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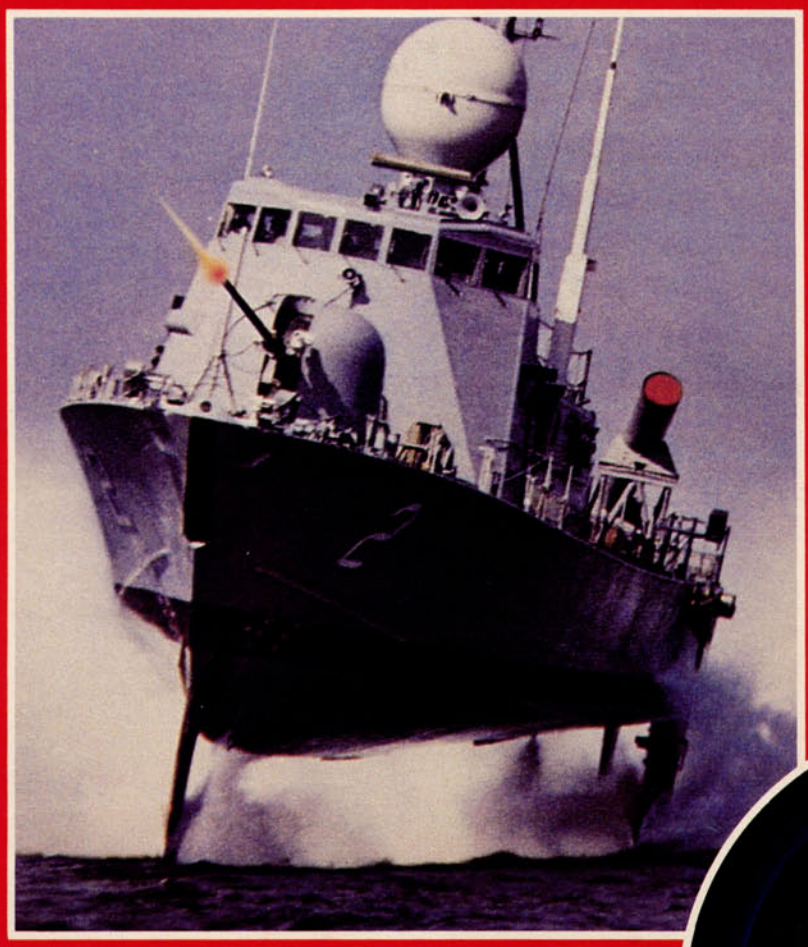

Game Design Issue

Electronic Arts' PHM Pegasus

Firebird's The Sentry

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Phantasie III • Defender of the Crown Tips

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Psalm 9:1-2

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TAKING A PEEK

Accolade, Inc.
20813 Stevens Creek Blvd.
Cupertino, CA 95014

SIGMA 7: The "Sigma" is a massive space station in the shape of a capital "Sigma," the number "7" stands for the number of difficulty levels in the game itself. Avantage means it is a lower end arcade product from Accolade, and the feeling of deja vu is that the object of the game is to destroy the ultimate alien battlestation before it becomes operational. C-64/128 ($14.95). Circle Reader Service Card #1.

Addison-Wesley Publishing Company, Inc.
Jacob Way
Reading, MA 01867

THE HOBBIT and THE FELLOWSHIP OF THE RING: From the books that spawned the genre come two text adventures with interspersed graphics to challenge Tolkien buffs. The graphics mattes have a watercolor appearance and the game objectives are faithful to the books (which are included in the game package). Apple II ($34.95). Circle Reader Service Card #2.

Avalon Hill Game Company
4517 Hartford Road
Baltimore, MD 21214

DARKHORN: For one to four players, Darkhorn is an extremely versatile strategy/fantasy game. Players recruit armies from three races; input orders by means of joystick, keyboard or paddle; choose from eight set-up options to handicap better players; and use a dueling (arcade) option to decide combat. Game comes on an Apple/Commodore "flippy" disk with "flippy" documentation (helpful idea). Apple, C-64/128 ($30.00). Circle Reader Service Card #3.

Broderbund, Inc.
17 Paul Drive
San Rafael, CA 94903-2101

CAULDRON: A castle with "Lava Chambers," "Hemlock Caverns," "The Crypt," and "The [Killer] Pumpkin's Lair" is not the kind of "Bed and Breakfast" place to be listed in the Michelin guide. On the other hand, this ar-

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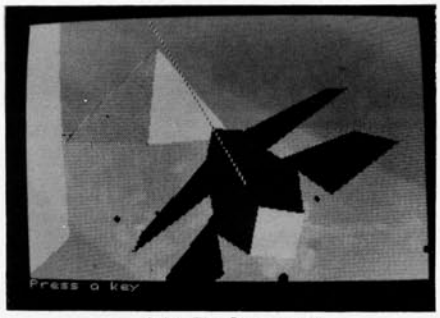
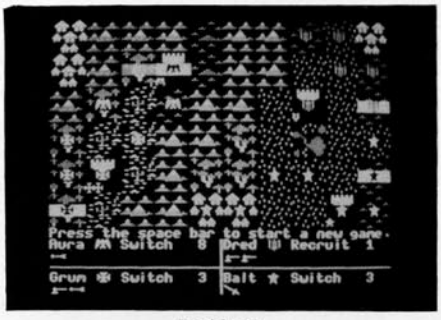
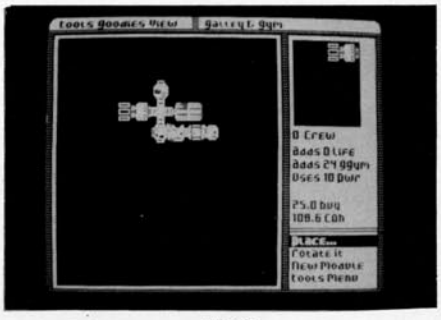
The Hobbit / Fellowship



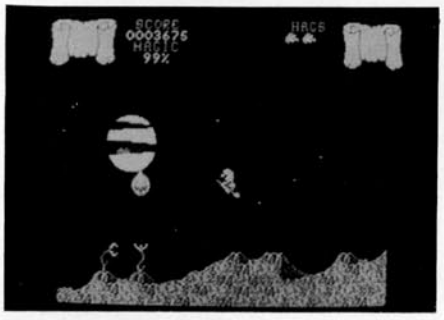
Adv. Flt. Simulator



Darkhorn



E.O.S.



Cauldron

Legacy of the Ancients

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Can YOU do the job?

Find out if you have what it takes in **NBA,** the animated stat-based basketball game. Take control of Larry Bird, Dominique Wilkins, Michael Jordon, Kareem Abdul-Jabbar and Bob Cousey. Pick the starting line-ups, send in substitutes and call for the fast break and full-court press. **NBA** takes into account everything that occurs on court. On offense, you call the play. Choose the sequence of passes, but be careful: it increases the chance of two points, but also can lead to a steal or blocked shot. Work the outside, or just go for the three-pointer. On defense, set up outside or close to the basket, go for the rebound, or turn on the pressure and try for a steal. A good NBA coach has to work the bench as well as the floor. Each player's stamina is rated by the number of minutes he can play. Use up your starter too early in the game, and you'll have to send in a sub during those final crucial minutes, and that could turn an overwhelming victory into a closely-contested defeat.

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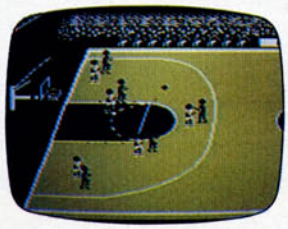
- **YOUR BRILLIANT PLAY** re-enacted by all 10 players on screen.
- **THREE MODES OF PLAY:** head-to-head, solitaire and autoplay. The autoplay function also allows you to play the same teams several games in a row . . . a needed option to replay a season.



NBA can be played on the Apple® II family, Commodore® 64/128 or IBM® PC computers.
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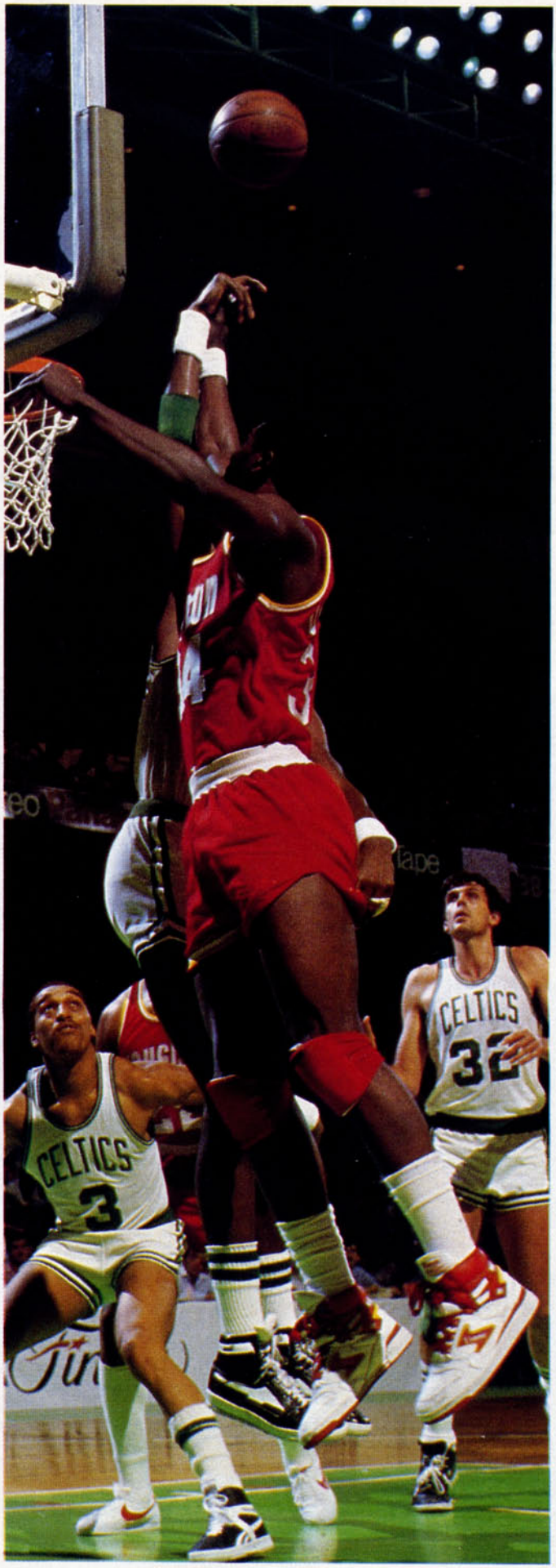


cade/exploration game imported from England (where it was a best seller) may be just the kind of vacation from reality that some joystick jockeys need. C-64/128 ($29.95). Circle Reader Service Card #4.

Electronic Arts
1820 Gateway Dr.
San Mateo, CA 94404

CHUCK YEAGER'S ADVANCED FLIGHT SIMULATOR: In this product, you can fly eleven different airplanes ranging from World War I vintage to the present or three different experimental aircraft where you complete "Test Pilot" evaluations using General Yeager's own forms. You can race against your friends. A sequel entitled "Chuck Yeager's Combat Simulator" is in the works. IBM ($39.95). Circle Reader Service Card #5.

EOS - EARTH ORBIT STATIONS: Up to four players attempt to build efficient and profitable space stations in order to accomplish one of seven missions. There are 39 different modules to be chosen from in assembling your station. Apple II, C-64/128 ($34.95). Circle Reader Service Card #6.

LEGACY OF THE ANCIENTS: Often referred to by insiders as QUESTRON II because the designers wrote QUESTRON for SSI, this CRPG makes a more lavish use of color than the earlier product and contains 24 dungeon levels, 12 different towns, five action games and "combat training centers" where you can build up character points. C-64/128 ($29.95). Circle Reader Service Card #7.

Epyx
P. O. Box 8020
Redwood City, CA 94063

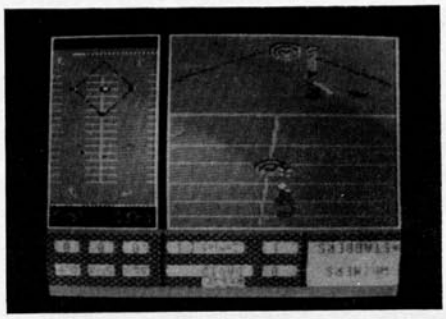
STREET SPORTS BASEBALL: The baseball diamond will remind you of something out of the "Cosby Kids" cartoon series with its garbage dump accoutrements, but it is a challenging arcade game with 16 amateur players with distinctive personalities to choose from and unique obstacles on the playing field. Apple II, C-64/128, IBM ($39.95). Circle Reader Service Card #9.

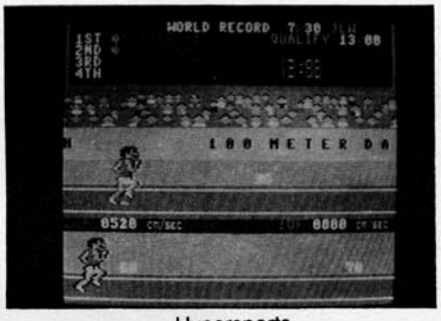
Eurosoft International
114 East Avenue
Norwalk, CT 06851

JUMP JET: In this British import, the player flies a simulator which emulates the carrier-based Sea Harrier VTOL. In addition to vertical take-offs and landings, pilots must learn to hover and even, fly backwards. The display includes radar and range finder to facilitate Sidewinder missile attacks and warning messages come via speech synthesizer. C-64/128 ($24.95). Circle Reader Service Card #10.

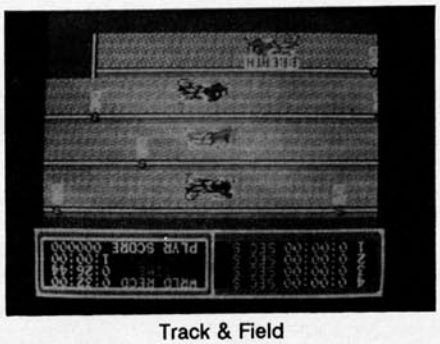
VALHALLA: Based on Norse mythology, this fantasy/adventure is not to be confused with a Beowulf paced saga. If you want a serious adventure based on Norse mythology, this isn't it. Thirty-six animated caricatures of the gods cavort through this adventure, sometimes whether you do anything or not! C-64/128 ($24.95). Circle Reader Service Card #11.

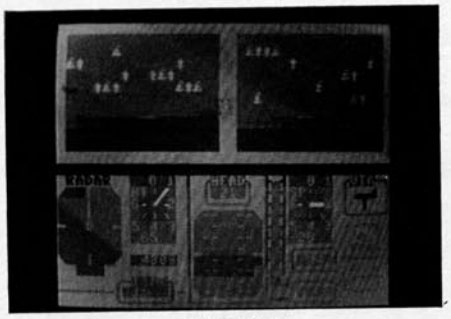
Infocom, Inc.
125 CambridgePark Drive
Cambridge, MA 02140

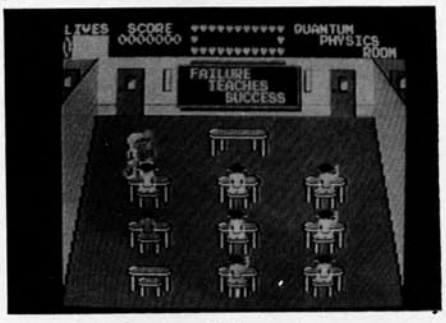

Street Sports Baseball



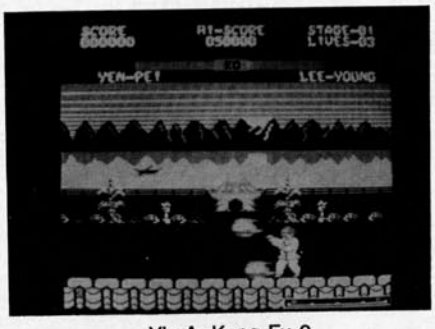
Hypersports


Track & Field

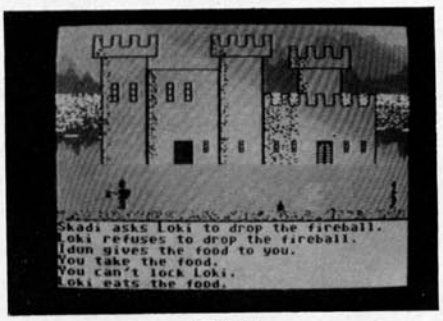

Jump Jet



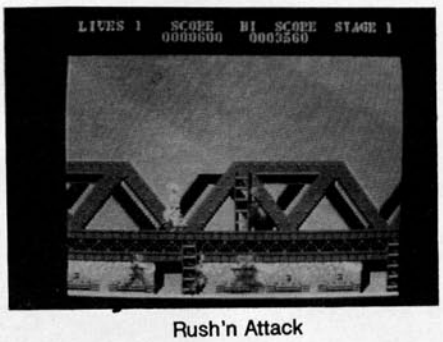
Mikie



Yie Ar Kung Fu 2



Valhalla



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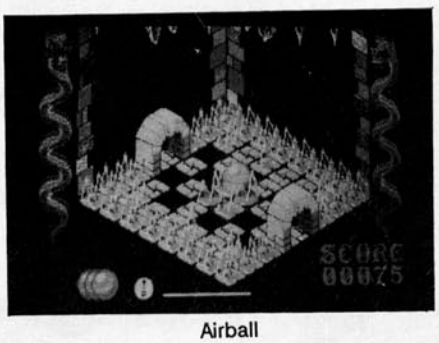

Airball

THE LURKING HORROR: Dave Lebling meets Stephen King while searching out Chthulhu lore in the tunnels beneath M.I.T. That is the feeling we got as we played this game. Of course, the game isn't really autobiographical. It is delightful horror at times, though. Many machines ($39.95). Circle Reader Service Card #12.

STATIONFALL: Floyd the Droid is back and you have been promoted to Lieutenant First Class in this sequel to PLANETFALL. Steve Meretzky's inimitable brand of humor is lavishly integrated into the story. Many machines ($39.95). Circle Reader Service Card #13.

Konami, Inc.
815 Mittel Dr.
Wood Dale, IL 60191

HYPERSPORTS/PING PONG: Swimming, skeet-shooting, horse jumping, archery, triple jumping, power lifting and pole vaulting make up the first arcade game in this title. The second game is a three dimensional table-top view of the familiar patio/game room activity. C-64/128 ($14.95). Circle Reader Service Card #14.

MIKIE: How many arcade games are based on characters from cereal commercials? This one teaches Mikie more about real LIFE than the cereal! Mikie literally tries to get "through school" as he is chased by a mean janitor, teachers and the cafeteria staff. C-64/128 ($14.95). Circle Reader Service Card #15.

RUSH'N ATTACK/YIE AR KUNG-FU: The first title is the official adaptation of the arcade game where you become a guerrilla behind enemy lines and strive to use your knife to wipe out Soviets and rescue American P.O.W.s. The second title is a conversion of another arcade game with a martial arts theme. C-64/128 ($29.95). Circle Reader Service Card #16.

TRACK AND FIELD: Just what it sounds like, 100 Meter Dash, Long Jump, 110 Meter Hurdles, Hammer Throw and High Jump make up this typical arcade game's repertoire. Apple II, C-64/128 ($14.95). Circle Reader Service Card #17.

YIE AR KUNG FU 2: Will Lee Young's "Oolong Tea Power" and "Chow Mein Noodle Power" enable him to conquer the wicked emperor and his seven warlords and restore the cosmic balance? This arcade game picks up where the first one (see above) stops. C-64/128 ($29.95). Circle Reader Service Card # 18.

MichTron
576 S. Telegraph
Pontiac, MI 48053

AIRBALL: Imagine a game with the style of "Marble Madness" and a plot line developed

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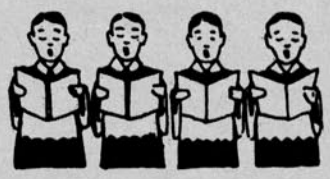
CONVERSIONS RECEIVED



For the Amiga:
Roadwar 2000 (SSI)
For the IBM:
Arcticfox (EA)
Marble Madness (EA)
Music Construction Set (EA)
Superstar Ice Hockey (Mindscape)
TellStar (Spectrum Holobyte)
Wizardry!: Proving Grounds (SirTech)

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"I Think We've Got a Hit..."

The Twisted Path to Success in Entertainment Software

by Don L. Daglow

Don has a distinguished background in computer game design and development. He has applied his talents at such outstanding companies as Mattel, Electronic Arts, and Broderbund. His article "The Dark Ages of Computer Game Design" (CGW #28, May 1986) was one of the best articles we have ever published. Don returns to the pages of CGW with this article on the ways and means of computer game production.

It was near the end. We stared intently as the brightly colored images danced across the monitor, electric spirits summoned to a life of unerring rhythm, casual beauty. Screen after screen they persisted, riveting in their intricate perfection. The author leaned toward me. "I'd like to make that part of the demo go by faster. It drags."

I nodded. "Prob'ly right."

After another long pause, "I don't have time to redo that graphic, but it still doesn't look right."

"It doesn't bother me. You know the one that bothers me." I nudged him with a playful elbow.

He turned towards me with a wry smile on his face, the uneven light making his inquisitive eyes even more expressive. I noticed for the first time that the sun had gone down and that the computer was lighting the room in festive colors like a crackling fireplace on Christmas Eve. We continued to watch the carefully rehearsed routine with which the game would proclaim itself to prospective customers in software stores across the country. After a few minutes, I turned to the author and quietly uttered the phrase: "I think we've got a hit."

Tired, proud, satisfied, worried, fulfilled...he smiled.

The Finished Product - Stuart Smith's "Adventure Construction Kit"

Softened by time, that was a moment in the development of Stuart Smith's *Adventure Construction Set* in 1984. The sun may not have gone down that night just as we were watching the demo, but there were plenty of times it did go down as we talked over the game's progress in the glow of the monitor. Stuart may not have been worried about demo pacing. I honestly don't remember, but I do remember the sense of accomplishment, of having been around for the creation of something worth creating. No one else had ever been able to design an open graphic adventure and role-playing game creation system (let alone on such a small machine as a Commodore 64). Yet, Stuart Smith had done it.

Now, three years later, my prophecy has been proven correct. *Adventure Construction Set* was a hit, won a bevy of awards and continues to sell well. That's history, though. The purpose of this article is to share what happens inside a software publisher as we build the games we hope will be hits in 1988 and beyond. We'll lead you through a Producer's week here at **Broderbund Software** (in this case, an unusually good and busy week) and share the highlights of several projects, from those which are close to completion to ideas just now crystallizing into visibility on the screen.

Monday

What do we look for in a game designer? We start with a sense of game design, awareness of what makes something *fun*. It is an instinct bestowed by native talent and honed by years of hard work. Creating user interfaces that are easy and intuitive is a learnable skill, but not as simple as it sounds. Perhaps most important of all is the ability to push yourself week after week, month after month, long after writing the game has ceased to be fun and has aged into drudgery, while still caring about quality and "getting it right." A publisher can help with the game play and interface by giving feedback and suggestions to help fine-tune the game, but the ability to keep working after sheer exhaustion sets in is a talent for which no publisher can ever compensate.

This Monday morning, I'm incredibly lucky. An established game designer, who fits the model I've just described, calls with a new idea for a game. It concerns an area I know he studies and where he understands the market as well as anyone in the industry. He summarizes his ideas briefly and it is clear that they are technically feasible and artistically original. I know only three sentences about what the game will be, yet we begin tentatively to discuss the financial structure of a contract. Eighteen months from now (twelve to create the product, six to get enough time to see how it will sell), we'll know if our decision was right. Mondays like this happen only once or twice a year. What a way to start the week!

Tuesday

This afternoon my hopes are up--albeit cautiously. Recently, I visited a talented new author (whom I'll call Jack) who had the beginning to an exciting-looking game. It starts out as a strategy game, but has arcade elements as well. The strategy game portions look very promising, with nice graphics and well-balanced game play, and Jack is visiting **Broderbund** today for my initial look at the first version of the arcade-style screens.

