters (Atari), Strategic Simulations	*21,290
David's Midnight Magic , Broderbund	*2,803,110
Defender , Atari	10,037,925
Defense Command , Big Five	*103,330
Deluxe Invaders , Roklan	*23,750
Dodge Racer , Synapse	*5,350
Dragon's Eye , Epyx	4,687
Eliminator , Adventure Int'l	*478,900
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Firebug , Muse	*9,850
Fly Wars , Sirius	*19,420
Frazzle , Muse	*39,250
Free Fall , Sirius	*7,070
Frogger (Apple), Sierra On-Line	*39,840
Frogger (Atari), Sierra On-Line	249,805
Galactic Attack , Sir-tech	*1,650
Galactic Chase , Prism	40,000

Terry Rora, Roanoke, IL
Clark Alyea, Bloomington, IN
Reginald Greene, Carson, CA
Chris Athanas, Topsham, ME
Ron Bunch, Collegedale, TN
Steve Halberstadt, Newark, DE
Clark Alyea, Bloomington, IN
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Paul Foster, Crete, IL
Mike Parks, Amery, WI
Robert Rendahl, Torrance, CA
Steven Neubauer, Hayward, CA
King Mon Yee, Boston, MA

HIGH SCORES

Highlines

Please submit the following information with your score: your name and address, the name of the company that manufactures the game, and your brand of computer.

An asterisk indicates a verified score and is bestowed only upon receipt of the legal signature of a reliable witness.

Next high-score deadline: 9:30 p.m. EST, April 16.

Games in Disgrace.

The following can be, and usually are, cheated on, without any special programming knowledge required. No scores on these games will be accepted without extraordinary and ironclad documentation:

Clowns and Balloons
Falcons
Labyrinth
Olympic Decathlon
Pie Man (bug)
Serpentine
Snake Byte
Snoggle (aka Puckman)
Stellar Invaders
Taipan

The same applies to games like *Choplifter* and *Star Raiders*, with maximum possible scores that have already been achieved.

When sending in a high score to a multilevel game, it is wise to report the level number as well as the score. In some games this is irrelevant; in others it is more important than the impressive-looking seven-digit numbers. Just remember to record the level and you're more likely to see your score listed. Okay? Okay.

Dateline: *Defender*. Popular? You bet. Scoring? Like crazy. Verdict? Could be one of the big ones; look for a repeat of arcade history on the micro front. But remember to state that level along with your score, or no dice. And what do the people have to say?

Chris Blum: "I had what seemed to be an endless amount of ships after reaching a million. I'm not saying it was unlimited, but I could have received a large amount of ships during a certain score period."

Warner Young: "It's a good game, but it's a little easy. . . . On the eighty-sixth attack wave, I did not encounter a single mutant, even though I was in space. The game also does not turn over at a million—it will keep up to seven digits, at least."

Frank Ocel: "This game will advance to level 99, then future attack waves will all be designated 99."

Rob Hammond: "2,398,150 on the easy level. I could have gone farther but it was getting boring because I had seventeen men in reserve."

Doug Howard, reporting his *Cyclod* high, presumes there will be "black-hearted souls who will defile my achievement with vile insinuations as to my score. Hey, folks! It's my fingers that hurt for two days, and, as for cheating, all I know about this game is how to put the disk in and then turn on the Apple. It is really a disappointment to me that there are those who would cheat or lie about their scores, but I guess that's just human nature. What's next? Will we have to have a notary public sit through the entire session for validation?"

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Guadalcanal Campaign, Strategic Simulations	*2,015	Arthur Kimes, Los Angeles, CA
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Juggler, IDS	*784,680	Dave Ness, Saratoga, CA
Kamikaze, Hayden	207,125	Jason Meggs, Bethesda, MD
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Lunar Leeper, Sierra On-Line	*106,000	Chris MacChesney, Fresno, CA
Marauder, Sierra On-Line	321,300	Jason Meggs, Bethesda, MD
Mars Cars, DataMost	Level 28/*59,080	Ken Niemczura, Willingboro, NY
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Nautilus, Synapse (1 Player)	*75,600	Barry Martin, San Jose, CA
Nautilus, Synapse (2 Player)	321,000	Rob Hammond, East Greenwich, RI
Neptune, Gebelli	31,820	Mike Mariant, Santa Clara, CA
Night Falls, Omega Microware	Level 1/*36	Steven Schwartz, Pittsburgh, PA
Nightmare Gallery, Synergistic	*212,550	Dave Ness, Saratoga, CA
Night Mission Pinball, SubLogic	*481,669,040	George De La Mater, Traverse City, MI
Odyssey, Synergistic	*451,950	Matt and Aric Rosenbaum, Montville, NJ
Pacific Coast Highway, (Atari), Datasoft	*146,940	Keith Babcock, Brockton, MA
Pac-Man, Atari	422,860	King Mon Yee, Boston, MA
Peeping Tom, Micro Lab	17,900	Curtis Rae, Woodside, CA
Pegasus II, Sierra On-Line	*295,840	Joel Frickhoeffter, Statesville, NC
Penetrator, Beam	10,370	Chris Athanas, Topsham, ME
Pest Patrol, Sierra On-Line	Level 29/*10,003	Brian Strand, Poland, IN
Photar, Softape	*108,236	Mike Novak, Jr., Decatur, IL

