



# the Learning game

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## BASIC INFORMATION

**NAME:** Dragon's Keep  
**TYPE:** Adventure  
**SYSTEM:** Apple II  
**FORMAT:** Diskette  
**BACKUP:** None  
**# PLAYERS:** 1  
**PRICE:** \$29.95  
**PUBLISHER:** Sierra On-line  
 Coarsegold, CA.

**NAME:** Snooper  
 Troops II  
**TYPE:** Detective  
 Adventure  
**SYSTEM:** Apple II (48K)  
 or IBM  
**FORMAT:** Diskette  
**BACKUP:** None  
**# PLAYERS:** 1  
**PRICE:** \$44.95  
**PUBLISHER:** Spinnaker  
 Software  
 Cambridge, MA

"You are standing at the end of a road before a small brick building. Around you is a forest. A small stream flows out of the building and down a gully"

Sound familiar? It's the start of the original Adventure game, of course. Do you remember how you felt the first time you played Adventure or and adventure-type game? I can; in fact, I remember it better than my first kiss.

Adventure games are absorbing; you get very involved in the story, almost as if you were a participant. Involvement equals motivation. You want to rescue that princess or find that last treasure so much you can taste it! You become so dedicated to the task that you're willing to steal food or kill an occasional troll in order to reach your goal. Why, you'd even learn something new if you needed the information to solve a puzzle!

So why isn't this format used more for educational games? Sure, there've been a few attempts: there was a game called OREGON TRAIL where you tried to lead a wagon train safely west. It was simple, but a step in the right direction. Then there's TIME ZONE, which does contain a lot of history in an incidental way. But most of the games available today have a fantasy theme, with the major categories being music, science fiction, and mystery.

Why hasn't anyone done a game that teaches you how to survive a plane crash in the wilderness? After

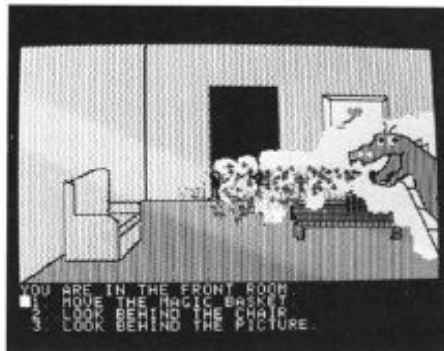
all, OUTDOOR SURVIVAL has been very popular board game for years. Or why hasn't somebody used a space adventure format to teach the basics of physics? Or maybe you get left behind by your tour group in a foreign land and must learn to "speak" the language in order to ask for food, shelter and help?

I don't mean to suggest that topics like these are more entertaining than swords and sorcery, or solving murder mysteries, but wouldn't you rather play an adventure game than read a text book? We don't have to make a choice between entertainment and education, we can have BOTH.

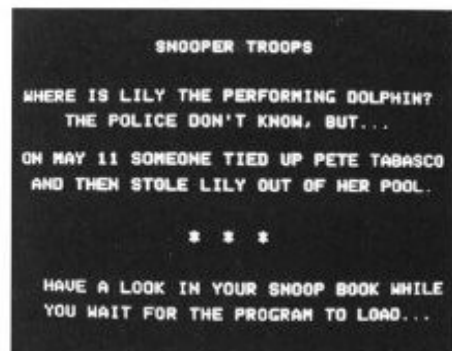
There is, at least, one area where these ideas are being put into actual use — adventure games for children. This month we have two examples of this sub-genre. The first is *Dragon's Keep (DK)*, originally published by Sunnyside Software but now being marketed by Sierra On-line. The second is *Snooper Troops II (ST2)*, by Spinnaker Software.

DK is designed especially for second-graders. How do you do that? Well, first you restrict yourself to words that a seven-year old would know, then you make the decision making process easier by providing a list of choices at each step of the game. Finally, since second-graders may not be fabulous typists, you make it so the whole game can be played with only the return key and the space bar.

The theme of DK is that a  
*Continued on p.49*



Dragon's Keep



Snooper Troops II

## SILICON (Con)

- (1) Find the six hexes circling our present location.
- (2) Eliminate any hex already in our current path or which we cannot otherwise move through.
- (3) Of those remaining, pick the one closest to our goal. In case of a tie, use some arbitrary tie-breaker.
- (4) Move to the hex selected.
- (5) If we are in the goal hex, stop; otherwise, go to (1).