We arrive in my office and immediately, boot the game. My heart drops. It's too simple, too much like a thousand other games. I really wanted to be able to say "yes" to the project, but there is just no way. I give Jack some suggestions, remind him to hang in there and keep working on it, and tell him I'm still hopeful he can put together a strong action sequence so we can publish the game. Only time will tell if he has the personal strength (and money) to keep going until he gets it right. A business programmer who loves games but has never published one, Jack quit his job to work on the project without ever discussing it with a publisher. Now, he has enough game to show, but his money is running out. We see the pattern over and over again. The game is good enough for us to be encouraging, but not yet good enough for us to risk precious money funding its development.

As Jack leaves, I find myself trying to mentally plant thoughts in his mind. "Keep trying. Use one of your other ideas for the action game. Don't give up." I hope all that stuff about subconscious communication works.

Wednesday

Today is devoted to the almost-done, the project I can tell you about because it will be close to coming to market by the time you read this. You'll get to watch with me to see if we've got a hit.

Over a year ago, Mike Livesay contacted me and discussed starting a monumental project, an Arcade Game Construction Kit. The concept had been tried before, but had always required users to learn a programming language or master complicated graphics tables. Mike wanted to create a product that would let people make games by selecting pieces from parts boxes and choosing items from lists to build "scripts" that tell each moving object and background square what to do in given situations. Lots of sample games and pre-drawn graphics by a talented artist would be included, so people wouldn't necessarily have to use Mike's powerful graphics editors in order to create a game.

The project was complex, ambitious, and dangerous for a publisher to undertake. Despite being simple to use, the game had many powerful features for advanced users, so the documentation would be expensive to write and print. The author could run out of memory in the machine before he got the game driver running properly. The editors could turn out to be too limited to create fun games. The whole project could be too complicated for anyone to understand *or* it could let people build their own arcade games and be incredibly fun to use. It could be a hit.

Mike had a five-year track record writing both original action games like *The Heist* and translations of such hits as *Miner 2049er* and *Bruce Lee*. He had programmed so many arcade-style games he was a walking encyclopedia of design techniques. He had a reputation for always finishing what he started, paying attention to quality and schedules, and being pleasant to work with. We decided to take the chance and publish *Mike Livesay's Arcade Game Construction Kit*.

This Wednesday is the moment when what has been Mike's long, lonely struggle with one or two key supporters becomes an intricately choreographed dance with members of every department in **Broderbund**. Mike is flying in to San Francisco from Los Angeles with the latest version of the game for everyone to see.

I've already met with members of the sales force and briefed them on the project. They think it sounds like something the retailers will want to carry. Now, we start building a package that will communicate what the software inside can do. We demo the game to prospective package designers. In this and the following days there will be meetings on: the front cover art, the back cover screen shots and text, the manual, the reference card, the warranty card, and the projected costs. I shudder as the total expenses mount up, $10,000 and

(Continued on page 53)

around a haunted house. Then, turn the marble into an inflated rubber ball which occasionally needs to be reinflated and you have a feel for this design. ST ($39.95). Circle Reader Service Card #19.

GOLDRUNNER: This generic space game has detailed graphics and slight touches of humor. Players must destroy the alien technology within the "Rings of Triton" in order to pave the way for Earth's mass migration to other worlds. ST ($39.95). Circle Reader Service Card #20.

SHUTTLE II: The next generation of space shuttles is here in this game which looks and feels like a flight simulator, but makes no pretense to be one. Instead, shuttle pilots attempt to score points through successful missions and efficient launches and landings. ST ($39.95). Circle Reader Service Card #21.

Microprose Software
120 Lakefront Drive
Hunt Valley, MD 21030

PIRATES: Sid Meier's game of adventure on the Spanish Main is called an adventure/simulation by Microprose. Alert gamers will notice that its graphics and interface look a lot like certain earlier games, but the game offers more decision points and painstaking historical detail beyond earlier games. C-64/128 ($39.95). Circle Reader Service Card #22.

Simulations Canada
P.O. Box 452
Bridgewater, Nova Scotia, CANADA
B4V 2X6

ROMMEL AT GAZALA: Tobruk campaign games have always been popular and this is SimCan's contribution to the field. It is a board/counter assisted game (or vice-versa) with heavy dependence on "fog of war" to make the game system work. Apple II, IBM ($60.00). Circle Reader Service Card #23.

Spinnaker Software
One Kendall Square
Cambridge, MA 02139

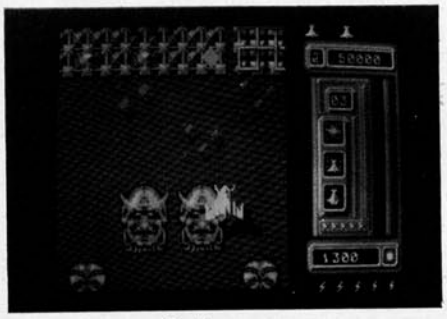
SKY RUNNER: In this arcade game, the player acts as a Super Narc, but with a twist. A governmental dictatorship wants everyone on dope, but the SKY RUNNER is a rebel seeking to destroy the drug harvesting machines. C-64/128 ($29.95). Circle Reader Service Card #24.

Strategic Simulations, Inc.
1046 N. Rengstorff Ave.
Mountain View, CA 94043

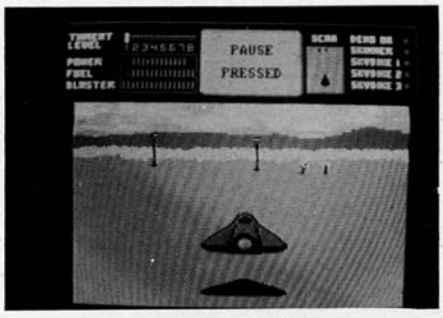
PRESIDENT ELECT 1988 EDITION: This is the same excellent game with more candidates and a few refinements. Apple II, C-64/128, IBM ($24.95 or $10.00 plus old disk). Circle Reader Service Card #25.

Strategic Studies Group
1747 Orleans Ct.
Walnut Creek, CA 94598

RUSSIA: Wargamers have eagerly awaited this eastern front campaign game which features four command levels of military hierarchy, ability to play scenarios or a campaign game, and a game design kit for customizing existing scenarios or creating new ones. Apple II, C-64/128 ($40.00). Circle Reader Service Card #26.



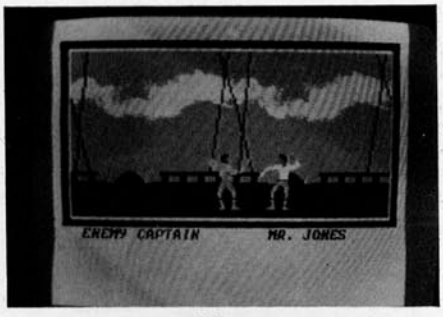
Goldrunner



Sky Runner

Shuttle II

President Elect



Pirates

Russia

Computer Gaming World Game of The Year

The following games are nominees for CGW's Game of The Year Awards to be presented at DragonCon '87 in October and announced in the November issue of Computer Gaming World.

Adventure Game of The Year

Bard's Tale II (Electronic Arts)
Leather Goddesses of Phobos (Infocom)
Might and Magic (New World Computing)
Starflight (Electronic Arts)
Trinity (Infocom)

Strategy Game of The Year

Balance of Power (Mindscape)
Battlecruiser (Strategic Simulations)
Battlefront (Strategic Studies Group)
Gettysburg:The Turning Point (Strategic Simulations)
Under Fire! (Avalon Hill Game Company)

Action Game of The Year

Earl Weaver Baseball (Electronic Arts)
Gunship (Microprose)
Hardball (Accolade)
Marble Madness (Electronic Arts)
Sinbad and The Throne of The Falcon (Master Designer/Mindscape)

One of the above games will be the Overall Game of The Year.
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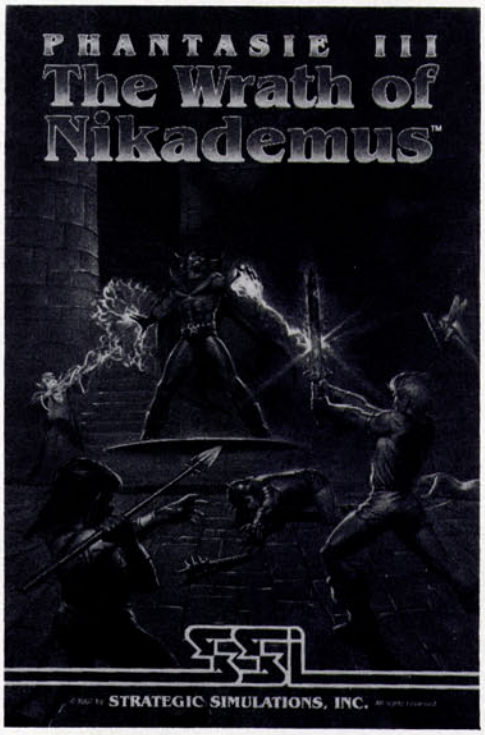
Phantasie III



by Scorpia

SSI's fantasy trilogy is brought to a close, and Scorpia is there to report the details!

It started in Gelnor, with the first confrontation with the evil wizard Nikademus. After his initial defeat, the path led to Ferronrah, a once-beautiful island, laboring under a terrible curse. Now, at last, the trail ends in a dark fortress squatting in the depths of the Netherworld. The final battle between good and evil is at hand...

In some ways, *Phantasie III* is an anti-climax. After all, you were supposed to have killed Nikademus way back in *Phantasie I*, after which your party was transported to Olympus to receive awards for this heroic deed. How Nikademus managed to avoid this destruction the first time around is never explained, which makes things a little unsatisfying. Nevertheless, here he is again, although for the last time; this really IS the final showdown with the evil wizard.

Much of the game will be familiar to those who have played the earlier ones, although six new spells have been added which are used in conjunction with bow combat. A few spells have also been dropped from the list, including Vision, and all four Strength spells.

You can either bring over your characters from *Phantasie II* or start again with new ones. If you transfer the characters, they will become level one again and lose most of their gold and goodies, but keep just enough experience to go up a few levels at the beginning.

However, there are a few new wrinkles. Veteran players will be happy to learn that, in addition to the infamous Distribution and Selling routine, there is now a command that allows trading and selling by individual characters. This makes life a lot easier (and faster!).

The biggest changes have been made in combat. Gone is the anonymous hit. Now, you know exactly where and how badly a character has been injured. A new display window runs across the top of the screen, showing a stick figure for each member of your party (head, torso, two arms, two legs). When a character sustains a wound to one or more body parts, the display shows you which one, and how severe the wound is.

Injuries are relatively minor. Breaks, however, will certainly have an effect on the character's ability to fight or cast spells. For example, you can't fight at all if your right arm is broken or the limb in question has been cut (or possibly chewed) off. The best you can do is parry. Fortunately, the appropriate-strength healing spell will restore broken and lost limbs...except for heads. A head (or torso) that is Gone means the character is dead, and resurrection is necessary.

Monster displays now show the status of the monsters, too. You can tell exactly which ones are OK, and which ones are unconscious or sleeping (dead ones, naturally, are gone altogether). This is a great help in deciding where to aim attacks.

A new addition to the ranks of combat weapons is the bow. Anyone can use a bow, and they are generally the best weapons in the game. They are more likely to hit the vulnerable head area of an opponent, thereby putting him (or it) out of action much more quickly. A variety of bows are available (mostly found in dungeons), and some are quite powerful indeed.

The basic combat setup, with your party strung out in one line across the screen, has not changed. However, you can now move individual members forward, bringing them a little closer to the enemy, thereby increasing their chances to hit (and, of course, be hit). There is no way, however, to form an actual group, with some members behind others.

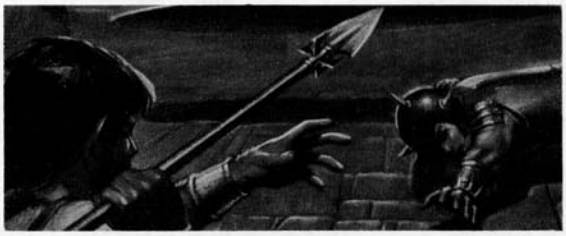
Another new feature is training. When a character goes up a level, a menu of skills is presented. These are all the skills in the game, and you have free choice of what you want the character to train in; a character may train three times upon each level gain (either all in one skill, or in three different skills, or any combination). There is a maximum level attainable for each skill, which varies by class.

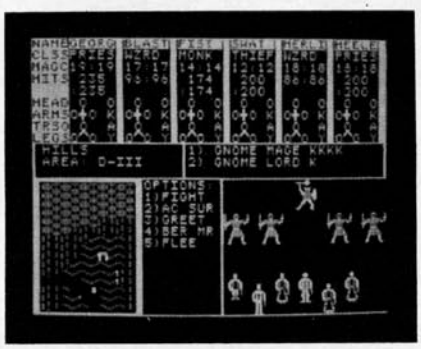
Finally, the concept of Social Class has been introduced into the game. Each character, whether newly-created or brought over from a previous *Phantasie*, is assigned a social class (Peasant, Laborer, Craftsman, or Noble). This has no effect on fighting or spell-casting; it is there to give you

money. Yes, free money (how about that!). A character's starting cash is determined by social class. In addition, every time a character gains a level, he receives a sum of money, also based on social class.

The adventure begins in the town of Pendragon, in the land of Scandor. Scandor is a 5x5 square, 25 locations, with 14 towns and eight dungeons. In most cases, dungeons are located right outside town, so you don't have to make long journeys back and forth. There are also the Planes of Light and Darkness, as well as the Netherworld; each has one town and one dungeon in it.

The dungeons are much as before, white areas that fill in as you move through them. Due to the addition of the wound display to the screen, the area display (for indoors and outdoors) is somewhat smaller than in previous games. This occasionally makes it difficult to see those little white spots that mark special areas on the map.



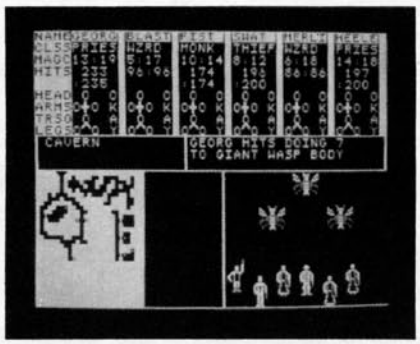


Wilderness Screen from Phantasie III

Several of the dungeons (the straw hut, the Gnome caverns, and the dragon caves) are not absolutely necessary to visit in order to finish the game, but you'll probably want to explore them anyway. Some interesting things can be discovered in them, including a couple of really neat bows in the Gnome caves.

The first important dungeon to visit is the Archives, conveniently situated just outside of Pendragon. Here you will meet again your old friend Filmon the Sage, who will be happy to send you hither and yon on various little quests. Mostly, these take the form of telling you that "it's now time to go to" somewhere or someone.

Among the somewheres you'll be going to are the Hall of Giants, the Dwarven Burial Grounds (quite interesting, in its own way!), and the castle of Chronus the Time Lord. Otherworldly travels will take you to the Castles of Light and Darkness, and the fortress of Nikademus in the Netherworld (last stop).



Dungeon Screen from Phantasie III

Naturally, there will be monsters aplenty to get in your way. Some are old favorites from previous *Phantasies*. Some are new. You can still try bribing or greeting them, but most of the time, only fighting will do.

Combat follows the typical strategy of taking out the most dangerous monsters first. Now that the displays show you the monster status, you can tell just which monsters are nonfunctional and leave them for last. This is a great help in making the most effective use of physical attacks and spells (although, alas, spells still can't be directed to a specific target).

With the new body location rules, it is vital to keep an eye on injuries to the party members. Healing spells can be cast during combat, so make sure you take care of any Break or Gone wounds as quickly as possible. Mages cannot cast spells if their right arm is broken or removed. Any Break (or worse) to arms or legs prevents use of a bow. Inattention to wound locations can get your party wiped out pretty fast!

If you run out of healing spells or potions, characters can be restored by staying at an inn, either in town, or in one the independent inns scattered across the countryside. However, the healing abilities of such places are limited. While they can cure most Injuries and Breaks, only magic can bring back a limb that is Gone.

As before, outdoor combat brings little in the way of goodies; the best items are found in dungeons. It's best to avoid combat in the wilderness, unless you want some experience points, but remember that you can run across almost anything out there, at any time. Monster levels are not as graduated as they are in dungeons.

It's a good idea to make sure your mages have decent combat skills, especially with bows. This allows them to use weapons when fighting low-level (or sometimes even medium-level) monsters and reserve those all-important spell points for the really nasty critters. Why waste precious points on orcs and kobolds if you don't have to? In fact, mages can get to be rather effective fighters with enough training.

Say, remember that Wand of Nikademus you've been lugging around with you since the good old days in Gelnor? I'll bet you've been wondering why it's followed you from place to place. This is where you find out!

What's that? You say your party isn't from Gelnor? They're all from Scandor, or emigres from Ferronrah? No problem. You'll find a Wand in Scandor. Although, as you can probably imagine, it is by no means easy to acquire. Hint: don't go too far into the Archives until you're really ready.

Graphics are much the same as before, although perhaps (at least on the Apple), a bit more finely-drawn, particularly in regard to the monsters. All areas are filled in, so there are no dark spots to walk over to see what's there (which is also why there is no Vision spell). Mapping is rarely neces-

(Continued on page 50)

TEVEX Computer Software

ACCESS	Apple	Atari	C-64	IBM	ST
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Tenth Frame			$28	$31	$28
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" "Course Disk			$15		

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Deceptor			$12		
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Fight Night	$24	$21	$21		
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" Course Disk #2				$15	
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Archon II	$12	$12	$12		
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" " Hint Book	$10		$10		
Bard's Tale II	$34		$28		
' Hint Book	$10		$10		
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Chuck Yeager				$28	
Dan Dare			$15		
Earth Orbit	$24		$21		
Grand Slam Bridge				$41	
Gridiron					$34
Heart of Africa			$12		
Legacy Ancients			$21		
Lord's/Conq	$12	$12	$12		
Marble Mad	$24		$21	$21	
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M.U.L.E.		$12	$12		
Murder Party	$12		$12	$12	
One on One	$12	$12	$12	$12	
Pegasus	$24		$21		
Racing Destr.		$12	$12		
Robot Rascals	$31		$28		
Rommel		$28			
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Starflight				$34	
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World Games			$28	$28	$28
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Hollywd Hijinx	$28	$24	$24	$28	$28
Lurking Horror	$28	$24	$24	$28	$28
Moonmist	$28	$24	$24	$28	$28
Stationfall	$28	$24	$24	$28	$28
Trinity	$28		$28	$28	$28
Zork I	$28	$24	$24	$28	$28
Zork Trilogy	$48	$41	$41	$48	$48
Invisiclues	$6	$6	$6	$6	$6

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3 in 1 Football	$30	$30	$30	$30	$30

MICROLEAGUE SPORTS	Apple	Atari	C-64	IBM	ST
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MLB 1986 TD	$15	$15	$15	$15	
MLB GM Disk	$28	$28	$28	$28	
MLB Stat Disk	$18	$18	$18	$18	

MICROPROSE	Apple	Atari	C-64	IBM	ST
Acro Jet			$18		
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Crusade Eur.	$28	$28	$28	$28	
Dec. Desert	$28	$28	$28	$28	
F-15	$24	$24	$24	$24	
Gunship			$24	$28	
Kennedy Appr.		$18	$18		
Nato Comm.	$24	$24	$24		
Pirates			$28		
Silent Service	$24	$24	$24	$24	$28
Solo Flight	$18	$18	$18	$18	
Top Gunner		$18	$18		

MINDSCAPE	Apple	Atari	C-64	IBM	ST
Am Challenge	$28			$28	
Balance/Power				$34	$34
Brataccas					$34
Defender Crown			$24		
Halley Project	$31				
Infiltrator	$21		$21	$21	
S.D.I.					$34

ORIGIN	Apple	Atari	C-64	IBM	ST
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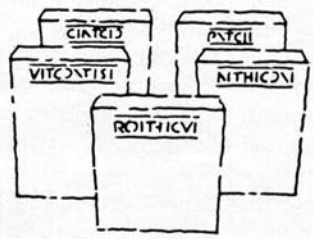

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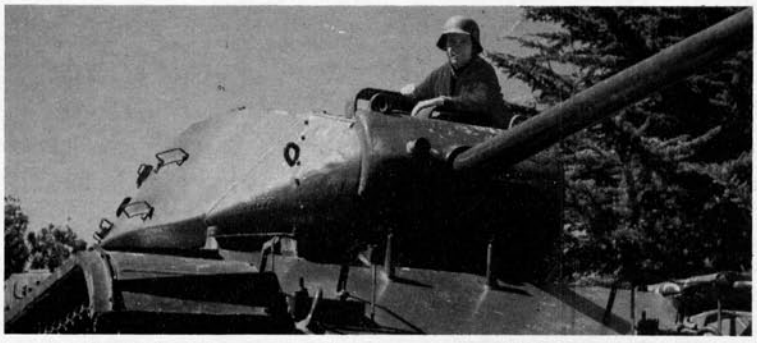


Field Algorithms for Wargames

by Chris Crawford

The first feature article in the first issue of Computer Gaming World was entitled "The Future of Computer Wargaming" and was written by Chris Crawford (CGW Vol. 1 No. 1 November 1981). Chris has been an occasional CGW contributor ever since then.

Anyone involved with computer gaming knows about Chris. He has always been an eloquent and outspoken guru of the art of computer game design (see his book "The Art of Computer Game Design; Reflections of a Master Game Designer" published by Osborne/McGraw-Hill, 1984). For some time Chris has wanted to form a support group among professional computer game designers. A planned monthly electronic conference between Chris, the staff of CGW, and about a half dozen other professional designers, unfortunately never materialized. , The dream, however, of a designer's network continued to inspire Chris. Now he has taken concrete steps to make that dream a reality by introducing a new publication, "The Journal of Computer Game Design". The stated purpose of the new publication is "to foster the development of the art of computer game design. It is a forum for game designers to talk to each other and the world." JCGD will be published six times per year with 12-16 pages per issue. The cost is $30 per year (The Journal of Computer Game Design, 5251 Sierra Rd., San Jose, CA 95132). We at Golden Empire Publications are so excited about the project that we have reached an agreement with Chris To abstract and excerpt from each issue of JCGD. Each issue of our new publication, "Computer Game Quarterly", will contain a two page overview/summary of recent articles in JCGD.

The following article was submitted by Chris earlier this year. We are pleased to share it with you now in our Game Design Issue.

Every computer wargame must provide artificial intelligence to drive the military units which oppose the human player. The central problem in such a wargame is the planning of the move for each unit. What kind of algorithm will serve to maneuver units towards the enemy?

Any such algorithm must consider a variety of factors. It must decide whether to move offensively or defensively. Simply put, it must determine whether the situation calls for aggressive action or conservative action. This done, it must determine the best direction in which to move. It must move in such a way as to avoid traffic jams with other friendly units. A variety of solutions have been used for this problem. Some rely on locating the nearest enemy unit and moving toward or away from him.

My solution to this problem uses a field algorithm. Fields are mathematical constructs often used in physics. In my algorithm, every enemy unit emits danger in direct proportion to its strength. Every friendly unit emits "negative danger" (i.e. safety) in direct proportion to its strength.

Further, the danger emitted by a unit falls off with increasing distance from the unit. Thus, a nearby unit is more significant than a distant one. The choice of distance function is critical. The most obvious choice, from a physicist's point of view, is a 1/R**2 function; this is the standard function used for conservative fields arising from point sources in Euclidian space. However, this function is computationally difficult to use in an assembly language program. It requires one multiplication and one division, consuming about a millisecond of execution time on most eight-bit microcomputers. It is also possible to use linear arithmetic functions (constant-R) or even exponential functions (2**(-R)). These are much faster, but have some tricky side effects that the designer must carefully analyze.