Doug, meet **David Brown**, who points out that he is not the David Brown who appeared in this space last issue but is, nevertheless, the first high-score contestant to have had his score witnessed and notarized. Mr. Brown adds to the *Guardian* discussion initiated by the previous Mr. Brown, reporting that he neatly averted the whole kamikaze question by competing on the "expert" rather than the "normal" play level, in which, after completing sector 1, the game loops you back to sector 6 instead of ending. "The secret is getting to a teleport booth in ten seconds—not an easy feat!"

We acknowledge here a one-shot win, made by **Chris MacDonald**, the first person to achieve the 1,000-point maximum on *Space Adventure*. ("It actually gave me permission to spend another thirty dollars for the next one! It's worth every penny, though.")

For Frank Ocel and any others interested in trying for a high on *Night Mission Pinball*: scores are only accepted on the "0" mode. For **Bill Shean** and **Jan Wingren**, who got their "high score" on *Aztec* by spelling each other every five minutes: two-player scores are usually accepted only on two-player games. You've got to sweat a little, people.

Spring is in the air. **Steve and Mariette Neubaer** "got back to serious things... like kissing" after Steve's all-time high of 1,650 on *Galactic Attack*. Have a nice time, kids. **Randee Weinberger** got her *Serpentine* four million-plus verified by husband **Irv**, though he is "very close to throwing both me and the computer out of the house.... He claims that I am having an affair with a microchip!" Aw, Irv....

George Becker, a "forty-nine-year-old beginner," achieved the *Atari Snake Byte* high on level 16, January 26 last.

Buell Hollister IV clarifies the *Pie Man* snafu: it's not just a bad disk; Penguin confirms that "early versions" go into slow motion and generally fall to pieces when the score hits 60.

Blowing the whistle on the inflationary spiral of *Taipan*, **David B. Small**, thirteen, claims he amassed a fortune of \$38.4 trillion after "a few hours" of play. As the future Wall Street wizard tells it, "I borrowed one dollar from Elder Brother Wu. I sailed to another country and back. Now, when asked how much I would repay him, I replied with a sum substantially larger than my debt, thereby making my debt appear negative. The reason for doing this is that the money lender charges outrageous interest. In the bank, my money earns minimal interest. Get the picture? Every month, the debt is multiplied by a high interest rate—regardless of whether it's positive or negative! Now all I have to do is play a moderately good game, and the good old brother will handle the rest."

We confess to a sneaking admiration. **Jeff Baker** evidently discovered the same "secret," but he wouldn't tell.

Cannonball Corner: **David Small** and **Brian Peticolas** both want to know if there are any patterns or other secrets to the seemingly impossible third screen of *Cannonball Blitz*, and they aren't alone. It'll cost you. **Michael Yang** knows, but he's not telling. ("It is very obscure and difficult to master.") **Scott Yang**, no relation, helpfully sends along advice on how to break into the program to get yourself one hundred twenty guys, plus a painstakingly detailed pen drawing of an elevator level strategy, neither of which we can publish, for different reasons. **Jon Hiltz** is interested to note that if the bonus runs out you don't die, you just don't get a bonus when you complete the board. **Mike (TM) Scanlin** points out that Michael Yang's computation of 3.5 seconds x 5,000 cannonballs should have equaled a playing time of 175,000 seconds, not minutes. He also reports that he is getting A's in math analysis and quantum physics (unverified), but his name has not appeared in *Softline*, which is incorrect. And, finally, Michael Yang bounces back to dispute the current high score—this time getting his seconds and minutes straight—on the grounds that it must have taken the current champ 6.76 hours to achieve his score. Mike, we

think we'll pass on that as grounds for a dispute. Everyone knows someone who can go into the alpha state in front of the monitor in the morning and not resurface till midnight.

It's Hall of Fame time once again. For those of you who want to know why you don't see scores here for games like *Raster Blaster* and other such sterling classics: gone to flowers, everyone. Six months on this list earns you and your game a place in the Hall of Fame, and you get to retire undefeated.