On an unobstructed map, we will immediately trace a minimal path to the goal hex. Figure 1b shows one such path. Here, we broke ties by picking the right-hand hex. Other paths would have been traced had we been using other tie-breakers (left-hand, alternating, random). In all, I count 14 different minimal paths from the starting hex to the goal hex.

As mentioned, this is a very simple case. In fact, with one hex numbering system I know of, the

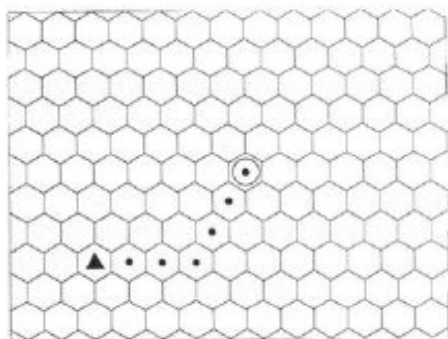


Figure 1b

coordinates of the hexes in a minimal path can be directly computed by a simple algorithm. In such a case, we could get by (at least for path-tracing purposes) without the *distance* function at all. But Figure 1a represents a very simple case. Let's consider something more complex.

Figure 2 adds three hexes near the goal with peaks in them. The peaks represent mountains, and our path cannot pass through any of these hexes. Our initial algorithm will still work, but we are no longer guaranteed of finding a minimal path. In fact, Figure 2 shows the

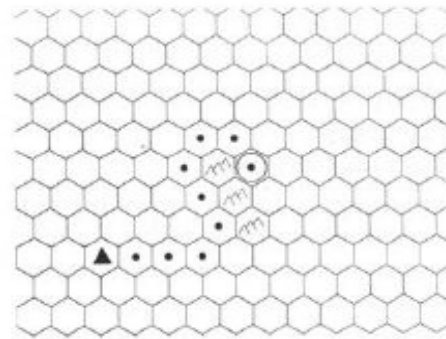


Figure 2

path that would be traced if we tried the same approach as we did on Figure 1 (right-handed tie breaking). It has a length of 9, while the shortest path possible is only 7 hexes long.

How do we make our program "smart" enough to find the shortest path? One solution is to find all "minimal" paths (i.e., all paths that can be generated by our algorithm) and then pick the shortest one. How do we do that? We shift from a *depth-first* to a *breadth-first* approach. What does that mean? Tune in next issue and find out. ■

## LEARNING (Con)

naughty dragon is keeping 16 nice animals prisoner in and around his (her?) house. Did somebody say house? Yes, this dragon lives in an average sort of two-level white house. Well, it *does* have an elevator, but apart from that it's average. Young children definitely relate better to exploring a house than they do a cave or dungeon and they seem to find the mixture of familiar and fantastical very amusing.

The object is to search for the 16 animals and free them. Occasionally, the dragon will appear, breathing colorful dragonfire. It doesn't attack, but it prevents you from releasing any animals while it is present.

DK is very well done and will help develop reading skills and deductive reasoning in children in second grade or below. It is highly recommended. The same people have done TROLL'S TALE which

has also been released by Sierra On-line.

The second game this month is ST2, second in a series by Spinnaker Software. ST2 is for older children, 10 years and up. The object is to solve a mystery by proving all of the suspects — save one! — are innocent. In this case, somebody has stolen a performing dolphin from the local aquarium.

The evidence comes in the form of clues, which must be referred to by number when making accusations. The clues come rapidly but are mostly worthless, but it is necessary to write them down since you can't tell which are important at the time. Here is the problem number one; the clues are only on the screen for about 15 seconds and there is no way to pause the game. Even I can't write fast enough to copy them down. You can always "find" the clue again — they're never lost — but this may take some time and effort.

Several other aspects try your patience as well. You can question the suspects in their homes, but only one question per visit, please! Since there are 3 possible questions you can ask, you must make 3 trips to each suspect. There are also 3 clues inside each house, but again you can only get one at a time. This takes quite a while since the suspects are often home and if you get caught snooping you are sent back to headquarters to cool your heels for a bit. Even 10-year-olds get tired of this.

This game would be much more fun if the pace were faster. As it is, it takes days to complete and you lose track of what leads you were following, what you were doing, even what facts you know. It may teach the value of keeping well-organized notes, but it doesn't do quite as well teaching deductive reasoning. It's too bad because it could have been very, very good.