Once a routine has been written to calculate the danger exerted by a single unit into a single position, it is a simple matter to extend this with a simple summation routine to calculate the net danger exerted by all units in the game into the square or hex in question. The safety exerted by friendly units cancels out the danger exerted by enemy units. With such a routine in hand, the designer can calculate the net danger at any point on the map.

Note that danger, as used by this algorithm, is actually a vector field. At each point, therefore, the danger has both a magnitude and a direction. This provides the artificial intelligence routine with a great deal of information about the situation. However, I have found that in practice, it is easiest to treat the danger field as a scalar quantity and simply calculate the danger at each square or hex adjacent to a unit in order to determine its best move. This process yields a local gradient that is normally easier to use.

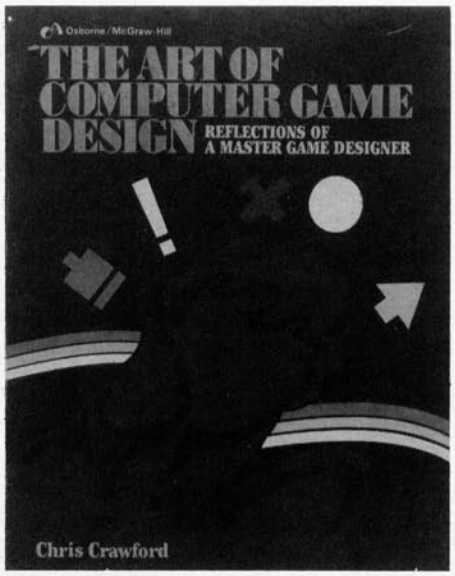
The algorithm to utilize this danger function is quite straightforward. First, evaluate the danger in the square occupied by the unit. If the danger is higher than some threshold,

then one should run for safety. If the danger is lower than the threshold, the one should move towards the enemy. Examine each of the four adjacent squares. Move towards the one with the best (highest if offensive, lowest if defensive) danger value.

Naturally, this algorithm does have problems. It tends to discourage, but not eliminate traffic jams. Its worst flaw arises in the following situation. Imagine a line of fierce enemy units facing a line of fierce friendly units. Sandwiched between them is a line of extremely weak friendly units. The weak friendlies will feel the danger and strive to run toward the rear. The fierce friendlies will attempt to push forward. The result, of course, is a stalemate. Therefore, designers will want to avoid this algorithm in simulating actions with high unit densities.

Further, this algorithm has a dangerous tendency toward oscillations. For example, a unit feels bold and advances toward the danger. Unfortunately, the danger increases past the threshold point when it moves forward. Now, the calculation tells the unit to feel timid. Thus, it moves back. This oscillation can continue indefinitely. Since hysteresis only widens the oscillation, but detracts from the intelligence of the decision-making, it is not profitable to minimize the changes in the danger threshold. Perhaps the unit should not recalculate the threshold until a significant event (such as a battle round or time-out period) has occurred.

Despite these problems, this is a powerful algorithm that can be modified to handle almost any combat situation. I have used variations of it for *Eastern Front (1941)*, *Legionnaire*, and *Excalibur*. The basic algorithm still has a lot of life in it.



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DRAGON SIDE II

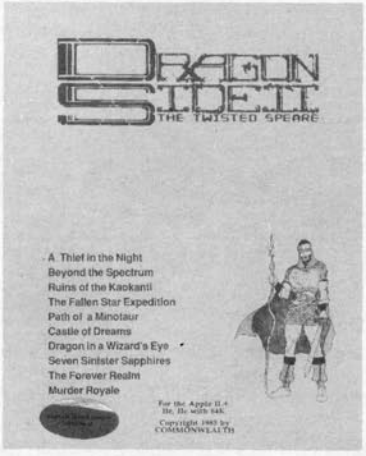
The Twisted Speare

by Scorpia

Scorpia's regular hint column visits the newest release from Commonwealth Software.

Ah, here we are, heading into autumn again (my, the summer went by quickly... especially when you consider it's still spring as I write this!). Step in, cool off, and have a tall, frosty one. Fred, as usual at this time of year, is away attending the annual Grues Convention, but the Dwarf behind the bar is pretty good. Now that you're settled in, we can talk about doing a little dungeoneering.

The Twisted Speare is a follow-up of sorts to *Bronze Dragon* [*Ed. - See CGW, #32, p. 49*]. The original game comes with one full-length scenario, *Seekers of the Storm*, and twelve make-em-yourself castle adventures where you choose: how many rooms, levels, and rooms per level it should have; how difficult you want the dungeon to be; and how powerful you want the monsters to be (Note: Some castles have a minimum monster level, no matter how low you specify the starting monster level). The castle-making utility then creates the dungeon with rooms, treasures and monsters randomly placed. Thus, each castle is unique. In addition, there is a plot to each one, usually retrieving some magical or other special item without having to kill some main evil wizard type to get it. Most of the time you need to do something (or several somethings) before you can get your hot little hands on it, though. Therefore, you ramble through the levels, with an eye out for "plot objects," items that will help you achieve your goal. At times, these plot objects may not be easily discerned as such (perhaps a dirty cloth or plain-looking stick). So, back in Dragon Village



(your base of operations), you check in with the wizard, who tells you if there is anything special about a particular item. Sometimes, you need an object even though it does not have special powers (a crowbar, for instance). There are also artifacts and treasures that are not related to the plot. This keeps you on your toes (hehe).

In both games, monsters can be good, neutral, or evil. Most are evil and have a variety of abilities with which to make your life difficult. Some are unaffected by weapons; others are immune to spells; a few can drive your characters crazy; some have their own nasty spells; others launch kamikaze attacks (watch out for those Banzai Bunnies!); and some divide like amoebas, presenting you with more monsters. The list is almost endless.

When you complete a castle, a trip to King Leopold (or Lord Usul, for evil characters) is in order. Leopold will ask for some of the special things you've found. The more you give him, the more generous he will be in awarding experience points and raising the attributes of your characters. He may scream "Open the Royal treasure vaults!", but he won't give you any money. There are enough items in the castles for you to sell, though, so that's not too much of a problem.

The Twisted Speare has 10 new plots on it (but no full-length scenarios). You do need the original *Bronze Dragon* (version 3.0 or higher, if yours isn't, send the original disk and $5 to **Commonwealth Software** for an update) because *Speare* is only able to create castle dungeons.

While *Speare* has many new monsters and a few other tricks, the basic mechanics are pretty much the same as in *BD* and *Speare* is 100% compatible in terms of magic items and equipment (everything that worked or could be used in the original *BD* will work here and King Leopold will go into the same raptures over *Speare* plot items that he did over *BD* items.

The Twisted Speare is the name of a pub. Here, you pick up information on the plots of each castle, so it's a good idea to visit the establishment before heading off for adventure. You also should drop in after an expedition and show some items around. Some of the patrons may recognize them and tell you a few interesting facts.

Interaction in the *Speare* is menu-driven. When you arrive (having first gathered together your stalwart band), several people will be inside, listed by number along the left-hand side of the screen. On the right, also numbered, are possible topics of conversation. Using the arrow keys, you choose a patron (whose name is then highlighted), then one of the numbered topics.

The person may have something to say about the topic, know nothing

about it, or refer you to someone else in the pub. As conversations progress, new topics appear on the right, giving you more to ask about. It is wise to ask everyone about everything before leaving.

Speaking of leaving, people come and go as though it were a real pub. A new patron might arrive while you're chatting with someone or the person you just decided to talk to may walk out the door before you get to him or her. However, if you wait around long enough, anyone who left will eventually return.

The castle maker for *Speare* is slightly different. In the original *BD*, you actually got the number of rooms specified per dungeon level. In *Speare*, the number of rooms will vary so that if you ask for a dungeon of five levels with 15 rooms per level, some may have as many as 19 or as few as 10. Yet, the total number of rooms will add up to the original number (75, in this case).

To keep from going crazy looking for missing rooms, watch the screen as the dungeon is created and write down how many rooms there are per level. This way, you'll know how many there should be on each one. This is especially important since some rooms are found only behind secret doors. Mapping tends to be rather easy, since you will usually be told a room's exact dimensions as soon as you enter, as well as the locations of all visible doors.

The new plots have some interesting features. Take "A Thief in The Night", for instance. A member of Thieves Guild 106 snuck into the headquarters of guild 147 and stole the fabled Tome of Larceny. Naturally, guild 147 wants the book back, but guild 106 says "No!." What to do? Guild 147, to avoid open warfare with a brother guild, decides to hire someone non-guild to steal the book back. Guess who?

Perhaps the most intriguing plot is "Murder Royale". Prince John, heir to the throne, is murdered while exploring the Castle of the Seasons. A suspect is in custody, and all evidence at hand seems to point to him. But did Iago (yes, that's his name!) really murder the Prince? Is there a connection between this and the death of King Henry, whose recent death has been ascribed to poison? What deviltry lurks beneath the surface here? Only an expedition to the Castle of Seasons will reveal the truth.

With ten plots in all, there's plenty to keep you busy here for quite some time. Also, since you can control the

difficulty in *Speare* as you did in *BD*, even high-level characters will find an interesting challenge.

All is not a bed of roses, however. The *Speare* castles and the pub itself are VERY space-intensive and some problems have cropped up because so much has been packed in. A few have lead to extremely frustrating moments. For instance, I was totally unable to create the dungeon for plot #6, Castle of Dreams. Then, when my party tried to enter the pub to pick up information for "Murder Royale," the program couldn't handle it (the end of this plot requires you to accuse the murderer in the pub with all the suspects gathered, so you can see how this would be a slight problem).

Fortunately, **Commonwealth Software** is very good at finding and fixing bugs. Two days after I called them about the above problems, a new disk, with the problems repaired, was shipped out to me. They are also getting in touch with as many *Twisted Speare* owners as possible, so those disks can also be replaced. By the time you read this (remember, I'm writing in early June), the problems with *TS* should be history. However, if you do happen to find something amiss, call or write to **Commonwealth**. They are really interested in providing quality software, and if there is a problem, they want to fix it as soon as possible.

Perhaps the biggest drawback to the *BD* series is its linearity. You are after Object X. To get X, you need item A. To get A, you need B. To get B, you need C, etc. This can only be done in one order. Any break in the chain, such as selling or destroying an item, will prevent successful completion of the quest (in which case, the only thing you can do is re-create the castle and try again).

Not all dungeons are set up this way, but many of them are. Plot items, of course, are scattered throughout the castle. Thus, it takes some time and exploring to puzzle out the exact sequence and items necessary to achieve the goal. You can explore levels in any order you like, but obtaining the major object can be done only in one way, with the proper items used in the proper places.

Considering all the variables involved in creating the dungeons, particularly the difficulty factor, it is not possible to give the usual sort of hints. This is one time when you really have to figure out everything on your own. However, I have my own technique for dealing with these castles, which I call "Clean and Sweep".

Basically, I go through and map the entire dungeon, killing off all the monsters (or bribing non-evil ones to go away). I leave all the treasures, items, and such in place, but note them on my map (I do pick up any stray bronze pieces that may be lying around, though, as well as search dead monsters for interesting items to use or sell). This is the "Clean" phase.

Once the monsters are gone, I can go about picking up the plot items (or anything that may be one), and see what can be done with them, without any hassles. After obtaining the major object, and knowing that everything else is safe, I ransack the dungeon for all the goodies. This is the "Sweep" phase. It works rather nicely (since

Scorpion's Tale
DRAGON SIDE II

the number of objects carried is limited, it may take several expeditions to do a thorough job of looting).

Not all monsters are evil and you can get into trouble for killing those that aren't. Therefore, it's a good idea to have at least one Elf in the party. When you come across monsters you aren't sure about, get the Elf up front. Neither rearranging the party nor using "Detect Evil" ability costs a move, so once you know if the creature is evil or not, you can decide what to do next (leave, fight, etc) without losing a turn.

Overall, I enjoy the *BD* games. While they do not have graphics (just no room in 64K), they are cleverly designed and quite challenging at high levels of difficulty, even when monsters are relatively low-level. The plots in *Speare* are, I think, better than in the original *BD* (but don't

overlook those, either), and divert a bit from the linearity of the original.

They are an amazing value for the money, considering how much is on these disks. Add in a variety of plots and customized dungeons, and you have a very nice package indeed; more than enough medium-length games to keep you occupied for many hours to come. Next time you're feeling adventurous, drop into *The Twisted Speare* ...ya never know what might happen.

Well, well, I see it's that time again (you know what they say about having fun). Before you leave, remember that if you need help with an adventure game, you can reach me in the following ways:

On Delphi: Stop by the GameSIG (under the Groups and Clubs menu). On GEnie: Visit the Games RoundTable (type: Scorpia to reach the Games RT). By US Mail (if you live in the United States, please enclose a stamped, self- addressed envelope if you want a reply): Scorpia, PO BOX 338, Gracie Station, New York, NY 10028.

Until next time, happy adventuring!

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Circle Reader Service #31

Lay your unused games to rest in Boot Hill!

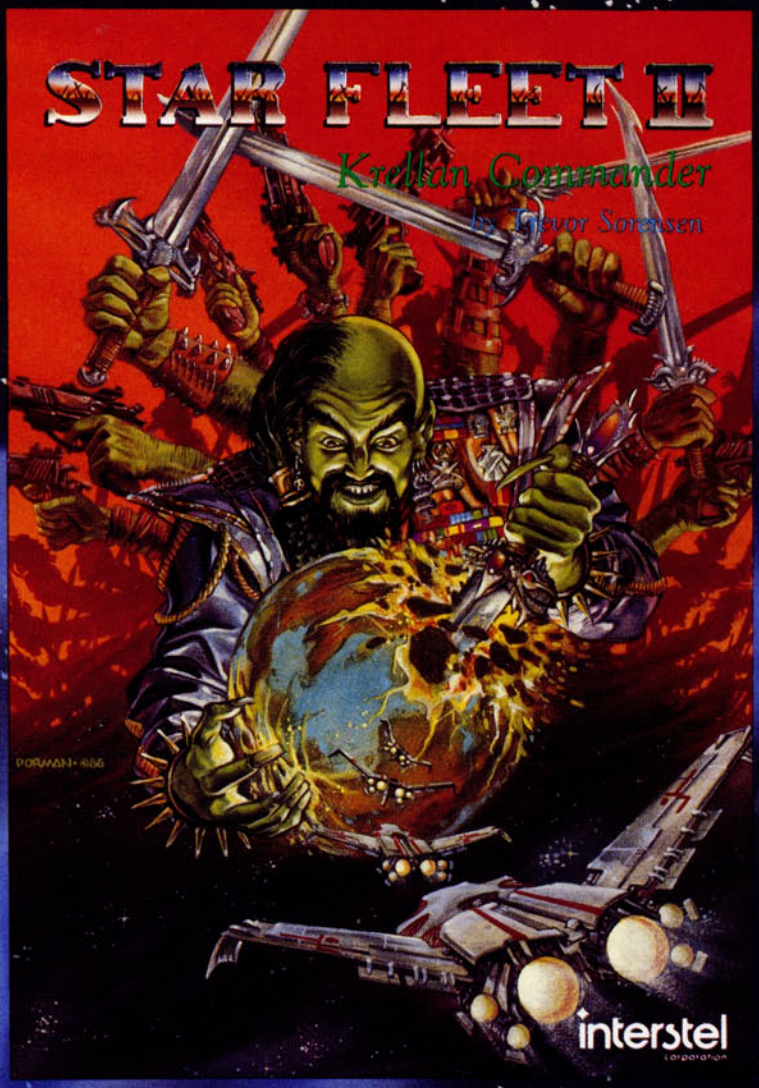
Boot Hill, the software cemetary where old games find new life and bargain hunting "grave robbers" find buried treasure. *Computer Game Quarterly* offers classified ads to subscribers for $15.00 per 25 words. Since you can reach 10,000 dedicated gamers through the pages of CGQ, you have only yourself to blame if you bear the curse of *Spellbreaker* as it gathers dust on your shelf or become infected by that forlorn copy of *Epidemic*.

Circle Reader Service #32

FROM THE FAR REACHES OF INTERSTEL SPACE . . .

STAR FLEET II,
Krellan Commander
is the second in the STAR FLEET series of advanced strategy space war simulations. Having fought as an Alliance starship commander in STAR FLEET I* against overwhelming odds to stem the onslaught of the Krellan and Zaldron Empires, you now get a chance to try command on the "winning" side.

In STAR FLEET II, you will be in command of a deadly Krellan battle cruiser with four destroyer escorts (forming a "battle fleet"). Your mission is to explore the star systems of the United Galactic Alliance, looking for choice planets to conquer, and Alliance warships to destroy. If the natives become too uncooperative, you can always use your obliterator pods to demolish their planet (that will teach 'em!). On board your ships you have detachments of the feared Krellan shock troops, which can be used to board and capture enemy ships. Your ships are equipped with the latest technology, including deadly 'homing' torpedoes. And at higher ranks you can command dozens of warships and a million combat-hardened warriors to bring the Alliance to its knees. Let yourself go -- have fun! Capture and pillage planets, wipe out civilizations with a single command, boost your crew's morale by bringing aboard passengers from that captured starliner (remember, it's only a simulation!)

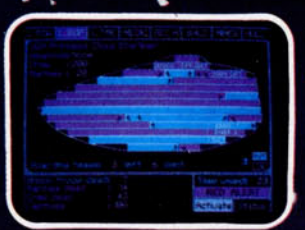


Features of
STAR FLEET II

- 35 galactic regions with over 1700 star systems and 1,000 unique planets to explore and conquer
- realtime simulation of movement and combat
- ship-to-ship and fleet combat
- over 10 different types of starships, including: Alliance heavy and light cruisers, destroyers, frigates, scouts, freighters and starliners; Krellan battlecruisers, destroyers and transports
- landing parties to explore planets, contact planetary civilizations, establish bases, obtain supplies, and more!
- command legions of elite Krellan warriors for conquering planets - battle honors are kept for each legion
- 12 critical ship's systems simulated
- new commands include communications, intelligence, strategic command, logistics, obliterator pods, science, medical, planetary invasion and more!
- multiple mission objectives
- 7 ranks and difficulty levels
- simulates crew fatigue and morale levels, supplies, interaction with captives, etc.
- sound/music toggle
- keyboard and joystick controls (some versions can use a mouse)

To safeguard the freedom of the galaxy, the Alliance has commissioned its toughest warriors and assembled its most sophisticated technology to date . . .

As Krellan Commander, *Y O U* can make them *R E G R E T* it!



STAR FLEET II is very easy to learn and play -- yet it has a level of realism and sophistication that is far beyond that of any space war program on the market today!

*STAR FLEET I is not required to play STAR FLEET II

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GOLD RUSH

A C.E.S. Report on the Computer Entertainment Software Industry

Remember your intrepid editorial staff's adventures in January? Our trip to the Winter Consumer Electronics Show in Las Vegas was endangered by computer problems at the reservations desk, a pilot trainee in the air, a fuel spill at LAX, and the public address system of our airline malfunctioning. Well, your courageous editors were treated to a similar experience on the way to the Summer Consumer Electronics Show in Chicago. Our flight had already been delayed for one-half hour when a strange announcement came over the public address system. "Ladies and Gentlemen waiting to board Overbooked Airlines Flight Number 33 1/3, [*Ed. Name and number changed to protect the guilty.*] we apologize for any inconvenience caused by our delay. The flight crew believes they have fixed the problem, so after they taxi the plane to make certain, we will be boarding the plane for our Chicago flight." To think they say publishing is a gamble! Nevertheless, software publishing is expected to be less of a gamble in 1987-88 than in years past.

The keynote address for C.E.S. was given by Frank Myers, President of Arvin Electronics and Industry Vice President of the Electronic Industries Association and contained a projection of $30 billion in consumer electronics purchases, this year. Of course, that figure includes televisions, compact disc players, videocassette recorders, radios, computers, televisions, and more. Even so, the EIA estimates that sales of home computer software will amount to $1.6 billion in 1987 and $2 billion in 1988. Bob Ingersoll, new Vice-President of Marketing for **Mindscape**, cited statistics stating that approximately 20 million computers are already in homes and that figure is expected to be closer to 38 million by the end of the decade.Speaking during a panel discussion on Computer Entertainment Software, Ingersoll presented an optimistic view of the future for entertainment software in his comments: "I was a retailer in the so-called depression. I don't think it really occurred. I believe what happened was we had an expectation of a growth curve which didn't occur. I believe that in '87, we *are* where we wanted to be, perhaps thought we were, in '84." Other panelists agreed with Ingersoll's assessment.

THIS LITTLE PROGRAM WENT TO MARKET

From the very beginning of the show, we heard the key word **marketing** over and over again. **Firebird** told us within the first two minutes of our interview that they were "here to win" in '87-'88. "We are out to slay the giants!" quipped Marten G. Davies, President of the British Telecom affiliate in the United States. Michael Katz of **Atari** stated unequivocally that, "The big news for **Atari**, this year, is marketing." He elaborated on the subject by pointing out that **Atari** has raised the ante on their advertising budget to the $10-15 million range from their $2-3 million range of last fiscal year. The new president of **Activision**, Bruce Davis, released a statement at C.E.S. which read, "Our number one objective is to attain a consistent level of profitability by building on our existing strengths in the marketplace." "Wild Bill" Stealey, President of **Microprose**, reflected that "We grew because of *product*, but advertising and promotion is becoming more and more important." **Microprose** has underscored their concerns in this area by initiating their VMR (Valued Microprose Retailer) program of dealer support and hiring Michael Harrison, a former journalist, to serve as their Communications Manager.

"This is fine," you are probably saying to yourself, "but what will this mean to me, the consumer?" First of all, the emphasis on marketing concerns will probably indicate that there will be fewer titles released overall each year. The companies are concerned that each new title reach a certain level of success and will be less interested in taking risks. At the same time, the desire to reap more profits out of successful and marginally successful titles should speed-up the rate and number of conversions. Astute **CGW** readers will note that we

predicted this horizontal consolidation of the market in issue #35 (p. 7). Second, the marketing emphasis means that software publishers will continue to support three different price levels: 1) High-range (generally $40 plus); 2) Mid-range (generally $20-40); and 3) Low-end or budgetware (generally under $20). Third, the close monitoring of sales performance should make the publishers more responsive to the consumer's desires and demands. At **Activision**, this will include frequent retail store checks, better communication with user groups, and "more traditional market research." Consumers can rightly expect the publishers to pay more attention. Fourth, product quality itself should increase with more "man-years" and corporate dollars invested in each title. Bing Gordon, Vice President of Marketing for **Electronic Arts**, added emphasis to this final point by noting that Proctor and Gamble is one of the largest producers of consumer-oriented products in the U.S., yet they will not bring any product to market which has not been rated significantly better in their consumer testing research than existing products. Gordon insists that "A product should be 50% better than its closest competitor." He summarized the discussion on marketing by noting, "Marketing can add overspin, but it can't make a product."

Joel Billings, president of Strategic Simulations, Inc. (L) congratulates Bob Lindstrom (R) and hands him a check for $500 which Bob is donating to Doernbecher Children's Hospital, Portland, Oregon. Lindstrom, a columnist for Apple Computer-oriented A+ magazine, won the money playing SSI's new "President Elect-1988 Edition", a computer simulation of the U.S. presidential electoral contest. Lindstrom acted as the campaign manager for Republican George Bush, the leading Republican candidate.