Here's the latest batch of high achievers:

Deadly **Derin Basden** (Fresno, CA), with *Alien Ambush*; too-cool **Chris Athanas** (Topsham, ME), with *Alien Descent*; bad **Brian Hall** (Milford, MI), with *Avalanche*; maniac **Matt Sesow** (Lincoln, NE), with *Borg*; shift-tab **Tak Szeto** (Boston, MA), with *Caverns of Mars*; decisive **Denise Achram** (Canton, MI) with *Ceiling Zero*; database **Jason Meggs** (Bethesda, MD), with *Chipout*; mellifluous **Matt Skinner** (Foster City, CA), with *Cosmo Mission*; big **Brian Condon** (Marietta, GA), with *Crossfire* (Apple); adventurous **Allen Holland** (Downey, CA), with *Dark Forest*; energetic **Eric Vesper** (Saint Louis, MO), with *Datestones of Ryn*; battling **Brian Donnelly** (Ipswich, MA), with *Galaxy Wars*; bloodbank **Bob Farr** (Trenton, NJ), with *Gamma Goblins*; tumbling tumbleweed **Tom Bredehoft** (Columbus, OH), with *Genetic Drift*; lunatic **Lee Stafford** (Phoenix, AZ), with *Gold Rush*; strip-mining **Scott Sanchez** (San Juan Capistrano, CA), with *Golden Mountain*; riotous **Randy Dellinger** (Fort Belvoir, VA), with *Intruder Alert*; munificent **Michael Prater** (Glendale, CA), with *Mar Tesoro*; monstrous **Mark Zeitler** (Boca Raton, FL), with *Mouskattack* (Apple); bad **Brian Hall** again, with *Pathfinder*; beaflic **Buell Hollister IV** (Shelburne, VT), with *Pig Pen*; database **Jason Meggs** again, with *Planets*; once-more **Eric Vesper**, with *Pulsar II*; jumping **Joey Grisaffi** (Houston, TX), with *Rear Guard* (Atari); mordant **Mike Post** (Huntington Beach, CA), with *Roach Hotel*; sharp-eyed **Steve Rothenberg** (Mayfield Heights, OH), with *Shooting Gallery*; maximum **John Broas** (Reedsburg, CA), with *Star Raiders*; righteous **Ron Felder** (Sunnyvale, CA), with *Star Warrior*; redoubtable **Dave Melendez** (Rancho Palos Verdes, CA), with *Tanktics*; enterprising **Eggy Paul** (Orange, CA), with *Taxman*; **Ron Felder**, returning with *Threshold* (Atari); likewise **Buell Hollister IV**, with *Track Attack* (Apple); and another elegy for **Eric Vesper** and *Wormwall*.

(If you didn't get a chance to participate in the *Caverns of Mars* brouhaha, you need not despair at its retirement: try *Phobos* from APX.) These heavy hitters, their scores, and these games will not appear in the next issue. But if you're still playing any of the old perennials and you wonder if your high score is higher than the last score retired, you might check the premier issue of *Video and Arcade Games*. They are graciously performing the service of reprinting old high scores from these pages. If you can beat any of them, rack 'em up and send 'em in and we'll reactivate the file.

And now it's time to spin the magic random number generator, containing everybody's high scores from last issue. The pot now stands at a \$34.95 cash award for each of the lucky winners. Ah, there go the spinning numbers. . . .

And the winners are. . . .

Atari win: **Jon Mellott**, *Jawbreaker*
Apple win: **Dean Zevchek**, *Warp Destroyer*
Overall: **Chris Athanas**, *Penetrator*

Send us your full addresses, people, and we'll put the checks in the mail. . . . even though **Wayland Lim** wonders if we're being "proper" or "responsible" in giving "kids (who are either lying about their scores, or spending a god-awful amount of time vegetating in front of their monitors) money for playing games, a selfish and unproductive activity." Wayland achieved his high score in *Stellar Invaders* "by putting a book on the fire button. . . . I was able to hit the commander every time he came out."

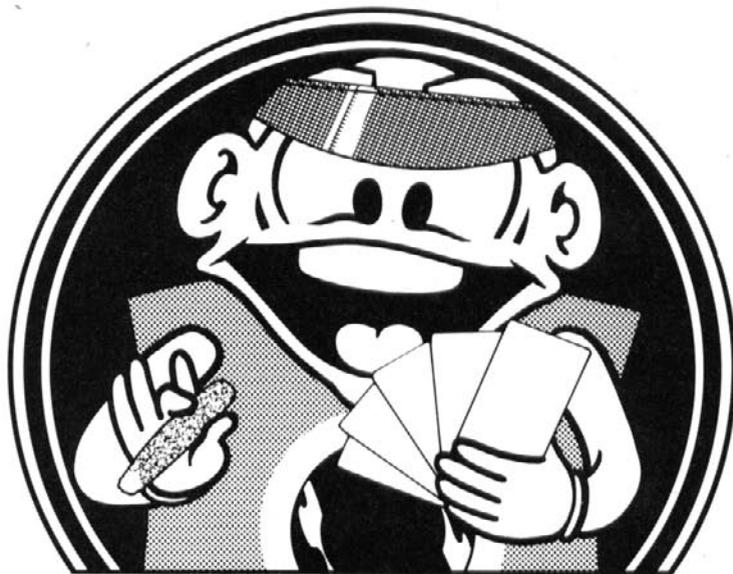
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Game/Publisher Score Player

Picnic Paranoia , Synapse	126,610	Terry Rora, Roanoke, IL
Pie Man , Penguin	168	Brian Welch, Saint Louis, MO
Plattermania , Epyx	*241,022	Bobby Moy, New York, NY
Pogoman , Atari	191,544	Billy Horwitz, Roslyn, NY
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