"RACE" PREJUDICE

Any discussion of new releases must touch on the proliferation of racing simulations. One of **EA**'s hottest new releases, *Ferrari Formula I*, should be out by the end of the third quarter. The second of the *Sports Legends* series, this racing game will feature seven actual Formula I Grand Prix courses with site-specific scenery; seven different artificial intelligence profiles on actual Grand Prix drivers (Andretti, Lauda, Fittipaldi, Proust, et. al) which players can race against; impressive mechanical-engineering strategies which include a wind-tunnel for setting the wings and numerous decision points for tires, suspension, etc.; and the superb Amiga graphics and sound that has given **EA** such renown with the Amiga. **Activision** plans to release *Top Fuel Eliminator*, a C-64 product based on drag racing, in June of this year. Interestingly enough, the player must make numerous strategic decisions involving: ignition timing, fuel mixture, clutch adjustment, supercharger speed, wing adjustments, and tire pressure. Detailed information on surface temperature, air temperature, humidity, elevation, and traction is entirely relevant to setting up the car to race in the nine most important races of the drag racing season. **Accolade** has also entered the racing fray with *Test Drive* for the Amiga (slated for September release). This program with its exceptional graphics enables the player to drive a Lamborghini Countach, Lotus Turbo, Ferrari Testarosa, Corvette, or Porsche on a mountain road. Players must use the characteristics of each car, the "Fuzzbuster" type radar detector, and driving skill to outwit terrain, elements, and police while driving on a mountainous road. In addition to these first line products, **Firebird** will be releasing a mid-price racing game entitled, *Revs Plus* and **ShareData**, a giant in budget-priced software, will release a multi-game arcade pak around the racing theme.

THIS SPACE ASSAILABLE

Games of space exploration and conquest have been popular since the early days of *StarTrek* in its mainframe manifestation. This year will be no exception. On the serious (Sirius?) front, **Accolade** will launch their NASA-assisted design *Apollo 18: Mission To The Moon* in June. Ottawa-based **Artech Digital Entertainments** did the design work on this C-64 simulation and has continued to enhance **Accolade**'s reputation for maximizing the C-64's graphics. Players will compete in eight different phases of the moon mission: launch, flight, orbit, EVA (extra vehicular activity or spacewalk), lunar landing, moonwalk, and lunar blastoff. **Final Frontier Software**, familiar to most **CGW** readers as the publishers of *Space M+A+X*, announced that *Lunar M+A+X*, an even more detailed simulation than the previous product, should be available around Christmas and an Atari ST version of *Space M+A+X* is currently being developed. **Microprose** revealed that they are working on a space combat game with the working title, "Starship Empire," which they would like to have ready for the C-64/128 by Christmas. The game would presumably use a first person view with a scrolling cockpit and the player would captain a cruiser while defending the Terran Confederacy from deadly aliens. **Activision** hopes to score with the Apple II conversion of *Aliens* and **Firebird** has translated their *Starglider* game to the Amiga format. **EA** has already released *EOS* (Earth Orbit Stations), a multi-player game of space station construction and **Interstel** has begun to advertise

Star Fleet II, which will be released in August of 1987 on the IBM, followed by C-64, ST and Amiga ports by December. In *SFII* the player returns to the Academy to learn Krellan strategy from the their viewpoint by participating in a Krellan simulator. There are lots of bells and whistles on this product, including more graphics, supply rules, negotiations, boarding graphics, obliterator pods, self-destruct mechanisms, and fractal graphics for planetary surfaces which provide an arena for a simple, surface combat system. This one should be worth waiting for.

THE DELIGHT OF THE AVIATOR

Aviation aficionados may have to make some difficult choices in 1987. **Microprose** leads the way with *Project Stealth Fighter*, but **EA**'s *Chuck Yeager's Flight Simulator* and **Strategic Simulations, Inc.**'s *B-24* with its mission-oriented approach to a combat flight simulator can't be far behind (if at all). **Spinnaker Software**'s *Air Combat Emulator II* and ShareData's *Flight Simulator Pak* fill out the budget ranges. Meanwhile, Atari is attempting to cross-pollinate its XE game machine and XE line by offering *Flight Simulator II* along with *Missile Command* and *Blast 'Em* as part of their XE Game System.

Project Stealth Fighter should be available for the C-64 by Fall '87 (Apple and IBM by early '88). The simulator itself goes beyond *F-15 Strike Eagle* by offering opportunities to pitch and roll, but the real advantage of the new product is to allow the player/pilot to control the entire electromagnetic profile of the Stealth aircraft. There are numerous decision points in the game which will control detectability, thrust, and angle pitch. The game uses a speculative model of a 40,000 pound aircraft with twin GE engines. Missions will probably be based on geographical regions which include: the Arctic, Caucasus, Mediterranean, North Africa, and Persian Gulf. The latter arena for combat was primarily a marketing consideration, since it doesn't make sense to use technology designed to deceive a major power when one is facing a minor power. *B-24* is **SSI**'s real-time flight simulator. Although it doesn't give the familiar cockpit view of most flight simulators, it is a detailed and challenging simulation where one must pay attention to altitude, vertical speed, heading, air speed, degree of bank/turn and degree of pitch. The player performs all the tasks of the pilot, co-pilot, navigator, engineer and bombardier in a B-24 Liberator bomber and must successfully rendezvous with the rest of the formation and fighter escorts, while determining the flight path, speed, altitude, and targets for the entire bomber formation. *Chuck Yeager's Flight Simulator* is an IBM product from *EA* which allows one to fly fourteen different planes, race against a competitor's plane (the program records your scores so that a friend can race against you), or act as a test pilot by flying planes and filling out Yeager's own forms.

OUBLIETTES AND ORANGUTANS

Of course, the fantasy genre will be well-represented during the releases for late '87. **Intellicreations** will release *Alternate Reality: The Dungeon*, the long-awaited sequel to *The City*. Character generation is essentially the same, but characteristics are more nuanced as to their effect upon the game. The support locales (shop, tavern, inn and smithy) are not as easy to find, since there is only one of each in *The Dungeon*. Those who liked the idea of *The City*, but hated the problems will be delighted to know that the company used Beta-testers from outside the company with avid gaming backgrounds and the designers paid a great deal of attention to *The City* players' complaints. The new game has the ability to join guilds and has moved beyond "hack and slash" to a point where encounters may be beneficial or irrelevant, in addition to dangerous. [Note to *City* players: You no longer have to reboot after saving the game.] **Activision** will soon release *The Last Ninja* for the C-64. This is not simply another martial arts game. This is a "thinking man's" arcade/adventure with puzzles, weapon choices, magic, and monsters. The artwork is so finely detailed that you will literally think you are looking at a 68000 machine. **Lucasfilm** is releasing *Maniac Mansion* through **Activision**, a mystery game with joystick-driven, menu-assisted parser and, at least, five different successful endings. Players can form parties of seven characters and maneuver three of those seven separately throughout the adventure. There are 55 rooms and more than 450 touchable objects in the adventure.

The concept behind *Rainbow Road* (from **Electronic Arts**) is familiar to fantasy buffs. Characters move from location to location by either physical movement or teleportals (the graphics are reminiscent of the climaxtic inter-dimensional scene towards the end of the movie *2001*) More importantly, however, is that the game can be played solitaire or with up to three human players. It has menu-driven character action, movement and combat a la *Archon* (also by **Free Fall**, and also published by **EA**), and hundreds of pieces of information to collect in order to solve the quest. Each character's attitude and manner is important with regard to

the success of each encounter and the quest in general. **SSI** will release "Wizard's Crown II," *The Eternal Dagger* for Apple, C-64/128, and Atari 8 bit during July, August and September respectively. **Mindscape** has just released the third Macventure. Entitled *Shadowgate*, players explore Castle Shadowgate via a smooth, mouse interface, in order to locate and destroy the sinister Warlock Lord. **Avalon Hill** has just started shipping *Darkhorn*, Tom Cleaver's long-awaited multi-player strategy game based on a fantasy world.

Firebird is expecting to steal a lion's share of the market with *Guild of Thieves*, the sequel to *The Pawn*, which has a "suspicion of a release date" in the third quarter and should be available slightly later on the Amiga. *Knightorc* (also to be released on the ST and followed on the Amiga) is a fantasy game with the trilogy built into the product itself. As the player moves from entry level to expert, the story continues progressively with continuity of characters and abilities. *Black Lamp* is an ST product which Firebird fully expects to rival Cinemaware. The company will also enter the mid-range, text-only adventure market with *Silicon Dreams* and *Jewel of Darkness*.

Infocom's universe will expand with three new products for the fall. *Plundered Hearts* sounds like a cross between a Harlequin Romance novel and a pirate movie. *Nord And Bert Couldn't Make Head Or Tail Of It* is a collection of short stories built on wordplay, cliches, spoonerisms and puns. Readers of Xanth novels may send this one to the top of the charts. Finally, *Beyond Zork* is Brian Moriarty's attempt to stretch the envelope of Infocom-type games. It is expected to be a blend of the traditional interactive fiction and role-playing games.

SHOWCASE OF THE SOFTWARE STARS

Award winning entertainment software selected for the 1987 *Summer CES Software Showcase* included:

Accolade:	*Mean 18*	**Infocom:**	*Trinity*
Activision	*Aliens*	**Mindscape:**	*Balance of Power*
	Championship Football		*Comic Works*
	Hacker II		*Sinbad & Throne of the Falcon*
	Portal		*Superstar Ice Hockey*
	Shanghai		*Trailblazer*
Avalon Hill:	*Guderian*		*Uridium*
Electronic Arts:	*Starflight*		*Paradroid)*
Epyx:	*Championship Wrestling*	**Microprose:**	*Conflict in Vietnam*
	Sub Battle Simulator		*Gunship*
	World Games		*Silent Service*
Final Frontier:	*Space M+A+X*	**Simon/Schuster:**	*Star Trek: Prometh.*
Firebird:	*Golden Path*	**Spectrum HoloByte:**	*GATO*
	Starglider	**Strat. Simulations:**	*Roadwar 2000*
	Tracker		Gemstone Healer
Great Game Prod.:	Bridge Baron II		*Gettysburg: Turning Point*

FULL SILICON JACKET

Military simulations are also present in 1987. Besides *B-24*, **SSI** is working on *The Battle of Shiloh* (built off their very successful *Antietam/Gettysburg* system), a Napoleonics game, a simulation built around modern Afghanistan, and a tactical, squad level World War II game. By the time you read this **Broderbund** will release *Ancient Art of War At Sea* in August (and at a later date for the Mac and Apple IIgs). AAWS will cover naval warfare from the age of fighting sail up to WWII. Scenarios included on the game are: The Spanish Armada, The Nile, Quiberon Bay, Trafalgar, and the search for the Bismarck. You can also design your own scenarios.

Spectrum Holobyte will release *PT-109* in late June or July for the Mac, with the C-64, ST and IBM ports due in August or September. This exciting simulation of the 'Elco' (Electric Boat Company) Patrol Torpedo Boats is designed by **Digital Illusions**, designers of *Gato* and *Sub Battle Simulator*, and looks like a detailed product. **Avalon Hill** is rapidly converting *Under Fire* to IBM formats. The product will support 320 x 200 color, 640 x 200 black and white or the 700 x 350 Hercules card, plus they've added some significant aids to play. The map-maker now shows X, Y coordinates, indirect fire range has been increased, more detail on the units makes it easier to differentiate between weapon types, teams may include up to 20 units per side (as opposed to 16 in the Apple version) and the game may offer up to twelve different weapon types (six types per team) as opposed to the earlier total of six. The game also leaves a trail of crosses to help the player keep track of his move.

Microprose has an entire string of conversions and new products planned for late '87 and early '88. *Gunship*, for the IBM, should be available in the fall and boasts smoother animation due to the machine's configuration. *Silent Service*, for the Apple IIGS, is due in September of 1987. The bad news is that the much heralded *Red Storm Rising* project won't appear until early first quarter of 1988. The good news is that it will probably be a series of two or three games. *Airborne Ranger* involves individual combat. The player parachutes into enemy territory, armed with a submachine gun and hand grenades, and attempts to perform several different commando missions. The game is potentially a sophisticated *Castle Wolfenstein*. Speaking of the old classic, **Mindscape** has recently released *Into the Eagle's Nest*. The player seeks to rescue three allied saboteurs from that Nazi fortress, "The Eagle's Nest," and attempt to destroy the fortress while saving European art treasures. There are four floors to the castle and four separate missions for aspiring Clint Eastwoods.

One of the most significant military simulations heralded at the show was the *Universal Military Simulator* from **Firebird**. As noted in January, *UMS* is a remarkable piece of craftsmanship which looks as though it will be the military construction set the consumers have been looking for. Stay tuned for detailed coverage in October.

"HART"BREAK RIDGE AND OTHER SIMULATED REALITIES

As promised, **SSI** introduced their new version of the *1988 Edition of President Elect* at the show by hosting a tournament on Saturday night. We regret to inform our readers that the **CGW** editorial staff merely finished second in their respective parties. Bob Lindstrom (of *A+ Magazine*), as George Bush's campaign manager, and Steve Panak, as Senator Gore's campaign manager, advanced to the finals with 471 and 351 electoral votes respectively (against computer opponents). Lindstrom (Bush) handily defeated Panak (Gore) 499-39 after Gore's disastrous foreign trip in the finals. Of more significance than the tournament, perhaps, was the fact that Joel Billings, the publisher of the game, defeated Nelson Hernandez, the designer of the game, in a friendly non-tournament game at the party. Billings (Gore) defeated Hernandez (Kemp) by a mere 950,000 vote margin (50%-49% in popular vote, 317-221 in electoral vote). It was 3:46 A.M. Eastern time when Gore was declared the winner. California was not yet decided. The excellent news about the *1988 Edition of President Elect* is that owners of the original version can receive the new edition by sending in the old disk plus $10.00 (and $2.00 for shipping and handling).

Other simulations to be released in 1987 include: **Avalon Hill**'s *NBA*, the only professional basketball simulation to include graphic representations of all 10 players. The statistics based game, designed by **Quest, Inc.**, will feature twenty teams (from the 1959-60 Boston Celtics to the final four of the 1985-86 season), include a stat-keeper program which not only keeps cumulative season stats, but updates individual player's performances during and after the game, and offer three modes of play (human vs. human, solitaire, and computer vs. computer). **XOR**, makers of *NFL Challenge*, recognizes that the $99.95 price tag on their major product is a bit stiff for many gamers. The new management plans to market a trimmed down version of *NFL Challenge* which would reflect 3/4 of the product at 1/2 the price, a Chevrolet to their current Cadillac. This may be accomplished by putting out a pure strategy version with no NFL names (working title "Shirts and Skins") or perhaps, simply the statistics for the "NFL Championship" game. Nevertheless, the company plans to be as responsive to customers as possible and hopes to add player's names, tabulate individual stats, and provide a utility for designing your own plays in future releases of the game. **Epyx** used a "California" theme at their booth to trumpet their new *California Games* and soon-to-be-released line of "Street Sports" games, while **Mindscape** touted their *Superstar Ice Hockey* (which has just been converted to IBM formats).

THE RETURN OF THE ARCADIANS

Arcade games are making a comeback in 1987. **Mindscape** was so pleased with their *Bop'N Wrestle* game that they have introduced *Bop'N Rumble*, a humorous, arcade romp through the inner city in which your brawny wrestler attempts to defend "Granny" from hoodlums and freaks. ST owners may like *Midi-Maze*, the *MazeWars* type game from **Hybrid Arts** which lets you link together up to 16 ST's for a multi-player "Happy Face" smashing spree. Players can even design their own mazes by using almost any ST word processor. **Accolade** will market a delightful miniature golf game with zany animation and typical **Accolade** humor. *Mini-Putt* should debut in the fall of this year. **Firebird** will offer *Hyperball* in their mid-price range to sate the appetites of "Rollerball" aficionados. **Microdeal** will attempt to woo *Marble Madness* fans with *Airball*, a 300 room maze which must be traversed with an easily deflated *Airball*. **Spinnaker Software** is continuing to market the **UXB** line and has added *Bazooka Bill*, *Ardok the Barbarian*, and *Sky Runner* to their list of arcade titles. **Activision** has served notice that they are returning to the game machine market with their new *Kung Fu Master* cartridge.

A FLIGHT OF ANGELS

Our return trip to Southern California was delayed by more than an hour, due to the fact that "Overbooked Airlines" had, indeed, overbooked the flight. In fact, your editorial staff couldn't even sit together and compare notes from the show on the way back. Instead, we each had to suffer the presence of a beautiful woman as our companion for the flight home. Smart marketing move, overbooking! Which reminds me, if you want to know what direction the software industry is going during the rest of this year and next year, as well, just ask yourself "What would the best marketing decision be?"

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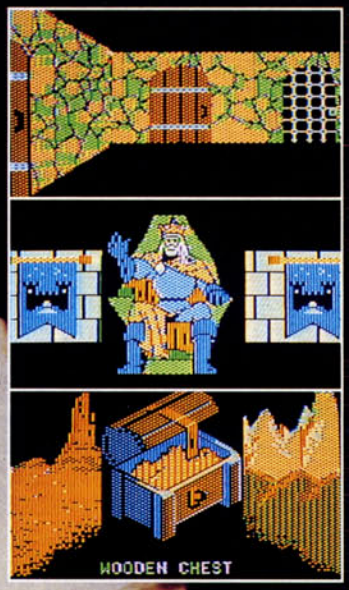

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Title:	PHM Pegasus
Players:	1
System:	Apple, C-64
Designer:	Noah Falstein
Publisher:	Electronic Arts Lucasfilm Games

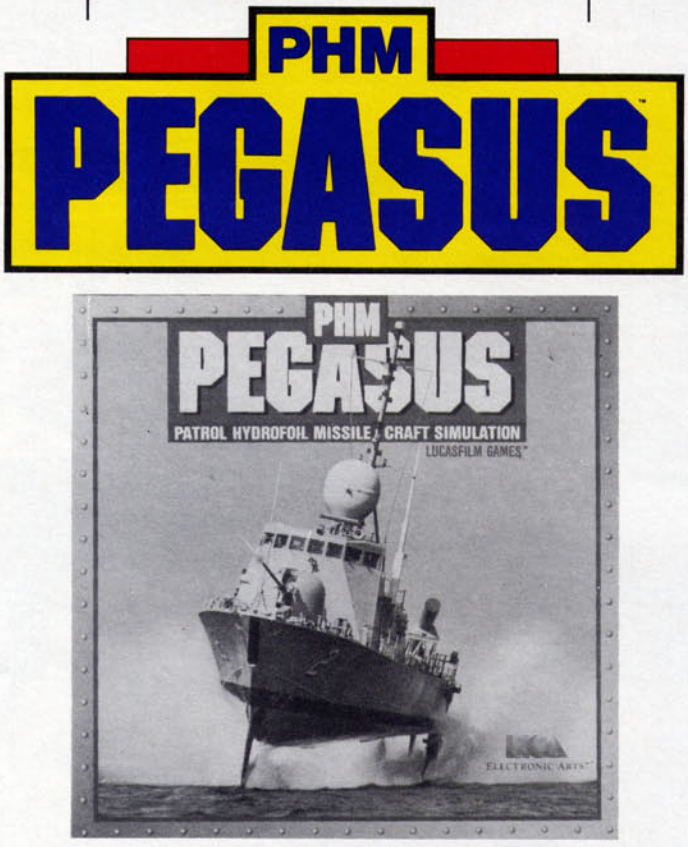
M. Evan Brooks goes to an expert to add depth to his review of Electronic Arts' latest wargame simulation.

PHM Pegasus (PHM) is EA/Lucasfilm's entry into the world of real-time combat simulators. With the profusion of flight, submarine, naval and helicopter simulators, it seemed only a matter of time before innovative concepts would be exhausted. But EA/Lucasfilm has come up with a simulator approach to a weapons system that no one has ever considered before in terms of home computing.

PHM refers to the official US Navy designation: Patrol Hydrofoil Missile (craft). Most people have no real conception of the capabilities of the hydrofoil; the most familiar hydrofoil in the world plies the shipping lanes of Hong Kong and Macao -- a tourist "must see". Insofar as the naval wartime capabilities of the hydrofoil are concerned, a large void exists in the public consciousness.

The United States Navy has a total of six hydrofoils in the Fleet -- hardly enough to form a task force. However, for certain escort and surveillance missions, the hydrofoil is a good choice. PHM familiarizes the user with the capabilities of the hydrofoil in its most likely environments and mission objectives.

This reviewer has to confess to general ignorance of the subject matter, having considered the main use of hydrofoils to be as a swamp boat for grade-B Everglades television shows; in reality, hydrofoils and airboats are separate and distinct vessels. Therefore, in reviewing this product, aside from the entertainment aspect, this reviewer consulted with an expert in the field. The source utilized for this review is an acknowledged expert in hydrofoil systems; his published works in this area are voluminous, and he has spent the last fifteen years in the field. While this article was initially going to be co-authored, given the current mind state of the military/intelligence community (e.g. the Morrison/Pollard/Marine guard affairs), this source wishes to retain his anonymity (along with his job).



"My Other Boat Is A High Speed Combat Patrol Hydrofoil"

by M. Evan Brooks

Hydrofoils In The Navy

Historically, the hydrofoils are the step-child of the Navy. Currently employed as a Coast Guard supplement, the hydrofoil has simply become too expensive for naval employment. The Navy was going to purchase an additional 5 ships, but current plans call for a foreign design of coastal patrol boats in the 200-300 ton class (non-hydrofoils).

The United States Navy is a "Big Ship" Navy. Gary Hart developed terminal unpopularity with Naval Forces by calling for mini-carriers. More is Better; Big is Best! In fact, the hydrofoils were canceled by the Navy and only Boeing and Congressional overrides compelled the Navy to accept the craft.

Somewhat akin to the World War II PT boats ("They Were Expendable" has more truth than a mere movie title), the hydrofoils are prestigious commands. However, the command is at the lieutenant or lieutenant commander level; the entire squadron is commanded by a captain. Plans to develop frigate-sized hydrofoils (2000 tons) have existed, but again, cost of construction has proved fatal.

If necessary, the hydrofoil squadron could be moved to the Mediterranean by a mother ship. But overall, the hydrofoil has evolved into a commercial success rather than a military one.

Overview

PHM is a quality product. The glossiness of the package coupled with the voluminous documentation presents a pleasing offering. The documentation is very complete, and its extensive historical background and technical data make for interesting reading. A total of eight missions make up the simulation.

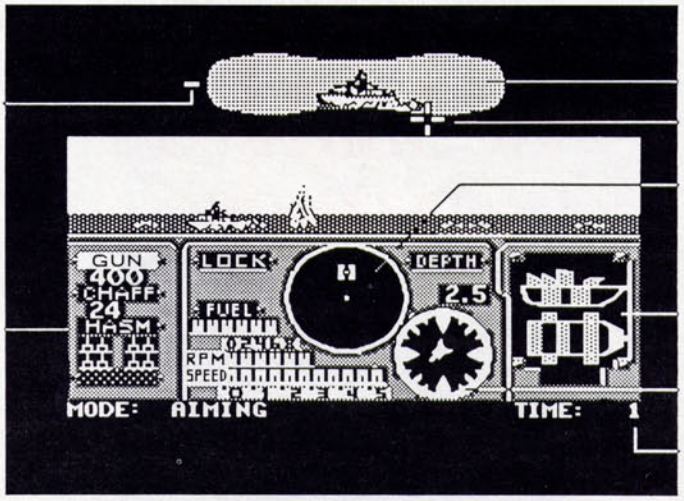
Mission accomplishment will result in a ranking from "Deck Mopper" to "Admiral". The first two scenarios (training) are harder than necessary. In Battle Training, ten enemy vessels will attack. The problem with the scenario is that the enemy ships will suddenly appear within a 5-mile radius. Since the radar screen offers up to 40-mile ranges, such "pop-ups" negate the effect of relying on radar,

and in fact teach non-reliance on an important system. The second scenario (Graduation Exercise) involves ten enemy boats attacking simultaneously. Unless masochism is the desired result, this reviewer recommends beginning with the third and following scenarios. They are more interesting and realistic.

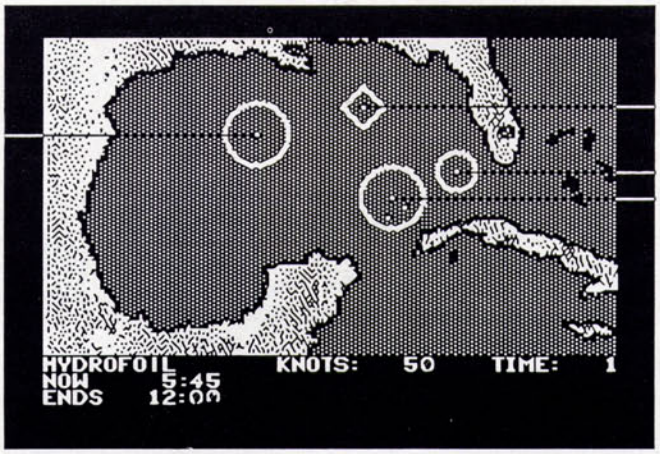
By simple keyboard input, one may choose between the bridge and the operations map. Similar inputs allow for movement rate increases (to 128 times normal!), speed, radar scans (from 2.5 to 40 miles), targeting, maneuvering and utilizing convoys and helicopters -- Easy to Learn, Easy to Use.

The largest flaw in PHM is that the simulation favors the player in terms of damage control. Depending on the type of hydrofoil (American, Israeli or Italian), the player can absorb damage in up to four separate compartments, while missile hits upon OPFOR (Opposing Forces) boats are generally sufficient for complete destruction. Allied missiles (Harpoon, Gabriel or Exocet) are smaller than their Soviet counterparts; they are torpedo-sized equivalents, while Soviet Styx missiles are miniature (half-sized) airplanes -- and with 5 times the explosive warhead of NATO weaponry.

Generally, a single missile hit would be sufficient to destroy the player ship; on the other hand, the converse is not true. While the player can utilize chaff in an effective ECM role, the enemy vessels have no such advantage. Historically, most naval vessels do have chaff capability, if not ECM. Based upon size and destructive abilities of the missile systems, it would take one hit to destroy a Komar or OSA; however, Nanuchka and Assad boats could require 2-3 missile hits in order to render them combat ineffective. In 1986, a Libyan Nanuchka was hit by an A-6 delivered Harpoon; the boat required four hours to sink. An interesting aside is that a tug was sent out on a rescue mission; not knowing the identity or capability of the tug, US airpower quickly sank it.



The View from the Bridge



Operations Map

In terms of velocity, the simulation appears relatively accurate, except for the turn rate being slightly too high for the player vessel. In terms of game employment, missiles are the weapons of choice, albeit their availability is insufficient for all missions. Therefore, guns must be employed against lesser threats with the missiles reserved for the "Big Boys". Gunfire is adjusted by an adjuster light and is an excellent corrective factor. Through this mode, "leading" the enemy vessel becomes a method of skill rather than luck.

While the documentation offers ship silhouette recognition, actual identification of enemy vessels on the high seas remains a problem. Only continued familiarity by playing will permit the player the luxury of early recognition; thereby permitting one to choose the optimum weapon for the situation at hand.

In later scenarios, auxiliary units are available (both helicopters and convoys). PHM will not allow one to shoot at a friendly vessel. While this will prevent numerous serious errors, this reviewer does not think that IFF (identification -- friend or foe) would be available to commercial convoys. Thus, EA has lessened the responsibility of the player -- a plus for playability, but a minus for historical accuracy. Lest the reader dispute such point, it is only necessary to point to the Gulf of Tonkin (1964), wherein a US destroyer came very close to firing on its sister ship in the heat of "combat" (turner joy and maddox).

The helicopters are invulnerable. This reviewer wondered why no weapons system was capable of removing such a threat. The expert was not bothered by this; given the scenarios, the helicopters would have sufficient time and distance to avoid contact with enemy weapons system.

Strategies

In terms of employment, particularly in a surveillance scenario, a "Rolling V" should be utilized. The

(Continued on page 54)

GOODBYE 'G' RATINGS

The New Wave of Adult Entertainment Software

By John Williams

With the planned release of more and more software titles which deal with mature themes and our sensitivity to "censorship" issues, CGW decided to ask John Williams of Sierra to address the subject of adult-oriented software. This overview is the first of three parts. Mr. Williams will not only sketch out current conditions in software publishing, but address the significant areas of public reaction and self-regulation in the industry. To those readers who will ask if this series is necessary, we must answer with a resounding "Yes." If the computer entertainment industry is to avoid the religious controversy which has surrounded fantasy role playing and censorship battles continually fought by the record industry, guidelines will need to be drawn soon.

The makers of computer software have finally figured it out. Not all computer gamers are under the age of 16. Software publishers are finally making an effort to provide software that adults can enjoy on their own level. Adult situations, mature subject matter and even a little s-e-x has been included in recent programs. As the trend continues, we will see more of the adult subject matter which, up until now, has been found in **R** and **X** movies.

The concept of "Adults Only" entertainment software is not new. There is and has been a handful of "Adults Only" software titles which could be purchased through mail order houses and the public domain. As early as 1982, On-Line Systems (now Sierra) produced a hit software package called *Softporn* which featured some really dirty stuff. Unfortunately, although *Softporn* was followed by an avalanche of adult-oriented software titles, the vast majority were poorly produced and of questionable taste. Until very recently, adult-oriented software has not appeared on the roles of the industry best seller and critics' choice lists.

The recent trend toward adult themes was started when Mindscape released adventure games based on James Bond, Rambo, and even a Steven King story (*The Mist*). The motion picture counterparts of these games all rated a **PG-13** or **R** rating. James Bond movies are usually rated **PG** (sexual content and violence); Rambo movies are generally granted **R** ratings (violence, language and poor taste); and Steven King's stories are normally tagged with an **R** rating (violence, nudity and macabre themes too intense for young children). While it is obvious that the computerized equivalents of these movies are less potent than the real things, they still retain some of the same flavor that earned them the **PG** and **R** ratings as movies. In most cases, the sex and foul language have been removed, while the violence has been toned down to an almost tolerable level (*Rambo*, of course, is an exception.).

Recently, two adventure games, which are establishing the beachhead for adult-oriented software, made the charts. They are *Leather Goddesses of Phobos* and *Defender of the Crown*. *Leather Goddesses* met the problems of adult themes and sexual subjects, as expressed in computer games, head on. Players are given the option of toning down or turning off sexual content in the adventure game by selecting one of three different levels: Tame, Suggestive, and Lewd. In Tame level, players are subjected to all the sex appeal of a Gidget rerun (though the game is still fun to play). At the Suggestive level, the player encounters descriptions that are funny, but bashful. The Lewd level treats players to creative and well-written descriptions involving naked people, surgical tubing, and yaks (?). The entire episode is played for laughs and the sexual content is not graphic, but it is still not a game that you would want to play with your mother.

Defender of the Crown is an adventure game in the more traditional (and trite) sense of the word. The object of the game is to do battle with the bad guys, try to save the princess, and so on. The difference comes when you rescue the princess. She "rewards your heroics with her favors" in a bedroom scene that you could not find in a Disney movie. The scene is romantic, erotic and just plain classy. This product will go down in history as the first to make effective use of lingerie in software. The artwork for *Defender of the Crown* is some of the most realistic seen in any computer game. So, when the princess steps in front of that roaring fire, you see **everything** that is going on underneath her nightgown.

While both of these products would easily have earned **PG**'s had they been movies, the represent a large step forward for adult software programming. The next step in software will be the first honest-to-goodness "Adults Only" game. This next step will contain subject matter that would earn it an **R** rating in the cinema. Unless Infocom gets on the ball and creates a "Crude" level for *Leather Goddesses*, the dubious honor of taking this step will go to an animated adventure game from Sierra.

Sierra has two (count 'em) game titles waiting in the wings which deserve an **R** rating. The first is *Leisure Suit Larry in the Land of the Lounge Lizards*, an adventure game parody on singles life in the 80's. The main

character in the game, Larry, is a 40 year old man thrown into the dating game after years in a steady home life. In the game, the player will be thrown without mercy into singles bars, discos, casinos, and even, a house of ill repute. There will be gambling, prostitution, alcohol abuse and other subject matter which has traditionally earned the **R** rating for a motion picture. On the more socially conscious side, a company spokesman said the game will advocate "safe sex."

The second **R** rated product will probably be *Police Quest: Search for the Death Angel*. *Police Quest* will be a more serious adventure game with a "feel" that could be compared to the novels of Joseph Wambaugh or an animated *Hill Street Blues*. While it could be argued that this software is a qualifier for a **PG** rating, the characters involved in the game make the **R** rating a necessity. *Police Quest* is based on the life of a street cop that goes undercover. This means that the prostitutes, drug addicts and other undesirables of the street scene make for a tale that is just a little too strong for early teens.

In talking with other industry spokespersons, mention has been made of other adult-oriented software titles in the works. Computer game versions of Harlequin Style romance novels and some especially steamy works based on *Playboy*'s "Ribald Classics" are on the way. Nevertheless, just as the major Hollywood studios avoid the **X** rating, major software publishers will avoid the production of "X-rated Software." Small production houses are the ones cleaning up on their releases of **ADULTS ONLY!** software offerings. Milkyway Productions (P.O. Box 432, Old Chelsea Station, New York, NY, 10011) has recently re-released three of the most offensive and pornographic software products of the Atari VCS days. *Custer's Revenge* and *Bachelor Party* (even the title of the third product is too rude to mention) are available by mail order, but only to people over 18 years of age. If these titles see any kind of sales at all, we can expect to see them on the more sophisticated computer systems like MS-DOS.

From an Ad for "Defender of the Crown"

Infocom's "Leather Goddesses of Phobos"

Sierra's "Leisure Suit Larry"

A more innovative "X-rated Software" product is CVC Online's *SEXTEX* Bulletin Board Service (CVC On-Line, 801 Second Ave. NY, NY 10017). Done in conjunction with *High Society* (the elite "smut" magazine), *SEXTEX* promises to be the on-line equivalent of phone sex. Of course, independent swingers' bulletin board systems already exist in major cities across the country.

Finally, even dirty old *Softporn* is due for a comeback. It is currently enjoying a new lease on life as a graphic adventure for the NEC 8801 in Japan. It has also been rumored that it will be released this fall for Apple, Atari and Commodore 64 by Impulse (what else?) Software (P.O. Box 1103, Oakhurst, CA, 93644) with a suggested retail price of $7.95.

As more adults begin using the computer as an entertainment center, more adult software will emerge. Each publisher in this article is quick to point out that publishers are not trying to sell these items into the traditional entertainment software market (i.e. teenage boys). Adult software is sold to adults only. In fact, Infocom, Sierra, and other software publishers have been very conscientious about clearly marking software with warnings on the content of the software. Master Designer Software (distributed by Mindscape) would seem to be the exception in this regard. It is clear to the Software Publishers Association that some sort of self-regulation is the best policy and plans for a rating system will probably be made in a future SPA meeting. In the mean time, most of the software publishers and a lot of adventure gaming adults are glad that Tipper Gore doesn't own a home computer.

NEXT MONTH: Public Reaction to Adult Software

TITLE:	THEATRE EUROPE
SYSTEMS:	Apple, Atari, C-64/128
DESIGNER:	Ian Steels
PUBLISHER:	Datasoft (Intellicreations) 19808 Nordhoff Place Chatsworth, CA 91311

THEATRE EUROPE

Datasoft Goes To War

by Bill Harrington

INTELLIGENCE REPORT:

Since the Cold War in the late 1940's, the armed forces of NATO have faced the threat posed by the Soviet Union and her Warsaw Pact allies. As the decades have passed, each super power has perfected an arsenal of conventional, chemical and nuclear weapons unlike any ever unleashed before in battle. While a Third World War might begin anywhere and would surely be a global struggle, ultimate victory or defeat might well hinge on the success or failure of a massive Soviet invasion of Western Europe. For nearly four decades the politicians and generals of three continents have sought answers to the unthinkable. Could the outnumbered western alliance withstand the Soviet onslaught using only conventional weapons? Would one side or the other feel forced to resort to advanced chemical weapons? Would a nuclear option involve only a "limited" tactical exchange or would such implementation lead inevitably to full-scale strategic nuclear war?

Theater Europe (TE) is a hybrid product which functions as an introductory level strategy game covering the battle for Europe in the "next" war and as an arcade game integrated into the strategy game. TE comes with a 12 page game manual, a copy of the front page of the Die Zeitung (a fictitious West German newspaper outlining the present "Crisis") and a map of Europe, including both NATO and WARSAW PACT reinforcement schedules. The documentation ushers gamers quickly through the initial game set-up, options and game play.

DEPLOYMENT:

All game commands in TE are issued via joystick from a series of on-screen menus. Commands are both simple to learn and use. Players may elect to play the game at any one of three difficulty levels. Unfortunately, TE allows only solitaire play with no provision for two player gaming. In addition, only one game at a time may be saved to disk.

TE provides for two types of game play. Gamers may elect to play a traditional strategy game or choose "Action Screens," arcade style game screens which, if selected, occur during combat. These are definitely NOT simulators, such as Gunship, F-15 Strike Eagle, etc. The ability to drop down from a strategic game to a tactical simulator would be an interesting option. However, a challenging arcade "shoot'em up" sounds like it could be entertaining in its own right, if not strictly relevant. This is where TE begins to fall down. The action screens (infantry, tanks, jets and air raids) are, in fact, only a single arcade game that even the truly uncoordinated should be able to master in one sitting. CHOPLIFTER it isn't. Their entertainment value drops faster then a banana republic's currency. To make matter's worse, the "results" of these arcade games go on to influence the results of the larger strategy game! Serious gamers may want to give this particular game option a miss.

In spite of these drawbacks, TE is a somewhat more substantial as a strategy game. Units are CORP level and include NATO, Warsaw Pact, and Neutral (Swiss, Austrian and Yugoslavian) forces. Each unit is rated in turn for Combat Strength, Air Support and Supply level. Note that corp and army organizations in TE are not strictly "historical." The game proceeds in turns representing two days each. Each turn includes a movement phase allowing gamers to deploy NATO or Warsaw Pact units. Units generally move one position at a time, via the joystick, except in mountain areas where units take two game turns or four days to enter a new position. The principal exception is the Warsaw Pact 1st Airborne Army which may be deployed deep behind NATO lines in its initial move. Oddly enough, perhaps because of game scale, the game does not allow NATO airborne units (e.g. the 82nd Airborne) similar deployment.

Next, players enter an attack phase and select enemy units as targets, again with the joystick. After selecting targets, the player may choose to use tactical "chemical" weapons for this turn and the balance of the game, enhancing enemy losses, but raising the spectre of an enemy response. After leaving the attack phase, the screen display "flickers," indicating units engaged in combat. Destroyed units

disappear while defeated units are retreated one position to the rear. After combat, the player enters a rebuild phase for allocating supplies, airpower and reinforcements to depleted units.

Finally, TE players allocate available air power to air superiority missions, counter air, interdiction, reconnaissance and three special tactical missions ("assaultbreaker" to disrupt an enemy attack, "deep strike" to attack enemy command and control centers and "iron snake" designed to cut enemy rail road lines). Strategic and Tactical Air Support in TE is abstracted, with no air combat plotted or displayed during game play. Last, but not least, players may choose strategic chemical or nuclear attacks on single enemy cities or launch a massive nuclear retaliation by inputing a nuclear authorization code.

DISPOSITION:

Game play in TE proceeds quickly. A single game takes approximately an hour to play. When the computer commands the Warsaw Pact, it acts aggressively, but fails to coordinate attacks or fully deploy all the available units. The Soviet 1st Airborne conveniently waits behind enemy lines to be surrounded and eliminated (even at level 3!) When the NATO player stays on the defensive and plugs any gaps in the central front with reserve units, the Soviet computer player is easily frustrated. Commanding NATO, however, the computer player is NEVER aggressive (even when I ordered the Warsaw Pact armies to retreat toward Moscow on day one!). When I didn't order a retreat, the computer player allowed me to turn the Northern flank and surround the remaining NATO forces in central Germany. Alas, the NATO solitaire player was a poor loser and launched a full scale nuclear strike. That is the real problem in TE. You can't win for losing. That may be the point of the game, but as entertainment, it is of questionable value.

FINAL SOLUTION:

TE tries to be two very different games. As an arcade game, the "action screens" simply don't measure up. As a strategy game, TE uses all the right jargon, but a simplistic design and lack of a two player option make for a game that is barely introductory level. TE does a credible job of demonstrating the perils of escalation and dramatizing how slippery the slope to nuclear war might be, but is basically a game in search of a market.

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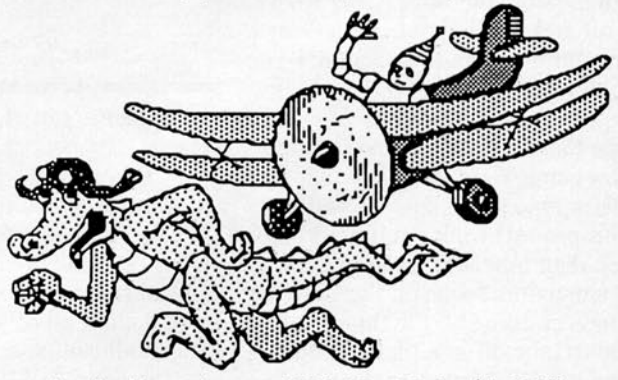

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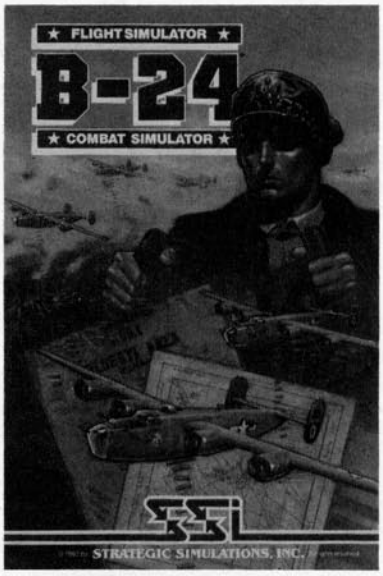


A Fresh View from a Bombsight

by Leroy W. Newby

After 43 years, the name "Ploesti" still turns a head, jogs a memory and tugs at a stomach if it is uttered within earshot of one of some few thousand men in their sixties who knew the flak-filled skies of "Ploesti." "Ploesti," known as the graveyard of bombers, was the site where more bombers (339) were shot down than at any other target in World War II.

John Gray did more than turn my head when he phoned me and said he was designing a computer game based on my airplane, *Hangar Queen*, and my Bomb Group, the 460th (stationed at Spinazzola, Italy), with a mission directed toward "Ploesti," Rumania. He had just finished reading my book, *TARGET PLOESTI: View from a Bombsight.*

John brought me out to California and sat me down at his computer. There, I played his first game, *50 Mission Crush*. That was my first experience with a computer game and I was sent back in time as I flew combat missions into Germany from a U.S. air base in England. On my seventh mission (in the game), as my plane was being torn up by enemy fighters and the bail-out alarm sounded, my palms oozed sweat and my heart beat faster as I relived that horrible moment when, on my actual fiftieth mission, the wing of my B-24 blew off and I bailed out. John Gray had captured combat realism in a computer game!

While there, he walked me through his new game, *B-24*. *B-24* is a flight simulator type game. He showed me how his product took a different approach than other flight simulators. Most simulators focus on the exacting demands of doing all the things required to take off in a plane, loop it, or land it. In *B-24*, you as the Commanding Officer of the 460th Bomb Group are presumed to know the mechanics of flying an airplane. In playing *B-24*, your skill input involves decisions such as choosing one of 12 oil refineries encircling the city of Ploesti, changing course so as to avoid a mountain at your altitude, conserving gasoline for the trip home, maintaining a certain air speed so as to stay in formation and not become a "straggler" waiting to be shot down, "joining up" with your group formation 2,000 feet over Spinazzola, Italy, and rendezvousing with your 15th AF Fighter Group to be escorted to and from the target.

Taking off requires attaining a certain air speed to get off of the ground. You have some say in this as you choose the bomb and gas load, with consideration of the head wind at take off, all of which affect runway and lift off speed. You also control the degree of flaps and engine power settings to gain optimum fuel usage and not overheat the engines. If you fail to reach a certain speed by a designated point on the runway, you may "abort" if you act quickly enough. This may cost you some efficiency points, but will certainly be less of a penalty than crashing on take off. You are in control! All of this came from John Gray's experience as a B-29 Flight Engineer in Korea, as well as flight test engineer and pilot for Boeing.

OIL'S FARE IN HITLER'S WAR

John "picked my brains" for several hours and I supplied him with many authentic combat documents (some of which are reproduced in the game packet). We discussed all of the facets of a Ploesti bombing mission, from finding the Initial Point (start of the bomb run) to procedures in leaving the target area. We also covered the specific targets and their relative importance. Since oil was one of the single most important ingredients of Hitler's war machine and the end of the war in Europe hinged on the destruction of his oil production, one's success in the game revolves around the daily production rates for each refinery. How accurately you bomb your objective is reflected in the drop in production rates after you leave the area. Your efficiency rating includes getting a high percentage of planes back to base, degree of target destruction and other factors. When you complete the 19 missions flown by the 15 Air Force against Ploesti, your total destruction of production at the twelve refineries is measured against the historical destruction by the 15th Air Force in 1944. If your total destructive impact is greater than that of the 15th Air Force, you will be given an estimate as to how much you would have shortened the war and how many additional lives would have been saved. Conversely, if your total destructive impact is less, you will be given an estimate as to how much you would have prolonged the war and how many additional lives would have been lost.

On my second trip to California, I was amazed at how John had captured the many nuances of decisions having to be made in split seconds and affecting the success of a mission. His grasp of details, known only to men who were there on those missions, is impressive in their integra-

tion into the game. Game is not the right word. Experience is what you do when you grab that joystick and work your way to Ploesti and back. Satisfaction is what you get when you make that landing back at Spinazzola.

THE CHAUFFEUR SYNDROME

After watching John fly a couple of missions (with my kibitzing mounting to the point where he had to tell me to wait my turn), he finally said, "Now, Mr. Bombardier, let's see what kind of a pilot you are!" We bombardiers always said that WE were the reason it was all happening..."You pilots are just around to drive us bombardiers to the target so we can strut our stuff. Same for you navigators!"

I, of course, picked Astra Romana, the largest refinery in Europe, as my target so I could gain extra credit for destruction of my old nemesis with its high production rate. I filled the gas tanks to full because it was a long haul and I wanted to go in high at 24,000 feet to cut down on flak accuracy. I hedged a little on bomb load, taking only eight 500# bombs in order to conserve fuel, even though it would cut down on my bombing effectiveness.

I had never taken off a Piper Cub, let alone a four engine bomber, but there I was poised at the start of the runway, engines on full power. I started down the runway as my airspeed increased tantalizingly slowly. I barely attained the required speed at the point-of-no-return check point, so I decided to go for it. As I reached the end of the runway, I seemed to have take-off speed and had no choice but to lift-off. As my co-pilot, John, shouted, "More flaps!" I responded with ten more degrees. "Nose down to gain airspeed." "Roger," I responded as I obeyed. "Level out!" Whew! This taking off always looked easy when I was a bombardier!

We began our slow climb to 2,000 feet and headed for the coordinates indicating Spinazzola, our rendezvous point for group assembly. I was already perspiring. The trick in assembling the group of 40 planes is to maintain assembly speed while circling Spinazzola. I somehow did this, but when I set out across the Adriatic Sea, I failed to pick up my fighter escort and our group was forced to fly all the way to Ploesti sans fighter escort...and that is not a good idea. We lost a plane to enemy fighters before we got to Ploesti.

The 460th Strikes Oil at Ploesti

As we started down the bomb run, we lost an engine to flak and our oil pressure dropped before we could feather the propellor. A super charger went out on another engine and our total available power dropped drastically.

My mind raced back 43 years to when I was in exactly the same situation. At that time, I was the bombardier so I salvoed my bombs as we began falling below and behind our group formation. Our pilot then maneuvered the plane into a dive in order to gain air speed and get us out of the flak zone quickly. We leveled off about 13,000 feet and headed home alone. Our Number Three engine was "windmilling" because we could not get it feathered and face the blades thin side forward in order to reduce drag. Two other engines had the superchargers shot out, so we had only one complete engine.

John Gray didn't have to coach me on what to do now. I dropped my bombs, closed the bomb bay doors and noted my airspeed was not dropping so fast--but my altitude was dropping! By the time I got things under control, we were at 11,000 feet. I had to study the map to plot my course home. There were several 8,000 foot mountains in my path, but a few places to slip over some hills with only a 2,000 foot elevation. Unfortunately, the low hills took us over some cities known to have flak batteries. Of course, there were always "bogeys," German fighters, to worry about, as well.

We did engage some fighters, but our gunners drove them off. As we approached the Adriatic coast, our fuel supply became a concern. A calculation revealed we could not make it across the sea to our base, or to the alternate base at Foggia, a few miles closer.

THE SHORT END OF THE STRIP

I was living back in 1944, as I sweat over the map and the stats shown on the screen. We had thrown out everything not nailed down, including the famouse Norden Bombsight that I had taken a solemn oath to defend with my life. We had to wend our way through the Dinaric Alps to the sea and then, locate the Island of Vis for an emergency landing.

"We're going to Vis," I hollered to John, who was sitting right next to me. The Power setting on my #3 engine (why does it always have to be #3?) was zero and there was only 6 on #1. The others were at full power--9. Now, I was going to land a bomber for the first time and it was going to

(Continued on page 49)

Inside Defender of the Crown

No "Game Design Issue" would be complete without an article on strategy. Kelly Beeck, designer of Defender of the Crown, shares the inside information on how to defeat those Norman dogs. Most of the information in the article applies to the C-64 version of the game, but Amiga owners can gain from these tips, as well.

by Kellyn Beeck

Movies often succeed or fail on the strength of their characters. Without interesting and believable characters, even the most promising storyline can fail miserably and disintegrate into a series of disconnected events. *Defender of the Crown* (*DOC*) is like a movie in this respect, because characters are vitally important. They determine the outcome of every game by directing the course of events as medieval armies march and collide across the landscape of 12th Century England.

In fact, the best way to tell you how *DOC* is to explain the role of characters in the game. Based in part on the Robin Hood story, *DOC* involves a "minor" disagreement between Saxons and Normans: a civil war. Civil wars were almost commonplace in medieval England and the middle of the 12th Century is convenient because the Saxons were still smarting from the Norman Conquest. Therefore, the game takes place at the end of the Second Crusade (1147-1149). The story begins with a royal assassination, igniting a civil war in which you play a Saxon knight fighting against the Normans.

PREPARE THE RATING PARTY

Each game is played with a different set of medieval lords: three Saxons and three Normans chosen from an "all star cast" of nine characters. To make the character ratings work to your advantage, you will need to know the characters' strengths and weaknesses as you are playing the game. A table of the ratings is included with this article. Use it to try out some of the ideas that I am going to suggest, but remember: leadership ratings can change during the course of a game, so be sure to check your opponents' ratings frequently. The Saxons' ratings may be found in the game itself. See the chart on the next page for the Norman ratings.

Joust A Bout To Topple Thee

Be sure to consider jousting ratings when you are choosing opponents in the tournament. Your rating determines the size of the invisible "target" you must hit on your opponent's shield in order to knock him from his horse. If you have a "Strong" rating, the size of the target is larger and easier to hit. Conversely, if your jousting rating is "Weak," you must strike the shield very close to the center to win. Your opponent's rating determines how frequently he will miss. Weak opponents miss often and give you another chance if your lance was off target. Remember, *your opponent's rating only matters if you miss. That means hitting the center of the cross on the enemy's shield will always be successful, regardless of the ratings. Therefore, veteran jousters need not worry about opponents' ratings as much as beginners should. (Note for Amiga owners: the opponent's rating determines the size of the target in the Amiga version, your rating determines the degree that your lance bounces, and you always lose if you miss the shield target.)*

Fuel For The Duels

In swordfighting, ratings determine the strength of each opponent and are displayed as colored bars at the bottom of the screen. Most of the time, you should try to raid the castles of lords with lower swordplay ratings than yours. There are exceptions, however. For example, imagine that there are two lords left in the game, Roger Falconbridge and yourself. Falconbridge owns most of the territories and his army is stronger than yours. You can strengthen yourself at his expense by raiding his castle two or three turns in a row. If you are successful, the balance of power should be shifted in your favor.

When swordfighting, remember the guards are vulnerable only when holding their swords up at a 45-degree angle, so you need to wait for that moment to strike. Try parrying and retreating at the same time. The guard will follow you, thrusting and parrying as he tries to penetrate your defense. Sooner or later, you'll catch his sword in the vulnerable position--and that is the moment to thrust. As soon as the guard reacts by thrusting or parrying, though, return to parrying yourself and wait for the next opportunity to strike. Also, remember not to move too far to the left (unless you want to escape). If you find yourself running out of room, just advance while parrying and force your opponent to the right side of the screen.

The Causality of Casualties

When sturdy soldiers and gallant knights face each other on the "Defender" battlefield, the stronger army usually wins. Sometimes, however, leadership can carry a badly outnumbered army to victory. Further, in cases where the two armies are roughly equal in size, victory in battle will always go to the side with the strongest leadership rating.

Leadership increases the number of casualties your army inflicts on the enemy. During each round of battle, a base number of casualties is calculated according to the tactic you have selected. For example, knights have a greater chance of inflicting losses if you select "Ferocious Attack." After the base number of casualties has been determined, leadership increases the number by a certain percentage. A strong leader increases his opponent's losses by 43%; an average leader increases casualties by less than 18%; and a weak leader has no

effect. The percentage is doubled if you select "Outflank" as your tactic, so a strong leader can increase his opponent's losses by 86%. Therefore, you should start each battle by checking your opponent's leadership rating on the chart above (better yet, memorize them). If his rating is lower than yours, you may want to use the "Outflank" tactic.

In any case, choose the tactic that capitalizes on whatever advantage you have. If you have more catapults than your opponent, choose "Bombard." Remember, catapults are expensive, but they inflict more "casualties per dollar" than soldiers and knights. If you have more soldiers, go with "Stand and Fight."

Speaking of catapults, keep two objectives in mind for the catapult bombardments that take place during castle sieges: knocking down the castle wall and reducing the size of the defending army (the soldiers and knights are added together and displayed on the ammo selection screen as the "garrison."). Your first shot should always be a boulder. You can't launch a disease bomb or Greek fire into the castle until you have knocked a hole in the wall.

If your first boulder is on target, use your second shot to launch the disease bomb through the hole and into the castle. When it is used on the second day of the siege, disease causes 50% casualties among the defenders. The number goes down to 40% if disease is used on the third day, followed by 30% and so on. Greek fire always causes 10% casualties, regardless of when it is used.

Consider the strength of the castle, the garrison, and your own army before choosing your ammunition for each shot. The castle itself can be as important as the garrison inside the walls. In the battle which invariably follows the siege, any remaining castle strength decreases the defenders'

(Continued on page 48)

THE NORMANS

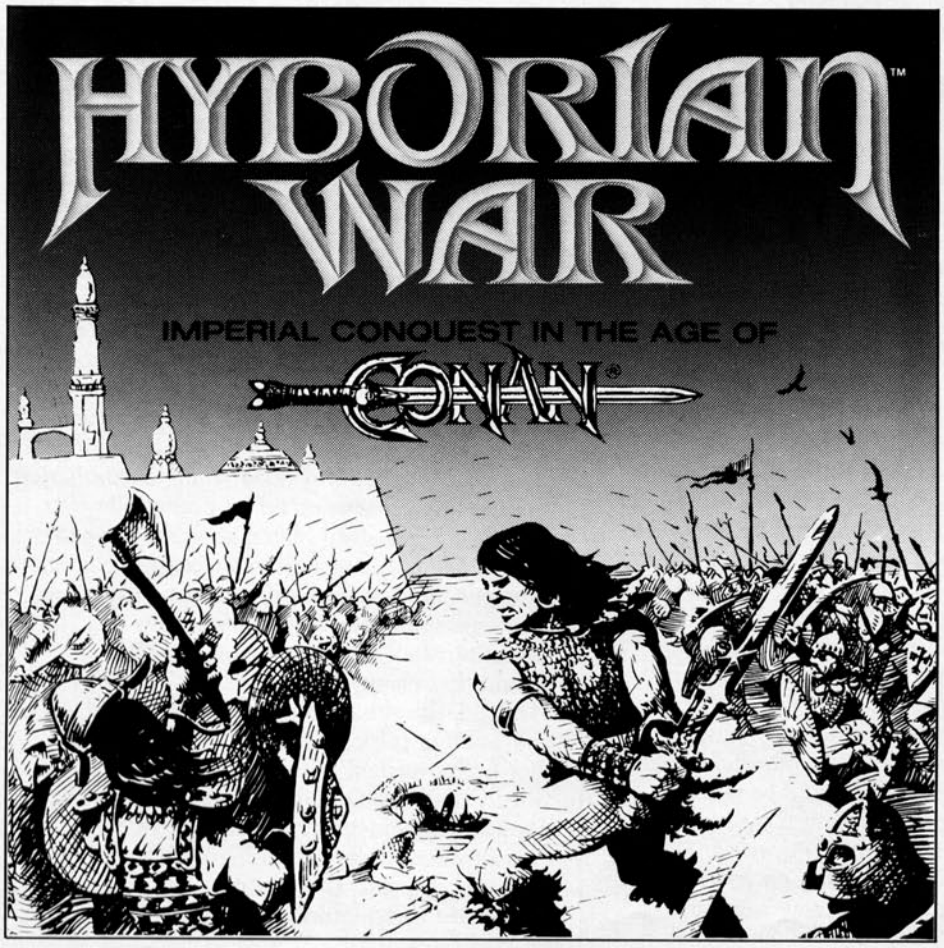
Brian de Bois Guilbert
Leadership: Good
Jousting: Strong
Swordplay: Good

Philip Malvoisin
Leadership: Good
Jousting: Good
Swordplay: Average

Reginald Front-de-Boeuf
Leadership: Average
Jousting: Good
Swordplay: Strong

Edmund the Grim
Leadership: Strong
Jousting: Average
Swordplay: Good

Roger Falconbridge
Leadership: Good
Jousting: Good
Swordplay: Strong



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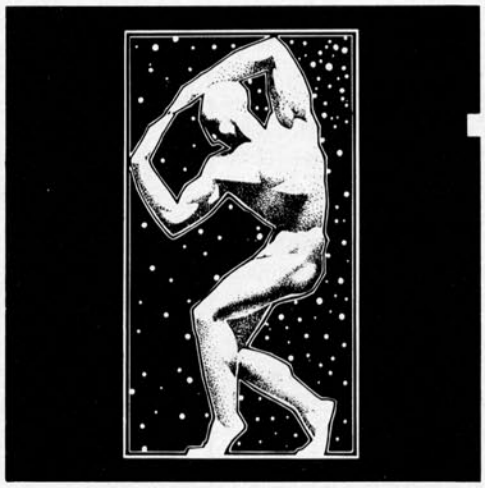
Titans of the Computer Gaming World



Part IV of V: Ardai on INFOCOM

by Charles Ardai

Chapter One

With a tip of the hat to those who have gone before, the author plunges determinedly into a study of Infocom, the source for text adventures.

Surprise!

You thought you knew Infocom like the back of your hand. Whether that hand held a glowing sword of Elvish antiquity, a Stellar Patrol scrub brush, or no tea, you knew what to expect: the best text adventures on the market, each written in a unique prose style which you either love or loathe; a consistency of subject matter and tone; and a degree of craftsmanship and pride in developing quality material which has won virtually all the most highly coveted awards in the industry for Infocom.

Recently, however, things have begun to change. The change is not in quality because, except for *Seastalker*, Infocom has never released a notably disappointing game (and that was years ago). Stylistic changes have abounded, though, and if they have not all been positive, they are, at least, well-intentioned. From programming to packaging, Infocom has been "pushing back the envelope" of the interactive fiction field. More "pushing" is on its way.

There is no way to tell if Infocom's new ventures will be successful and, despite their miles-long track record, one is tempted to point to the lukewarm receptions received by experiments such as *A Mind Forever Voyaging*, *Fooblitzky*, and their database, *Cornerstone*. Successful or not, however, one thing is certain - the nature of Infocom's software can no longer be taken for granted.

Some suggest that most of the alterations one sees in Infocom's characteristic style and development philosophy are the direct result of ownership by Activision. Though the two companies remain largely autonomous, it would be difficult to deny that Activision has an influence on the directions that Infocom pursues. Furthermore, the changes reflect decisions which seem typical of Activision (*e.g.* adding sound effects to certain versions of *The Lurking Horror* or releasing nine new products this year as compared to as few as three in previous years.

Still, one should not rob credit for the company's new directions from the decision makers at Infocom. The Infocom philosophy is, and has always been, a curious blend of risk-taking and reliance on past success. Thus, one has the increased interactivity of *Ballyhoo* at the same time as *Spellbreaker*, a.k.a. *Enchanter III* (a.k.a. *Zork VI*), or one is confronted with the expanded memory requirements of *A Mind Forever Voyaging* and *Trinity*, while one may also relax comfortably in the highly traditional puzzle solving of *Hollywood Hijinx* or *Stationfall*.

While this strategy could be potentially overcautious, it has always been successful for Infocom. Since it has been so successful, gamers have become less and less wary when Infocom announces new developments. In this past, they have almost all been improvements. Why should that change now?

Indeed, the situation shows no sign of changing. Though Infocom currently plans a more thorough overhaul of their systems than has previously taken place, their timing is ideal. The market seems just about ready for Infocom games which feature sound, graphics and new formats of play. If this is not so, however, and profits are not doubled as a result of players

hearing Floyd's [*Ed. - the inimitable Floyd the Droid!*] joints creak, Infocom is prepared, as usual. Another *Zork* spinoff is in the works, as is one or more absolutely traditional adventure games.

Several years ago, I was chatting with someone at Infocom and he revealed to me that a voice-controlled *Zork* had been developed, but was not going to be released until the market was ready to support it. Since then, many games have been released, each one heralding some new feature: the first of the now standardized packages (*Cutthroats*), the first licensed title (*Hitchhiker's Guide to the Galaxy*), and others. Yet, somewhere in the offices of this real-world equivalent of the Great Underground Empire lies a version of *Zork* which responds to voice commands. Somewhere near that gem, no doubt, is a game with unfathomable graphic capabilities undergoing development. A few doors down, Infocom's prophets must be looking even further into the future and gleaning ideas for ever newer ways to "expand the methods," as Infocom representative Cindy Weiss says, "of exploiting the multimedia aspects of interactive storytelling." With material, talent, and ambition like this on tap, a brighter-than-ever future for Infocom is virtually assured.

Chapter Two

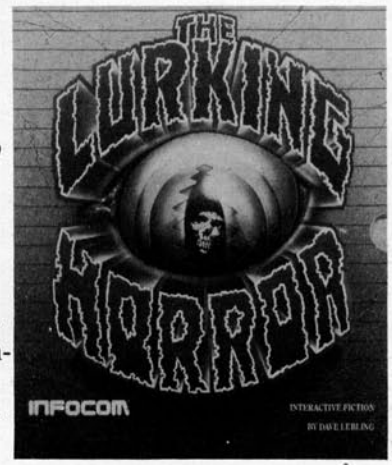
The author recounts his own experiences with an uncontrollable passion for Infocom's peculiar brand of interactive fiction.

I have some friends who simply cannot understand why I and so many others adore text adventures. Most of them admit that **if** I have to adore them, Infocom's are the ones to adore, but they still cannot comprehend the allure of a screen filled solely with text or of a simulation of life so terribly restricted. One, the manager of the neighborhood "Software City" that has appeared in prior installments of this series, gave up on Infocom after encountering the first signpost in *Enchanter.* Another, a noted gaming columnist and budding novelist, admitted recently that he hates text adventures. Further, the terrible thing is, I can't even answer their objections.

Ever since I played my first Infocom game - *Planetfall*, as I recall, - I was hooked, tolerating even the abominably slow Commodore 1541 disk drive in my zeal for the genre. To those who just shake their heads in pity, I offer no defense. The puzzles are frequently silly, the situations are contrived, and the choices to be made are limited, but I play every single game Infocom makes, and I *enjoy* them. Some I enjoy more, some less, but I always enjoy them on some fundamental level.

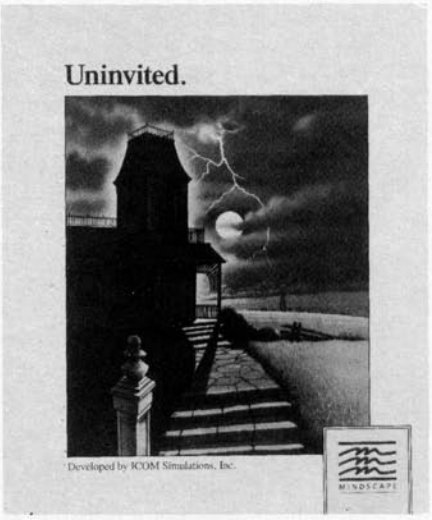
There is a certain satisfaction to be gained from solving even the silliest of Infocom's puzzles, a feeling whose existence is common knowledge to the crossword puzzle enthusiast or the mystery-story reader. If the situations happen to be of limited scope, how much more so are the situations depicted in a film or novel?

Of course, there is not a single Infocom game which can compare, on any level, to a great novel. There are, needless to say, different emotional and intellectual responses upon finishing *A Passage to India* and completing *Leather Goddesses of Phobos*. When you do finish *Leather Goddesses*, though, there is a pleasantly euphoric sense of triumph to be had. This must be, I suppose, partially a joy at triumphing over the machine and partially a satisfaction at having beaten the game's author in a battle of wits. Is an adventure game really more than a highly elaborate version of "Twenty Questions?" Interactive fiction has less in common with modern fiction than it does with the age-old pastime of riddling - and perhaps, it is this basic connection that accounts for the success of so many fantasy games played out against medieval backdrops. Therefore, it is fair to say that Infocom's games are, most of the time, just entertaining puzzles, albeit very entertaining ones. Sometimes, however, and not terribly infrequently, either, Infocom's writers create a portion of a game which transcends its medium and bridges the gap between interactivity and fiction, between activity and art. When a game can make a character come alive, establish a conflict whose resolution can be separated from the resolution of an individual puzzle or riddle, or when a passage of prose or a sequence of events elicits a response from the player which exists outside the strict confines of the game, an adventure game has become a transcendent work. This is the case with parts of *Planetfall*,



(Continued on page 46)

NAME:	Uninvited
SYSTEM:	Amiga, Macintosh (Amiga version reviewed)
PRICE:	$49.95
DESIGNER:	ICOM Simulations, Inc.
PUBLISHER:	Mindscape Northbrook, IL



Uninvited.

A GUIDED TOUR OF A MACABRE MANSION

by Roy Wagner

THE ENTRYWAY

(Warning! *Uninvited* visitors who do not desire hints should move to "The Study" portion of the tour!)

You sit behind a steering wheel. The windshield is cracked and the text displayed in a separate window tells of your brother's startled cry, your swerve to avoid someone/something on the road, and your missing brother. Another rectangular window indicates all possible exits from the current scene with a small square wherever an exit is located.

Well, here we sit in a wrecked car with the smell of gasoline pervading our senses and lightning and thunder invading from outside. The first task is getting out of the car. Once outside, you find that you are standing in front of a very large house with a mailbox. What do we do with a mailbox? Of course, we follow the unwritten rule of adventure game playing. That is, disregarding any legal or ethical considerations, one always opens every mailbox and even, letters to others in order to examine their contents. [*Ed. Note: This is now a written rule.*] Then, you add what is found (and what is important) to your inventory. Now, the task is getting into the house. The door is easy to open (So is going inside!), but from the way it shuts behind you, getting out of this house is not going to be so easy. This is a good time to SAVE the game.

You will encounter several other creatures, but the only other living human in this house is your brother and you won't find him until the end of the game.

In the early stages of your exploration you have a few rooms that are safe to explore, but several rooms are guarded by a beautiful apparition which ends up turning quite nasty. Upstairs there are lots of rooms to explore with many objects to consider. A great number of clues are also found upstairs that will prove useful as the game progresses. The attic is certain to provide a dead end.

Having taken care of the downstairs ghost (just let the upstairs one be), you are able to explore several more rooms and then go outside. You will find several useful items in these rooms, so don't rush outside too quickly. Though not obvious, the light in the servant's quarters should be turned on. Then, you will face something else that must be turned off (use a certain inanimate object).

Don't leave the house until you have started a fire and solved the puzzle of the hingeless box. A demon with a key wanders through the house. He will challenge your patience, but isn't important until much later in the game, when you explore the outside areas you will find something that he will enjoy having.

Outside you will find three new buildings to explore; a greenhouse, a chapel, and a magesterium. The greenhouse will be the easiest, even though it may not seem productive at first. You will not be able to enter the magesterium until you have completed your exploration of the chapel and the maze beyond it. Getting into the chapel will not be easy either because of two vicious dogs. These dogs are good listeners so you might try SPEAKing to them, but make sure your words are spelled correctly. Once inside the chapel, you will find another that will listen to your words.

Before leaving the chapel, explore the area below the altar. It won't be easy getting down there, but if you have SAVEd the game, it will be fun. The exit from the chapel leads to a very challenging maze. It can be mapped by paying close attention to the display in the EXITS window. The maze contains several tombstones, all missing something often found on graves (do you have it?). Yet, only one grave site is the right one and it is deep within the maze. Several problem situations will have to be dealt with in the maze before you get what you need.

Now, off to the magesterium with its three mysterious doors guarded by yet another demon. This one probably liked to visit the greenhouse when he could. The laboratory will certainly have you combining elements to get something that another hungry demon might like and the mysterious caverns will lead you to the end of this game, but it won't be as simple as it seems.

The key to finishing requires floating to an otherwise unreachable height, finding your brother, and destroying the demon that is now more interested in possessing you. Once you have finished, you will be rewarded with a printed certificate. (With the Amiga version, be sure to copy your printer driver to the game disk, unless you start the game from your standard WorkBench.)

THE STUDY: AN OVERVIEW OF THE GAME SYSTEM

(Uninvited visitors are encouraged

to scrutinize the writer's descriptions of this adventure's mechanics.)

Uninvited uses the structure, screen display and play system of Icom/Mindscape's earlier adventure game, *Deja Vu*, although the stories are not related. **ICOM** originally designed these games for the Macintosh, but they are now available for the Amiga. The user interface and appearance for the Amiga versions are very similar to that for the Mac, except for the addition of color. The graphics are reasonably detailed, audio is digitally supplied for a pleasant sound, and the manual and quick reference card for the Amiga version do a good job of explaining the details of game play.

THE KITCHEN

(*Uninvited* visitors are reminded that temperatures sometimes become uncomfortable in this room.)

There were a few minor annoyances with the Amiga version. It failed to take full advantage of some V1.2 features, probably because most of the development was most done using V1.1. The frequent loads from disk for the demon with the key and for sound effects became tiresome. I frequently wished that the game had an option so that sounds could be toggled off and on. The sounds were, in general, effective, but sometimes not as clear as they could be.

There was some confusion in the game in LOADing SAVEd games when you intended to resume play using a previously SAVEd from file. If you have enough extra RAM, I highly recommend saving your game to RAM: while you play and then copying the files you want to keep to disk after you QUIT the game.

THE ART GALLERY: A PERSONAL PERSPECTIVE ON GRAPHICS

(*Uninvited* visitors are welcome to peruse the critical evaluations of the writer with regard to graphics adventures in general and *Uninvited* in particular.)

I like a good text adventure game, especially Infocom text adventures. There is an intellectual challenge in a good text adventure that is hard to match in a graphic game. I also like to read and that is probably another reason that I like a well-written text adventure. There are a lot of good movies, but the book is usually better.

Occasionally, I find myself confronted with graphic adventures beyond the fantasy "hack and slash" type, story games that use graphics to augment the text. There are good ones, but the graphics displays really slow things down and are often of mediocre quality. Too often, more time is spent preparing the graphics rather than a decent story line. After seeing and waiting for the graphics to display a few times, I usually hope that the game has the option to turn off their display.

Then, **Mindscape** released their Macventures, *Deja Vu* and *Uninvited* [*Ed. Now, there is also Shadowgate.*]. These are **true graphic** games where some of the graphics are vividly (or perhaps I should say, horrifically) animated in order to add tremendous depth and texture to the story line. Aside from the SPEAK command, the entire story is told as you move various graphic images or act upon them by using a small list of action words (EXAMINE, OPEN, CLOSE, OPERATE, GO, HIT, CONSUME, and SPEAK). Of these, EXAMINE and GO are not even necessary because you can use a mouse to perform their respective actions.

In *Uninvited*, the SPEAK command is only needed twice. In each case, you must type in the text you wish to SPEAK. There is one other bit of information that you must also type. Aside from those three times, the rest of the game is played with mouse power. The "literary" text story still remains because the mouse actions you take result in the display of text in a special text box (through which you can also scroll back to view a limited amount of previous text).

Using graphic images only may limit your actions in a given situation, but it also eliminates, fortunately, the constant frustrations of trying to manipulate poorly defined graphic images using text input. The EXAMINE command will tell you what the object is and provide some idea of how it can be used. In *Uninvited*, there are plenty of images to carry, many more to move only, and others to EXAMINE only. All are done with easy mouse input.

Only about half the objects are actually needed and you must decide which objects these are. The useful objects are generally used for only one ultimate purpose. Even though you are dealing primarily with objects, however, the game is ultimately completed by correctly interpreting the text story as it unfolds.

As with any text adventure, what you are *not* told or are very indirectly told, can create frustrations with game play. This game is not without a few of those situations. One example, encountered early in the game is a statement intended as a clue. It read, "Gold, silver and mercury, together they form a key."

This phrasing is such that once you know what it is trying to tell you, you can understand how the author (or playtesters) thought it was a good clue. In its present wording, though, it is *very* difficult for that clue to be of much help. Perhaps, other phrasings of the same information were thought to be too obvious. My alternate phrasing might help you. "The combination of gold, silver, and mercury will unlock the door."

THE DINING ROOM

(*Uninvited* visitors are allowed to savor the gustatory recommendations of the writer.)

I found this game to be very enjoyable. The game concept is innovative and fun. It is much easier to work with than pure text or text and graphic adventure games. Eight sheets of clues/hints can be obtained from Mindscape for a very reasonable price in order to make it easier. I recommend this one for anyone interested in trying something new and I also recommend sending for those clues/hints right away.

ABOARD THE TEN THOUSAND SENTRIES LIMITED

A Unique Strategy/Arcade Excursion Via "The Sentry"

by Roy Wagner

Name:	The Sentry
System:	C-64/128
Price:	$39.95
Designer:	Geoff Crammond
Publisher:	Firebird Ramsey, NJ

As you stand quietly and look around, you find you are trapped in a lonely mountainous region with a few randomly scattered trees. The flat lands are a checkerboard of colors. As you continue your observations, you refrain from making any sounds. Any noise will activate the Sentry that is assigned to the area in which you are currently located. The area is large, but as soon as you make a noise, the Sentry will be reactivated to scan the area. If you are spotted and don't move quickly enough from its sight, you will be destroyed. The Sentry must maintain the equal distribution of energy and your presence will upset that balance.

The Sentry may also have Landgazers which assist it in surveying areas where the Sentry cannot see. Your challenge is to destroy the Sentry before it destroys you. You need have no fears or emotions since you are a robot just like those that oppose you. They will seek out any energy objects with a value greater than one and *you* have a value of three. Your only defense is to move without being seen and seek higher ground in order to see where the enemy is located and absorb its energy.

You possess a certain amount of energy and can use it to create other objects. A tree has a value of one, a boulder rates a value of two, and another robot (similar to yourself) has an energy value of three. This is possible to accomplish on any visible, unoccupied square of flatland. In a similar way, you can also absorb objects to increase your available energy.

Once, however, you take any overt action, aside from horizontally or vertically scanning your surrounding area, the Sentry and Landgazers will seek to absorb your energy. Your advantage is that you can move. Their advantage is that they scan the landscape from above you because the Sentry is located on top of the highest peak of the area.

By skillful, strategic climbing, you can avoid being seen and move to higher and higher areas until you are able to stand above where they stand. From that height, you are able to absorb them. The region that you start from, though, is only one of ten-thousand. There are many more challenging regions that await you, each a match for your current energy level.

The Sentry is an outstanding and addictive game. It does not pamper you with easy levels. The game begins with your entry of a four digit number and an eight digit password that designates the landscape. For your first game you enter 0000 for the landscape number and no password. Even the first and only known landscape is tough, but it teaches you the necessary skills that you will need for other landscapes.

From these numbers a three color, "fractal" landscape is generated which includes flat lands, hills, and mountains. You initially see an aerial view of the entire landscape which looks somewhat like a three-dimensional topological map. It shows the relative positions of the Sentry and any Landgazers that may be present. Your position is not shown, but is always at the lowest visible level.

Once you feel that you are familiar with the region you can press any key and be transported to the surface of the landscape. You will now view the landscape directly from where you stand upon it. You now have a safe period of time to look around the Landscape using the panning keys. You can pan left and right through 360 degrees or pan up and down through about 80 degrees. This gives you a chance to spot the Sentry or any Landgazer which is not yet activated. You also are able to select other squares to which you can move. Panning is the only operation that you can do which does not make any noise.

The Sentry, also a robot, stands upon the highest point of the terrain. Once a noise is made, the Sentry and the Landgazers become active. They scan the landscape looking for squares that contain any alien energy levels above one and ignore any square that contains a tree (one energy unit) or is empty.

If they find any object(s) with a value greater than one, a unit is taken from the square and tree is created on a random empty square. This process of unit subtraction and tree creation is repeated until all energy on that square is reduced to one unit, a tree. As you create boulders and other robots, the Sentry and Landgazers will seek to reduce them to a level of one.

You are able to move about the landscape, avoiding the Sentry and Landgazers, by positioning your sights on an empty square and creating another robot there.

If you are spotted by the Sentry or a Landgazer, a Scan Warning indicator will fill with specks and you will hear a low buzzing sound. This is called a full scan and you have about five seconds to move before your energy reserve is drained one unit at a time. When all your energy has been been drained, you will be absorbed and the game is over. Up until you have lost all your energy, you can move from the square or may hyperspace to another random location leaving your old robot behind.

If you have been spotted, but the Sentry or Landgazer cannot see the square on which you are standing, the Scan Warning will be half filled with specks and you will hear a low buzzing. They cannot absorb your energy, but they will attempt to force you out into the open by looking for a tree in your vicinity and transforming it into a Meanie.

The Meanie will rotate quickly, making a low clicking sound, until it faces the robot you occupy and force you to hyperspace at a cost of three units. It will then be transformed back into a tree. Your best response to a Meanie or a full scan is to move to another square as quickly as possible.

Once activated, the Sentry and Landgazers rotate through three-hundred sixty degrees in thirty degree increments. By observing the direction The Sentry and each Landgazer rotate, you can more easily avoid their absorbing stare. Therefore, the game is reduced to three very simple actions: scanning, moving, and absorbing energy. Nevertheless, these three prove to be very intensive and the quest for successfully completing a landscape becomes a strong obsession.

There are several possible strategies that can be used to seek out and destroy the Sentry: creating trees to block your position from view; creating boulders on squares to test if the Sentry or Landgazer can see that square; or stacking one or more boulders on a square to elevate your position in order to reach greater heights. Do not spend too much time scanning or absorbing energy without being within close range of your next move, since when you are spotted, the five seconds that you have in which to move goes by very quickly.

This game has been very successful in the United Kingdom, where it originated. This is due in part to its simplicity. There are no complicated actions that need to be performed to win, just some very well planned actions. This game offers the thrill of laser tag as you play the role of a simple soldier on a three dimensional chess board. I highly recommend it for many absorbing hours with your computer.

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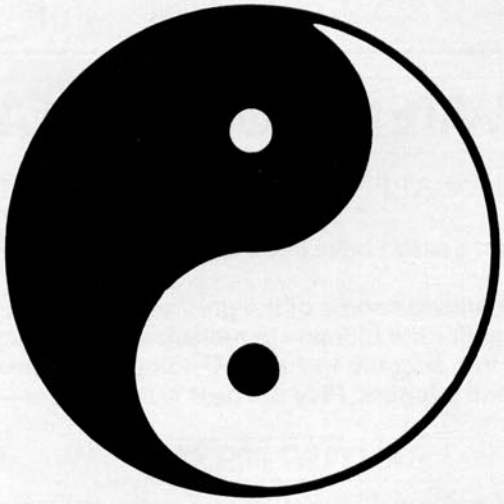
Circle Reader Service #39

DEALER INQUIRIES WELCOME

ZEN AND THE ART OF GAME DESIGN

by Greg Johnson

In this, our Game Design Issue, we felt it would be appropriate to at least touch upon the relationship of games and game design to life itself. We asked Greg Johnson (lead designer of Electronic Arts' "Starflight") to enlighten us concerning such weighty matters. Here is the, more or less, English version of his article. We're still working on the translation of the article into the Swahili version of CGW.



Instead of occurring in space, a game should be space. It should explore the "now essence" and allow the player to become a totality of experience. In doing this, the game and the player, in effect, become one. In designing software, people all too often overlook the fact that all that was, is, and all that is, shall be. Most game designers adhere to the old philosophy of "immaculata concepta nongrata" and, in a blind attempt to create creation itself, they undermine the very foundation of determinism. These concepts may appear to be subcilliary, but they are at the very heart and guts of game design.

One's first step in designing a computer game should be to find an idea that communicates itself. If an idea is not strong enough to communicate itself or infuse one's being (if you will), it can hardly be expected to maintain its integrity within the realm of social circumcision. This may seem like an obvious point, but it lies at the center, as well as the periphery, of design.

The second step of a designer should be to reexamine the motivations. It may be necessary to first examine the motivations, if this has not already been done. Without the proper motivations, a game can hardly play itself. Further, without these motivations, the game inevitably becomes motivationless, and in some cases, even lackadaisical.

The final step in game design should be to express the inner mind as seen through the inner eye of the total self. This may seem complex at first, but if it is kept in mind that a game is only an extension of a real falsehood into a false reality, it becomes extremely simple. If these principles are clearly understood, the game system rather than the mechanic will become manifest.

In summation, it can be seen that the process of design is essentially a non-design process. It can also be seen that it is the quintessential design process. While this may seem like a contradiction, it both is and is not. Certainly it can be said that in order to design a game, one must open one's mind and free oneself to the pleasures of the body. In fact, this is only one of many things that can be said.

In summation of the summation, we have learned that much can be said, but how much, after all, can we hear. Perhaps only what is said and then again, perhaps only what is not said.

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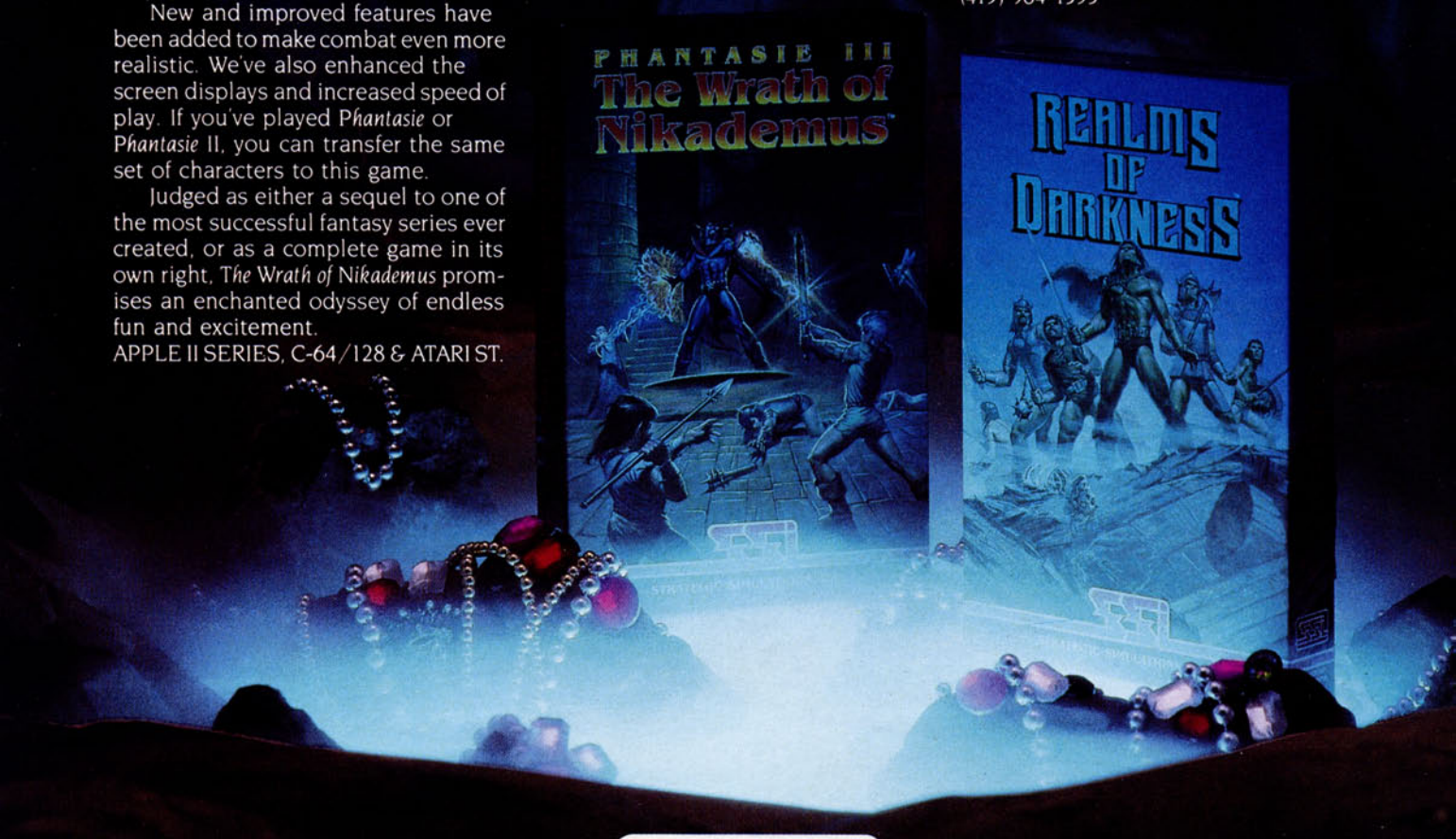

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Titans of the Computer Gaming World

(Continued from page 39)

Spellbreaker, and *A Mind Forever Voyaging*, to name a few appropriate examples.

Even if none of these are *A Passage to India*, or even *Lake Woebegon Days*, they are unquestionably light years ahead of the text adventures made by other companies. **Synapse** came close with *Mindwheel*, but that game collapsed under the weight of its poor operating system combined with that of virtual cartloads of artistic pretensions.

Infocom doesn't pretend to be anything other than what it is. What makes Infocom games special is not just their entertainment value as *interactive* fiction, but also as interactive *fiction*. Thus, it is this precarious balance which makes Infocom games so good.

Chapter Three

In which the author not only highlights Infocom's two newest games, but also previews their next three, the latter being a matter of utmost secrecy at press time.

Interestingly, rather than pursue new directions in fiction, Infocom is returning to many traditional aspects of adventure gaming. Even their newest ventures are more experiments with new types of gameplay than they are experiments in plot or characterization. Nevertheless, don't be surprised if, as you play these games, you see a greater finesse to the writing or discover some strikingly memorable text. It is, after all, what we have come to expect from Infocom.

The first two games mentioned are already available. The latter three are due to be released this fall. Information concerning the yet-to-be-released games comes directly from Cindy Weiss or other Infocommies. So, if something changes in the meantime, they are the ones to yell at.

The Lurking Horror (Dave Lebling): This seems to be Lebling's paen to his M.I.T. days, with a bit of horror thrown in so that the title makes sense. You are on a snowbound Massachusetts college campus with a twenty page essay to write and a word processor which cheerfully transports you into a demon-ridden pit at the drop of a Find-And-Replace. Homages to the horror canon, from *Ghostbusters* to *The Twilight Zone*, fill the story

PEARLS BEFORE MINDS!

I really enjoyed Kilobyte's reviews, but it was frustrating to read about games like "After Pearl" which I have been trying in vain to get for a long time. Is there a market out there for used games? How do you tap into it? Does *CGW* accept classified ads for defunct games? Help!
Greg Wilmoth
Tucson, AZ

Ed. "CGW" does not accept classified ads for defunct games. However, (trumpets blare) our companion magazine/newsletter, "Computer Game Quarterly", has a "Boot Hill" column where $15.00 allows you to place 25 words in an ad section to be read by 10,000 dedicated gamers.

THEIR 8-BITS WORTH!

More Atari 8-bit software! Take advantage of the extra memory in the XL/XE line.
Steven Galeott
Bloomingdale, NJ

To software manufacturers: More 8-bit Atari!
R. A. Smith
Reedsport, OR

Ed. There seem to be two problems in the 8-bit Atari's future. First, Atari seems to be treating the 8-bit as an orphan. Where the Apple IIGS runs Apple 8-bit software in emulation mode, the ST doesn't emulate 8-bit

Continued on page 49

(as do several moments of true terror). Stephen King couldn't have done it better.

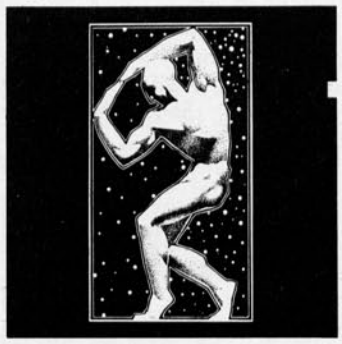
Stationfall (Steve Meretzky): I've been begging Infocom for a sequel to *Planetfall* for years. They finally came through. Floyd is back, as is the cutting satire of the original, and the story is every bit as fascinating as the plague on Resida was. A trip to a space station goes awry because of an alien artifact that was brought on board. Some parts of the story are disturbing, but on the whole, *Stationfall* is a worthy successor. Now, how about *Planetfall III*?

Plundered Hearts (Amy Briggs): As the title suggests, this will be Infocom's first romance, a bodice-ripper set on the high seas of the 17th Century. The genre is a bit unusual, but if anyone can pull it off [*Ed. - the bodice?], it's Amy Briggs. Of course, if it weren't unusual, it wouldn't be Infocom.*

Nord and Bert Couldn't Make Heads or Tail of It (Jeff O'Neill): Yes, that's "tail," singular. Cindy promises that the package art will make it all clear. More importantly, this game contains eight separate short stories - Infocom's first short fiction - and a "new style of wordplay." O'Neill also wrote *Ballyhoo* and if the wordplay is along the lines of the mousetrap puzzle, players are in for a great time.

And now for the biggie...

Beyond Zork (Brian Moriarty): This continuation of the *Zork* series is set in the *Zork* universe and contains elements of role-playing games. That is, you will be able to make your own character with distinct attributes and possessions and send him through an all-new *Zork* adventure. No doubt this will call upon *Wishbringer*-like multiple solutions to puzzles, extended to a nearly inconceivable degree. Frankly, I can't wait to see it.



Chapter Four

An exceedingly short chapter in which is presented the author's advice to Infocom.

1. Don't fall into the Activision trap of decreasing quality in the wake of increased productivity.
2. Don't make the openings in the new packages so small that it is nearly impossible to slide the manuals in.
3. Don't panic.

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Inside "Defender of theCrown)

(Continued from page 37)

casualties by a certain percentage. If you achieved the maximum five hits, the castle will only reduce the defenders' losses by 25%. If you failed to hit the castle at all, however, the defenders' army will have its losses reduced by 88%. (Note Castle Strength Chart.).

THE EFFECT OF CASTLE STRENGTH ON BATTLES

Hits on castle wall	0	1	2	3	4 5
% Defenders' losses reduced	88	75	63	50	3725

Corollary To Coronation

Victory in *Defender of the Crown* results from a mixture of good strategy and sound tactics. Above all, however, it is important to know your opponents. Study the Normans, their character ratings and their behavior. You will discover that nothing about their actions in the game is random. Their movements in each turn are based on a mixture of logic and "emotion." In the same way people make decisions, the Normans (and even your Saxon allies) look at the map to find the most valuable territories within reach. Then, the spoil this eminently logical approach to decision-making by including emotions in the formerly careful deliberations. In the final analysis, attacks often are directed against the one the attacker hates most. Therefore, the more you attack the same character, the more he will attack you in return.

All of which brings us to my final piece of advice. Do not attack your fellow Saxons. Use their lands for safe passage to attack the more valuable territories held by the Normans. This should allow you to build an army large enough to match the Normans strength for strength. To bolster your advantage, joust for fame to increase your leadership rating. Exercise care, though, because those who joust for fame and lose, experience a drop in their leadership ratings. Further, attempt to weaken stronger opponents by raiding (especially when they are away from home on campaign). You can be certain of this by watching their movements on the map. Since they won't have had time to have spent the gold piling up in their castle treasury, you can make a big haul of gold to invest in a CD.

What is a CD in this time period? Catapult Development, of course!

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Circle Reader Service #44

B-24

(Continued from page 35)

be on the tiny runway (only 3,500 feet) at Vis.

As we approached the landing field, the tower told us to secure a parachute pack to each waist gun mount and hold the chute out and pull the ripcord when we touched down. We would need these extra brakes because the short runway had a cliff at the other end. In the final approach, our windmilling prop spun off--which was a blessing since it gave us more airspeed with less drag. As if this weren't enough trouble, a pilot in a biplane began taxiing down the runway in front of us. We couldn't go around as our gas was about all gone. Our pilot, Charlie Hammett, greased our plane over the top of the errant biplane and dropped it right in front of the, no doubt, surprised pilot. With about 1,500 feet to try and stop a B-24 that needs 3,500 feet, our two pilots needed more than their four feet on the brakes and the two parachutes flung out the waist windows. The Man Upstairs gave us some help that day. The bomber eased to a quiet halt at the very edge of the cliff. The nose section protruded out over the edge a couple of feet. Rocks and ocean loomed 500 feet below.

As I maneuvered my B-24 for the landing, I found my altitude dropping faster than I realized. I could even see the biplane on the landing strip. Watch me do this, Charlie! (Charlie, by the way, is Up There with the Man.) "Don't get below 500 feet," shouted my co-pilot, John. "Get up! Get up! Pull ba---"...CRASH! And now, I was with Charlie again. I had forgotten the Vis runway was 500 feet above sea level and altitude is measured above sea level.
Then, John explained why the game has two learning missions (Mostar, Yugoslavia and Bucharest, Rumania). Many of the decisions are removed. One can hone one's "flying skills" and get the hang of flying a bomber quickly before tackling combat problems. I flew both training missions and my next mission to Ploesti was easier. I even hit my target and arrived home with no missing aircraft in my group.

All of the elements of a real combat mission to Ploesti are yours for the playing. A tight formation discourages fighter attacks. If you, as the Group Leader, do not maintain a steady prescribed air speed, your formation will open up and the "bogeys" will get you. You must rendezvous with three different fighter escort groups. Failure to join up with them will invite fighter attacks.

It is all there. The heartaches and satisfactions of combat flying. Germany's WWI air ace Baron Manfred von Richtofen's words apply here: *"The reward is the ecstasy of combat."* As you complete more and more missions to Ploesti, it is satisfying to see the production rates decreasing and know that you are having a hand in bringing the war to a close.

Letters (from page 46)

EVASIVE ACTION!

As one of the primary designers of *Sub Battle Simulator*, after reading your June 1987 review of the program, I felt obligated to respond to some of your reviewers' criticism and comments. Specifically missing from this review were mention of the use of "Reality Levels" within the program to modify gameplay. Several of the items and occurrences mentioned are possible only at the easy play levels, which do diverge from historical reality to allow the average player some chance of initial success. If you play the game at level 4, all the usage, timing, damage, and hitting percentages are set as near to historical reality as our research indicated. Also missing from the review was the fact the program is not copy protected to allow for easy back-up and hard disk installation.

To the reviewer's credit he did discover two minor bugs which were not found and corrected during the extensive pre-release testing. A second release of the program (version 1.1) is presently being shipped which addresses these two bugs and adds the following features: relative *or* absolute radar/sonar displays, feet *or* yard distance readings, target "lock-on" capability, release of debris (to confuse enemy ships) option, circular torpedo runs (on 42-43 Mk14 American Torpedoes), entrance and exit messages for patrol areas, 10-30% faster execution in all display modes, more realistic land views, and more.
Current owners can upgrade their diskette by sending their old version plus $5.00 to Epyx.

Gordon Walton
Bryan, TX

Ed. Thanks for the information on the upgrade; we look forward to your upcoming release "PT-109."

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June / July 88
Krieg!

(Continued from page 13)

sary, except to note the locations of the various towns and dungeons.

One odd thing about this game is the feeling of smallness I had while playing it. Somehow, it did not seem quite as large as the previous two Phantasies. This may be due in part to the fact that some of the dungeons are not true dungeons at all. The Straw Hut, the Dwarven Burial Grounds, and the Battleground come to mind here. None of them allow you to go very far.

I also finished the game faster, and with my characters at lower levels than in either of the earlier games. It certainly came as a surprise (shock, even) when I was told my group was ready to take on Nikademus! Of course, the party does get some help from Lord Wood at the end. Perhaps that had something to do with it. Still, the game turned out to be a faster play than expected.

"Phantasie III" Closes Out the Trilogy in Good Style, With a Grand Ending

Rather surprisingly, the game supports only one drive. This is a bit of a nuisance at the start, since you must make copies of the Player and Dungeon disks (utility provided on the boot disk) in order to play the game. A number of disk swaps are required to make each disk. There should have been a facility for two-drive systems. Fortunately, once play begins, swaps are minimal and occur only when leaving or entering dungeons.

As before, the Dungeon disk can hold only one dungeon save on it. If you are exploring more than one dungeon at the same time, you'll want to have a separate disk for each dungeon. Otherwise, old saves will be overwritten by new ones, and progress through the old dungeon lost.

The manual is the usual fine job, telling you just about everything you need to know to play the game. Of course, much of the material is straight from the previous manual, but there is an appendix in the back detailing the differences between this *Phantasie* and the others. Experienced players can skip most of the manual, bone up on the changes, and start off right away.

Overall, in spite of the additions, *Phantasie III* is pretty much from the same mold as its predecessors. The game mechanics are basically unchanged and those who have played the previous games will know what to expect. There are no special items to pick up (rings, runes, amulets, etc), but the ever-present scrolls wait to be found, most with only background information, a few that are truly important.

Thus, the game follows the well-trodden path of fighting monsters to gain experience, exploring dungeons to pick up information and goodies, and working out simple puzzles, all culminating in a final, knock-down, drag-out battle with the evil wizard.

For all that, *Phantasie III* closes out the trilogy in good style, with a grand ending (for the victorious), and a well-deserved rest for your weary and battle-scarred band (especially if they've been at it since Gelnor; they're probably getting on in years by now).

Bottom line: The final chapter; a must for Phantasie fans.

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LONG LANCE: Your general doctrine and tactical specifications for engagements have been carefully thought out for each of your three action groups. Procedures were covered earlier in the day on your flagship in a meeting of all COs under your command. Your night orders have been given and it has been a long day. You turn in at 0035 hours. At 0147 an orderly wakes you with word that your flag captain requests you come to the bridge. Gunflashes have been sighted in the direction of Bravo Group's patrol zone. Before the night is over the slot will be filled with burning wreckage. **LONG LANCE** is unlike any other computer game you've seen. It is a highly realistic, viewpoint oriented simulation at the grand tactical level. Situation maps and markers are provided and the computer will act as a player for either side. Design by W. Nichols, development by S. Newberg, & art by J. Kula. Apple II or C64/128 systems.

TO THE RHINE: The Axis was reeling back in disarray, most of their heavy equipment abandoned and their command structure shattered. The breakout from Normandy, led by Patton's Third Army, was proceeding apace. All of Europe lay open to the Allied armies, until the string snapped. The Allies had outrun their supply lines and the march to Berlin would not be as easy as it had looked. **TO THE RHINE** is a command oriented study of the battles across France and the Low Countries from the closing of the Falaise pocket to just prior to the opening of the Bulge Offensive. It takes up where **OPERATION OVERLORD** left off and continues our depiction of the Western Front. The game includes situation maps and markers for both players and the computer will act as a player for either side. Design by S. St. John, development by S. Newberg, & art by J. Kula. Apple II or IBMPC systems.

OTHER SIMULATIONS CANADA COMPUTER GAMES:

ROMMEL AT GAZALA, Battles For Tobruk, 26 May to 27 June, 1942. Apple II or IBMPC systems.
STALINGRAD CAMPAIGN, The Turning Point In Russia, June 1942-Febuary 1943. Apple II or C64/128 systems.
KURSK CAMPAIGN, Operation Zitadelle, Summer, 1943. Apple II or IBMPC systems.
OPERATION OVERLORD, The Invasion Of Europe, 6 June-28 August 1944. Apple II or IBMPC systems.
SEVENTH FLEET, Modern Naval Combat In The Pacific Ocean. Apple II, Atari ST, or C64/128 systems.
GOLAN FRONT, The 1973 Arab/Israeli War In The North. Apple II or C64/128 systems.
BATTLE OF THE ATLANTIC, The Ocean Lifeline, 1940-1944. Apple II or IBMPC systems.
SIEG IN AFRIKA, The War In North Africa, 1940-1943. Apple II or C64/128 systems.
FIFTH ESKADRA, Modern Naval Combat In The Mediterranian Sea. Apple II or C64/128 systems.
FALL GELB, The Fall Of France, Spring 1940. Apple II or C64/128 systems.
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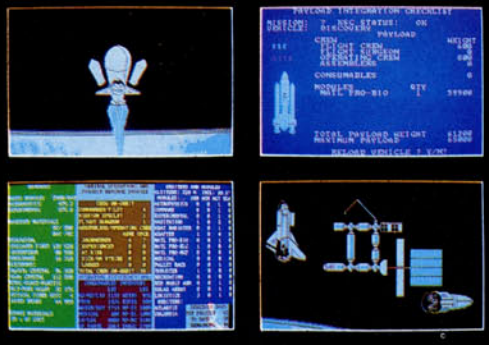

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"I Think We've Got A Hit. . ."

(Continued from page 9)

$20,000 at a time. Somewhere in today's hectic schedule, Mike and I review the remaining programming work in detail. Most of our planning concerns what will be included in the "parts boxes" people will use to build their own games. At the end of the day, I drop Mike off at the airport and can sense his excitement as so many talented people join his solitary quest. "It won't be long now..." we tell each other, not speaking the last half of the sentence, "...until we'll know if it's a hit."

Thursday

Thursday morning. The Acquisitions Meeting. Eight key **Broderbund staffers**, led by founders Doug and Gary Carlston, sit on folding chairs in a room filled with different computers to review and discuss current submissions.

An adventure game, discussed positively before, gets covered again. The authors have made additional improvements and the consensus is to publish it. Several other titles (from games to business software and displaying no special qualities) are reviewed and quickly rejected. Two others that show promise are routed to individuals willing to put some time into working with their authors. This week's meeting was productive.

In the afternoon, it's celebration time. One of my authors has reached a key milestone with his game and we celebrate with champagne. Doug Carlston, **Broderbund** President, comes by, followed closely by Chairman Gary Carlston and Ed Auer, the company's Chief Operating Officer. They each discuss the game's key points with the author and congratulate him on his work. It is a satisfying moment for the designer and well-deserved after weeks of grueling effort (that night, during dinner, he admits staying up until 3:00 A.M. just to get the software finished on time!).

Friday

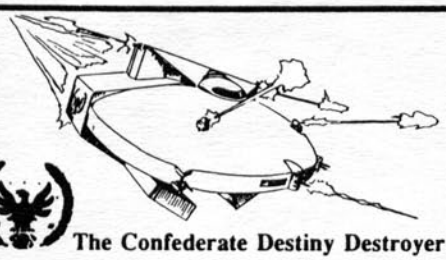
Two of the best designers I know are just wrapping up their current projects. That means each is starting to kick around what project they'd like to do next, "blue skying" their way through a mountain of interesting "maybe's" in search of the next concept that can motivate *them* to work eighty-hour weeks and inspire *us* to pay for the year-long development process.

Over the next few weeks, I'll listen to as many as twenty different game themes from each author, and reply with our own suggestions, ideas, and twists in return. We'll consult with the Sales staff to find out what the game-playing public is currently buying and ask the Marketing team what patterns they see developing in the industry. In the end, though, there is only one key indicator that really counts, the moment when the author's eyes light up and you can see his or her excitement about a project. Until that moment, there is no game. After that moment, at least with the great game designers, it's only a matter of time and the game will come.

Saturday

I've stopped by the office for a couple of hours to clear my desk and get ready for next week. It's been an exciting few days. All of us in the game publishing business know what we really want. We want hits, great awe-inspiring gazillion-sellers that will make the author's bank account and our balance sheet look like a script for *Lifestyles of the Rich and Famous*, sure-fire games that will instantly be recognized for the cultural milestones they represent, becoming classics that will sell for decades at premium prices to a grateful world.

We won't know it for a year or more, but maybe this week we started a real, honest-to-goodness hit. Of course, Monday the phone could ring, and...



The Confederate Destiny Destroyer

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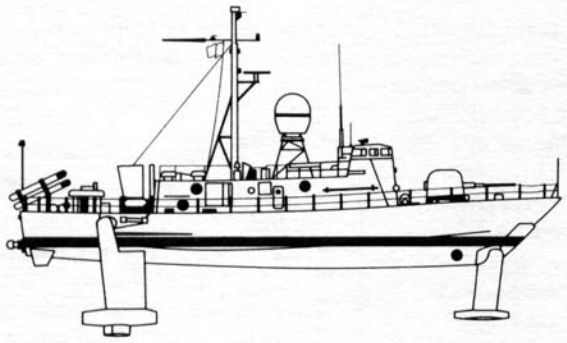
(Continued from page 29)



hydrofoil should be at the base of the "V" with the two helicopters at either end. In this way, a complete coverage of the search area can be made. Utilization of the air assets in opposite directions can yield too much information which would be obsolete by the time the hydrofoil was ready to make contact. Therefore, consistent search patterns in the "V" yield maximum results.

For survivability, enemy missiles pose the largest threat. However, these can generally be avoided. By speeding up the simulation, one can wait until the missiles reach a distance of c. 10 miles. At that point, one should turn away at a 90 degree vector. When the missiles are c. 1 mile away, chaff employment will generally cause these missiles to miss.

Tip from the Expert: this reviewer would never have considered it, but gunfire can knock down an enemy missile. During the 1973 Yom Kippur War, an Israeli cook aboard a Saar-boat, firing a 50-calibre machine gun, knocked down an Egyptian missile. However, this is a last-ditch effort, and should be reserved for instances where chaff launchers are either expended or destroyed.

Summary

PHM is an interesting simulation. The expert noted the absence of a "Realism" mode; he felt that actual damage levels and better enemy forces options would have made the product more successful. This reviewer is not so sure; it can be quite difficult to avoid damage in certain scenarios. Overall, pegasus does succeed in simulating the hydrofoil in operation; but at the same time, the game has a certain sameness and/or lack of elan which differentiates the truly outstanding product from the merely good one.

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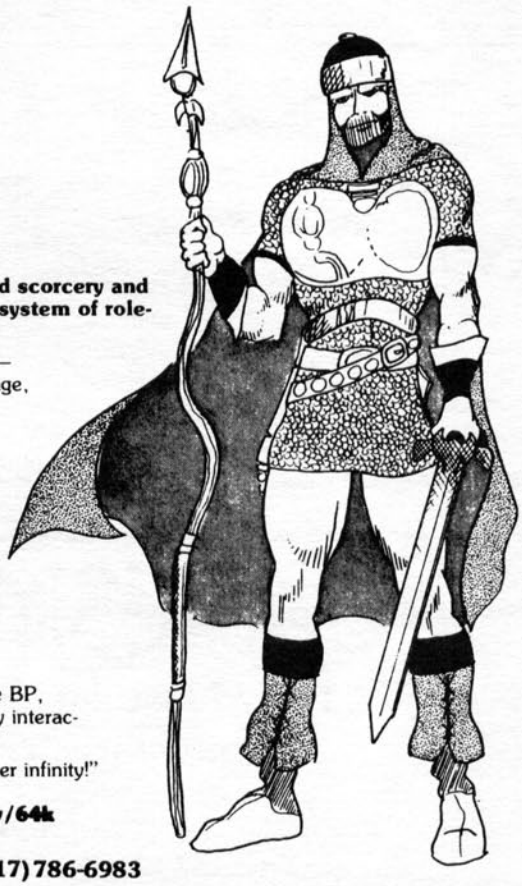

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Reader Input Device

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On this page, a number of games and articles are listed for evaluation, as well as some general interest questions. When evaluating a game, consider such matters as PRESENTATION (graphics, sound, packaging and documentation); GAME DESIGN (design, playability and level of interest); and LIFE (does the game wear well?).

For each game which you have played or each article which you have read, place a 1 (terrible) through 9 (outstanding) next to the appropriate title. For each multiple choice question, place the appropriate letter next to the appropriate question; for each yes or no question, place a 1 (yes) or a 2 (no) next to the question; and for open ended questions, write your answers in the "Comments" space.

Games

1. Gettysburg (SSI)
2. Gunship (MicPr)
3. Kampfgruppe (SSI)
4. Chessmaster 2000 (SftTlwrks)
5. Decision in Desert (MicPr)
6. M.U.L.E. (EA)
7. Defender of Crown (MstDsg)
8. Mech Brigade (SSI)
9. Battle of Antietam (SSI)
10. Battlefront (SSG)
11. Bard's Tale II (EA)
12. Ultima IV (Orgn)
13. Wizardry I (SirTch)
14. Bard's Tale (EA)
15. Might and Magic (NewWrld)
16. Starflight (EA)
17. Ultima III (Orgn)
18. Wizard's Crown (SSI)
19. Phantasie II (SSI)
20. Phantasie (SSI)
21. Theatre Europe (Datasft)
22. Up Periscope (ActSft)
23. Guderian (AH)
24. Darkhorn (AH)
25. Rebel Charge (SSI)
26. Earl Weaver Baseball (EA)
27. Deep Space (SirTch)
28. Sub Battle Sim (Epyx)
29. Russia (SSG)
30. Balance of Power (Mndscpe)
31. Shard of Spring (SSI)
32. Golden Path (Firebird)
33. Sinbad (MstDsg)
34. The Sentry (Firebird)
35. Superstar Ice Hockey (Mndscpe)
36. Bureaucracy (Infcom)
37. King's Quest III (Sierra)
38. Where U.S.A. Carmen? (Brdbund)
39. Comics (Accolade)
40. S.D.I. (MstDsg)

Articles

41. Got A Hit
42. Phantasie III Review
43. Euclid vs. Patton
44. Dragon Side II Tips
45. Goldrush
46. PHM Pegasus Review
47. Goodbye "G" Ratings
48. Theatre Europe Review
49. B-24 Notes
50. Defender of Crown Play Tips
51. Titans of CGW -- Infocom
52. Uninvited Review
53. Sentry Review
54. Zen & the Art of Computer Game Design

General Interest

55. What do you like best in CGW?
56. What would you like to see in CGW?

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5.3 - Sports Games Survey; The Battle of Chickamauga; Imperium Galactum; Games You'll Never See; Crusade in Europe Design Notes; Lucasfilm Enters Home Gaming; Baseball Games for Your Computer; Mindwheel Hints; Silicon Cerebrum; Reforger '88; Napoleon at Waterloo; and more!

5.4 - Operation Market Garden; Fog of War in Computer Games; Ultima II for Mac; The Amiga Computer; Computer Gaming in Japan; Phantasie tips; The Railroad Works; Six Gun Shootout; and more!

#26 - Conflict in Viet Nam; Inside Ultima IV; The Halley Project; Silent Service Designer's Notes; The Kobayashi Alternative; Spellbreaker Tips; Koronis Rift; Eidolon; Story Tree; and more!

#27 - Under Fire Replay; Europe Ablaze and U.S.A.A.F.; Map Design for Computers; 7th Fleet; Game Manufacturer Survey; Battle of Antietam; Ballyhoo Tips; and more!

#28 - The Dark Ages of Computer Game Design; Three article on computerized baseball; Autoduel; Alter Ego; Nam; The Current State of the Entertainment Industry; Halley Project Update; Amazon Tips; and more!

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#30 - American Dream Review; Phantasie II; Industry Survey; Kobayashi Alternative Revisited; Orbiter and Flight Simulator for Mac; Silent Service for Atari; Championship Basketball; and more!

#31 - Wizard's Crown; Trinity Playing Tips; Operation Keystone; Habitat/Quantumlink; Baseball stat programs; Grand Slam; Race Car Simulator; Amiga graphics/music/video programs; APBA Baseball; Spin Out; World Karate; and more!

#32 - Interview with Alan Miller; Interview with Brian Moriarty; Lords of Conquest review and strategy notes; Alternate Reality; Battlefront; A Mind Forever Voyaging playing tips; Chessmaster 2000; Rommel-Battles For Tobruk; Bronze Dragon; and more!

#33 - Leather Goddesses of Phobos Hints; Computer Gaming—The Year in Review; Gettysburg—The Turning Point; Shard of Spring; Interview with Chris Crawford (Pt1); DragonFire II; and more!

#34 - MoonMist Hints; Robot Rascals; Defender of the Crown; Iwo Jima/Falklands; Amnesia; Adventure Game Conference; Warship; Interview with Chris Crawford (Pt2); Major Motion; 1985-1986 INDEX; and more!

#35 - COMPUTERS IN FLIGHT ISSUE - The State of the Industry; Gunship; Gemstone Healer Hints; 50 Mission Crush Stories; Space M+A+X; Star Trek: Prom. Prophecy; Starflight; Interview with Doug Crockford; Blue Powder, Grey Smoke; Patton vs Rommel; Strategic Conquest Plus; and more!

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#39 - GAME DESIGN ISSUE - Game Development at Broderbund; Phantasie III; Euclid vs. Patton (Field Algorithms); Dragon Side II Review; Industry Report from C.E.S.; PHM Pegasus; Goodbye "G" Rated Computer Games; Theatre Europe; B-24 Notes; Designer Play Tips on Defender of the Crown; Infocom Company Report; Uninvited reviewed; The Sentry; Zen & the Art of Game Design; and more!

Game Ratings

Following the daring advance of Gettysburg to a phenomenal 8.08, SSI deployed a total of four titles in the top ten (nine in the top twenty) on the strategy side. Microprose maneuvered two titles into the top five as Gunship provided air support for Decision in the Desert. On the adventure side, Bard's Tale II's effectiveness range diminished to 7.99, yet held the lead over the formidable Ultima IV. Might and Magic and Wizard's Crown moved up in the standings as other titles weakened. EA and SSI conjured three titles each into top ten positions.

Strategy Top 50

Name	Mfg	Machine	Tms Rtd	Avg Rsp	Rating
Gettysburg	SSI	Ap,At,C,I	3	39	8.08
Gunship	MicPr	Am,C	1	37	7.97
Kampfgruppe	SSI	C,Ap,At	8	100	7.74
Chessmaster 2000	EA	Many	4	32	7.63
Decision in Desert	MicPr	C,At	4	44	7.60
M.U.L.E.	EA	C,At	17	77	7.46
Defender Crown	MstDsg	Many	2	21	7.45
Mech Brigade	SSI	C,Ap	7	62	7.42
Battle of Antietam	SSI	C,Ap,At	5	49	7.28
Battlefront	SSG	Ap	2	31	7.26
Battlecruiser	SSI	Ap,At,C	1	24	7.25
Ancient Art of War	Brodr	I,M	6	30	7.24
Crusade in Europe	MicPr	C,Ap,At	4	84	7.24
Fighter Command	SSI	Ap,C	8	43	7.24
Guadalcanal Campaign	SSI	Ap	9	48	7.24
War in Russia	SSI	Ap,At	8	67	7.24
War in So. Pac.	SSI	Ap,C	1	20	7.22
Seven Cities Gold	EA	All	7	118	7.20
Carriers at War	SSG	C,Ap	4	81	7.17
Europe Ablaze	SSG	C,Ap	5	34	7.17
Under Fire	AH	Ap	5	24	7.16
Warship	SSI	Ap,At,C	1	37	7.16
Reach for Stars	SSG	C,Ap	4	50	7.12
Battlegroup	SSI	C,Ap	3	37	7.11
Combat Leader	SSI	C,At	5	56	7.11
Computer Baseball	SSI	All	6	36	7.10
Micro Lg Baseball	MicLg	All	6	36	7.09
Heart of Africa	EA	C	3	27	7.09
Star Fleet I	Cygnus	C,At,I	5	38	7.08
Colonial Conquest	SSI	C,At	3	60	7.07
Oper Mkt Garden	SSI	C,Ap,At	4	58	7.06
Silent Service	MicPr	C,At	6	108	7.06
3-in-1 Football	Hafner	C,Ap,I	2	20	7.05
Carrier Force	SSI	C,Ap,At	5	108	7.04
Flight Sim II	SubLg	C,Ap,At	6	84	7.03
Field of Fire	SSI	C,At	4	72	7.01
Balance of Power	Mndscp	M,I	3	23	6.97
Computer Ambush	SSI	C,Ap,At	5	46	6.93
Lords of Conquest	EA	Ap	3	42	6.93
U.S.A.A.F.	SSI	C,Ap,At	2	26	6.92
NAM	SSI	C,Ap,At	3	24	6.88
Ace of Aces	Accld	C	1	28	6.86
Cosmic Balance	SSI	C,Ap,At	5	84	6.83
Bomb Alley	SSI	Ap	4	32	6.82
Eastern Front	APX	At	4	61	6.81
Roadwar 2000	SSI	Many	3	34	6.80
Gato	SpHb	Ap,I,M	3	79	6.77
Gulf Strike	AH	At	4	33	6.75
Geopolitique 1990	SSI	Ap,C	3	29	6.73
Destroyer	Epyx	Ap,C	1	29	6.66

Adventure/Action Top 50

Name	Mfg	Machine	Tms Rtd	Avg Rsp	Rating
Bard's Tale II	EA	Ap,C	2	36	7.99
Ultima IV	Orign	C,Ap,At	5	89	7.90
Wizardry I	SirTc	Ap,I	19	71	7.72
Bard's Tale	EA	C,Ap	5	70	7.69
Might and Magic	NewWrd	Ap	2	23	7.67
Starflight	EA	I	4	21	7.67
Ultima III	Orign	All	13	103	7.58
Wizard's Crown	SSI	C,Ap	4	49	7.35
Phantasie II	SSI	Ap,C	4	33	7.30
Phantasie	SSI	C,Ap	7	68	7.25
Spellbreaker	Infcm	All	4	25	7.25
F-15 Strike Egl	MicPr	All	5	140	7.21
Knight of Diamonds	SirTc	Ap	11	53	7.19
Legacy of Llygamyn	SirTc	Ap	7	58	7.18
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Karateka	Brodr	C,Ap,At	3	79	6.64
Suspended	Infcm	At,Ap,I	6	61	6.63
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